APPENDIX A: AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

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April 5, 2018

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SUBJECT: ARANTINE HILLS SPECIFIC PLAN AMENDMENT NO. 2 AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

Dear Mr. John Sherwood:

Urban Crossroads, Inc. is pleased to submit the following supplemental assessment for the *Arantine Hills Specific Plan Amendment No. 2*.

PROJECT DESCRIPTION

It is our understanding that the applicant, Arantine Hills Holdings LP, proposes to amend the Arantine Hills Specific Plan (AHSP) to increase the boundary of the Project Site by approximately 32.31 acres "Project". In addition, this proposal includes a General Plan Amendment, a Zone Change, A Specific Plan Amendment, a tentative Parcel Map, and an Addendum to the previously certified Supplemental EIR.

Proposed changes include the designation of the northern approximate 20 acres of the Project Site as Planning Area 17 (PA 17) with a land use designation of Medium Density Residential (MDR), allowing for a total of 15 dwelling units per acre; the land use designation of the Bedford Canyon Wash portion of the Project Site (Planning Area 16A, 12.31 acres) as Open Space; the transfer of development rights for 130 dwelling units from Planning Area 12 to Planning Area 17; and the transfer of development rights for 77 dwelling units from Planning Area 6 to Planning Area 17.

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Although the total project boundary increases by approximately 32.31 acres, no increases to operational or construction emissions beyond what was previously disclosed would occur as the total number of dwelling units and commercial square footage planned will be less than or equal to the number of units originally approved.

Based on an assessment of information provided in the Draft AHSP Amendment number two, the addition of Planning Area 17 does not appear to conflict with the conclusions in the *Arantine Hills Modified Project Air Quality Impact Analysis* (April 1, 2015) or the *Arantine Hills Modified Project Greenhouse Gas Analysis* (April 1, 2015). As such, the total emissions resulting from the development changes proposed in amendment number two of the AHSP would be less than or equal to the original findings and a less than significant impact would occur.

If you have any questions or require any additional information regarding this response to comments, please contact me directly at (949) 336-5987.

Respectfully submitted,

URBAN CROSSROADS, INC.



Haseeb Qureshi,
Senior Associate

JN:09643-04 AQ & GHG Letter

APPENDIX B: BIOLOGICAL TECHNICAL REPORT

Biological Technical Report for the McMillan Project

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September 2018

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ACRONYMS, ABBREVIATIONS, AND GLOSSARY OF TERMS

AHH	Arantine Hills Holdings, LP
BLM	United States Bureau of Land Management
BMPs	Best Management Practices
CAGN	coastal California gnatcatcher
CDF	California Department of Forestry and Fire Protection
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	United States Army Corps of Engineers
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DBESP	Determination of Biologically Equivalent or Superior Preservation
FESA	Federal Endangered Species Act
FGC	California Fish and Game Code
GIS	Geographic Information System
GPS	Global Positioning System
LBV	least Bell's vireo
MBTA	Migratory Bird Treaty Act
MMRP	Mitigation, Monitoring, and Reporting Program
MSHCP	Western Riverside Multiple Species Habitat Conservation Plan
MSL	mean sea level
NEPA	National Environmental Protection Act
NHD	National Hydrography Dataset
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High-Water Mark
Project	McMillan Development Project
RWQCB	Regional Water Quality Control Board

SAA	Section 1600 Streambed Alteration Agreement
SLS	Carlson Strategic Land Solutions
SWPPP	Storm Water Pollution Prevention Plan
U.S.	United States
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WQC	Section 401 Water Quality Certification

1.0 Introduction

On behalf of Arantine Hills Holdings, LP (AHH), Carlson Strategic Land Solutions (SLS) prepared this Biological Technical Report for the proposed McMillan Project (Project) located on approximately 31 acres in the City of Corona. The Biological Technical Report for the approximately 31-acre Project site and the surrounding 300-feet, collectively known as the "Study Area," incorporates the findings from field surveys conducted on February 15, 2018; focused Burrowing Owl Surveys conducted in February and March 2018; and focused coastal California gnatcatcher surveys conducted in March and April 2018 (Appendix A).

1.1 Purpose and Approach

This report provides a summary of the conditions present during the 2018 field surveys, an assessment of the potential presence of sensitive biological resources, an analysis of the potential impacts to those resources due to Project implementation, and proposed mitigation. This report describes the current biological resources present within the Study Area including habitat communities, jurisdictional waters, and the potential occurrence of listed and special status plant and wildlife species. The potential biological significance of site construction and development in view of federal, state, and local laws and regulations are also identified in this report. The report also recommends, as appropriate, Best Management Practices (BMPs) and avoidance and minimization measures to reduce or avoid potential impacts. While general biological resources are discussed, the focus of this assessment is on those resources considered to be sensitive. This report was prepared based upon results of a literature review and field surveys.

1.2 Project Terms

The following terms will be used throughout this document and are defined as follows:

- Project site: the 31-acre McMillan Project site.
- Study Area: the area evaluated during the field survey, including the 31-acre Project site and the surrounding 300-feet area.
- Project Vicinity: intended to be a general term to describe the broader area surrounding the Study Area.

1.3 Project Location

The Project Site is located in the Bedford Canyon area of the Santa Ana Mountain foothills in the southeastern portion of Corona. The City of Corona is generally situated southwest of the City of Riverside, south of the City of Norco, and north of the City of Lake Elsinore in Riverside County, California (Figure 1). Areas surrounding the Project Site include the Arantine Hills Specific Plan to the north and east; undeveloped land and rural residential to the south; and the Eagle Glen Golf

Club to the west (Figure 2). The Project Site is located within the United States Geological Survey (USGS) 7.5-Minute Topographic Map *Corona South* Quadrangle.

The Project Site is part of a single larger parcel (158 acre) with an Assessor's Parcel Number (APN) of 282-040-003.

Access to the Project site is from the Arantine Hills Project located to the north, off Eagle Glen Parkway via an agricultural access road. Directions to the Project site from Interstate 15 (I-15) is to exit Cajalco Road and head west onto Eagle Glen Parkway. Access is obtained on the south side of Eagle Glen Parkway via an agricultural access road and through the Arantine Hills project.

1.4 Existing and Historical Land Use

The Project Site was purchased by McMillan Farm Management in 1986. The Project site has historically been farmed for citrus production between 1962 and 2007. Prior to the 1962 aerial photograph, the Project Site was vacant land. The former agricultural operation has reverted to ruderal vegetation, which is managed on an annual basis for fuel modification (fire prevention). In addition, the Project Site contains a portion of Bedford Canyon Wash, tributary to Temescal Creek, which enters the Project site in the southwestern corner in a northeasterly direction.

Bedford Canyon Wash, located to the west of the Project site is an ephemeral wash with a sandy bottom and sparsely vegetated alluvial fan sage scrub and non-native vegetation. The Wash receives flows from the Santa Ana mountains, through the Eagle Glen Golf Club, through the Project site, continuing downstream to Temescal Creek and ultimately the Santa Ana River. Bedford Canyon Wash has a well-defined bed and bank, with near vertical cuts representing the banks of the Wash. To the south of the Wash is a near vertical bluff that has shown signs of erosion from storm flows within the Wash. To the north and west of Bedford Canyon Wash, the Project Site is the relatively flat previously farmed area. Existing elevations range from approximately 1100 to 1200 feet above mean sea level. No structures are located on the Project site. Farther north is the remainder of the Arantine Hills Specific Plan and farther west of the Project Site is the Eagle Glen Golf Club.

2.0 Project Description

AHH proposes to amend the Arantine Hills Specific Plan (AHSP)[1] to increase the boundary of the AHSP area by approximately 31 acres (Project Site). No increase in development intensity (number of dwelling units or commercial square footage) would occur as a result of the proposed boundary adjustment. The Specific Plan Amendment would provide land use designations for the Project Site and provisions to transfer existing development rights from other planning areas within the AHSP to the Project Site. In addition to the Specific Plan Amendment, the Applicant requests approval of a General Plan Amendment, Parcel Map and Addendum to the previously certified Supplemental EIR.

[1] The original Arantine Hills Specific Plan was approved by the City of Corona in 2012, by Resolution No. 2012-091. Project approval included a General Plan Amendment (GPA09-005), Specific Plan (SP09-001), Tentative Tract Map (TTM 36294), and an EIR which authorized up to 1,621 residential units (1,806 total units if age-restricted housing is built) and 745,300 sq. ft. for commercial and industrial business park uses, as well as recreational parks and open space. The First Amendment to the Specific Plan (First Amendment), approved in 2016, reduced the General Commercial, eliminated Mixed Use I and Mixed Use II acreages, and increased Open Space designations.

3.0 Regulatory Context

The following is a list of the key local, state, and federal laws and regulations that apply to protecting plant communities, plants, wildlife, and water quality from project impacts relevant to the Project.

3.1 Federal Laws and Regulations

- Federal Endangered Species Act (FESA)
- Federal Clean Water Act (CWA)
- Migratory Bird Treaty Act (MBTA)

3.2 California State Laws and Regulations

- California Environmental Quality Act (CEQA)
- California Endangered Species Act (CESA) and Fish and Game Code (FGC) sections 2050 et seq.
- Lake and Streambed Alteration Program – FGC sections 1600-1616
- Porter-Cologne Water Quality Act – California Code, Division 7
- Migratory Birds – FGC section 3513
- Nongame Birds – FGC section 3800 (a)
- Native Plant Protection Act (NPPA) – FGC sections 1900-1913

3.3 Local Plans/Regulations

- City of Corona General Plan
- Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP): Temescal Canyon Area Plan

3.4 Regulatory Permits

This report is prepared pursuant to and in support of CEQA, and any applicable regulatory permit applications, including the California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement (SAA), Regional Water Quality Control Board (RWQCB) Section 401 Water Quality Certification (WQC), United States Army Corps of Engineers (Corps) Section 404 permit, and United States Fish and Wildlife Service Section 7 Biological Opinion.

4.0 Survey and Methods

Preparation for this biological study began with a review of relevant available literature. This effort was followed by an onsite field survey on February 15, 2018. The purpose of the field survey was to assess the existing habitat, map any onsite sensitive plant communities and jurisdictional waters, and determine whether special status plant and wildlife species occur or potentially occur within the Study Area.

4.1 Literature Review

The study began with a review of relevant available literature on the biological resources within the Study Area and Project Vicinity. The Project site is located within the boundary of the Western Riverside MSHCP, specifically within the Temescal Canyon Area Plan.

4.1.1 Sensitive Plant Communities

Sensitive plant communities (sensitive habitats) are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. Sensitive habitats are often threatened with local extirpation and are therefore considered valuable biological resources. Plant communities are considered "sensitive" by the California Native Plant Society (CNPS) and CDFW if they meet any of the criteria listed below.

- The habitat is recognized and considered sensitive by CDFW, United States Fish and Wildlife Service (USFWS), and/or special interest groups such as CNPS.
- The habitat is under the jurisdiction of the Corps pursuant to Section 404 of the CWA.
- The habitat is under the jurisdiction of the CDFW pursuant to Sections 1600 through 1612 of the California Fish and Game Code.
- The habitat is known or believed to be of high priority for inventory in the California Natural Diversity Database (CNDDB).
- The habitat is considered regionally rare.
- The habitat has undergone a large-scale reduction due to increased encroachment and development.
- The habitat supports special status plant and/or wildlife species (defined below).
- The habitat functions as an important corridor for wildlife movement.

4.1.2 Critical Habitat

Under the ESA, the federal government is required to designate "critical habitat" for any species it lists under the ESA. Federal agencies are prohibited from authorizing, funding or carrying out actions that "destroy or adversely modify" critical habitats. Section 3 of the ESA defines critical habitat as:

- The specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection.

- The specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

"Conservation" means the use of all methods and procedures that are necessary to bring an endangered or a threatened species to the point at which listing under the ESA is no longer necessary. Critical habitat receives protection under Section 7(a)(2) of the ESA through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a federal agency. Section 7(a)(2) also requires conferences on federal actions that are likely to result in the destruction or adverse modification of proposed critical habitat.

The USFWS's online service for information regarding Threatened and Endangered Species Final Critical Habitat designation within California was reviewed to determine if the Study Area is within any species' designated Critical Habitat (USFWS 2018a). The USFWS regulatory mapping process for the designation of critical habitat is an imprecise, broad-based, mapping exercise of areas that may or may not include constituent elements of the critical habitat designation. Due to this approach in mapping, large areas are designated as critical habitat regardless of the existing habitat, and as a result may include developed areas, such as buildings, roads, hardscape, and other such facilities, as well as natural habitats.

The constituent elements of the critical habitat designation consider the physical and biological features needed for life processes and successful reproduction of the listed species. These included:

- Space for individual and population growth for normal behavior;
- Habitat cover or shelter;
- Food, water, or other nutritional or physiological requirements;
- Sites for breeding and rearing offspring; and
- Habitat that is protected from disturbance or is representative of the historical geographic and ecological distribution of a species.

4.1.3 Special Status Plants and Wildlife

Species of plants and animals are afforded "special status" by federal agencies, state agencies, and/or non-governmental organizations (e.g., USFWS, CDFW, and USFS, and CDF) because of their recognized rarity, potential vulnerability to extinction, and local importance. These species typically have a limited geographic range and/or limited habitat and are referred to collectively

as "special status" species. Plant and wildlife species were considered "special status" species if they meet any of the following criteria.

- Taxa with official status under ESA, CESA, and/or the NPPA.
- Taxa proposed for listing under ESA and/or CESA.
- Taxa designated a species of special concern by CDFW.
- Taxa designated a state fully protected species by CDFW.
- Taxa identified as sensitive, unique or rare, by the USFWS, CDFW, the United States Forest Service (USFS), the United States Bureau of Land Management (BLM), and/or the California Department of Forestry and Fire Protection (CDF).
- Plants that meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
    - Species considered by CNPS and CDFW to be "rare, threatened or endangered in California" (California Rare Plant Rank [CRPR] 1A, 1B and 2) (CNPS 2018). A majority of the CRPR 3 and CRPR 4 plant species generally do not qualify for protection under CESA and NPPA.
    - Species that may warrant consideration on the basis of local significance or recent biological information.
    - Some species included on the CNDDB Special Plants, Bryophytes, and Lichens List (CDFW 2018g).
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Available literature and databases were reviewed regarding sensitive habitats and special status plant and wildlife species. Special status plant and wildlife species that have the potential to occur within the immediate region of the Study Area were identified. Several agencies, including the USFWS, CDFW, and CNPS publish lists of particular taxa (species and subspecies) and the associated level of protection or concern associated with each. Reviewed and consulted literature and databases focused on the Study Area, and included the following sources listed below:

- The CNDDB, a CDFW species account database that inventories status and locations of rare plants and wildlife in California, was used to identify any sensitive plant communities and special status plants and wildlife that may exist within a two-mile radius of the Project site. A CNDDB search was performed assessing a two-mile radius around the Study Area (CDFW 2018f). CNDDB records are generally used as a starting point when determining what special status species, if any, may occur in a particular area. However, these records may be old, lack data not yet entered, and do not represent all the special status species that could be in that particular area (Figure 3).

- A map of USFWS critical habitat to determine species with critical habitat mapped in the general vicinity of the Project (Figure 4) (USFWS 2018a).[2]
- Online CNPS Inventory of Rare and Endangered Plants of California (CNPS 2018). A search for the USGS 7.5-Minute Topographic Map Corona South Quadrangle provided information regarding the distribution and habitats of special status vascular plants in the Project Vicinity.
- Pertinent maps, scientific literature, websites, and regional flora and fauna field guides.

The literature review was used as a resource to better understand the biological resources potentially occurring within the Study Area. Although the inventory list of special status plant and wildlife species was not exhaustive of all species that might occur on the property, it provides a wide range of species that are representative of the wildland habitats in the area. Species occurrence and distribution information is based on documented occurrences where surveys have taken place for individual projects; therefore, a lack of documented occurrence does not necessarily indicate that a given species is absent from the Study Area.

4.1.4 Jurisdictional Waters

The following sources were reviewed to determine the potential presence or absence of jurisdictional streams/drainages, wetlands, and their location within the watersheds associated with the Study Area, and other features that might contribute to federal or state jurisdictional authority located within watersheds associated with the Study Area:

- National Wetlands Inventory (NWI) maps (USFWS 2018c). The NWI database indicates potential wetland areas based on changes in vegetation patterns as observed from satellite imagery. This database is used as a preliminary indicator of wetland habitats because the satellite data are not precise.
- Title 33 Code of Federal Register (CFR): Navigation and Navigable Waters Part 328
- USGS National Hydrography Dataset (NHD). Provides the locations of "blue-line" streams as mapped on 7.5-Minute Topographic Map coverage.
- Aerial Imagery (Google Earth©) (Google 2018).
- USGS 7.5-Minute Topographic Maps.
- Natural Resource Conservation Service (NRCS) Soil Survey.

4.1.5 MSHCP Assessment

The Project site is located within the MSHCP, specifically within the Temescal Canyon Area Plan. The MSHCP is a comprehensive plan that includes portions of the County of Riverside and numerous cities. The MSHCP plans for conservation of 146 species and proposes a reserve system of approximately 500,000 acres. The MSHCP is intended to contribute to the economic viability

[2] Lands located within the mapped critical habitat designation must meet additional specific criteria to be considered critical habitat. The final determination of the extent of critical habitat on a specific site is based on whether certain criteria are met. Criteria is outlined within Section 4.1.2.

of the County of Riverside by providing landowners, developers, and public infrastructure projects a streamlined regulatory process.

The Riverside Conservation Authority (RCA) MSHCP Information Application website was reviewed to verify any overlays that may occur on the Project site. Regardless of other overlays, MSHCP Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools*, is applicable to all projects within the MSHCP and describes the process through which protection of riparian/riverine areas, and vernal pools will occur within the MSHCP Area. Protection of these resources is important for a number of MSHCP conservation objectives. An assessment of a Project's potentially significant effects on riparian/riverine areas and vernal pools is required. Guidelines for determining whether or not these resources exist on site are described as follows:

- **Riparian/Riverine Areas** include "lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens which occur close to or which depend upon soil moisture from a nearby fresh water source or areas with fresh water flow during all or a portion of the year." Riparian/riverine areas under the MSHCP also include drainage areas that are vegetated or have upland (non-riparian/riverine) vegetation and that drain directly into an area that is described for conservation under the MSHCP (or areas already conserved). The Project site was assessed for areas meeting this definition during the jurisdictional delineation performed on February 15, 2018.

- **Vernal Pools** are described by the MSHCP as "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season." This definition excludes artificially created wetlands created for proving wetlands habitat or human actions to create open waters or altering natural streams demonstrating characteristic as described above. The Project site was assessed for areas meeting this definition during the jurisdictional delineation performed on February 15, 2018.

4.2 Biological Survey

4.2.1 General Biological Survey

A field survey was performed on February 15, 2018 by SLS biologist Brianna Bernard to assess and map vegetation communities, plants, and wildlife, and to identify habitat areas that could be suitable for special status plant species.

Plant species were identified using plant field and taxonomical guides, such as The Jepson Manual: Vascular Plants of California, second edition (Baldwin et al. 2012). All plant species encountered during the field survey were identified and recorded in field notes. A one-day survey cannot be used to conclusively determine presence or absence of a species; therefore,

assessments of presence/absence were made based on the previous surveys, presence of suitable habitat and soils to support the species, known records or occurrence within the area, and known distribution and elevation range obtained from the relevant literature.

During the field survey, the biologist assessed the existing habitat within the Study Area using aerial maps and a Trimble R1 GNSS Receiver paired with the ARC Geographical Information System (ARCGIS) Collector Application. The biologist paid special attention to those habitat areas that had the potential to provide suitable habitat for special status plant and wildlife species. Aerial photographs and maps were used to assist in the delineation of plant community boundaries. Following field mapping, the plant communities were digitized and the vegetation map was created. General wildlife surveys were conducted on foot and with binoculars within the Study Area.

All wildlife species encountered visually or audibly during the field survey were identified and recorded in field notes. Biologists also recorded signs of wildlife species including animal tracks, burrows, nests, scat, and remains. Binoculars were used to aid in the identification of observed wildlife. Wildlife field guides and photographs were used to assist with identification of wildlife species during the field survey, as necessary. Photographs were taken to document existing conditions within the Study Area (Appendix B).

4.3 Focused Burrowing Owl Survey

The Project site falls within a MSHCP Burrowing Owl (BUOW) overlay (Figure 4). A Habitat Assessment was conducted on February 15, 2018 to determine any suitable BUOW habitat onsite. Following the assessment, a Focused Burrowing Owl survey was conducted on March 06, 2018 pursuant to MSHCP Section 6.3.2, MSHCP Protocol Survey Instructions, and the methods used to detect and identify BUOW included observation of key signs identified by the *California Burrowing Owl Consortium (CBOC).* This includes observation of key signs such as sight, scat, tracks, burrows, nests, and calls. All encountered burrows or structure entrances were checked for the presence of BUOWs, molted feathers, cast pellets, prey remains, eggshell fragments, tracks, or excrement at or near a burrow entrance. Natural or man-made structures that could support BUOWs were also surveyed when present. The complete results for the Protocol Focused BUOW Report can be found in Appendix A.

Survey efforts were conducted in the morning between 8:00 a.m. and 12:00 p.m. and were not performed during periods of excessive or abnormal heat, wind, rain, or other inclement weather. The Study Area was assessed for the suitability to support burrowing owls and all suitable burrows were inspected for signs of use by burrowing owls. The survey involved walking through suitable habitat within the Study Area (the Project site and a 500-foot buffer). The pedestrian survey transects were spaced approximately 10 to 15 meters apart to allow 100 percent visual coverage of the ground surface.

4.4 Focused Coastal California Gnatcatcher Survey

Focused Coastal California Gnatcatcher (CAGN) surveys were conducted on March 19, 27, April 10, 17, 24, and May 1, 2018 following the breeding season USFWS protocol guidelines, "Coastal California Gnatcatcher Presence/Absence Survey Guidelines" (USFWS 1997). Specifically, 6 surveys separated by at least 1 week were conducted within all suitable habitats. The focused surveys were conducted by Nina Jimerson-Kidd (USFWS Permit TE-036550-5) and by Kelly Rios (USFWS Permit TE-018909-5). The complete Protocol Focused CAGN Report can be found in Appendix A.

All survey efforts were conducted in the morning between 6:45 a.m. and 12:00 p.m. and were not performed during periods of excessive or abnormal heat, wind, rain, or other inclement weather. Surveys were performed by slowly walking throughout the Project site listening and scanning for CAGN. Taped CAGN vocalizations were broadcast periodically to elicit responses and locate individuals, but were discontinued if any detections were confirmed. Detections, if any, were recorded onto an aerial photograph of the Project site. Additional information documented included time, date, location, surveyor name, number of birds and age class (adult or juvenile).

In addition to determining the presence/absence of the CAGN, the survey efforts focused on determining the current status and territory of any observed species within the Project site. Following each initial gnatcatcher observation, passive monitoring of the species would be conducted to determine status (individual, pair, breeding activity, territorial defense). This is accomplished by delineating the suitable habitats where the species(s) were documented during each survey effort. Following completion of the surveys, the maps were consolidated to determine the current status of the CAGN within and immediately adjacent to the Project site.

4.5 Jurisdictional Delineation

An assessment of the Study Area for the presence of jurisdictional features was conducted by SLS biologist Brianna Bernard on February 15, 2018. All depressions and drainages were evaluated for the presence of jurisdictional waters and wetlands according to the Corps and CDFW delineation guidelines, including connectivity or lack of connectivity to Traditional Navigable Waters. Dominant vegetation within and adjacent to the jurisdictional features within the Study Area was identified and recorded.

The Corps and the RWQCB have jurisdiction over Waters of the United States. Jurisdictional non-wetland features for the Waters of the United States are typically determined through the observation of an Ordinary High Water Mark (OHWM), which is defined as the "line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." Projects with impacts to Waters of the United States are regulated under Sections 401 and 404 of the Clean Water Act.

To determine the presence of a jurisdictional wetland for the Waters of the United States, three indicators are required: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. The methodology published in the *United States Army Corps of Engineers 1987 Wetland Delineation Manual* and the *Arid West Supplement* sets the standards for meeting each of the three indicators, which normally require more than 50 percent cover of dominant plant species typical of a wetland, soils exhibiting characteristics of saturation, and hydrological indicators be present.

CDFW has jurisdiction over water of the Department's interest (California Fish and Game Code §§1600 et seq.; California Code of Regulations, Title 14, §720). Section 1602 of the California Fish and Game Code (FGC) applies to all rivers, streams, lakes and streambeds. CDFW defines a stream as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators" (Brady and Vyverberg 2013). Likewise, CDFW regulates jurisdictional areas of riparian habitat only to the extent that those areas are part of a stream, river, or lake as defined above. Waters of the State pertaining to Porter-Cologne in relation to RWQCB jurisdiction are defined by California Water Code Section 13050(e) as any surface or ground water within the boundaries of the state.

Prior to the field investigation, SLS biologist reviewed adjacent project biological reports, historical aerial imagery and topography for the Study Area to determine the potential for perennial, intermittent, or ephemeral drainages and associated riparian resources. Generally, indicators of jurisdictional drainages on an aerial photo include vegetation and/or incised lines indicating the path of flowing water. Following the desktop research, SLS biologist conducted an onsite field investigation. Based on the collective results of the desktop investigation and the field surveys, any observed jurisdictional features were mapped using the following parameters:

- As stated above, the limits of the Corps' jurisdiction extend to the OHWM. OHWM indicators include: the observation of benches, break in bank slope, particle size distribution, sediment deposits, drift, litter, and/or change in plant community.
- The RWQCB shares the Corps' jurisdictional methodology.
- CDFW's jurisdiction applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. CDFW's authority also includes riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, CDFW jurisdiction is mapped to the top of bank of the stream.

5.0 Results

5.1 Vegetation Communities

The vegetation communities and habitat conditions were inspected to confirm presence and habitat quality of the vegetation found onsite. Vegetation communities were mapped based on the Holland Classification System (Holland 1986). Where necessary, deviations were made on best professional judgment when areas did not fit into a specific habitat description provided by Holland. Plant communities were mapped in the field directly onto a 200-scale (1" = 200') aerial photograph and a Trimble R1 GNSS Receiver paired with the ARCGIS Collector Application was utilized during the survey. Biologists confirmed the presence and general quality of the seven vegetation communities. Vegetation mapping and acreages for each vegetation community is based on the observations of the field surveys, which are listed below in Table 1 and graphically depicted on Figure 5. Representative photographs of the vegetation communities can be found in Appendix B.

The deviations from Holland include the Disturbed/Developed and the Widened and Restored Wash categories. The deviations for the Developed community was made because of the lack of, or limited habitat values, and includes non-native or invasive species. The deviations for the Widened and Restored Wash community was made because installation of the widened Wash and associated debris basin, located off the Project site but within the Study Area, was a result of implementation of the adjacent Arantine Hills Project and impacts were previously accounted and permits obtained for Arantine Hills implementation. While currently it exhibits limited habitat value, the area is to be seeded with Alluvial Fan Sage Scrub and maintained in perpetuity per the Arantine Hills Long-Term Management Plan.

The field survey included a 300-foot buffer around the project site to determine what vegetation types exist adjacent to the Project site in order to determine the potential significance of indirect impacts.

Table 1. Vegetation Community Observed within the Project Site

Vegetation Community	Acreage within in the Project Site
Riversidian Sage Scrub/Chaparral	0.21
Unvegetated Streambed[1]	3.99
Widened and Restored Bedford Canyon Wash[2]	0.93
Tamarisk Scrub	0.12
Ruderal	18.28
Disturbed/Developed	7.61
TOTAL	**31.14**

Vegetation Community	Acreage within in the Project Site
Notes: *1. Includes ornamental/exotic, ruderal, and unvegetated streambed communities. Approximately, 0.04 acres of Riparian non-wetlands was observed within the Wash. The Willow (Salix sp.) patch consists of 3 multi-trunked willow trees, with trunk diameters measuring 0.72 inches to 3.90 inches.* *2. Included within the Arantine Hills Project, Widened and Restored Wash design.*	

The general description of the habitat observed during the 2018 field survey is described below.

5.1.1 Riversidian Sage Scrub/Chaparral

Approximately 0.21 acres of the Project site is comprised of Riversidian Sage Scrub/Chaparral. This community is located on the slope of the south bluff of Bedford Canyon Wash. The Riversidean Sage Scrub/Chaparral community is dominated by shrubs such as laurel sumac (*Malosma laurina*), white sage (Salvia apiana), toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), deerweed (*Acmispon glaber*), Sugarbush (*Rhus ovata*), wild cucumber (*Marah macrocarpa*), California buckwheat (*Eriogonum fasciculatum*), chamise (*Adenostoma fasciculatum*), and tree tobacco (*Nicotiana glauca*). The understory of the community consists primarily of non-native species such as red brome (*Bromus madritensis ssp. rubens*), ripgut brome (*Bromus diandrus*), tocalote (*Centaurea melitensis*), and summer mustard (*Hirschfeldia incana*).

5.1.2 Unvegetated Streambed

Approximately 3.99 acres of the Project site is comprised of unvegetated streambed. This community is located within Bedford Canyon Wash. The unvegetated streambed community is a sandy wash with scattered areas containing laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), brittlebush (*Encelia farinosa*), California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), coyote bush (*Baccharis pilularis*), California encelia (*Encelia californica*), scalebroom (*Lepidospartum squamatum*), and California buckwheat (*Eriogonum fasciculatum*). A majority of the Wash consists primarily of non-native species such as tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), red brome (*Bromus madritensis ssp. rubens*), ripgut brome (*Bromus diandrus*), tocalote (*Centaurea melitensis*), and summer mustard (*Hirschfeldia incana*). This community also includes scattered giant reed (A*rundo donax*).

Of the Unvegetated Streambed community observed onsite, approximately 0.04 acres includes a patch of red willow (*Salix laevigata*). A total of 3 multi-trunked willow trees were observed within in the patch found in the Wash, with trunk diameters measured at 4.5 feet above the ground, and is more commonly referred to as Diameter Breast Height (dbh). Trunks ranged from 0.72 inches to 3.90 inches at dbh. While hydrophilic vegetation was present, the willows and the surrounding area lack the other two indicators for a wetland.

5.1.3 Widened and Restored Wash

Approximately 0.93 acres of the Project site is comprised of widened and restored wash, which is located off the Project site, but within the Study Area. The original Wash was widened from an approximately 90 feet to 200 feet. Various structures, including buried slope protection, buried grade control structures, and access ramps, are included within the design. The restored Bedford Wash will be hydroseeded with an alluvial fan sage scrub hydroseed mixture.

5.1.4 Tamarisk Scrub

A total of 0.12 acres of tamarisk scrub is mapped onsite. This community consist of tamarisk (*Tamarix ramosissima*), with scattered mulefat (*Baccharis salicifolia*), a single stressed red willow (*Salix laevigata*), Peruvian pepper tree (*Schinus Molle*), and castor bean (*Rincus communis*). This community was observed along the western fence line where the Eagle Glen Golf Course and Project Site meet. This area is the contact point between the graded Golf Course slope and the Project site. While vegetation was present, the scrub and the area around the scrub lack the other two indicators for a wetland.

5.1.5 Ruderal

A total of 18.28 acres of the Project site consists of the ruderal community. This vegetation community is the location of the historical citrus operations. It is maintained (trimmed) annually due to fire management. Vegetation within this area is comprised of Russian thistle (*Salsola tragus*), rat-tail fescue (*Festuca microstachys*), foxtail brome (*Bromus madritensis ssp. rubens*), ripgut brome (*Bromus diandrus*), tocalote (*Centaurea melitensis*), chaparral nightshade (*Solanum xanti*), summer mustard (*Hirschfeldia incana*), castor bean (*Rincus communis*), Jimson weed (*Datura stramonium*), cheeseweed (*Malva parviflora*), giant reed (*Arundo donax*), and a few scattered Peruvian pepper trees (*Schinus Molle*) and laurel sumac (*Malosma laurina*).

5.1.6 Developed/Disturbed

A total of 7.61 acres of disturbed area consisting of bare dirt, dirt roads, and sparse vegetation is mapped onsite. The developed/disturbed community contains limited habitat value, and includes non-native or invasive species. This community also includes a soft bottom debris basin associated with the widened and restored Wash within Arantine Hills project. This basin was constructed within the Project site boundary in an easement. This was designed to allow for large boulders to settle out of heavy storm flows, protecting the downstream habitat of the Wash.

5.2 Plants

Sensitive plant species include federally or state listed threatened or endangered species, those species listed on the CNPS rare and endangered plant inventory. A single listed plant species occurs within the USGS 7.5' Corona South quadrangle and a brief description of that species is included below. Special status plant species with the potential to occur in the Project site were

analyzed based on distribution, habitat requirements, and existing site conditions (Appendix C). All plant species observed within the Project site totaled 32 species during the survey on February 15, 2018 are listed in Appendix D of this report.

Munz's Onion (*Allium munzii*)
Status: state threatened, federally endangered
Distribution: Los Angeles, Riverside, San Bernardino, and San Diego Counties.
Habitat(s): Clay soils supporting chaparral, cismontane woodland, coastal scrub, pinyon-juniper woodland, and valley and foothill grassland. Known from 300 to 1,070 meters (1,000 to 3,500 feet) MSL. Blooms March through May.
Status onsite: None. The site lacks suitable habitat and soils. Not observed during field visit.

As determined through the 2018 survey, no special status plant species were observed within the Project site and there is no opportunity for them to occur due to the routine mowing of the Project site and lack of suitable habitat and soils.

5.3 Critical Habitat

The USFWS's online service for information regarding Threatened and Endangered Species Final Critical Habitat designation within California was reviewed to determine if the Project site is within any species' designated Critical Habitat. The entire Study Area is designated critical habitat for the coastal California gnatcatcher (*Polioptila californica californica* [*CAGN*]) (Figure 4).

Coastal California gnatcatcher (*Polioptila californica californica*)
Status: federally threatened, CDFW species of special concern
Distribution: Southern Los Angeles, Orange, western Riverside, and San Diego counties south into Baja.
Habitat(s): Coastal sage scrub of varying subtypes, sometimes riparian, chaparral, and other habitats as well.
Status onsite: Suitable habitat is found on the bluff adjacent to Bedford Canyon Wash. As a result, USFWS Protocol Surveys were performed in 2018 by KIDD Biological, Inc. The CAGN was not observed during the focused protocol surveys therefore the site is not occupied by the species. The complete results of the Protocol Surveys can be found in Appendix A.

5.4 Wildlife

Special status wildlife species with the potential to occur on the Project site were analyzed based on the species identified in USGS 7.5' Corona South quadrangle and the surrounding eight quadrangles, distribution, habitat requirements, and existing site conditions (Appendix E). No special status wildlife was identified or observed within the Project site during the field visit. However, the following species were identified as being observed within 2-miles of the Project site: California horned lark (*Eremophila alpestris actia*), Stephen's Kangaroo Rat (*Dipodomys stephensi*), coastal California gnatcatcher, least Bell's vireo (*Vireo bellii pusillus*), orange-throated

whiptail (*Aspidoscelis hyperythra*), red-diamond rattlesnake (*Crotalus ruber*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and western spadefoot (*Spea hammondii*). A brief description of those species and their habitat is included below.

California Horned Lark (*Eremophila alpestris actia*)
Status: CDFW watch list
Habitat(s): A year-long resident within the state and within a variety of open habitats, usually where trees and large shrubs are absent. They are not particular about the nature of the field, so long as it has very little vegetation. Range-wide, they breed in level or gently sloping short grass prairies, montane meadows, "bald" hills, open coastal plains, fallow grain fields, alkali flats, and rangelands. Within southern California, California horned larks breed primarily in open fields, (short) grasslands, and rangelands. Grasses, shrubs, forbs, rocks, litter, clods of soil, and other surface irregularities provide cover.
Status onsite: Moderate potential to occur onsite. Suitable habitat exists on site due to the annual maintenance for fire abatement, which results in areas with little to no vegetation. Not observed during field visit.

Stephen's Kangaroo Rat (*Dipodomys stephensi*)
Status: federally endangered, state threatened
Habitat(s): This species prefers large areas of disturbed or patchy annual and perennial grasslands and open coastal sage scrub. Preferred perennials plant species include buckwheat and chamise and preferred annual plant species include brome grass. The nearest known populations are in Rancho Guejito and at the Naval Weapons Station in Fallbrook.
Status onsite: None. The site lacks suitable habitat. Not observed during field visit.

Coastal California gnatcatcher (*Polioptila californica californica*)
See Section 5.3.

Least Bell's Vireo (*Vireo bellii pusillus*)
Status: federally endangered, state endangered
Habitat(s): This species primarily occupies riverine riparian habitats that typically feature dense cover within 1-2 m of the ground and a dense, stratified canopy. Typically, it is associated with southern willow scrub, cottonwood-willow forest, mule fat scrub, sycamore alluvial woodland, coast live oak riparian forest, arroyo willow riparian forest, or mesquite in desert localities. It uses habitat which is limited to the immediate vicinity of water courses.
Status onsite: None. The site lacks suitable habitat. Not observed during field visit.

Orange-Throated Whiptail (*Aspidoscelis hyperythra*)
Status: CDFW species of special concern
Habitat(s): The species is generally found in semi-arid brushy areas typically with loose soil and rocks, including washes, stream sides, rocky hillsides, and coastal chaparral. Habitat types include low elevational chaparral, non-native grassland, (Riversidian) coastal sage scrub, juniper woodland and oak woodland. Associations include alluvial fan scrub and riparian areas. Friable soil appears to be a necessary requirement for excavating burrows and hiding eggs.

Status onsite: None. The site lacks suitable habitat. Not observed during field visit.

Red-Diamond Rattlesnake (*Crotalus ruber*)
Status: species of special concern
Habitat(s): It can be found from the desert, through dense chaparral in the foothills (it avoids the mountains above around 4,000 feet), to warm inland mesas and valleys, all the way to the cool ocean shore. It is most commonly associated with heavy brush with large rocks or boulders. Dense chaparral in the foothills, cactus or boulder associated coastal sage scrub, oak and pine woodlands, and desert slope scrub associations are known to carry populations of the northern red-diamond rattlesnake, however, chamise and red shank associations may offer better structural habitat for refuges and food resources for this species than other habitats. They need rodent burrows, cracks in rocks or surface cover objects.
Status onsite: Limited habitat is found onsite due to the annual maintenance for fire abatement. Not observed during field visit.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
Status: CDFW watch list
Habitat(s): They are found on grass-covered hillsides, coastal sage scrub, and chaparral and often occur near the edges of the denser scrub and chaparral associations. Preference is shown for tracts of California sagebrush. Optimal habitat consists of sparse, low brush or grass, hilly slopes preferably interspersed with boulders and outcrops. The species may occur on steep grassy slopes without shrubs if rock outcrops are present. It is a very secretive species.
Status onsite: None. The site lacks suitable habitat. Not observed during field visit.

Western Spadefoot (*Spea hammondii*)
Status: CDFW species of special concern
Habitat(s): May be found in coastal sage scrub, open chaparral, pine-oak woodlands and grassland habitats, but is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas. Within these habitats, they require rain pools/vernal pools in which to reproduce and that persist with more than three weeks of standing water in which to metamorphose successfully. They can also breed in slow-moving streams (e.g., areas flooded by intermittent streams). Water breeding sites must lack fish, bullfrogs, and crayfish in order for to successfully reproduce and metamorphose. They estivates in sandy, gravelly soil in upland habitats adjacent to potential breeding sites in burrows approximating 1 meter in depth.
Status onsite: None. The site lacks suitable habitat. Not observed during field visit.
None of these species or evidence of their presence were observed or heard during the 2018 survey, and given the site's annual maintenance for fire abatement, existing surrounding residential housing, and lack of habitat there is no opportunity for them to occur onsite.

5.4.1 Wildlife Species Observed or Detected

The animal species or signs thereof observed during the SLS survey are listed below:

Birds:

- American crow (*Corvus brachyrhynchos*)
- Anna's hummingbird (*Calypte anna*)
- black phoebe (*Sayornis nigricans*)
- California quail (*Callipepla californica*)
- California towhee (*Melozone crissalis*)
- house finch (*Haemorhous mexicanus*)
- mourning dove (*Zenaida macroura*)
- red-tailed hawk (*Buteo jamaicensis*)
- song sparrow (*Melospiza melodia*)
- turkey vulture (*Cathartes aura*)
- wrentit (*Chamaea fasciata*)

Mammals:

- California ground squirrel (*Spermophilus beecheyi*)
- desert cottontail (*Sylvilagus audubonii*)
- coyote (*Canis latrans*)

Reptiles:

- western fence lizard (*Sceloporus occidentalis*)

5.5 Focused Burrowing Owl Survey

Per the MSHCP BUOW Survey Instructions, a Habitat Assessment was conducted on February 15, 2018 to determine any suitable BUOW habitat onsite. Following the habitat assessment, a focused survey took place on March 6, 2018 between 8:00 a.m. and 11:57 p.m. Temperatures during the survey ranged between 68° F and 73° F, with predominant sunny, clear skies and 0-2 mph winds. The survey was conducted during typical BUOW peak activity time and was not conducted during rain, high winds (> 20 miles per hour), dense cloud cover >75%, or temperatures above 90°F. Prior to the commencement of the survey, SLS biologist scanned the Study Area using binoculars to look for burrowing owl. The Study Area was assessed for the suitability to support burrowing owls and all suitable burrows were inspected for signs of use by burrowing owls. The survey involved walking through suitable habitat within the Study Area (the Project site and a 500-foot buffer). Pedestrian survey transects were spaced approximately 10 to 15 meters apart to allow 100 percent visual coverage of the ground surface.

No BUOWs, suitable sized burrows, or evidence of BUOWs were observed on site within the Study Area during the focused survey. A majority of the Project site was characterized by actively maintained ruderal fields, lacking necessary sized burrows to provide suitable nesting habitat for BUOW. Much of the buffer area is developed. California ground squirrels and their burrows were observed within the Study Area. These burrows were actively utilized by the California ground squirrels and contained no BUOW or keys signs (sight, whitewash, burrows, bones, feathers, pellets, nests, and calls). Furthermore, the Project site is annually maintained for fire abatement

and the property adjacent to the Project site has active construction and grading activities. Therefore, based on the lack of suitable BUOW burrows, routine maintenance and mowing, and adjacent construction activities, Step II Part B, which requires three additional focused surveys, are not required pursuant to MSHCP Burrowing Owl Survey Instructions. Please refer to Appendix A for the complete results for the focused survey.

5.6 Focused Coastal California Gnatcatcher Survey

Six breeding season surveys were conducted by the USFWS permitted biologists noted in Section 4.4, in accordance with USFWS guidelines. Only areas considered suitable CAGN habitat were surveyed by the permitted biologists during breeding season surveys. It should be noted; however, that not all lands within the survey area supported 100% vegetative cover of suitable CAGN habitat.

No CAGN were detected during breeding season surveys conducted on the Project site and therefore are considered absent from the Project site. Brown-headed cowbirds (*Molothrus ater*), considered to be nest parasites for CAGNs, were not observed during the surveys.

5.7 Regional Connectivity/Wildlife Movement

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, would not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967, Soule 1987, Harris and Gallager 1989). Corridors effectively act as links between different populations of a species. A group of smaller populations (termed "demes") linked together via a system of corridors is termed a "meta-population." The long-term health of each deme within the meta-population is dependent upon its size and the frequency of interchange of individuals (immigration versus emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increases overall genetic diversity. An increase in a population's genetic variability is generally associated with an increase in a population's health.

Corridors mitigate the effects of habitat fragmentation by:

- Allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity.

- Providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction.
- Serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Fahrig and Merriam 1985, Simberloff and Cox 1987, Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories:

- Dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions).
- Seasonal migration.
- Movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

A number of terms have been used in various wildlife movement studies, such as "wildlife corridor," "travel route," "habitat linkage," and "wildlife crossing" to refer to areas in which wildlife moves from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

- Travel route: a landscape feature (such as a ridge line, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food, water, and/or cover while moving between habitat areas; and provides a relatively direct link between target habitat areas.

- Wildlife corridor: a piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species.

- Wildlife crossing: a small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings are typically manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These are often "choke points" along a movement corridor.

5.7.1 Wildlife Movement within the Study Area

The Study Area may serve a function in local wildlife movement; however, the Study Area was not identified in the MSHCP as a Core Linkage. The Study Area may provide a linkage for wildlife between the Cleveland National Forest and Lake Matthews, along Bedford Canyon Wash. A recent restoration project proposed by the Riverside-Corona Resource Conservation District (RCRCD) for a downstream parcel within the Bedford Canyon Wash would, "Preserve the channel/floodplain location which historically functioned as part of a regionally significant east-west wildlife corridor," suggesting that this corridor provides a valuable linkage.

Due to the proximity of the Project Study Area and the Santa Ana Mountains, it is expected that local wildlife movement would occur between areas of the Project Study Area and the Santa Ana Mountains. Specifically, Bedford Canyon Wash provides connectivity between the Santa Ana Mountains and Lake Matthews. Therefore, the Study Area does provide a connection between large areas of undeveloped land, which may be utilized for wildlife movement.

5.8 Jurisdictional Areas

5.8.1 Waters of the United States

This section relies on the term "Waters of the United States" as it applies to the jurisdictional limits under the authority of the Army Corps of Engineers under the Clean Water Act and applies to the jurisdiction of the Regional Water Quality Control Board under the Porter-Cologne Water Quality Act. The NWI maps, NHD, USGS 7.5-minute topo map and an aerial image were reviewed to determine the potential presence or absence of jurisdictional streams/drainages, wetlands, and their location within any watersheds associated with the Project site, and other features that might contribute to federal authority located within watersheds associated with the Project site.

Bedford Wash is a minimally vegetated ephemeral wash characterized by highly erosive storm flows. The eastern edge of Bedford Canyon Wash consists of a vertical bluff wall of varying heights. Storm flows in Bedford Wash may continue to erode these bluffs, potentially destabilizing and undermining the properties above. The total inventory of Waters of the U.S. is presented in Table 2 and shown on Figure 6 and consists of Bedford Canyon Wash.

Table 2. Jurisdictional Waters of the United States within the Project site

Drainage	Total Acreage
Bedford Canyon Wash	3.12[1]
[1]. Consists of non-wetland jurisdiction. Of the total 3.12 acres of jurisdictional waters observed onsite, 0.04 acres consist of 3 multi-trunk willow trees (Salix sp.) with trunk diameters measuring 0.72 inches to 3.90 inches.	

5.8.2 Waters of the State

The delineation determined that the Project site includes Waters of the State and associated riparian habitat that meet CDFW characteristics that defines waters under the jurisdiction of FGC Section 1600 (Brady and Vyverberg 2013). Bedford Canyon Wash is considered Waters of the State due to the presence of biological and physical characteristics of a stream subject to the Jurisdiction of CDFW under FGC §1600 et seq. The Wash exhibits biological and physical indicators of Waters of the State through the presence of channel bed and bank. The total inventory of Waters of the State is presented in Table 3 and shown on Figure 6.

Table 3. Jurisdictional Waters of the State within the Project Site

Drainage	Total Acreage
Bedford Canyon Wash	3.99[1]
[1]. Of the total 3.99 acres of jurisdictional waters observed onsite, 0.04 acres consist of 3 multi-trunk willow trees (Salix sp.) with trunk diameters measuring 0.72 inches to 3.90 inches.	

5.8.3 MSHCP Riparian/Riverine and Vernal Pool Assessment

Volume I, Section 6.1.2 of the MSHCP describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area. The purpose is to ensure that the biological functions and values of these areas throughout the MSHCP Plan Area are maintained such that habitat values for species inside the MSHCP Conservation Area are maintained. The MSHCP requires that as projects are proposed within the overall Plan Area, the effect of those projects on riparian/riverine areas and vernal pools must be addressed.

The MSHCP defines riparian/riverine areas as:

> *…lands which contain Habitat dominated by trees, shrubs, persistent emergent mosses and lichens, which occur close to or which depend upon soils moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.*

The MSHCP defines vernal pools as:

> *…seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indictors of hydrology and/or vegetation during the drier portion of the growing season.*

With the exception of wetlands created for the purpose of providing wetlands habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas

demonstrating characteristics as described above which are artificially created are not included in these definitions.

The total inventory of MSHCP Riparian and Riverine is presented in Table 4 and shown on Figure 7. The Project site contains no vernal pools or depressions as defined under MSHCP vernal pool features.

Table 4. Riparian/Riverine Habitat

Community Type	Acreage Onsite
Riparian/Riverine	3.99[1]
1. Of the total 3.99 acres of riparian/riverine features observed onsite, 0.04 acres consist of 3 multi-trunk willow trees (Salix sp.) with trunk diameters measuring 0.72 inches to 3.90 inches.	

5.9 MSHCP Assessment

The Project is located within the Temescal Canyon Area Plan of the MSHCP. The Project site is not located within any MSHCP Criteria Areas, Cell Groups, or Subunits. Furthermore, the Project site is not located in survey areas for Narrow Endemic Plants, Amphibians, Mammals, or Special Linkage areas. The Project site is located within the Western Burrowing Owl overlay pursuant to MSHCP Section 6.3.2. The Project site was surveyed and assessed for the following:

- Riparian and Riverine Areas (Section 6.1.2)
- Western Burrowing Owl Survey Area (Section 6.3.2)

Thus, a separate Consistency Assessment has been prepared pursuant to those sections.

5.10 Soils Mapping

The United States Department of Agriculture Natural Resources Conservation Service lists four soil types (series) for the Project Site (Figure 8). The following soil types are located on the Project site and described below:

AIC: Arbuckle gravelly loam, 2 to 8 percent slopes
Soils of the Arbuckle series consist of well-drained soils and have slopes of 2 to 25 percent. These soils occur on alluvial fans and developed in alluvium from metasedimentary rocks. Arbuckle soils are not designated as a sensitive soil type by the MSHCP.

AID: Arbuckle gravelly loam, 8 to 15 percent slopes
Soils of the Arbuckle series consist of well-drained soils and have slopes of 2 to 25 percent. These soils occur on alluvial fans and developed in alluvium from metasedimentary rocks. Arbuckle soils are not designated as a sensitive soil type by the MSHCP.

CmC: Cortina cobbly loamy sand, 2 to 8 percent slopes

The Cortina series consists of somewhat excessively drained and excessively drained soils on alluvial fans and in valley fills. These soils formed in alluvium from metasedimentary rocks. Cortina soils are not designated as a sensitive soil type by the MSHCP. Cortina soils are mapped within the majority of the Project Study Area.

TeG: Terrace Escarpments

Terrace escarpments consist of variable alluvium on terraces and barrancas. Small areas of recently deposited alluvium may be near the bottom of the escarpments. This land is unaltered alluvial outwash derived from granite, gabbro, metamorphosed sandstone, sandstone, or micaschist. Terrace escarpments are not designated as a sensitive soil type by the MSHCP. Terrace escarpments are mapped within the central/eastern portion of the Project Study Area.

6.0 Project Impacts

This section discusses potential impacts to biological resources that could result from Project implementation. Biological resources may be either directly or indirectly impacted by a Project. Direct and indirect impacts may be either permanent or temporary in nature. These impact categories are defined below.

- Direct impact: any loss, alteration, disturbance or destruction of biological resources that would result from project-related activities is a direct impact. Examples include vegetation clearing, encroaching into wetlands, diverting natural surface water flows, and the loss of individual species and/or their habitats. Direct permanent impacts resulting from Project implementation consist of any ground-disturbing activities (i.e., vegetation removal, grading, paving, building of structures, installing landscaping, creating the fuel modification zone, etc.).

- Indirect impact: as a result of Project-related activities, biological resources may also be affected in a manner that is not direct. Examples of indirect impacts include elevated noise, light, and dust levels, increased human activity, decreased water quality, erosion created by the removal of vegetation, and the introduction of invasive plants and unnatural predators (e.g. domestic cats and dogs). These indirect impacts may be both short term and long term in their extent.

- Permanent impacts: all impacts that result in the long-term or irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area containing biological resources.

- Temporary impacts: any impacts considered to have reversible effects on biological resources can be viewed as temporary. Examples include the generation of fugitive dust during grading, or removing vegetation and either allowing the natural vegetation to recolonize or actively revegetating the impact area.

Under each section, potential impacts are discussed.

6.1 Impacts to Vegetation Communities/Habitats

Figure 9 and Table 5 describe and list the approximate total acreages of vegetation communities that will be permanently and temporary impacted by Project activities. Calculations were based on the currently proposed development design in combination with the vegetation map from the field survey and aerial imagery.

Indirect temporary impacts to plant communities include the effects of fugitive dust created by grading activities, vehicle construction traffic, or offsite discharge of surface water runoff with its associated erosion and sedimentation. Grading-related dust could settle on plant surfaces and

indirectly inhibit metabolic processes such as photosynthesis and respiration. Grading-related erosion, runoff, sedimentation, soil compaction, and alteration of drainage patterns may affect plants by altering site conditions so that the location in which they are growing becomes unfavorable. Another example of indirect impacts includes the introduction and spread of invasive, exotic plants which could result in permanent indirect impacts to adjacent native plant communities.

Table 5. Approximate Acreage of Potential Impacts to Vegetation Communities on the Project Site

Vegetation Community	Existing Vegetation onsite (acres)	Total Permanent Impacts (acres)	Total Temporary Impacts (acres)
Riversidian Sage Scrub/Chaparral	0.21	0.14	0.00
Unvegetated Streambed	3.99	0.16	3.52
Widened and Restored Bedford Canyon Wash	0.93	0.00	0.87
Tamarisk Scrub	0.12	0.12	0.00
Ruderal	18.28	18.28	0.00
Disturbed/Developed	7.61	7.56	0.00
TOTAL	**31.14**	**26.26**	**4.39**

Direct impacts are not considered significant because of the 26.26 acres of impact, only 0.30 acre represent native habitat or sensitive communities. The remainder of impacts occur to habitats that are common in the Project Vicinity and have minimal habitat value. In addition, many of these areas within the Study Area exhibit a moderate or high level of disturbance.

Furthermore, impacts to the Riversidian sage scrub/chaparral and unvegetated streambed habitat, with minimal impacts to non-native and sage scrub habitats and 3 willow trees are proposed to be self-mitigated with the implementation of the continuation of the widened and restored Bedford Canyon Wash. The elimination of erosive flows is expected to promote natural recruitment of native vegetation within Bedford Canyon Wash. Additional details can be found in *Section 8.0.*

6.2 Potential Impacts to Special Status Plants

As concluded in Section 5.2 above, no special status plant species were observed during the 2018 survey and none are expected to occur onsite due to the lack of suitable habitat found on the Project site; therefore, there are no potential impacts to special status plants due to Project implementation.

6.3 Potential Impacts to Critical Habitat

The Project is located within CAGN critical habitat, the Project site is not occupied as concluded from the 2018 Focused CAGN surveys. Furthermore, the CAGN is a Covered Species under the MSHCP. The only restriction is that the "clearing of occupied habitat within PQP lands and the Criteria Area between March 1 and August 15 is prohibited." If grading activities begin during the CAGN breeding season, a qualified biologist shall survey all potential nesting vegetation within and adjacent to the site for nesting CAGN, prior to commencing vegetation removal. Pre-construction surveys shall be conducted at the appropriate time of day. If no nesting birds were observed, Project activities may begin. If an active bird nest is located, the nest site shall be fenced a minimum of 500 feet in all directions, and this area shall not be disturbed until after the nest becomes inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, or the young will no longer be impacted by the activities. Alternatively, a qualified biologist may determine that grading can be permitted within the buffer areas and would develop a monitoring plan to prevent any impacts while the nest continues to be active (eggs, chicks, etc.).

6.4 Potential Impacts to Special Status Wildlife

Due to the routine maintenance of the Project site and lack of habitat, no impacts are expected to occur as a result of Project implementation. As shown in Table 6 below, some impacts to avian species protected by the MBTA may occur as a result of Project construction, both temporary short-term construction and operations (long-term). If Project construction is scheduled to occur during the typical breeding bird season (January 1 through August 15 for raptors and February 15 through September 15 for all other avian species), short-term noise effects to birds that may forage onsite may occur. However, it is expected such birds would fly away at the sight of approaching construction workers and equipment, and would therefore not be significantly impacted by construction-related noise levels and no mitigation is required.

Table 6. Impact Analysis Summary for Special Status Species

Species	Extent of Impact	Significance of Impact
California Horned Lark MSHCP: Covered Species	Suitable habitat is found within the Project site as a result of the bare spots and developed area as identified within Section 5.4.	Less than significant impact due to ongoing maintenance of the project site, which has prevented occupation.
Stephen's Kangaroo Rat MSHCP: Covered Species	No suitable habitat is found within the Project site as identified within Section 5.4.	No Impact due to lack of suitable habitat onsite. Not observed during field visit.
Coastal California gnatcatcher MSHCP: Covered Species	Suitable habitat is found on the bluff adjacent to the Wash.	Less than significant Impact. Based on

Species	Extent of Impact	Significance of Impact
	Focused surveys were performed and the CAGN was not observed as identified within Section 5.3.	protocol surveys, while potentially suitable habitat was found onsite, CAGN was not observed and has a low potential to occur.
Least Bell's Vireo MSHCP: Covered Species	No suitable habitat is found within the Project site as identified within Section 5.4.	No Impact due to lack of suitable habitat onsite. Not observed during field visit.
Orange-throated Whiptail MSHCP: Covered Species	No suitable habitat is found within the Project site as identified within Section 5.4.	No Impact due to lack of suitable habitat onsite. Not observed during field visit.
Red-Diamond Rattlesnake MSHCP: Covered Species	Limited habitat is found onsite due to the annual maintenance for fire abatement as identified within Section 5.4.	Less than significant impact due to ongoing maintenance of the project site, which has prevented occupation.
Southern California Rufous-Crowned Sparrow MSHCP: Covered Species	No suitable habitat is found within the Project site as identified within Section 5.4.	No Impact due to lack of suitable habitat onsite. Not observed during field visit.
Western Spadefoot MSHCP: Covered Species	No suitable habitat is found within the Project site as identified within Section 5.4.	No Impact due to lack of suitable habitat onsite. Not observed during field visit.

Project construction could also result in additional short-term impacts including night lighting, littering, and illegal wildlife collections. However, Project compliance with the following BMPs under State and federal laws would reduce the potential for such indirect impacts to below significance:

- All temporary construction-related night lighting used in onsite development areas will be shielded and/or directed downward to avoid indirect impacts to nocturnal wildlife such that night lighting could increase predation rates.

- All construction contractors, subcontractors, and employees will comply with the litter and pollution laws and will institute a litter control/removal program during the course of construction activities to reduce the attractiveness of the area to opportunistic predators such as coyotes, opossums, and common ravens.

- Active nests (nests with chicks or eggs) cannot be removed or disturbed. Nests may be removed or disturbed by a qualified biologist, if not active.

- Construction employees, contractors, and site visitors will be prohibited from collecting wildlife.

With implementation of the night lighting reduction PDFs via their inclusion in the Project's MMRP, potential indirect long-term impacts to wildlife would be reduced to below significance.

6.5 Potential Impacts to Wildlife Movement

As described earlier, the Project site may serve a function in local wildlife movement. The Project site provides connectivity between the Santa Ana Mountains and Lake Matthews. Therefore, the Project site does provide a connection between large areas of undeveloped land, which may be utilized for wildlife movement. Furthermore, with the widened and restored Bedford Canyon Wash on the Arantine Hills project located downstream, the Bedford Canyon Wash corridor will continue to provide a valuable linkage for wildlife. Minimal impacts to the movement corridor through the site are proposed and the continuation of the widened and restored Bedford Canyon Wash will ensure that the connectivity provided through the Project site remains intact.

Therefore, less than significant impacts to wildlife movement are anticipated as a result of implementation of the Project.

6.6 Potential Impacts to Jurisdictional Features

There is potential for direct and indirect impacts to jurisdictional waters from Project implementation. Impacts to Bedford Canyon Wash associated with the widening and restoration activities, which would include limited permanent fill, would require permits from the Corps, RWQCB, and CDFW before any development could commence. Both direct and indirect impacts are regulated and would trigger the need for permits.

Implementation of the Project will result in direct impacts to Corps/RWQCB jurisdictional non-wetland Waters of the U.S. and to CDFW jurisdictional Waters of the State (Figure 10). Table 7 lists the approximate total acreages of jurisdictional waters that would be directly impacted by the Project. Calculations were based on the currently proposed development design in conjunction with the jurisdictional delineation. Permanent impacts to drainages are necessary to implement the restoration of Bedford Wash, resulting in a wider wash with greater habitat. Direct impacts to jurisdictional waters would require mitigation.

Table 7.
Approximate Acreage of Impacts to Jurisdictional Waters Onsite

	Impacts to Non-Wetland Waters of the U.S. Corps/RWQCB Waters (acres)				Impacts to Non-Wetland Waters of the State CDFW Waters (acres)			
	Permanent	Temporary	Total	Linear Feet	Permanent	Temporary	Total	Linear Feet
Bedford Canyon Wash	0.11 ac (125 LF)	2.92 ac (1,875 LF)	3.03 ac	2,000	0.16 ac (125 LF)	3.52 ac (1,875 LF)	3.68 ac	2,000

Implementation of the Project will impact Bedford Canyon Wash as a result of the continuation of the widening and restoration of the Wash from the adjacent Arantine Hills project.

Implementation of the continuation of the widened and restored Bedford Canyon Wash would result in a total of 0.11 acres of permanent impacts and 2.92 acres of temporary impacts to non-wetland Waters of the US (Figure 10). Likewise, a total of 0.16 acres of permanent impacts and 3.52 acres of temporary impacts to non-wetland Waters of the State (Figure 10). These impacts would primarily be to unvegetated streambed habitat and 3 willow trees found within the Bedford Canyon Wash, with minimal impacts to non-native and sage scrub habitats. The elimination of erosive flows is expected to promote natural recruitment of native vegetation within Bedford Canyon Wash.

6.7 Potential Impacts to MSHCP Features

There is potential for direct and indirect impacts to MSHCP Riparian/Riverine features per Section 6.1.2. A separate MSHCP Consistency Analysis Report has been prepared, which analyzes whether project impacts are consistent with MSHCP goals and objectives.

Implementation of the Project will result in direct impacts to MSHCP Riparian/Riverine features as shown on Table 8 below and Figure 11.

Table 8.
Approximate Acreage of Impacts to MSHCP Features Onsite

	Impacts to MSHCP Riparian/Riverine Features			
	Permanent	Temporary	Total	Linear Feet
Bedford Canyon Wash	0.16 ac (125 LF)	3.52 ac (1,875 LF)	3.68 ac	2,000

Implementation of the continuation of the widened and restored Bedford Canyon Wash would result in a total of 0.16 acres of permanent impacts and 3.52 acres of temporary impacts to MSHCP Riparian/Riverine features (Figure 11). These impacts would primarily be to unvegetated streambed habitat and 3 willow trees found within the Bedford Canyon Wash, with minimal

impacts to non-native and sage scrub habitats. The elimination of erosive flows is expected to promote natural recruitment of native vegetation within widened and restored Bedford Canyon Wash.

7.0 BMPs/PDFs Incorporated into the Project and MMRP

The Project will comply with the following:

- Work area limits will be defined and respected. All grading areas will have their boundaries clearly flagged or marked before Project implementation and all disturbances will be confined to the flagged areas. All key Project personnel will be instructed that their activities must be confined to locations within the flagged areas. Disturbance beyond the actual grading zone is prohibited without site-specific surveys.

- Cleared or trimmed non-native, exotic vegetation, and woody debris will be disposed of in a legal manner at an approved disposal site.

- Employees, contractors, and site visitors will be prohibited from collecting plants and wildlife.

- Water pollution and erosion control plans will be developed and implemented in accordance with SWPPP requirements.

- Access to construction sites will be via preexisting access routes.

- Construction equipment will be properly maintained; construction employees and contractors will be trained on proper implementation and monitoring of BMPs; and procedures will be implemented to minimize the likelihood of hazardous spills and to control sediment-laden runoff.

- Effective perimeter control BMPs to control discharge of pollutants from the Project site during construction.

- All temporary construction-related night lighting used in onsite development areas will be shielded and/or directed downward to avoid indirect impacts to nocturnal wildlife such that night lighting could increase predation rates.

- All construction contractors, subcontractors, and employees will comply with the litter and pollution laws and will institute a litter control/removal program during the course of construction activities to reduce the attractiveness of the area to opportunistic predators such as coyotes, opossums, and common ravens.

- Active nests (nests with chicks or eggs) cannot be removed or disturbed. Nests may be removed or disturbed by a qualified biologist, if not active.

8.0 Significance Determination and Proposed Mitigation

8.1 Threshold No. 1

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No special status plant species exist on the Project site. Furthermore, no suitable habitat for the plant species is found within the Project site, and no observations of the species have been made. Therefore, no impacts to special status plant species would occur and no mitigation is required.

Given the presence of potentially suitable habitat for the CAGN along the bluff of Bedford Canyon Wash, and the potential for construction activities to either directly or indirectly impact, the following mitigation measures shall be implemented:

> **MM BIO-1**: The applicant shall initiate grading activities outside of CAGN breeding season (March 1 through August 15) to the extent feasible. If grading activities begin during the CAGN breeding season, a qualified biologist shall survey all potential nesting vegetation within and adjacent to the site for nesting birds, prior to commencing vegetation removal. Surveys shall be conducted at the appropriate time of day. If no nesting birds were observed, Project activities may begin. If an active bird nest is located, the nest site shall be fenced a minimum of 500 feet in all directions, and this area shall not be disturbed until after the nest becomes inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, or the young will no longer be impacted by the activities. Alternatively, a qualified biologist may determine that grading can be permitted within the buffer areas and would develop a monitoring plan to prevent any impacts while the nest continues to be active (eggs, chicks, etc.).

Implementation of Mitigation Measures BIO-1, would reduce potential impacts to special status plant and wildlife species to less than significant.

8.2 Threshold No. 2

Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Implementation of the continuation of the widened and restored Bedford Canyon Wash would result in a total of 0.16 acres of permanent impacts and 3.52 acres of temporary impacts of CDFW jurisdictional waters.

Bedford Canyon Wash is an unvegetated ephemeral wash characterized by highly erosive storm flows. The southeastern edge of Bedford Canyon Wash consists of a vertical bluff wall of varying heights. Storm flows in Bedford Canyon Wash continue to erode these bluffs.

Given the current erosive condition of Bedford Canyon Wash, the proposed Project is to widen and restore Bedford Canyon Wash to convey storm flows while reducing erosive velocities. Bedford Canyon Wash will be widened from its approximate width (bottom of slope and top of slope) of approximately 80 feet to an approximate toe of slope width of approximately 140 feet. Buried rock grade control structures will be placed in 3 general locations to maintain the elevation of the channel invert and reduce erosion. These grade control structures include a bottom layer of grouted rip rap, upper layer of ungrouted rip rap, and a concrete cut-off wall. This concrete cut-off wall consists of an 18-inch thick concrete curb on the upstream and downstream sides of the grade control structures, which minimizes the potential for riprap dislodge during large storm events. The grade control structures would be buried with a minimum of 18 inches of soil and planted with alluvial fan sage scrub seed mixture.

Both banks of Bedford Canyon Wash must be protected from scour and erosion. Protection on both sides of the Wash will consist of ungrouted riprap covered with soil along the length of the Wash.

While implementation of the Project includes impacts to jurisdictional waters, the widened and restored Wash results in a total of 5.80 acres of plantable area, consisting of approximately 4.41 acres of plantable bottom and approximately 1.39 acres of plantable slopes area (Figure 12), seeded with Riversidean Alluvial Fan Sage Scrub habitat. Furthermore, the widened and restored Bedford Canyon Wash shall be protected with a Conservation Easement and a third-party entity approved by the CDFW would provide long-term management. The Conservation Easement would be in favor of a conservancy, such as the Riverside-Corona Resource Conservation District (RCRCD). Therefore, the continuation of the widened and restored Wash reduces potential impacts to existing jurisdictional waters to a less than significant level.

8.3 Threshold No. 3

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Implementation of the continuation of the widened and restored Bedford Canyon Wash would result in a total of 0.11 acres of permanent impacts and 2.92 acres of temporary impacts to jurisdictional Waters of the U.S. Bedford Canyon Wash is an unvegetated ephemeral wash characterized by highly erosive storm flows. The southeastern edge of Bedford Canyon Wash consists of a vertical bluff wall of varying heights. Storm flows in Bedford Canyon Wash continue to erode these bluffs.

Given the current erosive condition of Bedford Canyon Wash, the proposed Project includes widening and restoring Bedford Canyon Wash to convey storm flows while reducing erosive velocities. Bedford Canyon Wash will be widened from its approximate width (bottom of slope and top of slope) of approximately 80 feet to an approximate toe of slope width of approximately 140 feet. Buried rock grade control structures will be placed in 3 general locations to maintain the elevation of the channel invert and reduce erosion. These grade control structures include a bottom layer of grouted rip rap, upper layer of ungrouted rip rap, and a concrete cut-off wall. This concrete cut-off wall consists of an 18-inch thick concrete curb on the upstream and downstream sides of the grade control structures, which minimizes the potential for riprap dislodge during large storm events. The grade control structures would be buried with a minimum of 18 inches of soil and planted with alluvial fan sage scrub seed mixture.

Both banks of Bedford Canyon Wash must be protected from scour and erosion. Protection on both sides of the Wash will consist of ungrouted riprap covered with soil along the length of the Wash.

While implementation of the Project includes impacts to jurisdictional waters, the widened and restored Wash results in a total of 5.80 acres of plantable area, consisting of approximately 4.41 acres of plantable bottom and approximately 1.39 acres of plantable slopes area (Figure 12), seeded with Riversidean Alluvial Fan Sage Scrub habitat. Furthermore, the widened and restored Bedford Canyon Wash shall be protected with a Conservation Easement and a third-party entity approved by the CDFW would provide long-term management. The Conservation Easement would be in favor of a conservancy, such as the Riverside-Corona Resource Conservation District (RCRCD). Therefore, the continuation of the widened and restored Wash reduces impacts to existing jurisdictional waters to a less than significant level.

8.4 Threshold No. 4

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?

As described earlier, the Project site may serve a function in local wildlife movement. The Project site provides connectivity between the Santa Ana Mountains and Lake Matthews and does provide a connection between large areas of undeveloped land, which may be utilized for wildlife movement. Furthermore, with the implementation of the widened and restored Bedford Canyon Wash, it will continue to provide a valuable linkage for wildlife. Minimal impacts to the movement corridor through the site are proposed and the continuation of the widened and restored Bedford Canyon Wash will ensure that the connectivity provided through the Project site remains intact.

Therefore, less than significant impacts to wildlife movement are anticipated as a result of implementation of the Project.

The Migratory Bird Treaty Act protects nesting activities of both native and non-native bird species. Under the Act it is unlawful to harm, harass, or take a nest. Since removal of vegetation could result in impacts to nesting birds, the following mitigation measure is included to reduce impacts to less than significant.

> **MM BIO – 2**: The removal of potential nesting bird habitat shall be conducted outside of the nesting season (February 15 to September 15) to the extent feasible. If grading or site disturbance is to occur between February 15 and September 15, a nesting bird survey shall be conducted by a qualified biologist within no more 5 days of scheduled vegetation removal, to determine the presence of nests or nesting birds. If active nests are identified, the biologist would establish buffers around the vegetation (500 feet for raptors and sensitive species, 200 feet for non-raptors/non-sensitive species). All work within these buffers would be halted until the nesting effort is finished (i.e. the juveniles are surviving independent from the nest). The onsite biologist would review and verify compliance with these nesting boundaries and would verify the nesting effort has finished. Work can resume when no other active nests are found. Alternatively, a qualified biologist may determine that construction can be permitted within the buffer areas and would develop a monitoring plan to prevent any impacts while the nest continues to be active (eggs, chicks, etc.). Upon completion of the survey and any follow-up construction avoidance management, a report shall be prepared and submitted to CDFW for mitigation monitoring compliance record keeping. If vegetation clearing is not completed within 5 days of a negative survey, the nesting survey must be repeated to confirm the absence of nesting birds.

8.5 Threshold No. 5

> *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

The City does not have any local policies, such as a tree preservation ordinance, that protect biological resources. Therefore, no impacts would occur and no mitigation is necessary.

8.6 Threshold No. 6

> *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The Project site is located within the MSHCP, specifically within the Temescal Canyon Area Plan. A Project Consistency Analysis has been prepared analyzing the impacts and mitigation measures. A Determination of Biologically Equivalent or Superior Preservation (DBESP) will be prepared for the Project prior to initiation of MSHCP feature impacts.

Implementation of the continuation of the widened and restored Bedford Canyon Wash would result in a total of 0.16 acres of permanent impacts and 3.52 acres of temporary impacts to MSHCP Riparian/Riverine features. These impacts would primarily be to unvegetated streambed habitat and 3 willow trees found within the Bedford Canyon Wash, with minimal impacts to non-native and sage scrub habitats. The elimination of erosive flows is expected to promote natural recruitment of native vegetation within Bedford Canyon Wash.

While implementation of the Project includes impacts to MSHCP riparian/riverine features, the widened and restored Wash results in a total of 5.80 acres of plantable area, consisting of approximately 4.41 acres of plantable bottom and approximately 1.39 acres of plantable slopes area (Figure 12), seeded with Riversidean Alluvial Fan Sage Scrub habitat. Furthermore, the widened and restored Bedford Canyon Wash shall be protected with a Conservation Easement and a third-party entity approved by the CDFW would provide long-term management. The Conservation Easement would be in favor of a conservancy, such as the Riverside-Corona Resource Conservation District (RCRCD). Therefore, the continuation of the widened and restored Wash reduces potential impacts to a less than significant level.

Furthermore, the Project site contains the BUOW overlay. As a result, a focused BUOW survey was conducted per MSHCP Section 6.3.2 and MSHCP protocol Focused Survey Instructions. While potentially suitable habitat exists onsite, no BUOW, suitable burrows, or signs of BUOW were present during the survey. Complete results can be found within the Focused BUOW Report in Appendix A. Since BUOW are migratory species, MM BIO – 3 shall be implemented prior to ground disturbance.

> **MM BIO – 3:** Pre-construction presence/absence surveys for burrowing owl within the survey area where suitable habitat is present shall be conducted by a qualified biologist within 30 days of ground disturbing activities. If active burrowing owl burrows are detected during the breeding season, all work within 300 feet of any active burrow will be halted until that nesting effort is finished. The on-site biologist will review and verify compliance with these boundaries and will verify the nesting effort has finished. Work can resume when no other active burrowing owl burrows nests are found.
>
> If active burrowing owl burrows are detected outside the breeding season or during the breeding season and it is determined nesting activities have not begun, then passive and/or active relocation may be approved following consultation with CDFW. The installation of one-way doors may be installed as part of a passive relocation program. Burrowing owl burrows shall be excavated with hand tools when determined to be unoccupied by Project biologist, and back filled to ensure that animals do not re-enter the burrows. Upon completion of the survey and any follow-up construction avoidance management, a report shall be prepared and submitted to CDFW, and the City for mitigation monitoring compliance record keeping.

With the implementation of MM BIO-3, potential impacts to existing MSHCP features are reduced to a less than significant level.

9.0 Cumulative Impacts

Direct impacts may occur to nesting birds, should construction activities and vegetation removal take place during the typical nesting season. However, adherence to the BMPs as outlined in Section 7.0, as well as implementation of MM-Bio 1, MM-Bio 2, and MM-Bio 3 will ensure impacts to special status species or their habitats are minimized thus reducing the Project's contribution to cumulative impacts to less than significant.

Direct impacts may occur to jurisdictional waters. However, the widened and restored Wash results in a total of 5.80 acres of plantable area, consisting of approximately 4.41 acres of plantable bottom and approximately 1.39 acres of plantable slopes area (Figure 12), seeded with Riversidean Alluvial Fan Sage Scrub habitat. Furthermore, the widened and restored Bedford Canyon Wash shall be protected with a Conservation Easement and a third-party entity approved by the CDFW would provide long-term management. The Conservation Easement would be in favor of a conservancy, such as the Riverside-Corona Resource Conservation District (RCRCD). Therefore, the continuation of the widened and restored Wash will ensure impacts to special status species or their habitats are minimized thus reducing the Project's contribution to cumulative impacts to less than significant.

Furthermore, the MSHCP was specifically designed to cover a large geographical area so that it would protect numerous special-status species and sensitive habitats throughout the region. It is the projected cumulative effect of future development that has required the preparation and implementation of the MSHCP to protect multiple habitats and species. Because the MSCHP provides a regional and comprehensive approach to conservation planning, the proposed Project's contribution to cumulative impacts would also be less than significant.

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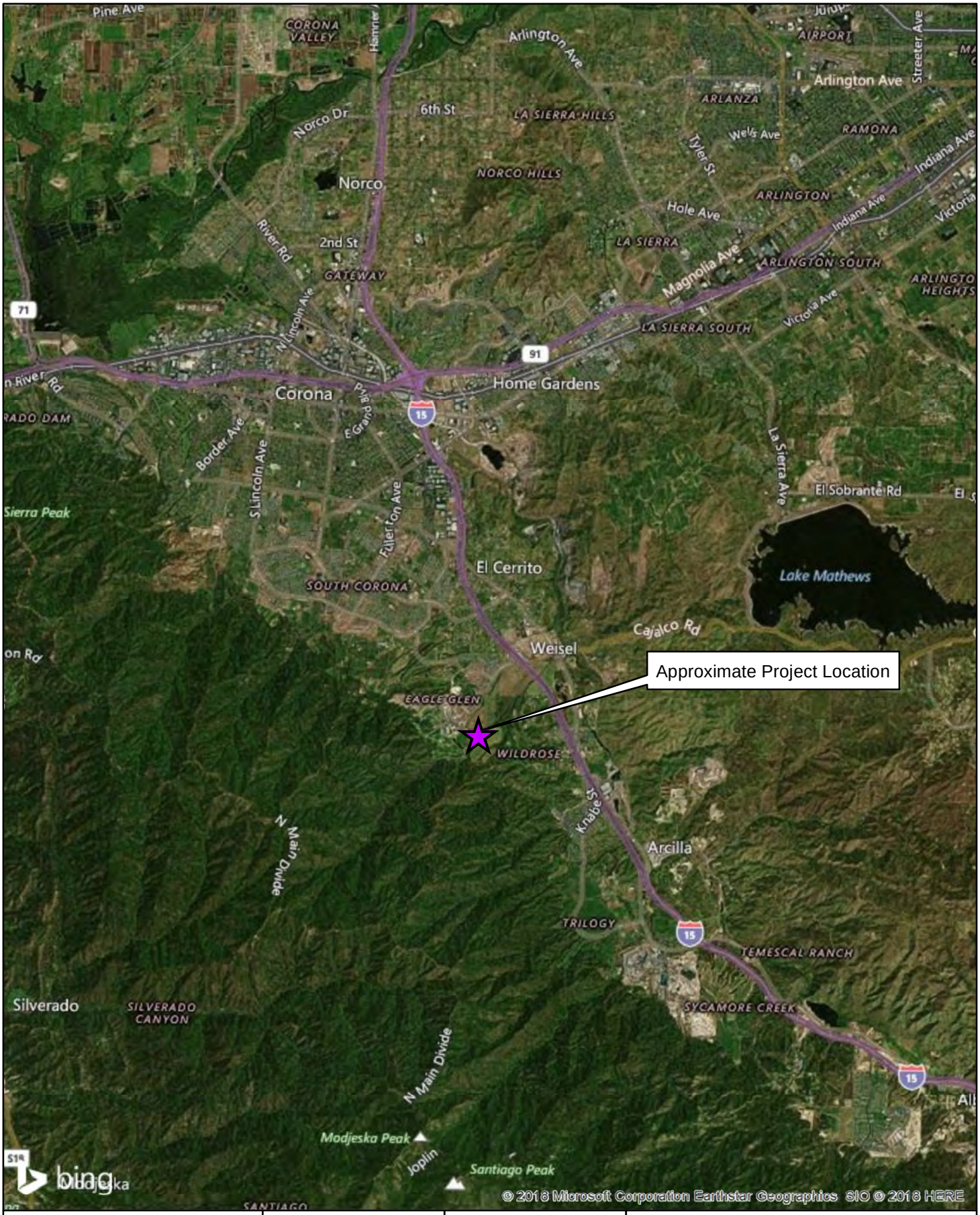
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Figures



GIS Prepared By:
Carlson SLS

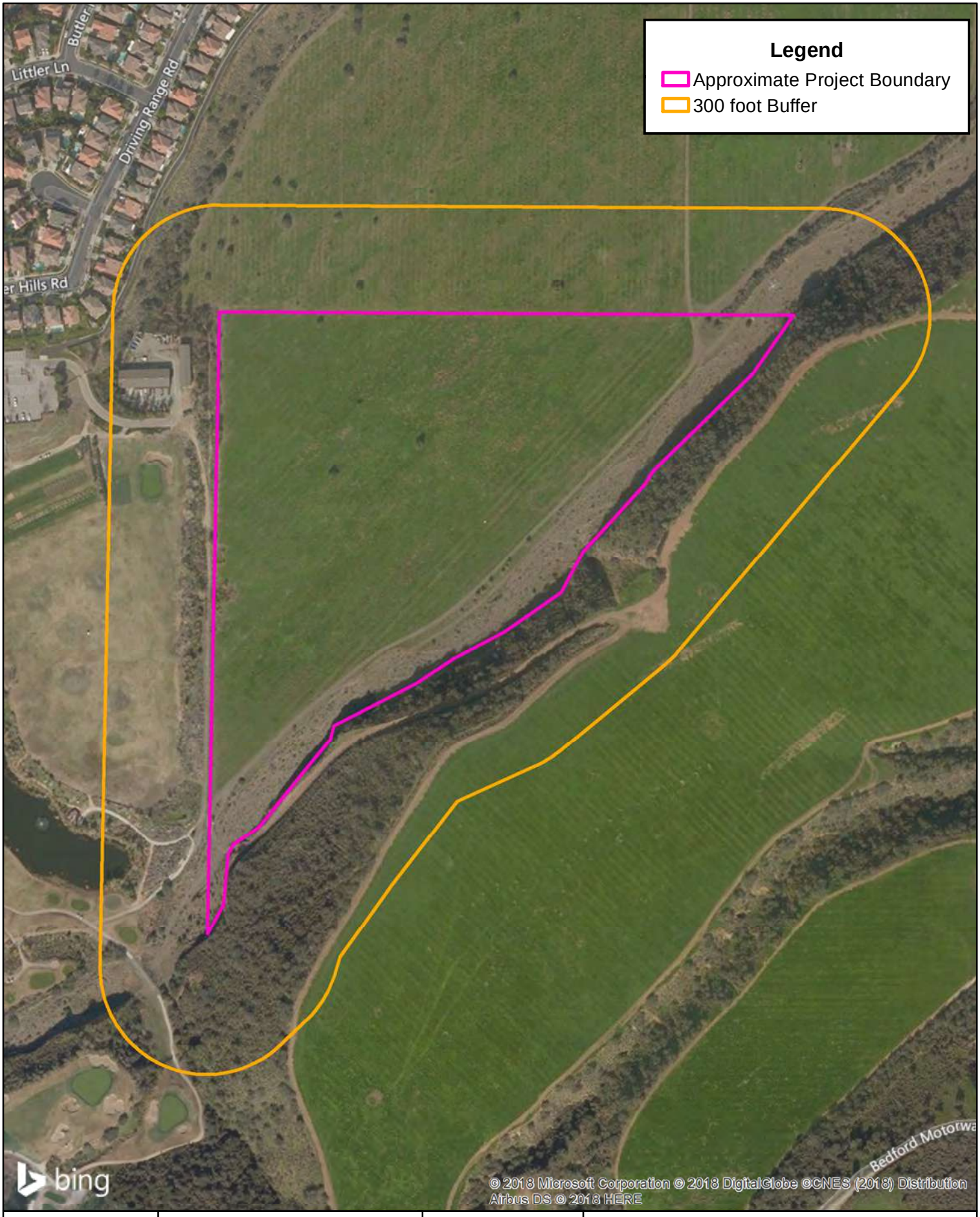
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0 2,500 5,000 10,000 Feet
1 inch = 10,000 feet

Data Sources: Bing Maps

McMillan Project
Regional Map

FIGURE 1



GIS Prepared By:
Carlson SLS

Created: September 6, 2018

0 87.5 175 350 525 Feet

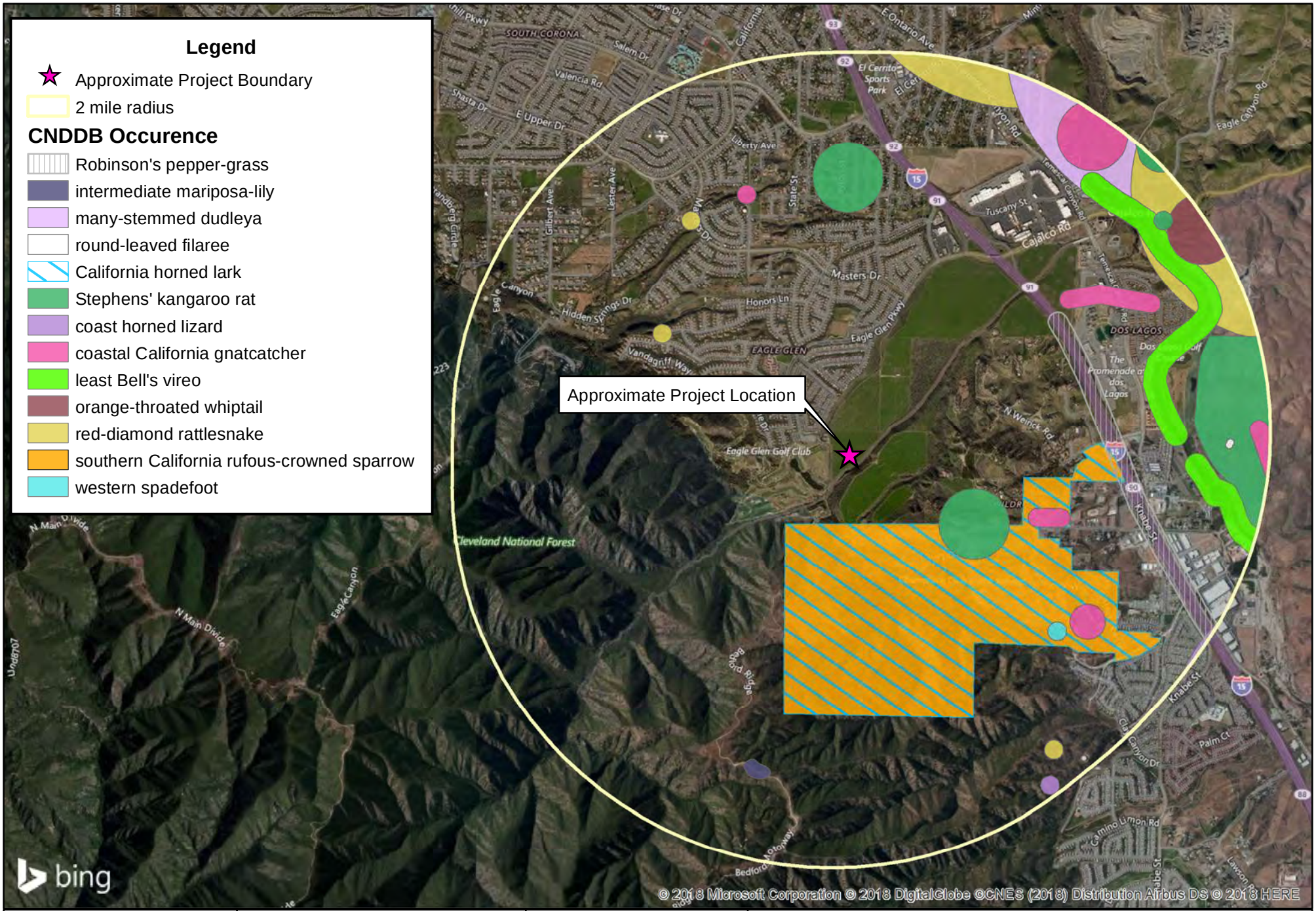
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Data Source: Bing Maps

McMillan Project

Vicinity Map

FIGURE 2



GIS Prepared By:
Carlson SLS

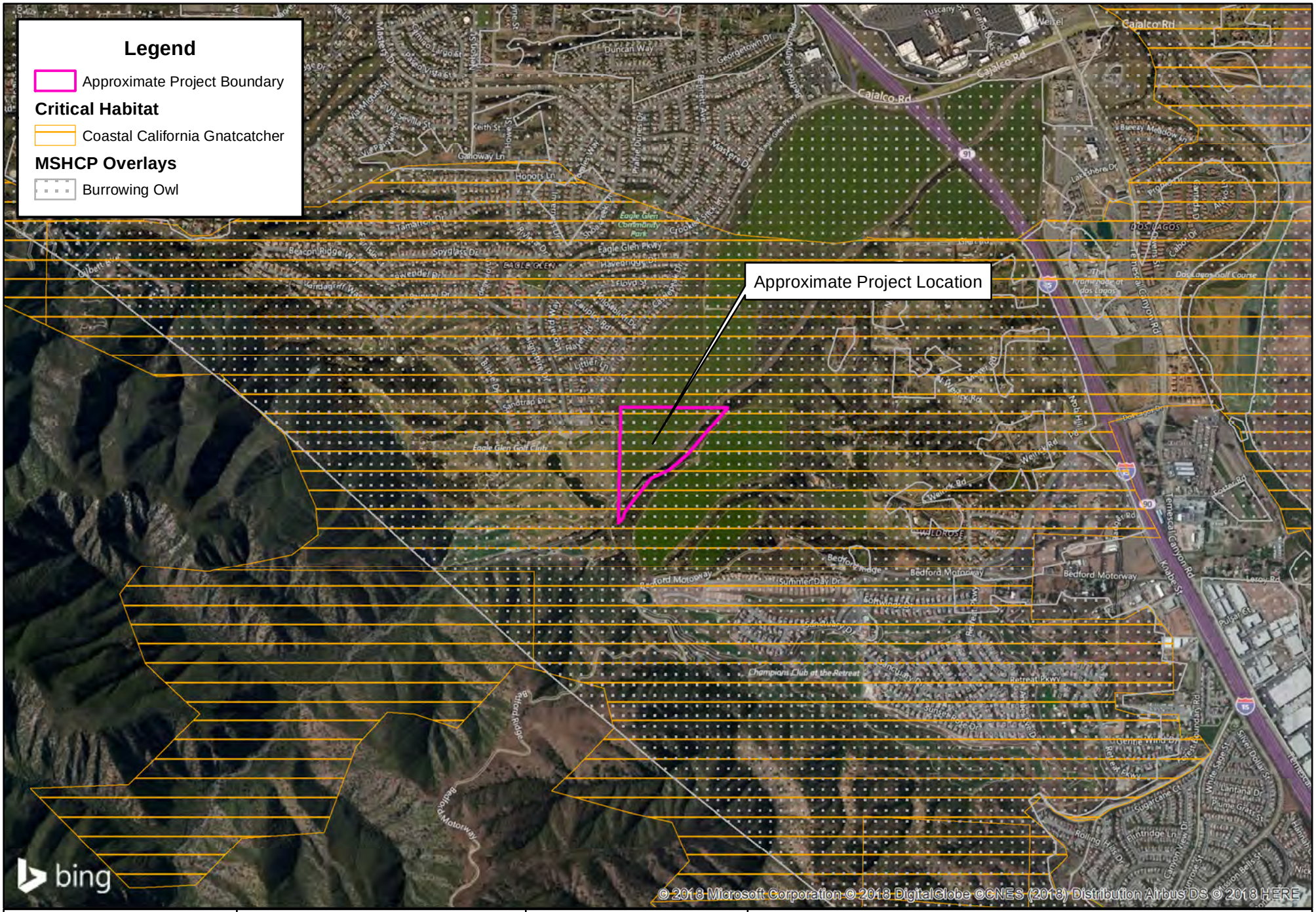
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1 inch = 3,500 feet

Data Source: Bing Maps
CNDDB (10/2017)

McMillan Project
CNDDB Occurrences Results

FIGURE 3



GIS Prepared By:
Carlson SLS

Created: September 6, 2018

0 500 1,000 2,000 3,000 4,000 Feet

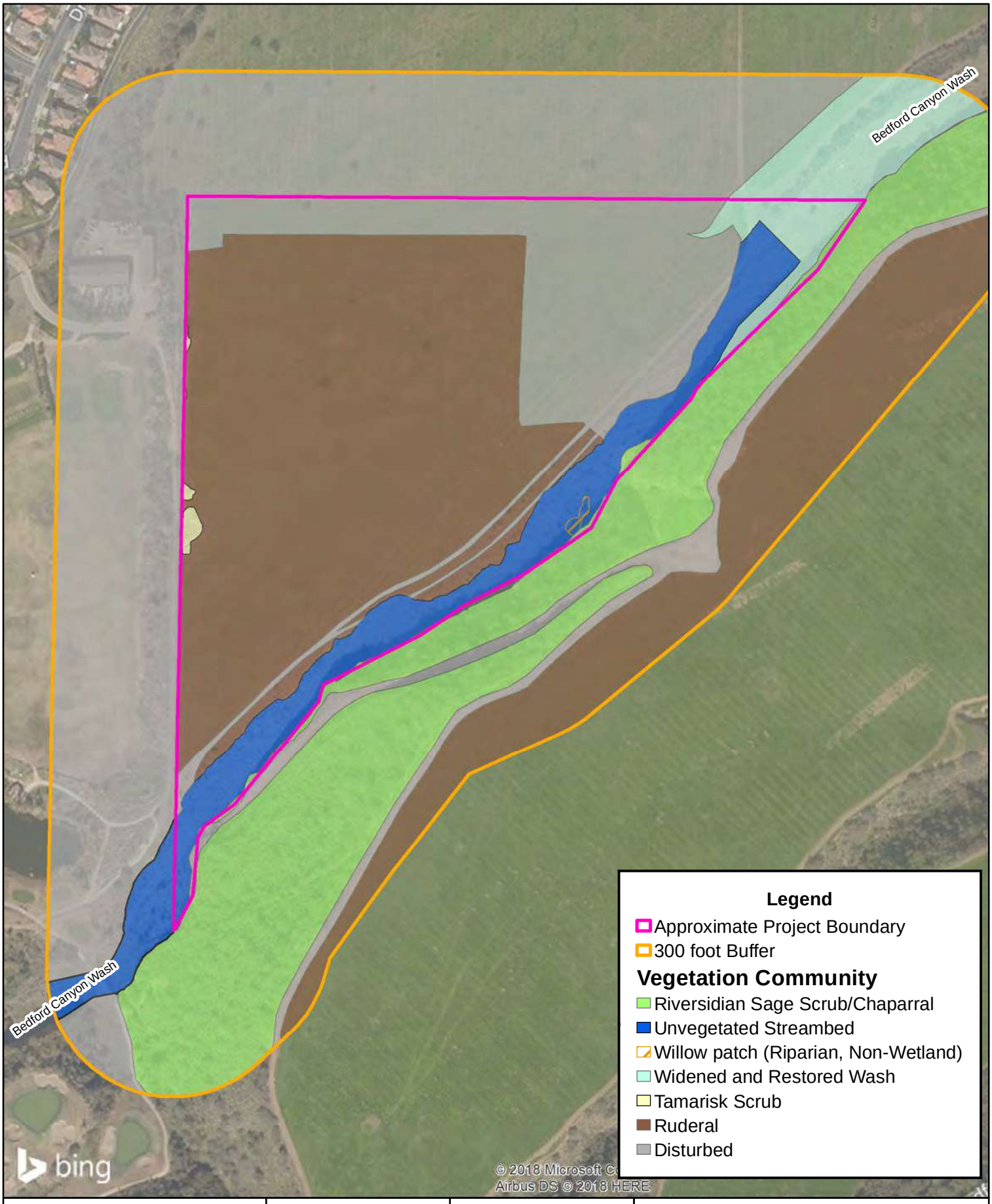
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Data Source: Bing Maps
CH (03/2015)

McMillan Project

Critical Habitat and MSHCP Overlay Results

FIGURE 4



GIS Prepared By:
Carlson SLS

Created: September 6, 2018

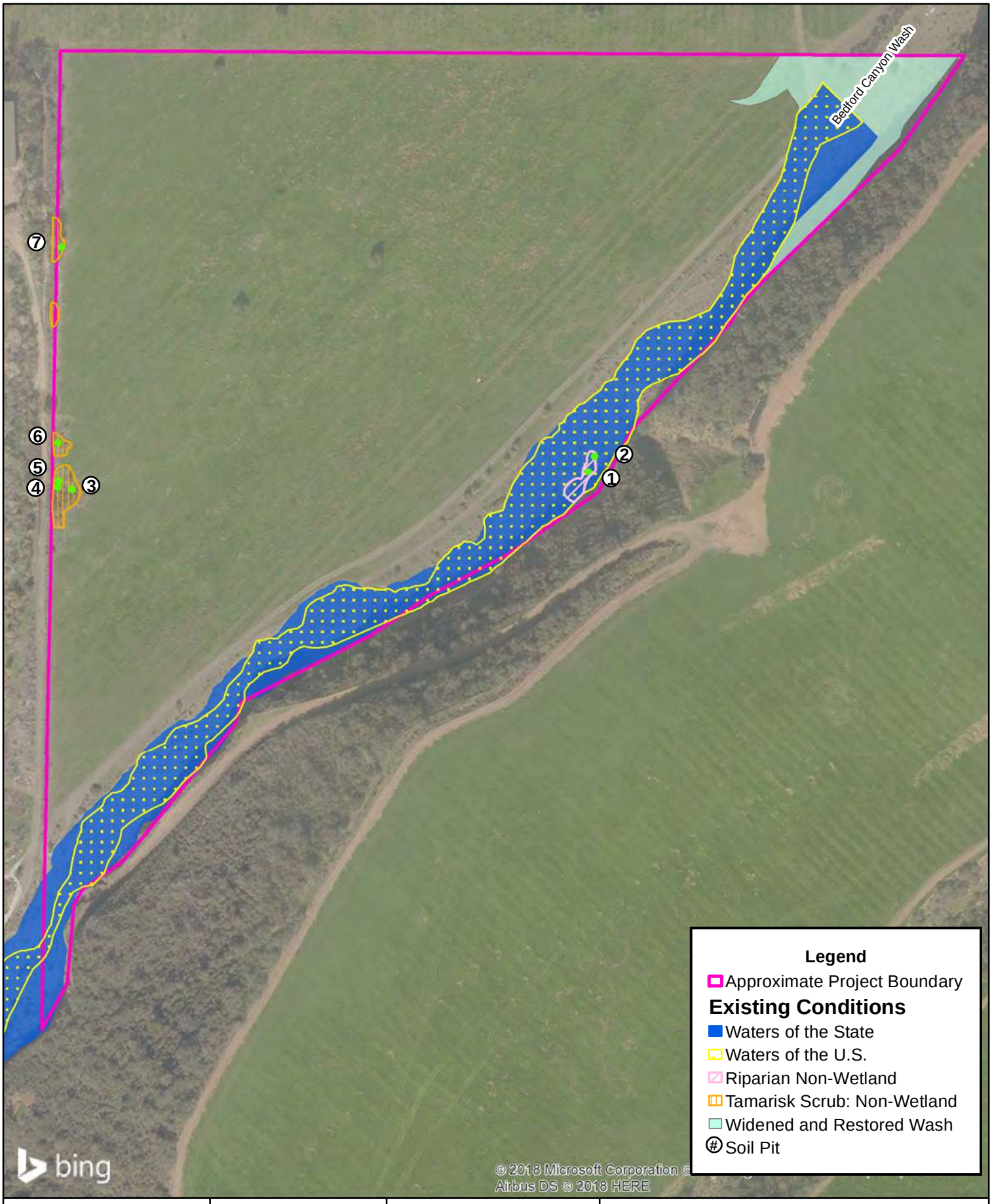
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Data Source: Bing Maps

McMillan Project

Vegetation Map

Figure 5



GIS Prepared By:
Carlson SLS

Created: September 6, 2018

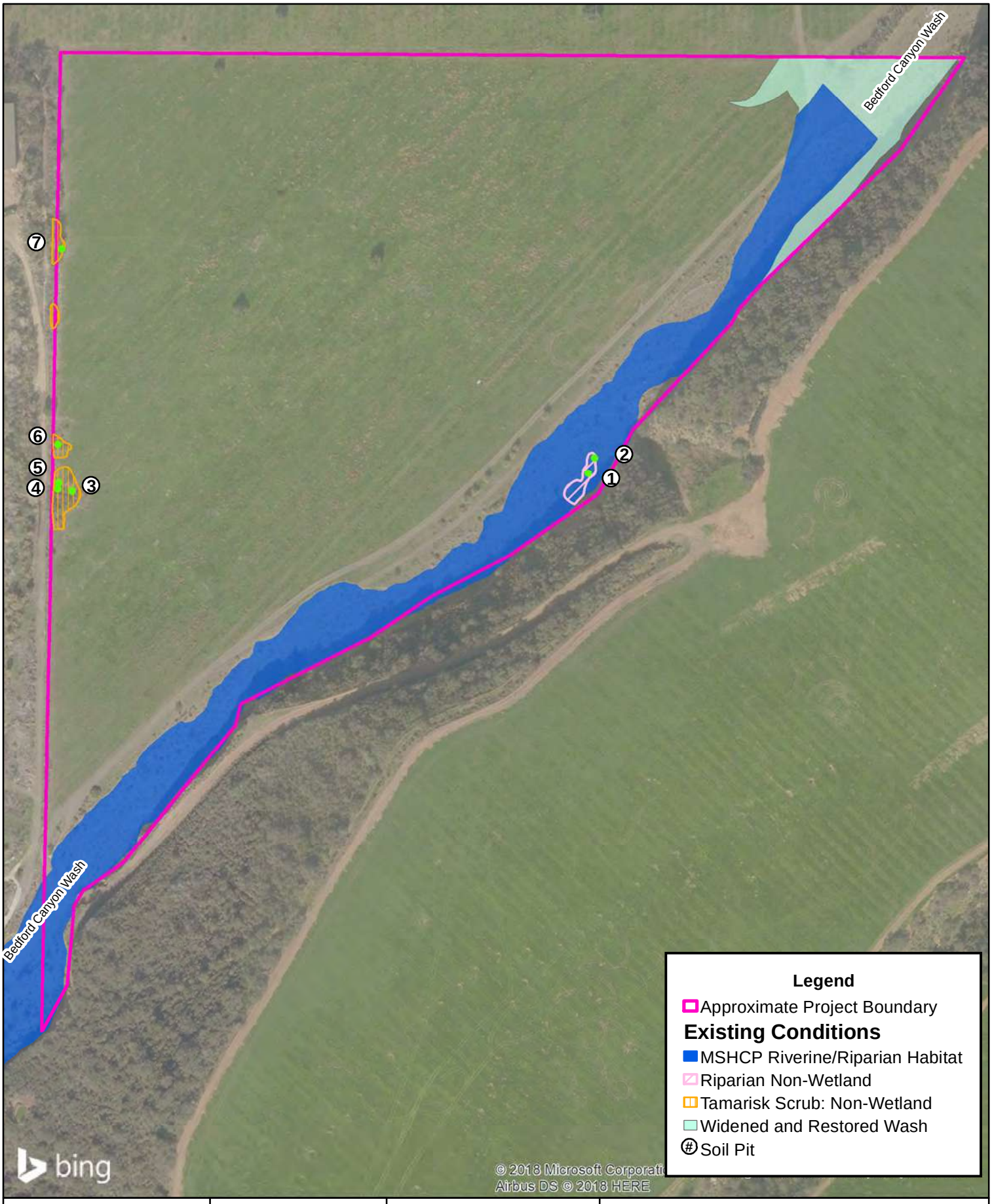
0 56.25 112.5 225 Feet
1 inch = 225 feet

Data Source: Bing Maps
Field Visit (02/15/18)

McMillan Project

Jurisdictional Delineation

Figure 7



GIS Prepared By:
Carlson SLS

Created: September 6, 2018

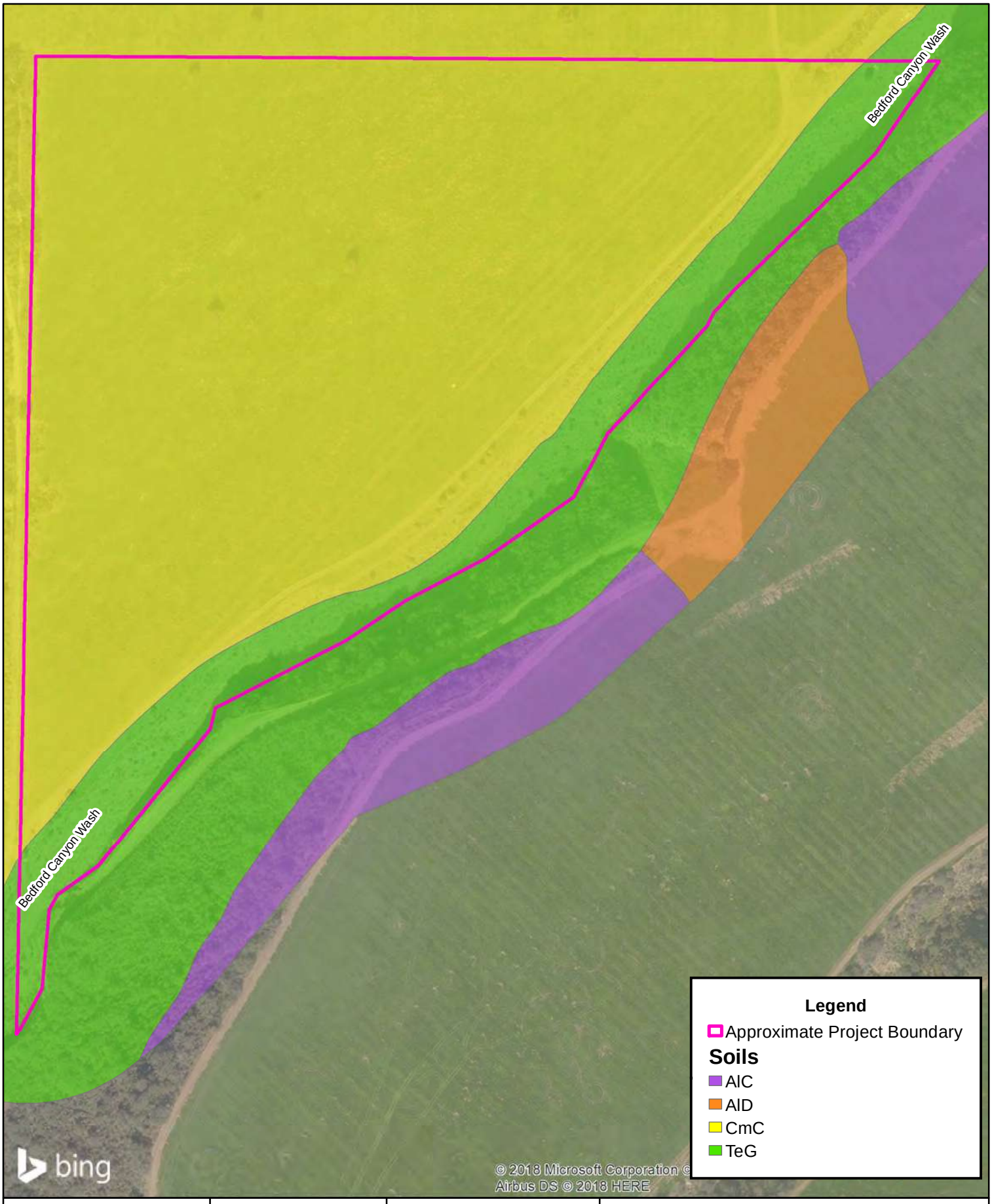
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1 inch = 225 feet

Data Source: Bing Maps
Field Visit (02/15/18)

McMillan Project

MSHCP Riparian/Riverine Features

Figure 7



GIS Prepared By:
Carlson SLS

Created: September 6, 2018

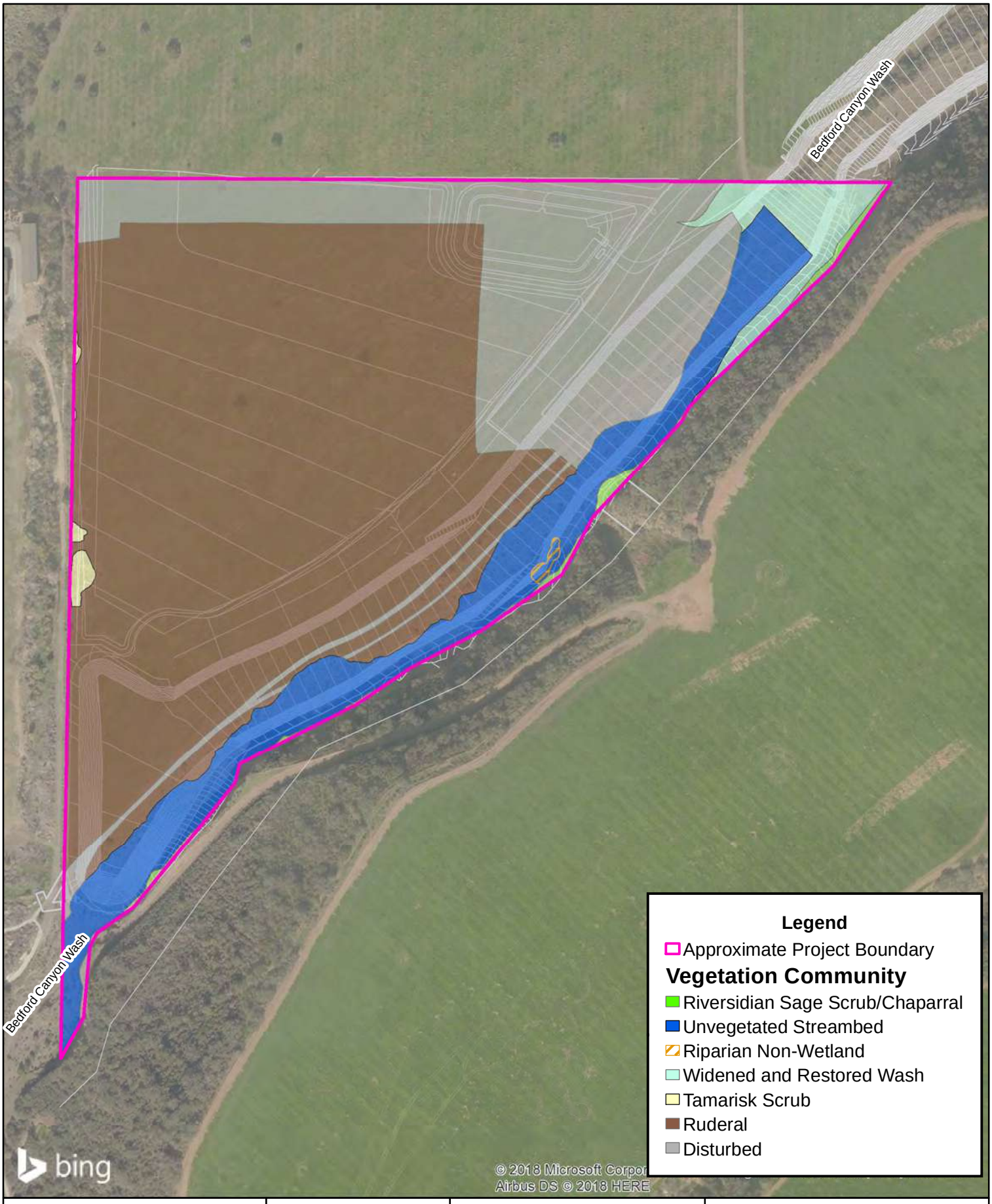
0 56.25 112.5 225 Feet
1 inch = 225 feet

Data Source: Bing Maps
Field Visit (02/15/18)

McMillan Project

Soil Map

Figure 8



GIS Prepared By:
Carlson SLS

Created: September 6, 2018

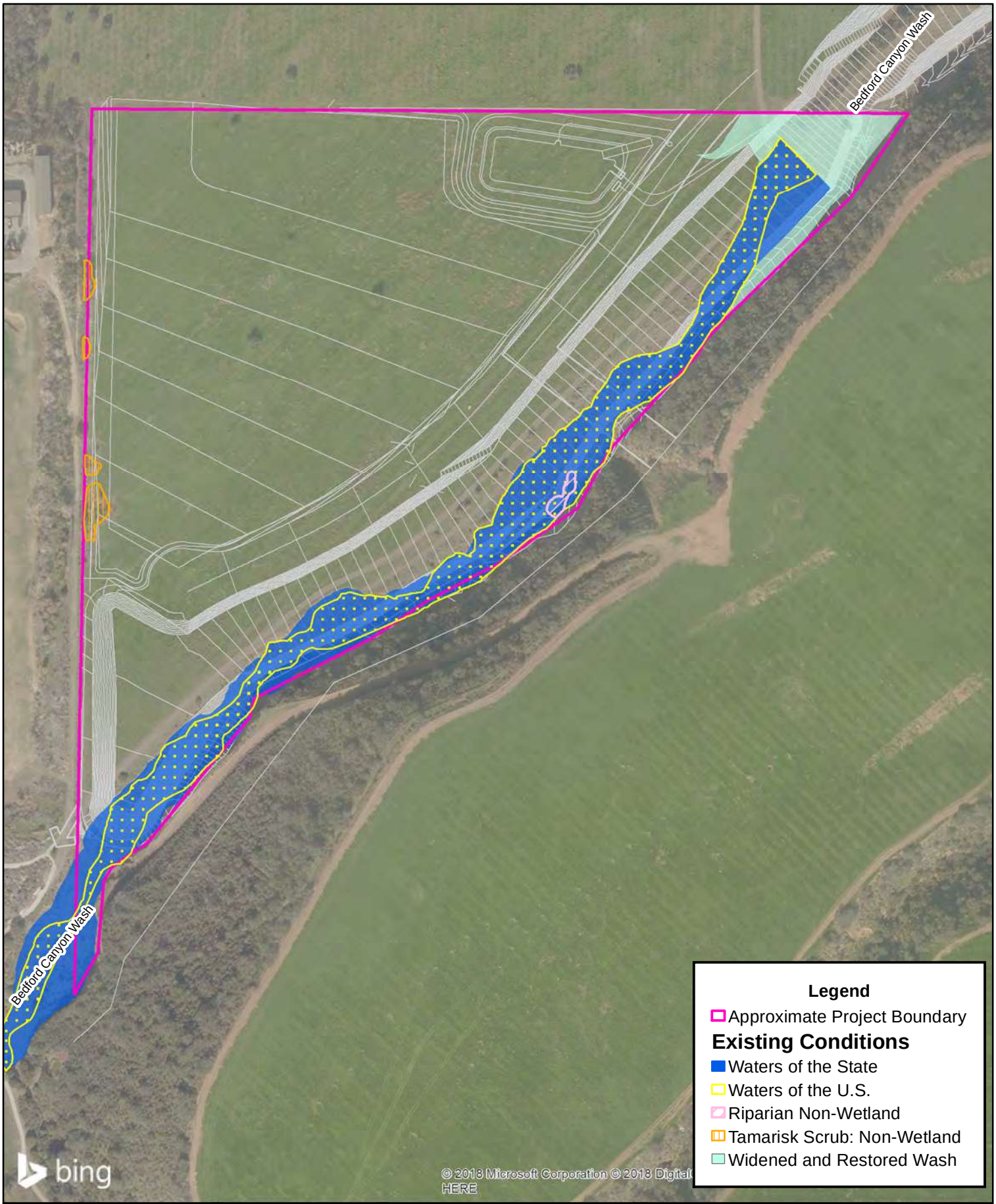
0 37.5 75 150 225 Feet
1 inch = 250 feet

Data Source: Bing Maps
Hunsaker&Associates (09-05-2018)
WEBB (06-13-2018)

McMillan Project

Vegetation Impacts

Figure 9



GIS Prepared By:
Carlson SLS

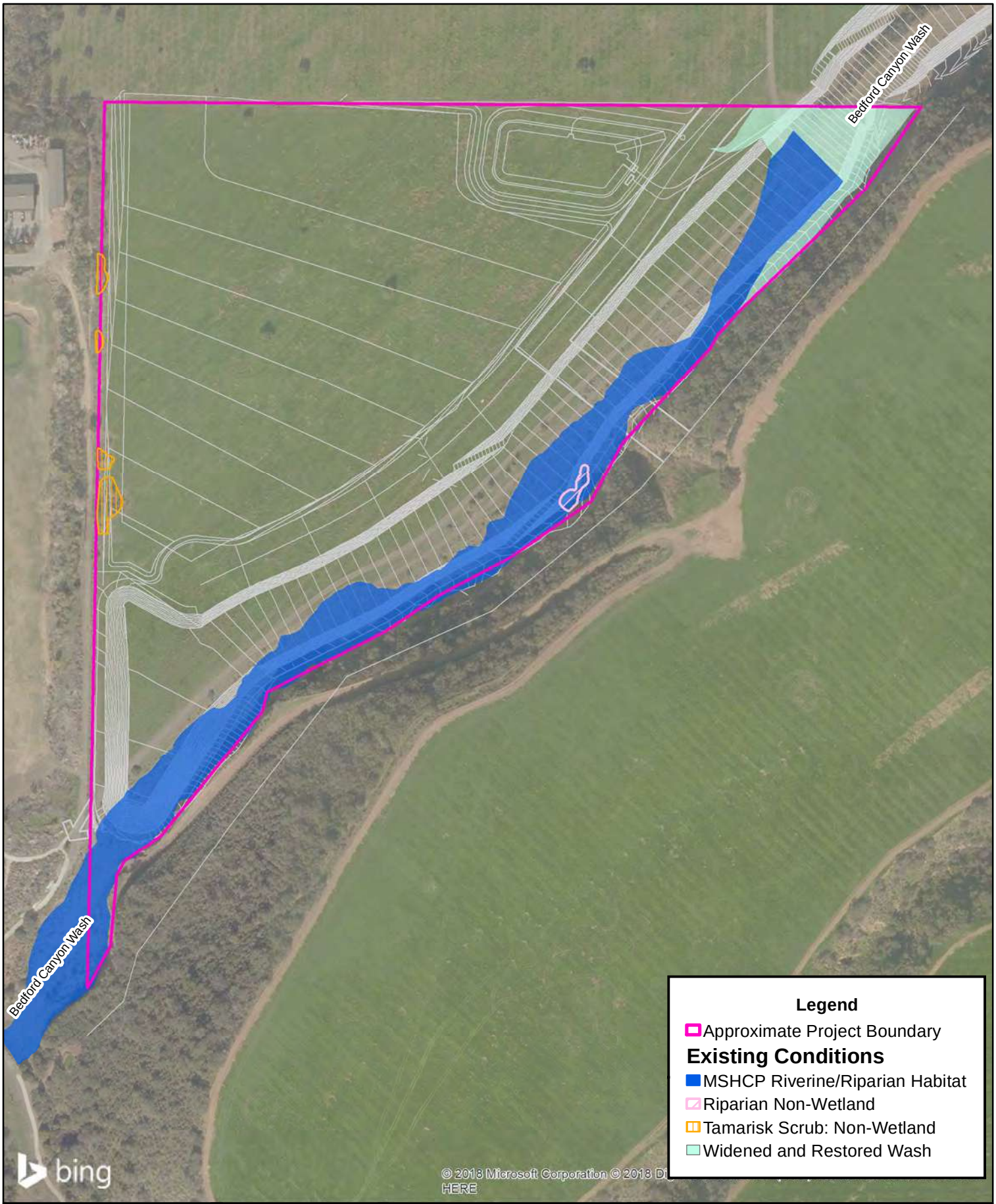
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0 25 50 100 150 200 250 Feet
1 inch = 250 feet

Data Source: Bing Maps
Hunsaker&Associates (09-05-2018)
WEBB (06-13-2018)

McMillan Project
Jurisdictional Impacts

Figure 10



GIS Prepared By:
Carlson SLS

Created: September 6, 2018

0 25 50 100 150 200 250 Feet
1 inch = 250 feet

Data Source: Bing Maps
Hunsaker&Associates (09-05-2018)
WEBB (06-13-2018)

McMillan Project

MSHCP Riparian/Riverine Impacts

Figure 11



GIS Prepared By:
Carlson SLS

Created: September 6, 2018

0 25 50 100 150 200 250 Feet
1 inch = 250 feet

Data Source: Bing Maps
Hunsaker&Associates (09-05-2018)
WEBB (06-13-2018)

McMillan Project
Proposed Plantable Area

Figure 12

APPENDIX A

Focused Survey Results

Results of Focused Burrowing Owl Survey for the McMillan Project

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June 2018

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APPENDIX

Appendix A Site Photographs

ACRONYMS, ABBREVIATIONS, AND GLOSSARY OF TERMS

AHH	Arantine Hills Holdings, LP
BUOW	Burrowing Owl
CDFW	California Department of Fish and Wildlife
CNDDB	California Natural Diversity Database
MSHCP	Western Riverside Multiple Species Habitat Conservation Plan
Project	McMillan Development Project
SLS	Carlson Strategic Land Solutions

1.0 Introduction

On behalf of Arantine Hills Holdings, LP (AHH), Carlson Strategic Land Solutions (SLS) prepared this Focused Burrowing Owl Results Report, which documents the results of the focused protocol Burrowing Owl (*Athene cunicularia [BUOW]*) for the proposed McMillan Project (Project). The Project is located on approximately 35-acres in the City of Corona. The Focused BUOW Report incorporates the findings from the focused burrow and burrowing owl field survey within the Study, which is comprised of the 35-acre Project site and surround 500-foot buffer. The protocol survey was conducted following the *Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area* (County of Riverside 2006). The purpose of the survey was to identify presence or absence of BUOW, suitable burrows and/or burrow surrogates, and any other sign of BUOW within the Study Area.

1.1 Project Terms

The following terms will be used throughout this document and are defined as follows:

- Project site: the 35-acre McMillan Project site.
- Study Area: the area evaluated during the field survey, including the 35-acre Project site and the surrounding 500-feet (150-meters).
- Project Vicinity: intended to be a general term to describe the broader area surrounding the Study Area.

1.2 Project Location

The Project Site is located in the Bedford Canyon area of the Santa Ana Mountain foothills in the southeastern portion of Corona. The City of Corona is generally situated southwest of the City of Riverside, south of the City of Norco, and north of the City of Lake Elsinore in Riverside County, California (Figure 1). Areas surrounding the Project Site include the Arantine Hills Specific Plan to the north and east; undeveloped land and rural residential to the south; and the Eagle Glen Golf Club to the west (Figure 2). The Project Site is located within the United States Geological Survey (USGS) 7.5-Minute Topographic Map *Corona South* Quadrangle.

The Project Site is part of a single larger (159.16 acre) parcel with an Assessor's Parcel Number (APN) of 282-040-003.

Access to the Project site is from the Arantine Hills Project located to the north, off Eagle Glen Parkway via an agricultural access road. Directions to the Project site from Interstate 15 (I-15) is to exit Cajalco Road and head west onto Eagle Glen Parkway. Access is obtained on the south side of Eagle Glen Parkway via an agricultural access road and through the Arantine Hills project.

1.3 Existing and Historical Land Use

The Project Site was purchased by McMillan Farm Management in 1986. The Project site has historically been farmed for citrus production between 1962 and 2007. Prior to the 1962 aerial photograph, the Project Site was vacant land. The former agricultural operation has reverted to ruderal vegetation, which is managed on an annual basis for fuel modification (fire prevention). In addition, the Project Site contains a portion of Bedford Canyon Wash, tributary to Temescal Creek, which enters the Project site in the southwestern corner in a northeasterly direction.

Bedford Canyon Wash, located to the west of the Project site is an ephemeral wash with a sandy bottom and sparsely vegetated alluvial fan sage scrub and non-native vegetation. The Wash receives flows from the Santa Ana mountains, through the Eagle Glen Golf Club, through the Project site, continuing downstream to Temescal Creek and ultimately the Santa Ana River. Bedford Canyon Wash has a well-defined bed and bank, with near vertical cuts representing the banks of the Wash. To the south of the Wash is a near vertical bluff that has shown signs of erosion from storm flows within the Wash. To the north and west of Bedford Canyon Wash, the Project Site is the relatively flat previously farmed area. Existing elevations range from approximately 1100 to 1200 feet above mean sea level. No structures are located on the Project site. Farther north is the remainder of the Arantine Hills Specific Plan and farther west of the Project Site is the Eagle Glen Golf Club.

1.4 MSHCP Survey Requirements for the Burrowing Owl

The Project site is found within the MSHCP burrowing owl survey area. The burrowing owl is designated as a "Covered Species Adequately Conserved" under MSHCP, but with specific survey/conservation requirements as described in Volume I, Section 6.3.2 of the MSHCP and species-specific objectives. Pursuant to the MSHCP, if a site occurs within the burrowing owl survey area, and suitable habitat is present, then focused surveys shall be conducted following the *Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area* (County of Riverside 2006). The survey instructions note the following steps to the MSHCP burrowing owl assessment:

- Step I: Habitat Assessment
- Step II: Locating Burrows and Burrowing Owls
    - » Part A: Focused Burrow Survey
    - » Part B: Focused Burrowing Owl Surveys (4 separate surveys)

Step I of the survey instructions requires that an assessment be conducted to determine the presence of suitable habitat for the BUOW. The habitat assessment must be conducted by walking the Project site and surrounding 500-foot buffer, where feasible. Habitat for the BUOW is varied and includes short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial open areas. BUOW require large open expanses of sparsely vegetated areas with an abundance of active small

mammal burrows. The mammal burrows are often modified and enlarged. For nesting BUOW, one burrow is typically selected for use; however, satellite burrows are usually found within the immediate vicinity of the nest burrow within the defended territory of the owl.

Pursuant to MSHCP Section 6.3.2 and the methods are used to detect and identify BUOW included observation of key signs identified by the *California Burrowing Owl Consortium (CBOC).* This includes observation of key signs such as sight, scat, tracks, burrows, nests, and calls. All encountered burrows or structure entrances, suitable or non-suitable, were checked for the presence of BUOWs, molted feathers, cast pellets, prey remains, eggshell fragments, tracks, or excrement at or near a burrow entrance. Natural or man-made structures that could support BUOWs were also surveyed when present.

Once a basis for suitability for BUOW is determined, the presence/absence of suitable burrows is to be determined during Step II of the MSHCP Survey Instructions. Step II surveys must be conducted during breeding season (March 1 through August 31). All surveys are to be conducive to observing owls outside their burrows and detecting BUOW signs. Surveys shall not be conducted during rain, high winds (>20mph), dense fog, or temperatures exceeding 90° F.

As outlined within Step II of the MSHCP Survey Instructions, Step II is separated into two parts, Part A and Part B. Part A includes the detailed focused burrow survey, which consists of systematic survey for suitable burrows to support BUOW. This includes mammal burrows as well as suitable artificial and/or manmade structures. The pedestrian survey transects were spaced approximately 10 to 15 meters apart to allow 100 percent visual coverage of the ground surface. The locations of suitable habitat, potential owl burrows and key signs should be mapped and recorded.

Part B is only conducted if suitable burrows and habitat is present as identified during Part A.

2.0 Methodology

SLS biologist conducted the initial habitat assessment on February 15, 2018 to determine the locations of suitable habitat. Following this assessment, a focused burrow survey per MSHCP Survey Instructions was conducted on March 6, 2018 during designated nesting season per the MSHCP Survey Instructions. The entire Study Area was walked to determine presence/absence of suitable burrows.

2.1 Focused Burrow Survey

Prior to the field survey, available literature and databases including the California Natural Diversity Database (CNDDB), were reviewed to identify sensitive habitats and special status wildlife species, including BUOW in the vicinity of the Study Area. Consistent with the MSHCP Survey Instructions, a focused burrow survey was conducted on March 6, 2018 and pedestrian

survey transects were spaced approximately 10 to 15 meters apart to allow 100 percent visual coverage of the ground surface.

According to the MSHCP guidelines, the biologist should also walk the perimeter of the property, which consists of a 150-meter (approximately 500 feet) buffer zone around the Project boundary. If permission to access the buffer area cannot be obtained, the biologist shall not trespass, but visually inspect adjacent habitats with binoculars. Parcels of land that could not be accessed (e.g. private property) were viewed using binoculars from vantage points to survey for BUOW activity or signs thereof, as well as other nesting bird activity.

2.2 Focused Burrowing Owl Survey

If no potential suitable burrowing owl burrows were observed within the Project Study Area or the 150-meter buffer area then Step II Part B, the focused burrowing owl surveys, are not required per to the Burrowing Owl Survey Instructions.

3.0 Results

Step I Habitat Assessment was conducted on February 15, 2018 to determine suitable Habitat. Based on the Habitat Assessment it was determined the Project site contained suitable habitat. Step II, Part A of the MSHCP Survey Instructions took place on March 6, 2018 between 8:00 a.m. and 11:57 p.m. Temperatures during the survey ranged between 68° F and 73° F, with predominant sunny, clear skies and 0-2 mph winds. The survey was conducted during typical BUOW peak activity time and was not conducted during rain, high winds (> 20 miles per hour), dense fog >75%, or temperatures above 90°F. Prior to the commencement of the survey, SLS biologist scanned the Study Area using binoculars to look for burrowing owl. The Study Area was assessed for the suitability to support burrowing owls and all suitable burrows were inspected for signs of use by burrowing owls. The survey involved walking through suitable habitat within the Study Area (the Project site and a 500-foot buffer). Pedestrian survey transects were spaced approximately 10 to 15 meters apart to allow 100 percent visual coverage of the ground surface (Figure 3).

No BUOWs or evidence of BUOWs were observed on site within the Study Area during the focused survey. A majority of the Project site was characterized by actively maintained ruderal fields, lacking necessary sized burrows and proper vegetation cover to provide suitable nesting habitat for BUOW. Much of the 500-foot buffer is developed. California ground squirrels (*Spermophilus beecheyi*) and their burrows were observed within the Study Area. These burrows were actively utilized by the California Squirrels and contained no BUOW or keys signs (sight, whitewash, burrows, bones, feathers, pellets, nests, and calls). Furthermore, the Project site is annually maintained for fire abatement and the property adjacent to the Project site has active construction and grading activities. Therefore, based on the lack of suitable BUOW burrows, routine maintenance and mowing, lack of proper vegetation cover, and adjacent construction activity, Step II Part B is not required pursuant to MSHCP Burrowing Owl Survey Instructions.

All wildlife species encountered visually or audibly during the field survey were identified and recorded in field notes. Photographs were taken to document existing conditions within the Study Area; photo-pages are attached (Appendix A).

The animal species or signs thereof observed during the SLS survey are listed below:

Birds:

- American crow (*Corvus brachyrhynchos*)
- Anna's hummingbird (*Calypte anna*)
- black phoebe (*Sayornis nigricans*)
- California quail (*Callipepla californica*)
- California towhee (*Melozone crissalis*)
- house finch (*Haemorhous mexicanus*)
- mourning dove (*Zenaida macroura*)
- red-tailed hawk (*Buteo jamaicensis*)
- song sparrow (*Melospiza melodia*)
- turkey vulture (*Cathartes aura*)
- wrentit (*Chamaea fasciata*)

Mammals:

- California ground squirrel (*Spermophilus beecheyi*)
- desert cottontail (*Sylvilagus audubonii*)
- coyote (*Canis latrans*)

Reptiles:

- western fence lizard (*Sceloporus occidentalis*)

4.0 Discussion

While a majority of the Study Area consist of ruderal vegetation, no burrowing owls, suitable sized burrows, or key diagnostic signs (i.e., whitewash, pellets, bones, feathers, etc.) of burrowing owls were observed within the Study Area. California ground squirrels and their burrows were observed within the Study Area. However, these burrows are actively utilized by California ground squirrels and contained no burrowing owls or key diagnostic signs (i.e., whitewash, pellets, bones, feathers, etc.) of burrowing owls. Furthermore, the Project site is annually maintained for fire abatement and the property adjacent to the Project site has active construction and grading activities. Therefore, based on the lack of suitable BUOW burrows, routine maintenance and mowing, lack of proper vegetation cover, and adjacent construction activities, Step II Part B is not required pursuant to MSHCP Burrowing Owl Survey Instructions.

Based on the results of the field survey, the Study Area is not considered to be occupied by BUOWs. However, since the BUOW is a migratory species the Project will be required to conduct

a 30-day pre-construction survey for the burrowing owl. The following shall take the following measure to avoid impacts to burrowing owl.

- Pre-construction surveys for burrowing owl within the survey area where suitable habitat is present shall be conducted by a qualified biologist within 30 days prior to the commencement of ground disturbing activities. If active burrowing owl burrows are detected during the breeding season, all work within 300 feet of any active burrow will be halted until that nesting effort is finished. The on-site biologist will review and verify compliance with these boundaries and will verify the nesting effort has finished. Work can resume when no other active burrowing owl burrows nests are found.

  If active burrowing owl burrows are detected outside the breeding season or during the breeding season and its determined nesting activities have not begun, then passive and/or active relocation may be approved following consultation with the City. The installation of one-way doors may be installed as part of a passive relocation program. Burrowing owl burrows shall be excavated with hand tools by a qualified biologist when determined to be unoccupied, and back filled to ensure that animals do not re-enter the holes/dens. Upon completion of the survey and any follow-up construction avoidance management, a report shall be prepared and submitted to the City for mitigation monitoring compliance record keeping.

5.0 Certification

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signed:  Dated: 04/05/2018

6.0 Literature Cited

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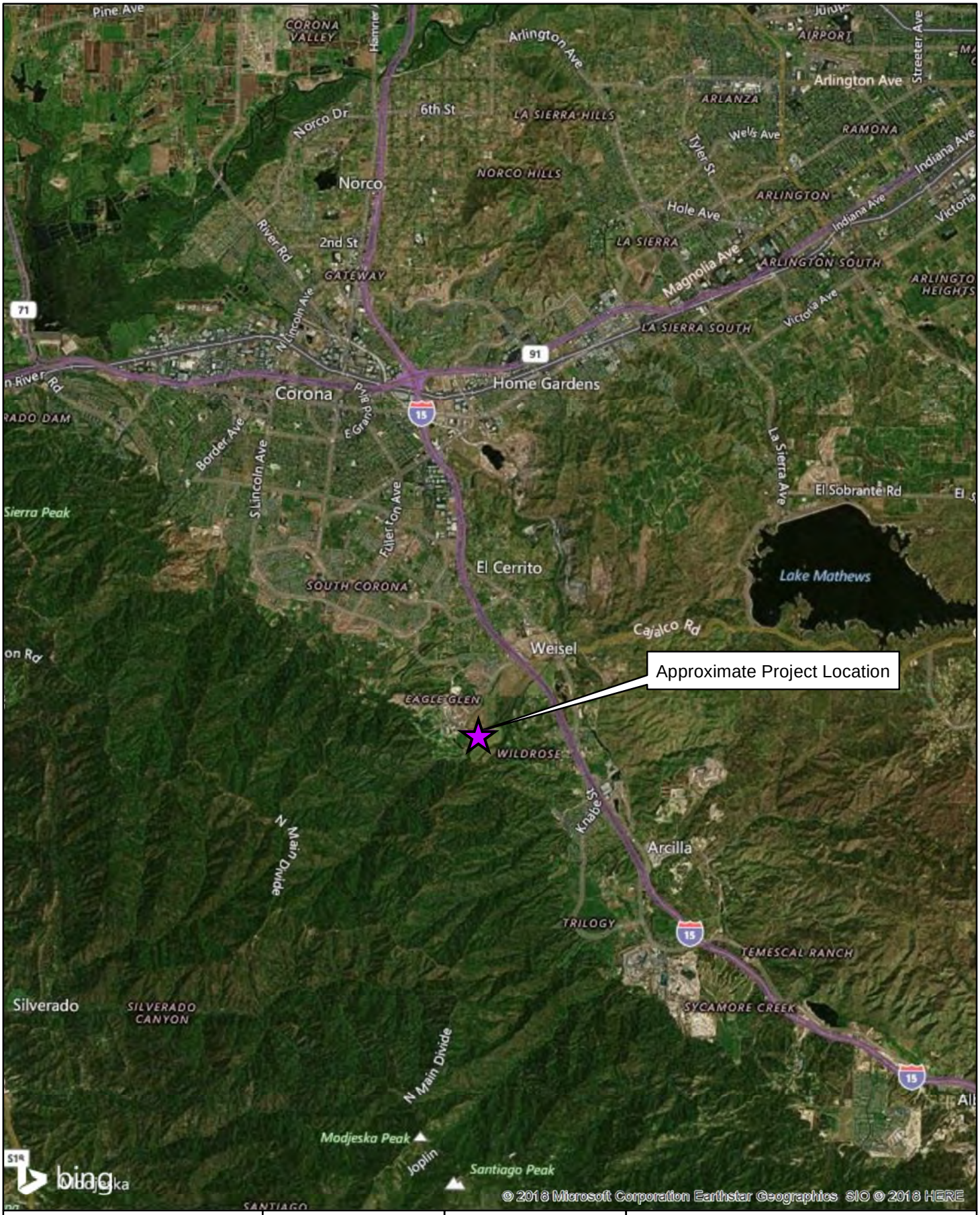
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Figures



GIS Prepared By:
Carlson SLS

Created: February 1, 2018

0 2,500 5,000 10,000 Feet
1 inch = 10,000 feet

Data Sources: Bing Maps

McMillan Project
Regional Map

FIGURE 1



GIS Prepared By:
Carlson SLS

Created: June 12, 2018

0 87.5 175 350 525 Feet

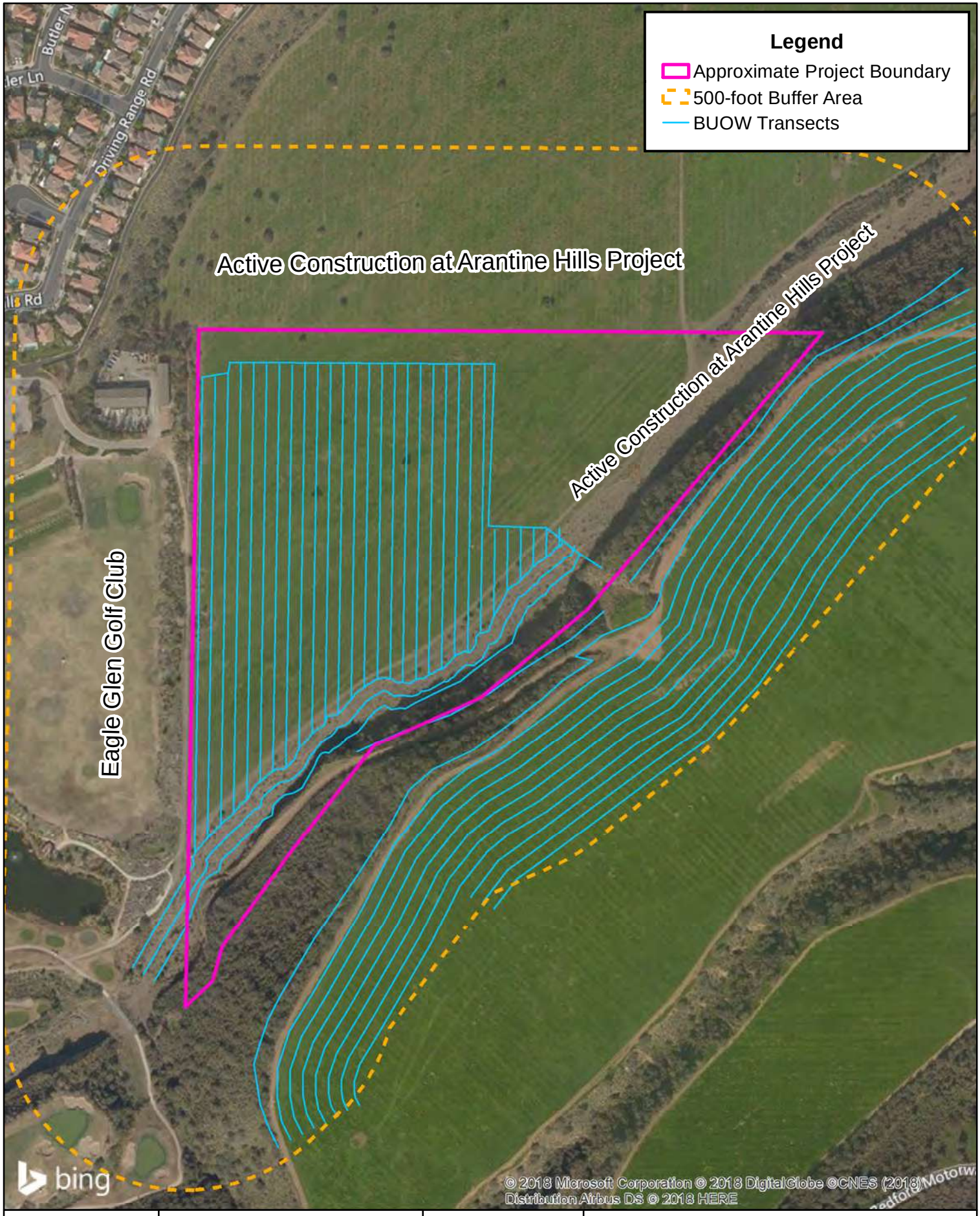
1 inch = 350 feet

Data Source: Bing Maps

McMillan Project

Vicinity Map

FIGURE 2



GIS Prepared By:
Carlson SLS

Created: June 12, 2018

0 87.5 175 350 525 Feet

1 inch = 338.79 feet

Data Source: Bing Maps

McMillan Project

Transect and Burrow Map

FIGURE 3

APPENDIX A

Representative Photographs



Looking north-west at the Study Area containing ruderal vegetation.



Looking north at the Study Area containing ruderal vegetation.



Looking north-east at an area of the ruderal vegetation actively maintained.



Looking south at the ruderal vegetation that is maintained annually.



Typical size of Burrow observed onsite actively utilized by the California Squirel. Burrow is not suitable for Burrowing owl.



Looking east at taller ruderal vegetation within the Study Area.



Area of active maintenance due to fire abatement.



Looking south-west at an area of little vegetation.

RESULTS OF 2018 BREEDING-SEASON CALIFORNIA GNATCATCHER SURVEYS

30-ACRE BEDFORD CANYON NORTH

CITY OF CORONA, RIVERSIDE COUNTY, CALIFORNIA

PREPARED FOR:

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&

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JUNE 2018

INTRODUCTION

This report presents the results of the 2018 breeding season protocol surveys for the federally threatened coastal California gnatcatcher (*Polioptila californica californica*) ("CAGN") on approximately 10 acres of suitable habitat within Bedford Canyon, California ("site", Appendix A, Figures 1-3). The surveys were conducted by Kidd Biological, Inc. (KBI). Surveys were conducted in accordance with guidance from U.S. Fish and Wildlife Service (USFWS) CAGN survey protocol to cover breeding periods (USFWS 1997).

Breeding season protocol surveys for the CAGN were conducted by U.S. Fish and Wildlife Service (USFWS) permitted biologists (See Table 1) between March 19 and May 1, 2018. The required notification to conduct focused surveys was submitted by email to the permit coordinator at the Carlsbad U.S. Fish and Wildlife Service (USFWS) Office dated February 12, 2018 (Appendix B).

SITE LOCATION

The proposed project site is located in the western portion of Riverside County, California in the southern reaches of the City of Corona, just north of the community of Temescal Canyon. Although this area is under an MSHCP, this parcel falls in Critical Habitat for the gnatcatcher.

The project site is located in the Lake Mathews area of northwestern Riverside County west of Interstate 15, south of Highway 91 and Cajalco Road and east of the Cleveland National Forest. The project site is located in Sections 16, 17, 20 and 21, Township 4 South, Range 6 West of the Corona South, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (see Figure 1). Specifically, the project site is located near the southwest intersection of Cajalco Road and Interstate 15 (see Figure 2). The project site encompasses approximately 30 acres, however less than 10 acres is suitable. Any suitable habitat within 500 feet of the site, where accessible, were surveyed to account for any indirect impacts to CAGN by the proposed project.

It should be noted that this project overlaps with a second proposed development immediately to the south ("Bedford Canyon-South"). Land use adjacent to the project site consists of open space associated with the Cleveland National Forest to the south and west, residential communities to the north, a golf course to the west, open lands to the south and new housing to the east with commercial developments beyond.

Natural History of the Coastal California Gnatcatcher

The CAGN is a federally threatened species. It is most commonly found in the sage scrub communities of coastal southern California. According to J. Atwood and J. Bolsinger (1992), 99% of all CAGN observations are in areas with elevations below 950 feet. There are reported occurrences of CAGN at 1,600 feet elevation (500 meters) in inland areas (Davis and McKernan, 1998). Elevation of this site is approximately 1,100-1,190 feet (335 – 362 meters) above mean sea level (MSL). Although, just above the known elevational range of the CAGN, the site is higher in elevation than what is typically associated with the 99% of all CAGN observations. Nonetheless, with drought conditions in the region and effects of climate change there is a possibility that CAGN may transition to higher elevations where conditions are more favorable (Pounds et al 1999, Moritz et al 2008, Chen et al, 2011).

CAGN are ground and shrub-foraging insectivores. They feed on small insects and other arthropods. A CAGN's territory is highly variable in size and seems to be correlated with distance from the coast, ranging from less than 1 ha to over 9 ha (Mock, 2004). In a 1998 study, biologist Patrick Mock concluded that CAGN in the inland region require a larger territory than those on the coast in order to meet the nutritional requirements needed for survival and breeding.

The main threat to the CAGN is habitat loss, fragmentation, and degradation of habitat from invasive plant species and drought. Once locally common, CAGN have experienced widespread habitat loss and have lost most of their former range. By 1997, it was estimated that no more than 2,900 pairs remained in the United States. Remaining patches of coastal sage scrub are highly fragmented, and the majority is privately owned, making species recovery a difficult task.

The regional observations of CAGN are shown in Figure 3: *CNDDB Documented CAGN Locations*. These locations were obtained from the California Department of Wildlife's (CDFW) Natural Diversity Data Base (CNDDB) (2018). Based on the information, several CAGN have been documented in the immediate area. Previous studies on the site found a pair of CAGN north of the proposed project footprint.

Vegetation Communities/Habitat Types

The approximately 10-acre area that contains suitable habitat for the CAGN is comprised of open Riversidean Alluvial Fan Sage Scrub (RAFSS) within the main channel of Bedford Wash with mixed southern chaparral along the upper slopes to the south of the wash.

Dominant plant species observed within the RAFSS community include scalebroom (*Lepidospartum squamatum*), California sagebrush (*Artemisia californica*), deerweed (*Acmispon glaber*), and buckwheat (*Eriogonum fasciculatum*). Within the areas of chaparral, dominant species included chaparral yucca (*Hesperoyucca whipplei*), laurel sumac (*Malosma laurina*), and sugarbush (*Rhus ovata*).

The habitat in these areas is only marginally suitable for CAGN as there is only a minor presence of sagebrush with very little understory of grasses and forbs. The chaparral slopes are very steep and likely not suitable for CAGN due to the aspect as well as the dense chaparral vegetation.

METHODOLOGY

Prior to conducting protocol surveys, a literature review was conducted to obtain background information and resources pertinent to the survey effort. Data on previous observations of the target species that have been recorded in the vicinity of the project site were compiled from the CDFW California Natural Diversity Database (CNDDB), a sensitive species and plant community account database. The CNDDB Geographical Information Systems (GIS) database was also used to confirm and map the locations of CAGN recorded by the CNDDB in the area (Figure 3).

Protocol breeding season surveys for the coastal California gnatcatcher were conducted by permitted biologists (Table 1). Methods employed were in conformance with USFWS Coastal California Gnatcatcher Presence/Absence Survey Guidelines, issued July 28, 1997 (USFWS 1997). A total of six surveys were performed one week apart, between March 19, 2018 and May 1, 2018, generally between 0600 hours and 1200 hours. The surveys were conducted within all suitable habitat, as discussed in Section 5, Survey Area.

The biologist slowly traversed the biological survey area, stopping at approximately 100-foot intervals to listen for CAGN. If no CAGN were detected within 5-10 minutes, the biologist made pishing sounds, and played an audio recording of CAGN vocalizations. The recording was played for several seconds at each interval, followed by a brief pause to listen for a response. If any CAGN individuals were detected, additional observations including sex, age, breeding status, and behavioral characteristics were documented, consistent with protocol requirements.

Table 1. Surveyor Information

Surveyor	U.S. Fish and Wildlife Permit Number
Nina Kidd	TE-036550-5
Kelly Rios	TE-018909-5

RESULTS

Breeding season surveys were conducted by the USFWS permitted biologists noted above, in accordance with USFWS guidelines. Only areas considered suitable CAGN habitat were surveyed by KBI biologists during breeding season surveys. It should be noted; however, that not all lands within the survey area supported 100% vegetative cover of suitable CAGN habitat. Table 2, below, summarizes the results of each survey.

No CAGN were detected during breeding season surveys conducted on the site. Brown-headed cowbirds (*Molothrus ater*), considered to be nest parasites for CAGNs, were not observed during the surveys.

Table 2. Survey Data

Survey	Surveyor	Date	Time		Temp (°F)	Cloud Cover (%)	Wind Speed (mph)	CAGN Detected
			Begin	End				
1	N. Kidd	3/19/18	0930	1040	61	0	2-3	No
2	K. Rios	3/27/18	0930	0950	61	0	5-7	No
3	K. Rios	4/10/18	1130	1200	90	10	1-2	No
4	K. Rios	4/17/18	0950	1045	63	0	1-2	No
5	K. Rios	4/24/18	0850	0930	59	20	1-3	No
6	K. Rios	5/1/18	1045	1200	62	100	2-3	No

Additional Fauna Species

Avian activity during the protocol surveys was moderate, with a wide range of bird species observed or otherwise detected throughout the course of the surveys. Common bird species observed or otherwise detected during surveys include species commonly found in upland scrub habitats such as, but not limited to, house finch (*Haemorphous mexicanus*), lesser goldfinch (*Spinus psaltria*), bushtit (*Psaltriparus minimus*), wrentit (*Chamaea fasciata*), Anna's hummingbird (*Calypte anna*), and California towhee (*Melozone crissalis*). All avian species detected during the surveys are listed in the *Avian Compendium* (Appendix B).

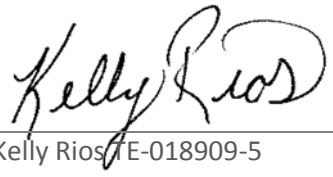
No other sensitive species were detected within the survey area.

Conclusion

Coastal California gnatcatcher breeding season protocol surveys have been completed within suitable habitat for the Bedford Canyon North Project Footprint in accordance with the USFWS presence/absence survey protocol and pursuant to the Federal ESA. No CAGN were observed during the protocol surveys and therefore CAGN are considered absent from the project site.

No brown-headed cowbirds (*Molothrus ater*) were observed during the surveys.

CERTIFICATION: We hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: May 31, 2018 Signed: 

Kelly Rios TE-018909-5

Date May 31, 2018 Signed: 

Nina J. Kidd TE-036550-5

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APPENDIX A- FIGURES



Figure 1. Bedford Canyon South Project Site on Corona South, CA USGS Topographic Map

USGS 7.5 Minute Topographic Map, Earth Point Topo Map Creator 2018

Bedford Canyon North Parcel Breeding Season Gnatcatcher Survey, Corona, CA

Kidd BIOLOGICAL INC.

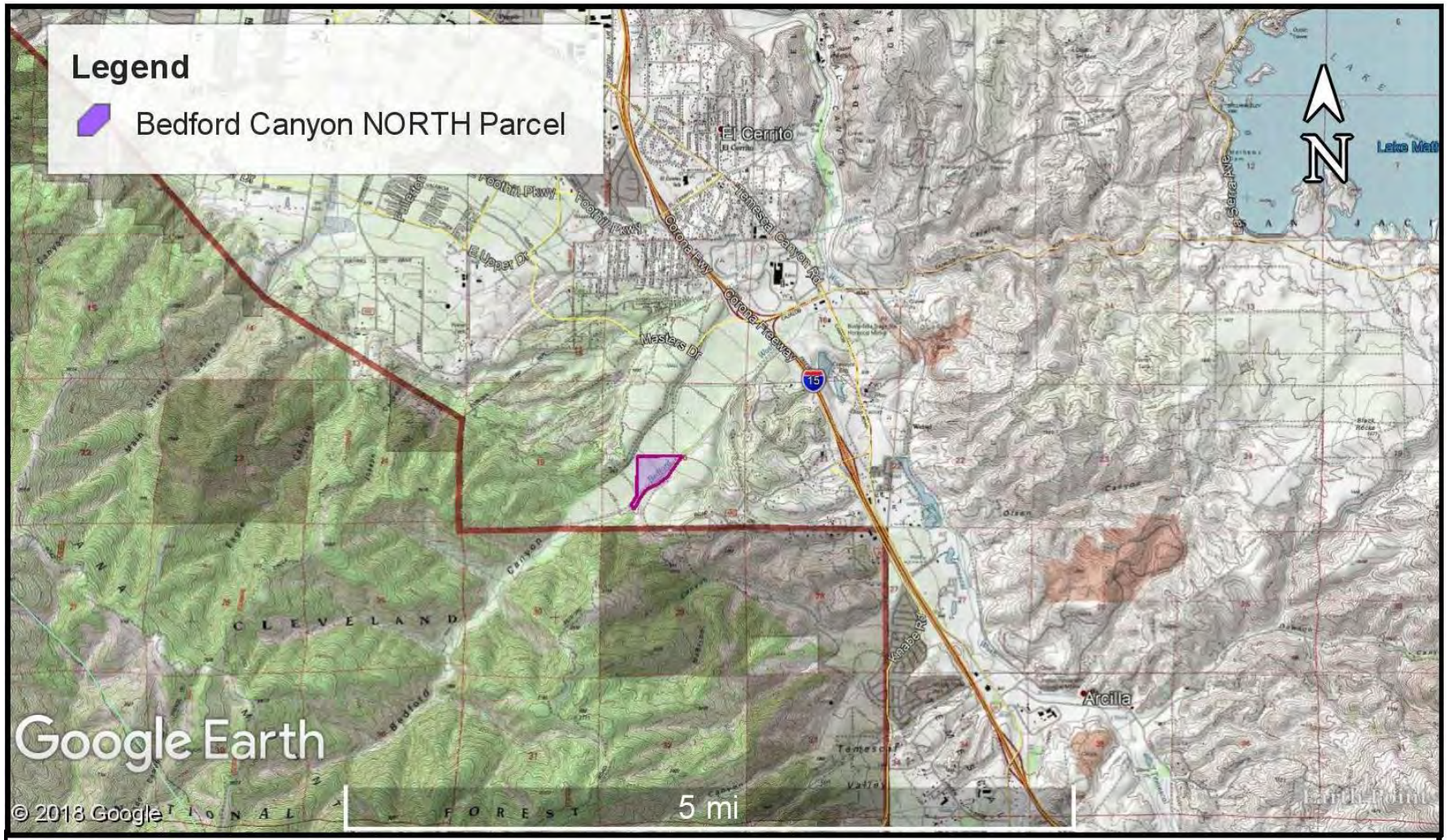


Figure 2. Bedford Canyon North Project Site on Corona South, CA USGS Topographic Map
USGS 7.5 Minute Topographic Map, Earth Point Topo Map Creator 2018
Bedford Canyon South Parcel Breeding Season Gnatcatcher Survey, Corona, CA

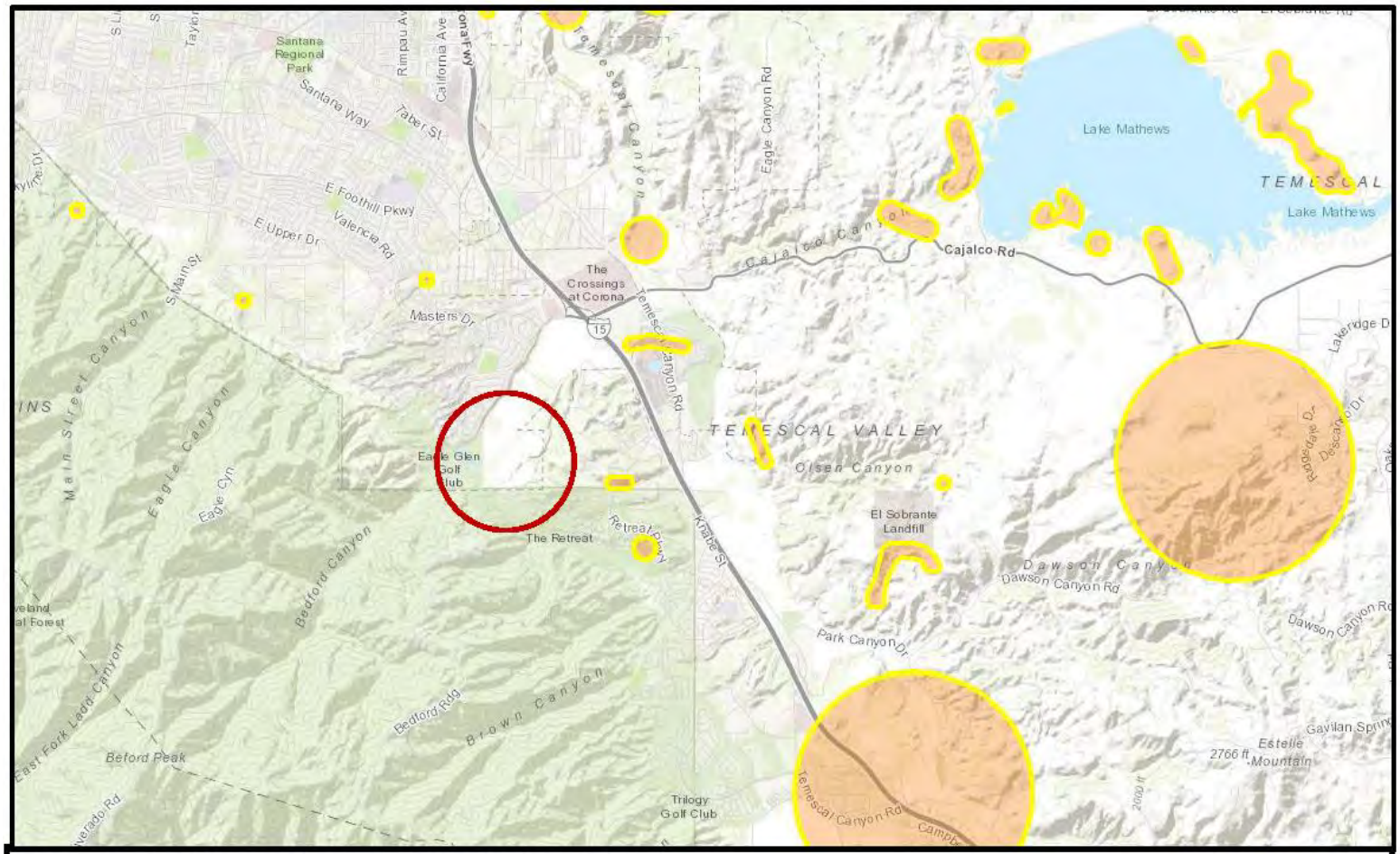


Figure 3. Previously Recorded Gnatcatchers near Bedford Canyon Site
California Department of Fish and Wildlife CNDDB-BIOS
Bedford Canyon North Parcel Breeding Season Gnatcatcher Survey, Corona, CA

Kidd BIOLOGICAL INC.

APPENDIX B: USFWS 15-DAY NOTICE

February 12, 2018

Ms. Stacey Love
U.S. Fish and Wildlife Service
Carlsbad Field Office
2177 Salk Ave #250
Carlsbad, California 93003

Subject: **15-Day Notice to perform California Gnatcatcher presence/absence surveys (breeding season) for the "Bedford Canyon-North" Project in the City of Corona, California.**

Dear Stacey,

In order to determine if a proposed project in the City of Lake Elsinore will have an impact on the federally threatened California gnatcatcher (*Polioptila californica californica*, CAGN) we are proposing to conduct focused presence/absence surveys within the **breeding season.** The proposed project is to construct housing as well as modify and restore the drainage feature on the site. The site falls within critical habitat for the CAGN.

The project site is located in the Lake Mathews area of northwestern Riverside County west of Interstate 15, south of Highway 91 and Cajalco Road and east of the Cleveland National Forest. The project site is located in Sections 16, 17, 20 and 21, Township 4 South, Range 6 West of the Corona South, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (see Figure 1). Specifically, the project site is located near the southwest intersection of Cajalco Road and Interstate 15 (see Figure 2). The project site encompasses approximately 30 acres, however less than 10 acres is suitable. Any suitable habitat within 500 feet of the site, where accessible, will be surveyed to account for any indirect impacts to CAGN.

It should be noted that this project overlaps with a second proposed development immediately to the south ("Bedford Canyon-South"). These are separate projects and although the habitat within the buffer areas overlap, they will be treated as two distinct surveys, with two separate reports.

Surveys will be conducted by myself, Scott Thomas (TE-036550-4), Kelly Rios (TE 018909-5) and/or Karly Moore (TE02484A-1) of Kidd Biological, Inc. per U.S. Fish and Wildlife (USFWS) California gnatcatcher protocol guidelines. We expect to initiate the 6 surveys on March 15 and concluding surveys late April.

If you have any questions or comments regarding this letter, please contact me directly at (949)632-2756. We will await your response to initiate surveys.

Sincerely,

Nina Jimerson-Kidd

APPENDIX C: AVIAN COMPENDIUM

FAMILY	COMMON NAME	SPECIES
Anatidae	**Geese, ducks and allies**	
	Mallard	*Anas platyrhynchos*
Columbidae	**Pigeons and Doves**	
	Mourning Dove	*Zenaida macroura*
Cuculidae	**Cuckoos, road runners and Anis**	
	Greater Roadrunner	*Geococcyx californianus*
Trochilidae	**Hummingbirds**	
	Anna's Hummingbird	*Calypte anna*
Accipitridae	**Hawks and allies**	
	Red-tailed Hawk	*Buteo jamaicensis*
Falconidae	**Falcons and Caracaras**	
	American Kestrel	*Falco sparverius*
Corvidae	**Corvids**	
	American Crow	*Corvus brachyrhynchos*
	Common Raven	*Corvus corax*
Hirundinidae	**Swifts and Swallows**	
	Bank Swallow	*Riparia riparia*
Aegithalidae	**New World Bushtits**	
	Bushtit	*Psaltriparus minimus*

Troglodytidae	**Wrens**	
	House Wren	*Troglodytes aedon*
Sylviidae		
	Wrentit	*Chamaea fasciata*
Turdidae		
	Northern Mockingbird	*Mimus polyglottos*
*	European Starling	*Sturnus vulgaris*
Fringillidae	**Finches and Grosbeaks**	
	House Finch	*Haemorhous mexicanus*
	Lesser Goldfinch	*Spinus psaltria*
Passerellidae	***Buntings, finches and sparrows***	
	Spotted Towhee	*Pipilo maculatus*
	California Towhee	*Melozone crissalis*

*Non-native species

APPENDIX B

Representative Photographs of Community Classifications



Looking north-east at the Widened and Restoration efforts of Bedford Canyon Wash as part of the Arantine Hills project.



Looking south at Bedford Canyon Wash with the minimal native vegetation and invasive species.



Looking at the clear bed and bank of Bedford Canyon Wash.



Looking north at the ruderal habitat community that is maintained annually.



Looking south-west at the tamarisk scrub with mulefat and castorbean.



Ruderal habitat with scattered laurel sumacs and pepper trees.



Developed/disturbed habitat includes a road across the site.



Riversidian sage scrub/chaparral found on the bluff adjacent to Bedford Canyon Wash.

APPENDIX C

Special Status Plant Species Potential Occurrence Determination

APPENDIX C

Special Status Plant Species Potential Occurrence Determination

This table summarizes conclusions from analysis and field surveys regarding the potential occurrence of special status plant species within the Study Area. During the field surveys, the potential for special status plant species to occur within the Study Area was assessed based on the following criteria:

- Present: observed on the site during the field surveys, or recorded on-site by other qualified biologists.
- Known to Occur: observed on site in the recent past, but not observed during the most recent biological survey.
- High potential to occur: observed in similar habitat in the region by a qualified biologist or habitat on the site is a type often utilized by the species, and the site is within the known distribution and elevation range of the species.
- Moderate potential to occur: reported sightings in surrounding region, or the site is within the known distribution and elevation range of the species, and habitat on the site is a type occasionally used by the species.
- Low potential to occur: the site is within the known distribution and elevation range of the species, but habitat on the site is rarely used by the species or for which there are no known recorded occurrences of the species within or adjacent to the site.
- None: a focused study failed to detect the species or no suitable habitat is present.
- Unknown: the species' distributional/elevation range and habitat are poorly known.

Even with field surveys, biologists assessed the probability of occurrence rather than make a definitive conclusion about species presence or absence. Failure to detect the presence of the species is not definitive, and may be due to variable effects associated with fire, rainfall patterns, and/or season.

Special Status Plants: Potential to Occur within the Study Area

Scientific Name	Common Name	Status	General Habitat Description	Potential For Occurrence within the Study Area
Abronia vilosa var. aurita	chaparral sand-verbena	CRPR: 1.B1 MSHCP: Not covered	Annual herb found in sandy. Habitat include chaparral, coastal sage scrub, and desert dunes. Known from 75 to 1600 meters (246 to 5,200 feet) MSL. Blooming period: March through September.	None. No suitable habitat is found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Allium munzii	Munz's onion	FE, ST CRPR:1B.1 MSHCP: Covered	Clay soils supporting chaparral, cismontane woodland, coastal scrub, pinyon-juniper woodland, and valley and foothill grassland. Known from 300 to 1,070 meters (1,000 to 3,500 feet) MSL. Blooming period: March through May	None. No suitable habitat is found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Calochortus catalinae	Catalina mariposa lily	CRPR:4.2 MSHCP: Not Covered	Perennial bulbiferous herb. Habitat include chaparral, cismontane woodland, coastal sage scrub, and valley and foothill grasslands. Known from 15 to 700 meters (49 to 2,700 feet) MSL. Blooming period: March through June	None. No suitable habitat is found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Calochortus plummerae	Plummer's mariposa lily	CRPR:4.2 MSHCP: Covered	Perennial bulbiferous herb found in granitic or rocky areas. Habitat include chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, and valley and foothill grasslands. Known from 100 to 1,700 meters (330 to 5,500 feet) MSL. Blooming period: May through July	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Calochortus weedii var. *intermedius*	Intermediate mariposa lily	CRPR:1B.2 MSHCP: Species- Specific Objective	Chaparral, coastal scrub, and valley and foothill grassland. Known from 180 to 850 meters (600 to 2,800 feet) MSL. Blooming period: June through July.	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Centromadia pungens ssp. laevis	smooth tarplant	CRPR:1B.2 MSHCP: Covered	Alkaline areas in chenopod scrub, meadows and seeps, ditches, playas, riparian woodland, and valley and foothill grassland. Known from below 480 meters (1,600 feet) MSL. Blooming period: April through Sept	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Chorizanthe leptotheca	Peninsular spineflower	CRPR:4.2 MSHCP: Covered	Annual herb found in granitic or alluvial fan areas. Habitat include chaparral, coastal sage scrub, and lower montane coniferous forest. Known from 300 to 1,900 meters (980 to 6,200 feet) MSL.	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.

Scientific Name	Common Name	Status	General Habitat Description	Potential For Occurrence within the Study Area
			Blooming period: May through August	
Chorizanthe xanti var. *leucotheca*	White-bracted spineflower	CRPR: 1B.2 MSHCP: Not Covered	Mojavean desert scrub and pinyon and juniper woodland. Known from 300 to 1,200 meters (900 to 4,000 feet) MSL. Blooming period: April through June.	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Deinandra paniculata	paniculate tarplant	CRPR: 4.2 MSHCP: Not covered	Coastal scrub and valley and foothill grassland/usually vernally mesic. Known from 25 to 9540 meters (80 to 3,085 feet) MSL. Blooming period: April through November.	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Dudleya multicaulus	Many-stemmed dudleya	CRPR:1B.2 MSHCP: Covered	Chaparral, coastal scrub, and valley and foothill grassland. Often found on clay soils or granitic outcrops. Known from below 800 meters (< 2,600 feet) MSL. Blooming period: May through July.	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Erythranthe diffusa	Palomar monkeyflower	CRPR: 4.3 MSHCP: Covered	Annual herb found in gravelly or sandy areas. Habitat include chaparral and lower montane coniferous forest. Known from 1,200 to 1,830 meters (3,900 to 6,000 feet) MSL. Blooming period: April through June	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Hesperocyparis forbesii	Tecate cypress	CRPR: 1B.1 MSHCP: Not Covered	Tecate cypress is a component of the southern interior cypress forest. This community is a dense, fire-maintained, low forest that forms even-aged stands surrounded by a matrix of chaparral. The specie is also associated with closed-cone coniferous woodlands.	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Lepechinia cardiophylla	Heart-leaved pitcher sage	CRPR: 1B.2 MSHCP: Covered	Closed-cone coniferous forest, chaparral, and cismontane woodland. Known from 550 to 1,370 meters (1,800 to 4,500 feet) MSL. Blooming period: April through July.	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Monardella hypoleuca ssp. intermedia	intermediate monardella	CRPR: 1B.3 MSHCP: Not Covered	Perennial rhizomatous herb found in the understory of the habitat areas. Habitat include chaparral, cismontane woodland, and lower montane coniferous forest. Known from 400 to 1,250 meters (1,300 to 4,100 feet) MSL. Blooming period: April through September	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Nolina cismontana	Chaparral nolina	CRPR:1B.2 MSHCP: Not Covered	Inhabits chaparral, and coastal sage scrub with sandstone or gabbro substrates. Known from 140 to 1,275 meters (500 to 4,200 feet) MSL.	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field

Scientific Name	Common Name	Status	General Habitat Description	Potential For Occurrence within the Study Area
			Blooming period: May through July	survey
Phacelia keckii	Santiago Peak phacelia	CRPR: 1B.3 MSHCP: Not Covered	Closed cone coniferous forest and chaparral. Known from 550 to 1,600 meters (1,800 to 5,200 feet) MSL. Blooming period: May through June	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey
Polygala cornuta var.fishiae	Fish's milkwort	CRPR: 4.3 MSHCP: Species- Specific Objectives	Occurs in chaparral, cismontane woodland and riparian woodlands from 100 to 1,000 meters (328 to 3,280 feet) MSL. Known to occur from Santa Barbara, Ventura, Los Angeles, Orange, Riverside, and San Diego Counties, as well as Baja California. Blooming period: May through August	None. No suitable habitat or soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.
Romneya coulteri	Coulter's matilija poppy	CRPR :4.2 MSHCP: Covered	Native to southern California and Baja California, it grows in dry canyons in chaparral and coastal sage scrub plant communities, sometimes in areas recently burned. It is a popular ornamental plant, kept for its large, showy flowers. Blooming period: March through July	Low. Limited suitable habitat within Bedford Canyon Wash. No suitable soils are found within the Study Area. Furthermore, the Project site is actively maintained. Not observed during field survey.

Legend

Federal Endangered Species Act (ESA) Listing Codes: federal listing is pursuant to the Federal Endangered Species Act of 1973, as amended (ESA).
FE = federally listed as endangered: any species, subspecies, or variety of plant or animal that is in danger of extinction throughout all or a significant portion of their range.
FT = federally listed as threatened: any species, subspecies, or variety of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.

California Endangered Species Act (CESA) Listing Codes: state listing is pursuant to § 1904 (Native Plant Protection Act of 1977) and §2074.2 and §2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered, Threatened and Rare species of plants and animals.
SE = state listed as endangered: any species, subspecies, or variety of plant or animal that are in serious danger of becoming extinct throughout all, or a significant portion, of their range.
ST = state listed as threatened: any species, subspecies, or variety of plant or animal that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future.

California Rare Plant Ranks (Formerly known as CRPR Lists): the CRPR is a statewide, non-profit organization that maintains, with CDFG, an Inventory of Rare and Endangered Plants of California. In the spring of 2011, CRPR and CDFG officially changed the name "CRPR List" or "CRPR Ranks" to "California Rare Plant Rank" (or CPRP). This was done to reduce confusion over the fact that CRPR and CDFG jointly manage the Rare Plant Status Review Groups and the rank assignments are the product of a collaborative effort and not solely a CRPR assignment.

CRPR: 1B - California Rare Plant Rank 1B (formerly List 1B): Plants Rare, Threatened, or Endangered in California and Elsewhere. All of the plants constituting California Rare Plant Rank 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California

Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 2 - California Rare Plant Rank 2 (formerly List 2): Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere. All of the plants constituting California Rare Plant Rank 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 4 - California Rare Plant Rank 4 (formerly List 4): Plants of Limited Distribution - A Watch List. Very few of the plants constituting California Rare Plant Rank 4 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and CRPR and CDFG strongly recommend that California Rare Plant Rank 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.

California Native Plant Society (CRPR) Threat Ranks: The CRPR Threat Rank is an extension added onto the California Rare Plant Rank (CRPR) and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered. A Threat Rank is present for all California Rare Plant Rank 1B's, 2's, 4's, and the majority of California Rare Plant Rank 3's. California Rare Plant Rank 4 plants are seldom assigned a Threat Rank of 0.1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a California Rare Plant Rank. In addition, all California Rare Plant Rank 1A (presumed extinct in California), and some California Rare Plant Rank 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension.

0.1 = seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 = fairly endangered in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

Sources:

- Calflora website - search for plants (Calflora 2016).
- CRPR Inventory of Rare and Endangered Plants (CRPR 2016).
- The Status of Rare, Threatened, and Endangered Plants and Animals of California, 2000–2004 (CDFG 2005).
- The Jepson Manual: *Vascular Plants of California,* second edition (Baldwin *et al.* 2012).
- RareFind, CDFW, California Natural Diversity Database (CNDDB) (CDFW 2016f).
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2016i).
- Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP, 2016)

APPENDIX D

Plant Species Recorded During 2018 Field Survey

Appendix B contains the list of vascular plant taxa recorded during the November 19, 2014 biological survey conducted within the Study Area; however ornamental/landscaped vegetation is generally not included. Plant nomenclature and taxonomic order is based on *The Jepson Manual: Vascular Plants of California, s*econd Edition (Baldwin *et al.* 2012).

Appendix B
Plant Species Observed during the Field Survey

Scientific Name	Common Name
Eudicots	
Adoxaceae	**Muskroot Family**
Sambucus nigra ssp. *caerula* (=*Sambucus mexicana*)	blue elderberry (Mexican elderberry)
Amaranthaceae	**Amaranth Family**
*Salsola tragus**	Russian thistle (tumbleweed)
Anacardiaceae	**Sumac or Cashew Family**
Malosma laurina	laurel sumac
Rhus ovata	Sugar bush
*Schinus molle**	Peruvian pepper tree (California pepper tree)
***Asteraceae* (*Compositae*)**	**Sunflower Family**
Artemisia californica	California sagebrush
Baccharis pilularis	coyote bush
Baccharis salicifolia	mule fat
Encelia californica	California encelia
Encelia farinose	brittlebush
Lepidospartum squamatum	Scale-broom
Brassicaceae (Cruciferae)	**Mustard Family**
*Hirschfeldia incana **	summer mustard
Euphorbiaceae	**Spurge Family**
*Ricinus communis**	castor bean
Fabaceae (Leguminosae)	**Legume Family**
Acmispon glaber (=*Lotus scoparius*)	deerweed (California broom)
Lamiaceae (Labiatae)	**Mint Family**
Salvia apiana	white sage
Salvia mellifera	black sage

Scientific Name	Common Name
Malvaceae	**Mallow Family**
Malva parviflora	cheeseweed
Polygonaceae	**Buckwheat Family**
Eriogonum fasciculatum	California buckwheat
Rosaceae	**Rose Family**
Adenostoma fasciculatum	chamise
Heteromeles arbutifolia	toyon (Christmas-berry, California holly)
Salicaceae	**Willow Family**
Salix laevigata	red willow
Solanaceae	**Nightshade Family**
*Nicatiana glauca**	tree tobacco
Tamaricaceae	**Tamarisk Family**
Tamarix ramosissima	Mediterranean tamarisk
Monocots	
Poaceae	**Grass Family**
*Arundo donax**	arundo (giant reed)
*Bromus diandrus**	ripgut grass
Legend	
* exotic plant species	

WILD CUCUMBER
RED BROME
TOCALOTE
SUMMER MUSTARD
RAT TAIL
FOX TAIL
JIMSON WEED

APPENDIX E

Special Status Wildlife Potential Occurrence Determination

APPENDIX E

Special Status Wildlife Potential Occurrence Determination

This table summarizes conclusions from analysis and field surveys regarding the potential occurrence of special status wildlife species within the Study Area. During the field surveys, the potential for special status wildlife species to occur within the Study Area was assessed based on the following criteria:

- Present: observed on the site during the field surveys, or previously recorded on-site by other qualified biologists.

- Known to Occur: observed on site in the recent past, but not observed during the most recent biological survey.

- High potential to occur: observed in similar habitat in the region by a qualified biologist or habitat on the site is a type often utilized by the species, and the site is within the known distribution and elevation range of the species.

- Moderate potential to occur: reported sightings in surrounding region, or the site is within the known distribution and elevation range of the species, and habitat on the site is a type occasionally used by the species.

- Low potential to occur: the site is within the known distribution and elevation range of the species, but habitat on the site is rarely used by the species or for which there are no known recorded occurrences of the species within or adjacent to the site.

- None: a focused study failed to detect the species or no suitable habitat is present.

- Unknown: the species' distributional/elevation range and habitat are poorly known.

Even with field surveys, biologists assessed probability of occurrence rather than make definitive conclusions about species presence or absence. Failure to detect the species is not definitive, and may be due to variable effects associated with migration, weather, fire, and/or time of day and year.

Special Status Wildlife: Potential to Occur within the Study Area

Scientific Name	Common Name	Status	General Habitat Description	Potential For Occurrence within the Study Area
Accipiter cooperii	Cooper's hawk	WL MSHCP: Covered	The Cooper's hawk breeds primarily in riparian areas and oak woodlands and is most common in montane canyons. It frequents landscapes where wooded areas occur in patches and groves and often uses patchy woodlands and edges with snags for perching. Dense stands with moderate crown-depths are usually used for nesting. They hunt in broken woodland and habitat edges. Within the range in California, it most frequently uses dense stands of live oak, riparian deciduous or other forest habitats near water. They are also found and can breed in suburban and urban settings.	Low potential to occur on site within ruderal areas (remnant agricultural land). Not observed during field survey.
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	WL MSHCP: Covered	They are found on grass-covered hillsides, coastal sage scrub, and chaparral and often occur near the edges of the denser scrub and chaparral associations. Preference is shown for tracts of California sagebrush. Optimal habitat consists of sparse, low brush or grass, hilly slopes preferably interspersed with boulders and outcrops. The species may occur on steep grassy slopes without shrubs if rock outcrops are present. It is a very secretive species.	None. No suitable habitat is found within the Study Area. Furthermore, the Project site is actively maintained and in a consistent non-vegetated state. Not observed during field survey.
Lanaxyrus californicus	Arroyo toad	FE, SSC, MSHCP: Covered	Breed, forage, and/or aestivate in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt. Adjacent banks with sandy or gravely terraces and very little herbaceous cover for adult and juvenile foraging areas, within a moderate riparian canopy of cottonwood, willow, or oak.	None. No suitable habitat is found within the Study Area. Not observed during field survey.
Artemisiospiza belli	Bell's sage sparrow	WL, BBC MSHCP: Covered	Chaparral and coastal sage scrub along the coastal lowlands, inland valleys and in the lower foothills of local mountains.	None. Suitable habitat does not exist within Study Area. Not observed during field survey.

Scientific Name	Common Name	Status	General Habitat Description	Potential For Occurrence within the Study Area
Aspidoscelis hyperythra beldingi	orangethroat whiptail	SSC, FSS MSHCP: Covered	The species is generally found in semi-arid brushy areas typically with loose soil and rocks, including washes, stream sides, rocky hillsides, and coastal chaparral. Habitat types include low elevation chaparral, non-native grassland, (Riversidian) coastal sage scrub, juniper woodland and oak woodland. Associations include alluvial fan scrub and riparian areas. Friable soil appears to be a necessary requirement for excavating burrows and hiding eggs.	None. Suitable habitat does not exist within Study Area. Not observed during field survey.
Aspidoscelis tigrus stejnegeri	coastal whiptail	SSC MSHCP: Covered	This species is found in a variety of habitats, primarily hot and dry open areas with sparse vegetation including chaparral, woodland, and riparian areas. This subspecies is found in coastal southern California, north into Ventura County, and south into Baja California. Additional important habitat characteristics include Important habitat components include shrub cover with accumulated leaf litter, and an abundance of invertebrate prey, particularly termites.	None. No suitable habitat is found within the Study Area. Furthermore, the Project site is actively maintained and in a consistent non-vegetated state. Not observed during field survey.
Athene cunicularia hypugaea	burrowing owl	SSC, BLMS, BCC MSHCP: Covered	Burrowing owls are a year-round resident of California including habitats of open, dry grassland, and desert. They are generally restricted to mostly flat, open country with suitable nest sites. They use rodent or other burrows for roosting and nesting cover and acquire their burrows from either abandonment or eviction. Burrowing owls typically hunt from a perch.	Low potential to occur onsite due to ongoing maintenance of habitat on site and lack of suitable burrows observed onsite. Not observed during field survey.
Buteo regalis	Ferruginous hawk (wintering)	WL, MSHCP: Covered	Open, dry country, perching on trees, posts, and mounds. In California, wintering habitat consists of open terrain and grasslands of the plains and foothills.	Low potential to occur on site within ruderal areas (remnant agricultural land). Not observed during field survey.
Chaetodipus fallax	northwestern San Diego pocket mouse	SSC MSHCP: Not Covered	This species is a common resident of sandy herbaceous areas, often on sandy substrates (rocks or coarse gravel) in southwestern California. In San Diego County the species occurs mainly in arid coastal and desert border areas. Habitats include coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-	None. No suitable habitat is found within the Study Area. Furthermore, the Project site is actively maintained and in a consistent non-vegetated state. Not observed during field survey.

Scientific Name	Common Name	Status	General Habitat Description	Potential For Occurrence within the Study Area
			juniper, and annual grassland.	
Circus cyaneus	northern harrier	SSC MSHCP: Covered	Occurs from annual grassland up to lodge pole pine and alpine meadow habitats. Frequents open fresh and saltwater wetlands, grasslands, pastures, upland prairies, dry uplands, croplands, shrub-steppe, meadows, desert sinks. It is seldom found in wooded areas. It uses tall grasses and forbs in wetlands for cover and it roosts on ground. It is mostly found in flat, open areas of tall, dense grasses, moist or dry shrubs, in the vicinity of marshes, rivers, ponds, or grassy valleys for nesting, cover, and feeding.	None. No suitable habitat is found within the Study Area. Furthermore, the Project site is actively maintained and in a consistent non-vegetated state. Not observed during field survey.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT, SE, FSS, BCC MSHCP: Covered	This species is an uncommon to rare summer resident of valley foothill and desert riparian habitats in scattered locations in California. Formerly much more common and widespread throughout lowland California. Roosts and nests in densely foliaged, deciduous trees and shrubs in extensive thickets, particularly willows.	None. No suitable habitat on site. Not observed during field survey.
Coturnicops noveboracensis	yellow rail	SSC MSHCP: Not Covered	This species is commonly found in grassy marshes, meadows. In summer, favors large wet meadows or shallow marshes dominated by sedges and grasses. Typically, in fresh or brackish marsh with water no more than a foot deep. In winter mostly in coastal salt marsh, especially drier areas with dense stands of spartina; also rice fields, damp meadows near coast	None. No suitable habitat on site. Not observed during field survey.
Crotalus ruber	red-diamond rattlesnake	SSC, FSS MSHCP: Covered	It can be found from the desert, through dense chaparral in the foothills (it avoids the mountains above around 4,000 feet), to warm inland mesas and valleys, all the way to the cool ocean shore. It is most commonly associated with heavy brush with large rocks or boulders. Dense chaparral in the foothills, cactus or boulder associated coastal sage scrub, oak and pine woodlands, and desert slope scrub associations are known to carry populations of the northern red-diamond rattlesnake, however, chamise and red shank	None. Suitable habitat does not exist within Study Area. Not observed during field survey.

Scientific Name	Common Name	Status	General Habitat Description	Potential For Occurrence within the Study Area
			associations may offer better structural habitat for refuges and food resources for this species than other habitats. They need rodent burrows, cracks in rocks or surface cover objects.	
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE, SSC MSHCP: Covered	Typically found in Riversidean alluvial fan sage scrub and sandy loam soils, alluvial fans and floodplains, and along washes with nearby sage scrub.	None. No suitable habitat on site. Not observed during field survey.
Dipodomys stephensi	Stephen's kangaroo rat	FE, ST MSHCP: Covered	This species prefers large areas of disturbed or patchy annual and perennial grasslands and open coastal sage scrub. Preferred perennials plant species include buckwheat and chamise and preferred annual plant species include brome grass. The nearest known populations are in Rancho Guejito and at the Naval Weapons Station in Fallbrook.	None. No suitable habitat is found within the Study Area. Furthermore, the Project site is actively maintained and in a consistent non-vegetated state. Not observed during field survey.
Elanus leucurus	White-tailed kite	FP MSHCP: Covered	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands and oak woodlands. Dense canopies used for nesting and cover.	Low. Limited suitable habitat for foraging is found within the Study Area. Furthermore, the Project site is actively maintained and in a consistent non-vegetated state. Not observed during field survey.
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE MSHCP: Covered	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	None. No suitable habitat on site. Not observed during field survey.
Emys marmorata	western pond turtle	SCC MSHCP: Covered	Inhabits permanent or nearly permanent water below 1,830 meters (6000 feet) throughout California, west of the Sierra Cascade.	None. No suitable habitat is found within the Study Area. Not observed during field survey.
Eremophila alpestris actia	California horned lark	WL MSHCP: Covered	A year-long resident within the state and within a variety of open habitats, usually where trees and large shrubs are absent. They are not particular about the nature of the field, so long as it has very little vegetation. Range-wide, they breed in level or gently sloping short grass prairies, montane meadows, "bald" hills, open coastal plains, fallow grain fields, alkali flats, and rangelands. Within southern California, California horned larks breed primarily in open fields, (short) grasslands, and rangelands. Grasses, shrubs, forbs,	Moderate potential to occur on site due to the bare nature of the site. Not observed during field survey.

Scientific Name	Common Name	Status	General Habitat Description	Potential For Occurrence within the Study Area
			rocks, litter, clods of soil, and other surface irregularities provide cover.	
Eumops perotis californicus	western mastiff bat	SSC, BLMS MSHCP: Not covered	Western mastiff bats are found in a variety of habitats, such as semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban, but the species' distribution may be geomorphically determined, occurring primarily where there are significant rock features offering suitable roosting habitat. A cliff dwelling species, where maternity colonies of 30 to several hundred roost generally under exfoliating rock slabs and rock crevices along cliffs. Western mastiff bats can also be found in similar crevices in large boulders and buildings. When roosting in rock crevices they require a sizable drop from their roost in order to achieve flight. Western mastiff bats prefer deep crevices that are at least 15 or 20 feet above the ground. Foraging is concentrated around bodies of water but also includes coastal sage scrub, chaparral, and grassland habitats.	None. No suitable habitat on site. Not observed during field survey..
Icteria virens	yellow-breasted chat	SSC MSHCP: Covered	In southern California they are primarily found in tall, dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories. Nesting areas are associated with streams, swampy ground, and the borders of small ponds. Breeding habitat must be dense to provide shade and concealment. It winters south to Central America.	None. No suitable habitat on site. Not observed during field survey.
Lanius ludovicianus	loggerhead shrike	SSC, BCC, MSHCP: Covered	They breed mainly in shrublands or open woodlands with a fair amount of grass cover and areas of bare ground. They require tall shrubs or trees (also use fences or power lines); open areas of short grasses, forbs, or bare ground for hunting; and large shrubs or trees for nest placement. These requirements are met in shrub steppe, western juniper woodland, chaparral, oak woodland, oak savannah, riparian edges, desert	None. No suitable habitat on site. Not observed during field survey.

Scientific Name	Common Name	Status	General Habitat Description	Potential For Occurrence within the Study Area
			scrub, Joshua tree habitats, riparian woodland and occasionally through-out in rural and agricultural hedgerows.	
Lasiurus xanthinus	Western yellow bat	SSC MSHCP: Not covered	Roost in trees, hanging from the underside of a leaf. Commonly found in the southwestern U.S. roosting in the skirt of dead fronds in both native and non- native palm trees and have also been documented roosting in cottonwood trees.	None. No suitable habitat on site. Not observed during field survey.
Neotoma lepida intermedia	San Diego desert woodrat	SSC MSHCP: Covered	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti or areas of dense undergrowth.	None. No suitable habitat on site. Not observed during field survey.
Nyctinomops femorosaccus	pocketed free-tailed bat	SSC MSHCP: Not covered	This bat species prefers rocky desert areas with high cliffs or rock outcrops. Rock crevices in cliffs are preferred as roosting sites, since the bat must drop from the roost to gain flight speed. Typically reproduces in rock crevices, caverns, or buildings. Ranges from southern California to New Mexico.	None. No suitable habitat on site. Not observed during field survey.
Phrynosoma blainvillii	coast horned lizard	SSC, BLMS MSHCP: Covered	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland and riparian woodlands.	None. No suitable habitat on site. Not observed during field survey.
Polioptila californica californica	coastal California gnatcatcher	FT, SSC MSHCP: Covered	A non-migratory, permanent resident of coastal sage scrub habitat, which is a broad category of vegetation that includes the following plant communities: Ventura coastal sage scrub, Diegan coastal sage scrub, maritime succulent scrub, Riversidean sage scrub, Riversidean alluvial fan sage scrub, southern coastal bluff scrub, and coastal sage-chaparral scrub. They also use chaparral, grassland and riparian habitats next to coastal sage scrub, but these habitats are used dispersal and foraging. They avoid nesting on steep slopes.	Low potential to occur. Limited habitat is found on the bluff adjacent to Bedford Canyon Wash. As a result, USFWS Protocol Surveys were performed in 2018 by KIDD Biological, Inc. The CAGN was not observed during the focused protocol surveys therefore the site is not occupied by the species. Not observed during field survey.

Scientific Name	Common Name	Status	General Habitat Description	Potential For Occurrence within the Study Area
Setophaga petechial	Yellow warbler	SSC, BBC MSHCP: Covered	Riparian plant associations in close proximity to water. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	None. No suitable habitat is found within the Study Area. Not observed during field survey.
Spea hammondii	western spadefoot	SSC, BLMS MSHCP: Covered	May be found in coastal sage scrub, open chaparral, pine-oak woodlands and grassland habitats, but is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas. Within these habitats, they require rain pools/vernal pools in which to reproduce and that persist with more than three weeks of standing water in which to metamorphose successfully. They can also breed in slow-moving streams (e.g., areas flooded by intermittent streams). Water breeding sites must lack fish, bullfrogs, and crayfish in order for to successfully reproduce and metamorphose. They estivates in sandy, gravelly soil in upland habitats adjacent to potential breeding sites in burrows approximating 1 meter in depth.	None. No suitable habitat is found within the Study Area. Not observed during field survey.
Thamnophis hammondii ssp.	Two-striped garter snake	SSC MSHCP: Not Covered	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	None. No suitable habitat is found within the Study Area. Not observed during field survey.
Taricha torosa	Coast Range Newt	SSC MSHCP: Not Covered	Wet forests, oak forests, chaparral and rolling grasslands.	None. No suitable habitat is found within the Study Area. Not observed during field survey.
Vireo bellii pusillus	least Bell's vireo	FE, SE MSHCP: Covered	Least Bell's vireos primarily occupy riverine riparian habitats that typically feature dense cover within 1-2 m of the ground and a dense, stratified canopy. Typically, it is associated with southern willow scrub, cottonwood-willow forest, mule fat scrub, sycamore alluvial woodland, coast live oak riparian forest, arroyo willow riparian forest, or mesquite in desert localities. It uses habitat which is limited to the immediate vicinity of water courses. 2,000 feet elevation in the interior. This species is generally restricted to major river systems in San Diego County.	None. No suitable habitat is found within the Study Area. Not observed during field survey.

Legend

Federal Endangered Species Act (ESA) Listing Codes: federal listing is pursuant to the Federal Endangered Species Act (ESA) of 1973, as amended. The official federal listing of Endangered and Threatened Animals is published in the Federal Register, 50 CFR 17.11.
FE = federally listed as endangered: any species, subspecies, or variety of plant or animal that is in danger of extinction throughout all or a significant portion of their range.
FT = federally listed as threatened: any species, subspecies, or variety of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.
FC = federal candidate for listing.
FPT = federally proposed threatened.

California Endangered Species Act (CESA) Listing Codes: state listing is pursuant to §2074.2 and §2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered, Threatened and Rare species of plants and animals. The official California listing of Endangered and Threatened animals is contained in the California Code of Regulations, Title 14, and Section 670.5.
SE = state listed as endangered: any species, subspecies, or variety of plant or animal that are in serious danger of becoming extinct throughout all, or a significant portion, of their range.
ST = state listed as threatened: any species, subspecies, or variety of plant or animal that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future.
SCT = state candidate for listing as threatened.

California Department of Fish and Wildlife (CDFW):
SSC = species of special concern: status applies to animals which 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist. The CDFW has designated certain vertebrate species as "species of special concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.
Fully protected: animal species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.
WL = watch list: these birds have been designated as "Taxa to Watch" in the *California Bird Species of Special Concern report* (Shuford and Gardali 2008). The report defines "Taxa to Watch" as those that are not on the current special concern list that (1) formerly were on the 1978 (Remsen 1978) or 1992 (CDFG 1992) special concern lists and are not currently listed as state threatened and endangered; (2) have been removed (delisted) from either the state or federal threatened and endangered lists (and remain on neither), or (3) are currently designated as "fully protected" in California.

United States Fish and Wildlife Service (USFWS):
BCC = USFWS bird of conservation concern: listed in the USFWS'S 2008 *Birds of Conservation Concern* report. The report identifies species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the ESA. While all of the bird species included in the report are priorities for conservation action, the list makes no finding with regard to whether they warrant consideration for ESA listing.

United States Forest Service (USFS):

FSS = Forest Service sensitive: those plant and animal species identified by a Regional Forester that are not listed or proposed for listing under the ESA and for which population viability is a concern, as evidenced by: (a) significant current or predicted downward trends in population numbers or density or (b) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution."

United States Bureau of Land Management (BLM):
BLMS = BLM sensitive: those plant and animal species on BLM administered lands and that are (1) under status review by the USFWS/NMFS; or (2) whose numbers are declining so rapidly that federal listing my become necessary, or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats. BLM policy is to provide the same level of protection as USFWS candidate species.

California Department of Forestry and Fire Protection (CDF):
CDF: S = CDF sensitive: species is a California Department of Forestry and Fire Protection sensitive species. The Board of Forestry classifies as sensitive species those species that warrant special protection during timber operations.

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APPENDIX C: CULTURAL RESOURCES REPORT

Cultural and Paleontological Resources Assessment

Arantine Hills Specific Plan Amendment No. 2

City Of Corona, Riverside County, California

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Duke CRM Project Number: C-0250

June 14, 2018

Per California Government Code 6254.10 archaeological site location information is exempt from the California Public Records Act. Therefore archaeological site location information should be kept confidential and not be made available for public view.

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Appendix

Appendix A: Resumes

MANAGEMENT SUMMARY

Duke Cultural Resources Management, LLC (DUKE CRM) is under contract to Carlson Strategic Land Solutions to provide cultural and paleontological resources services for the Arantine Hills Specific Plan Amendment No. 2 (Project), located in the Bedford Canyon area of the Santa Ana Mountain foothills in the southeastern portion of the City of Corona, Riverside County, California. The Project boundaries encompass approximately 35.28 acres. The purpose of this report is to document efforts made to comply with the California Environmental Quality Act (CEQA).

Arantine Hills Holdings, LP proposes to amend the existing Arantine Hills Specific Plan (AHSP). The Project site contains a portion of Bedford Canyon Wash, tributary to Temescal Creek, which enters the Project site in the southwestern corner in a northeasterly direction.

The cultural and paleontological resources assessment includes background research and a field survey to identify cultural and paleontological resources. The cultural resource record search did not reveal any cultural resources within the Project boundary; however, seven previously recorded cultural resources were identified within a one-mile buffer of the project. No fossil localities were documented within, or in the vicinity of, the Project. The field survey did not identify any cultural or paleontological resources within the Project boundaries.

Our research shows that the Project was previously farmed for citrus production and during the field survey modern irrigation disturbances were observed. DUKE CRM recommends that no archaeological and/or historic resources are likely to be impacted by the Project. There is a low sensitivity for paleontological resources in the project area. The consistent, extremely thick alluvium suggests high-sensitivity Pleistocene deposits would only be encountered below 30 – 50 feet in depth. Therefore, significant and unique paleontological resources should not be impacted by ground disturbance above this depth. Due to the low potential to impact paleontological resources, DUKE CRM does not recommend paleontological monitoring of the project.

If archaeological and/or paleontological resources are discovered during construction, a qualified archaeologist and/or paleontologist shall be retained to assess the nature and significance of the discovery.

If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

INTRODUCTION

Duke Cultural Resources Management, LLC (DUKE CRM) is under contract to Carlson Strategic Land Solutions to provide cultural and paleontological resources services for Arantine Hills Specific Plan Amendment No. 2 (Project), located in the Bedford Canyon area of the Santa Ana Mountain foothills in the southeastern portion of the City of Corona, Riverside County, California. The Project boundaries encompass approximately 35.28 acres. The purpose of this report is to document efforts made to comply with the California Environmental Quality Act (CEQA).

Project Description

The Applicant, Arantine Hills Holdings LP, proposes to amend the Arantine Hills Specific Plan (AHSP) to increase the boundary of the AHSP Area by approximately 35.28 acres (Project). No increase in development intensity (number of dwelling units or commercial square footage) would occur as a result of the proposed boundary adjustment. The proposal includes a General Plan Amendment, Specific Plan Amendment, Parcel Map and Addendum to the previously certified Supplemental EIR.

The Project would allow for the development of up to 167 dwelling units in Planning Area (PA) 17. In addition, the Project would extend Street B from the AHSP into PA 17 along the northwestern edge of Bedford Canyon Wash, ending in a cul-de-sac at the southwestern project boundary. B Street is a modified collector with 73 feet of right-of-way and includes a 40-foot-wide street, a 13-foot-wide parkway on the development side and a 20-foot-wide parkway with a 12-foot-wide multi-purpose trail on the Bedford Wash side. The remainder of PA 17 would be graded into one "super pad" with contours ranging from approximately 1,105 to 1,155 feet above mean sea level. Grading a "super pad" is proposed because the specific lot and product configuration within PA 17 has not been defined. A subsequent precise grading plan would be prepared and processed with the City of Corona once future streets and individual building pads have been identified. A temporary detention/debris basin is proposed in the northeast corner of PA 17. The basin will be sized for infiltration and retarding of peak flows during the interim condition before development. The development plans for PA 17 will include a permanent basin sized based on the amount of impervious area. Grading the "super pad" would require approximately 299,550 cubic yards of remedial grading and cut. The site will balance, meaning the amount of fill will generally equal the amount of cut to eliminate export of dirt off-site. All earthwork would be balanced on site. The approximate depth of excavation will range between 10 to 20 feet.

Project Location

The Project Site is situated in the Bedford Canyon area of the Santa Ana Mountain foothills in the southeastern portion of Corona. The City of Corona is generally situated southwest of the City of Riverside, south of the City of Norco, and north of the City of Lake Elsinore in Riverside County, California (Figure 1). Areas surrounding the Project include the AHSP to the north and east; undeveloped land and rural residential to the south; and the Eagle Glen Golf Club to the west. The Project is located within the United States Geological Survey (USGS) 7.5-Minute Topographic Map *Corona South* Quadrangle (Figure 2). It is owned by Gary L. McMillan and Patricia A. McMillan, as Trustees of the McMillan Trust, and is part of a single larger (159.16 acre) parcel with an Assessor's Parcel Number (APN) of 282-040-003. The Project boundary overlaid onto an aerial photograph is shown in Figure 3.

SETTING

Natural

California is divided into 11 geomorphic provinces, each naturally defined by unique geologic and geomorphic characteristics. The project is located in the northwestern portion of the Peninsular Ranges geomorphic province. The Peninsular Ranges province is distinguished by northwest trending mountain ranges and valleys following faults branching from the San Andreas Fault. The Peninsular Ranges are bound to the east by the Colorado Desert and extend north locally to the Santa Monica Mountains (Yerkes and Campbell, 2005; Hillhouse, 2010), west into the submarine continental shelf, and south to the California state line.

The project area is located between two topographic highs, the Temescal Mountains to the east and the Santa Ana Mountains to the south. The Temescal Mountains are a portion of the Peninsular Ranges Batholith known as the Perris Block. The Perris Block is a large, relatively unbroken, body of igneous rock that originally formed underground between 120 and 105 million years ago (Todd et al., 2003). The Santa Ana Mountains are the result of two geologic processes. First, an episode of folding in the Plio-Pleistocene (approximately 2.5 million years ago) uplifted the future Santa Ana Mountains and caused an accompanying down-drop to the northeast that created the current valley that contains Corona (Gray, 1961). In the late Pleistocene (approximately 10,000 years ago), the formation of the Corona and Elsinore Fault uplifted the Santa Ana Mountains and resulted in abundant sediment being eroded off the mountains and deposited onto the valley floor (Gray, 1961). In the area of Corona, this sediment was deposited as one large fan, the Corona Fan, that essentially defines the borders of the modern City of Corona (Gray, 1961). The project area is located in an incised valley that has been cut into the southeastern portion of the Corona Fan.

The geology in the vicinity of the project has been mapped by Morton and Miller (2006) at a scale of 1:100,000. A review of this map indicated that the project area is located on young alluvial fan deposits (Qyf) (Figure 4). Young alluvial fan deposits are composed of unconsolidated to moderately consolidated silt, sand, pebbly cobbly sand, and bouldery alluvial-fan deposits of late Pleistocene (2.5 million years ago to 11,700 years ago) to Holocene (11,700 years ago to today) Epoch, with local deposits dominated by cobbles and boulders (Morton and Miller, 2006). The coarse-grained nature of the alluvial fan deposits (Morton and Miller, 2006), combined with their thickness (LGC Geotechnical (2018) and proximity to the source terrane, indicate high-energy deposition. Due to local faulting, several formations ranging in age from the Jurassic Period (201 – 145 million years ago) to the Pleistocene Epoch may underlie the young alluvial fan deposits, but these deposits were not encountered in the preliminary geotechnical investigation (LGC Geotecnical, 2018), and cannot be specified.

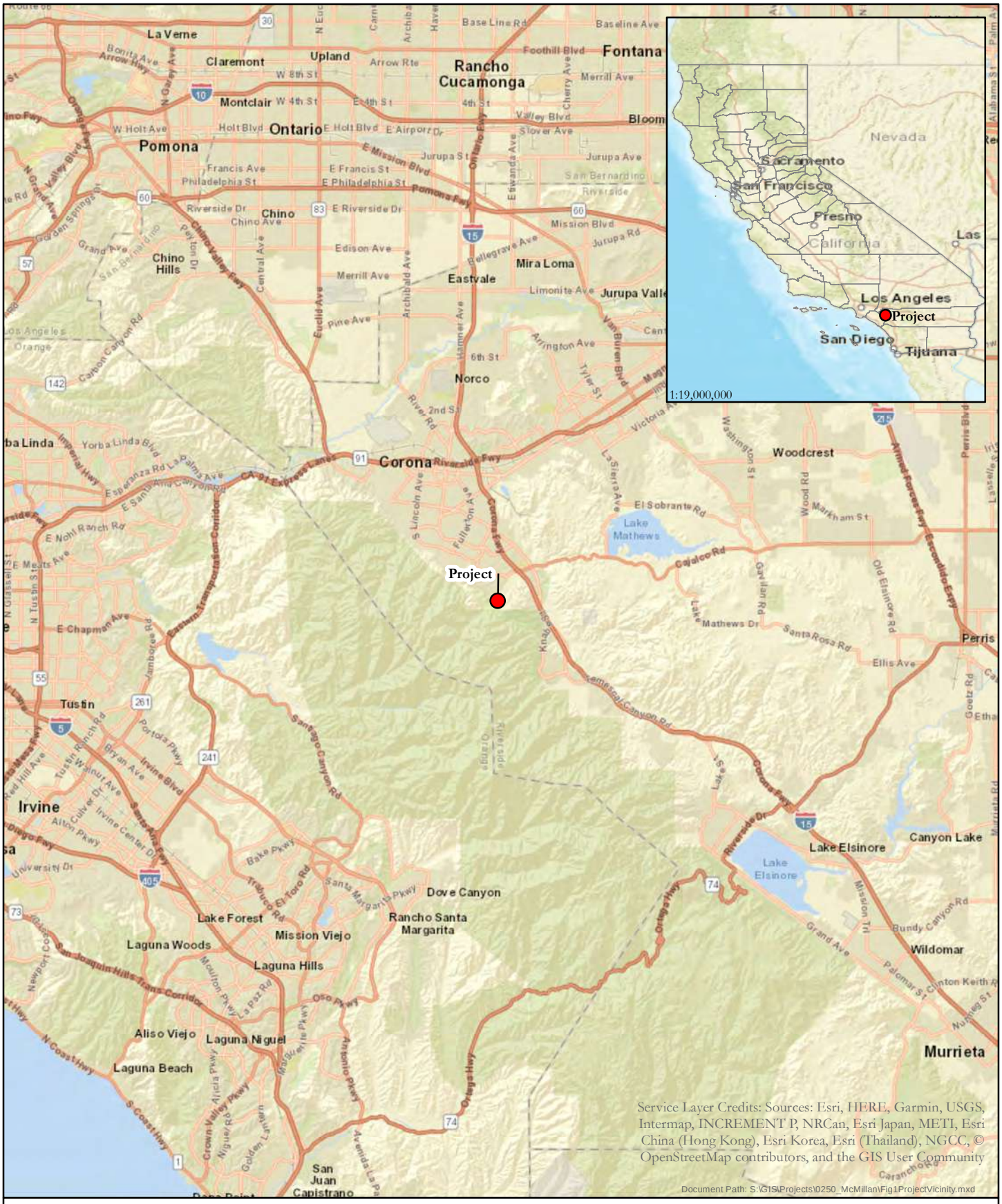


Figure 1- Project Vicinity
Arantine Hills Specific Plan
Amendment No. 2

DUKE CRM

0 5 10 Miles N

1 inch = 5 miles 1:316,800

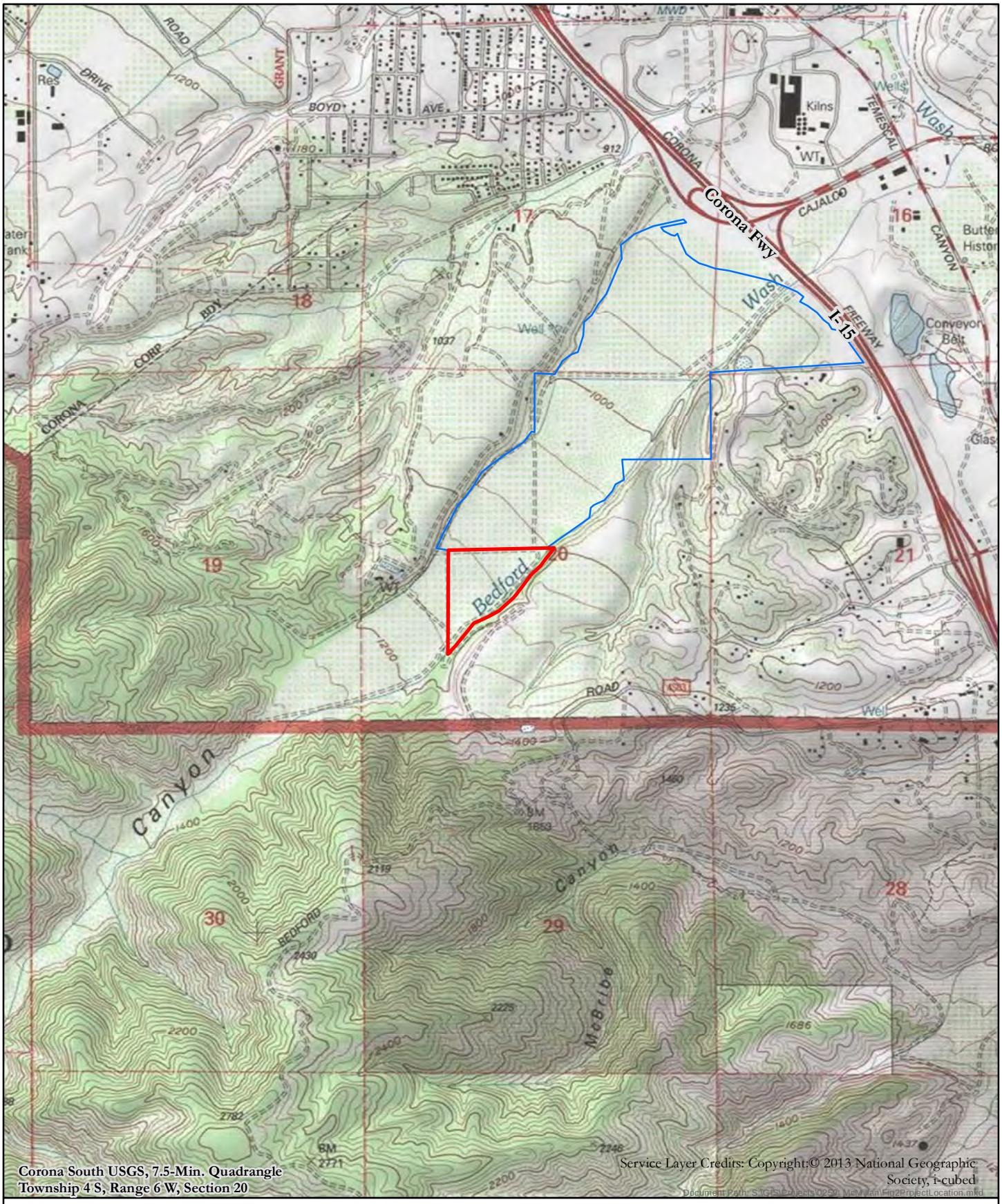


Figure 2- Project Location
Arantine Hills Specific Plan
Amendment No. 2

DUKE CRM

Project- Extended Specific Plan Area (Amendment No. 2)

Specific Plan

0 2,000 4,000 Feet

1 inch = 2,000 feet 1:24,000

N

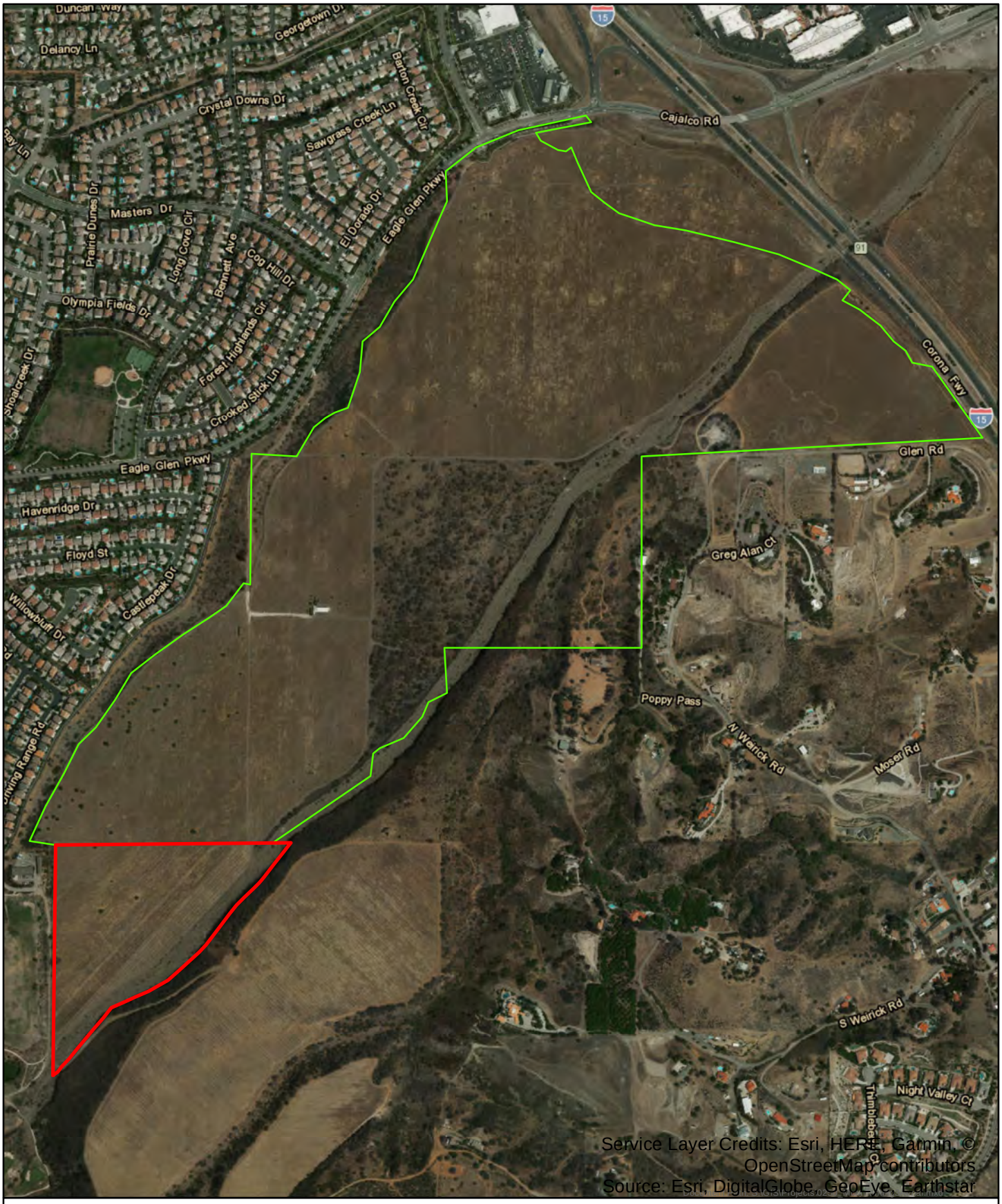


Figure 3- Project Aerial
Arantine Hills Specific Plan
Amendment No. 2

DUKE CRM

Project- Extended Specific Plan Area (Amendment No. 2)

Specific Plan

0 900 1,800 Feet

N

1 inch = 900 feet 1:10,800

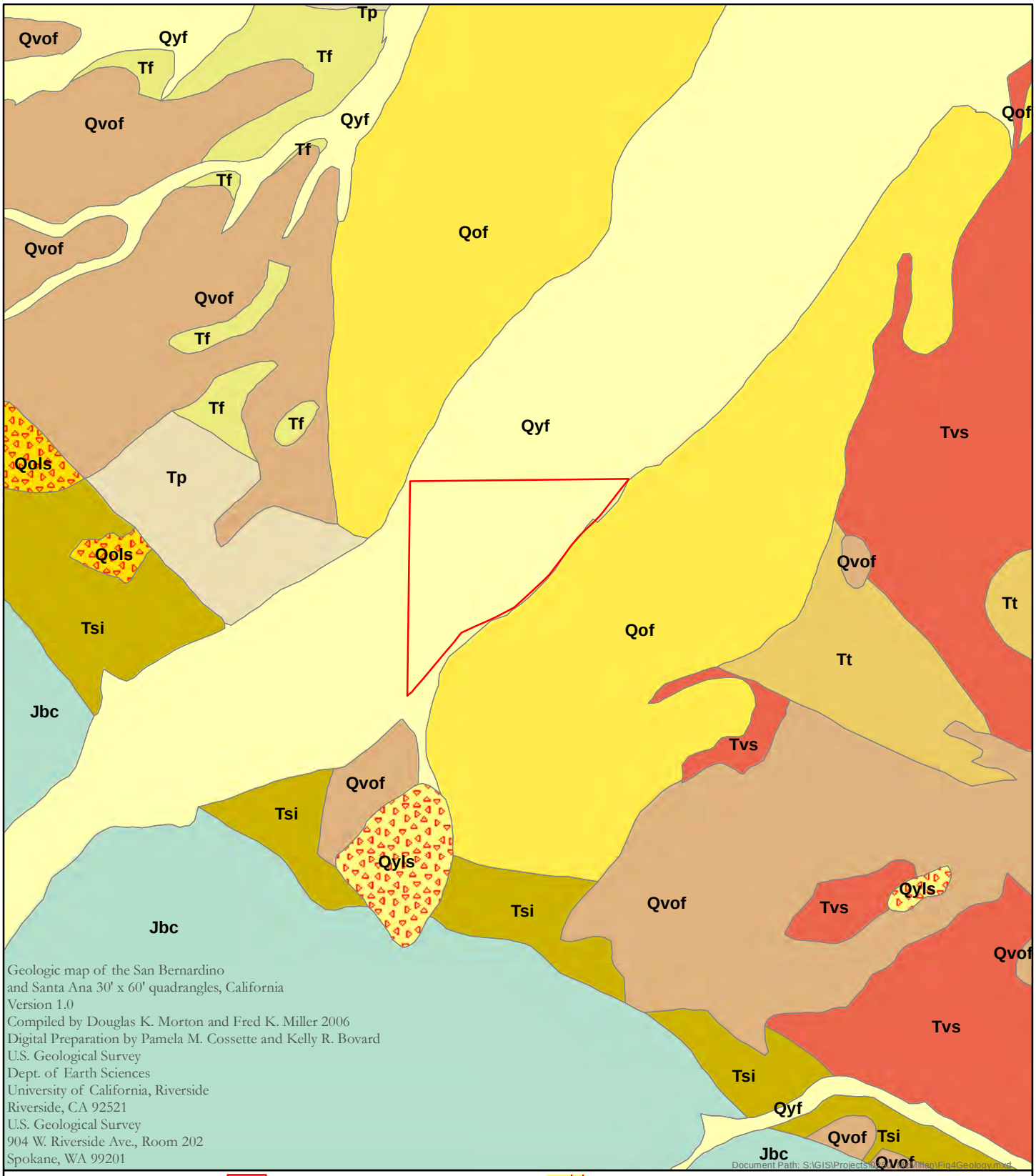


Figure 4- Geology
Arantine Hills Specific Plan Amendment No. 2

Project Boundary

Geologic Unit

- Bedford Canyon Formation, undifferentiated
- Qof, Old alluvial-fan deposits
- Qols, Old landslide deposits
- Qvof, Very old alluvial-fan deposits
- Qyf, Young alluvial-fan deposits
- Qyls, Young landslide deposits
- Tf, Fernando Formation
- Tp, Puente Formation
- Tsi, Silverado Formation
- Tt, Topanga Group, undifferentiated
- Tvs, Vaqueros and Sespe Formations, undifferentiated

0 500 1,000 Feet

1 inch = 1,000 feet

1:12,000

N

DUKE CRM

Cultural

Prehistory

Two primary regional schemas are commonly cited in the archaeological literature for western Riverside County where the Project is located. These schemas or syntheses generalize the presence or absence of certain artifact types into explanatory frameworks of temporal chronologies and/or subsistence practices. Schemas are necessary because many archaeological sites lack absolute datable material (ex. Carbon for radiometric ^{14}C dating) and so researchers need to cross-date sites by comparison to either coastal or desert chronologies with established chronological sequences backed by absolute dates. In western Riverside County, it is thought to be the meeting ground of both coastal and inland desert schemas and neither exclusively explains prehistoric finds.

The first schema, advanced by Wallace (1955), defines four cultural horizons for the southern California coastal province, each with characteristic local variations:

I. Early Man (~9000–8500 B.P.) is a hunting culture based on almost exclusive evidence of chipped-stone hunting materials: dart points, scrapers, choppers, and bifaces.
II. Milling Stone (8500–4000 B.P.) reflects a change to a more sedentary, plant-collecting lifestyle as evidenced by the introduction and dominance of milling stone artifacts and a decrease in well-made projectile points.
III. Intermediate (4000–1500 B.P.) is characterized by a larger dependency on hunting, use of the dart and atlatl, and the shift from using the mano/metate to mortar/pestle. However, knowledge of this horizon suffers from lack of knowledge about what occurred during this time, not a lack of inhabitants along the southern California coast.
IV. Late Prehistoric (1500~200 B.P.) contains a more nuanced artifact assemblage indicative of a more complex lifestyle and an increase of population. This horizon is characterized by an increase in bow and arrow use, steatite containers, pottery, circular fish hooks, perforated stones, asphaltum, diversified bone tools, ample shell ornaments, and elaborate mortuary customs.

Warren and Crabtree (1986) employ a more ecological approach to the deserts of southern California, defining five traditions in prehistory:

I. Lake Mojave (12000–7000 B.P.)
II. Pinto (7000–4000 B.P.)
III. Gypsum (4000–1500 B.P.)
IV. Saratoga Springs (1500–800 B.P.)
V. Shoshonean (800~200 B.P.)

Warren and Crabtree (1986) viewed cultural continuity and change in terms of various significant environmental shifts, defining the cultural ecological approach for archaeological research of the California deserts. The authors viewed changes in settlement pattern and subsistence as cultural adaptations to a changing environment, beginning with the gradual environmental warming in the late Pleistocene, the desiccation of the desert lakes during the early Holocene, the short return to pluvial conditions during the middle Holocene, and the general warming and drying trend, with periodic reversals, that continues to this day. The work by Warren and Crabtree (1986) is built upon, in part, by Warren (1980) in which he argued for a chronology based on projectile points as period markers backed by radiocarbon assays providing absolute dates.

The two schemas contrast in important ways. The units employed by Warren are "traditions," and in contrast to Wallace (1955), traditions may be spatially restricted but display temporal continuity. For Wallace, "horizons" or "periods," are extensive through space but restricted in time. More recent schema have been attempted to reconcile these differences. More recently, Koerper and Drover (1983) synthesized chronologies for coastal southern California and employed Wallace's (1955) horizon terminology but use radiometric data to sequence stylistic changes observed in the artifact assemblages, which they interpreted as material

indication of cultural change through time. Regardless of the overall schema to best explain the prehistory of western Riverside County, the region can be understood within broad chronological frameworks and as the meeting ground of the coastal and desert subsistence patterns.

Early Holocene (11,600 – 7,600 BP)

Traditional models of the prehistory of California hypothesize that its first inhabitants were the big game hunting Paleoindians who lived at the close of the last ice-age (~11,000 years before present [BP]). As the environment warmed and dried, large Ice Age fauna died out, requiring adaption by groups to survive. The western Great Basin and deserts of southern California were characterized by large pluvial (rainfall-fed) lakes, streams, marshes, and grasslands. The human response to this environment is known as the Western Pluvial Lakes Tradition (WPLT) (Moratto 1984). The WPLT is generally identified by an advanced flaked-stone industry of foliate knives/points, Silver Lake and Lake Mojave points, lanceolate bifaces, and long-stemmed points. Other flaked-stone tools include crescents, scrapers, choppers, scraper-planes, hammer stones, cores, drills, and gravers. People of this period hunted diverse populations of smaller animals and collected a wide number of plants from diverse eco-zones. Importantly, this period lacks widespread evidence of milling stones, and, therefore, hard seed processing was likely not widely practiced. Sites are generally found along the shores of former pluvial lakes, marshes, and streams (Moratto 1984). The desert manifestation of the WPLT is the Lake Mojave Complex, while along the coast the WPLT is seen in the San Dieguito Complex. Along the coast, rising sea levels created bays and estuaries. Following initial settlement along the coast, groups adopted marine subsistence including fish and shellfish. These shell middens contain flaked cobble tools, metates, manos, discoidals, and flexed burials and allowed for a semi sedentary life style (Byrd and Raab 2007). Eventually, shellfish became the primary source of food, while plant gathering, hunting and fishing were less important.

The Paleocoastal Tradition (PCT) has many similarities to the WPLT but it reflects a coastal adaptation (Davis et al. 1969). PCT sites are located along bays and estuaries. Subsistence patterns indicate the eating of mollusks, sea mammals, sea birds, and fish in addition to land plants and animals. The argument for a PCT has gained momentum. This is based on a vast amount of recent research that has been conducted along the California coast and the Channel Islands (Byrd and Raab 2007). A recent study dates habitation on San Miguel Island back to ~11,300 BP (Daisy Cave), while a site on San Clemente (Eel Point) shows that a Paleocoastal Tradition was entrenched at Eel point in the early Holocene, with the hunting of seals, sea lions, and dolphins, as well as the gathering of shellfish.

Middle Holocene (7,600 – 3,650 BP)

The middle Holocene is a time of change and transition. As conditions continued to warm and dry, lakes and streams in the desert disappeared. This resulted in a shift in subsistence strategies, namely a shift to the gathering of plant seeds, grasses and shellfish along the coast as the primary dietary staple. Fishing and the hunting of smaller animals played a less important role in day to day activity. This shift in subsistence is what Wallace named the Millingstone Horizon (Wallace 1955) and this name has continued among archaeologists working on the coastal province of southern California. Large habitations are seen in the inland areas and considerable variability is seen along coastal occupation of southern California. Occupation revolved around seasonal and semi-sedentary movements in coastal Orange and San Diego counties. Trade networks are postulated by researchers that have dated Ollivella grooved rectangle shell beads as far north as central Oregon dating to 4900-3500 BP (Byrd and Raab 2007). Characteristics of the middle Holocene sites include ground stone artifacts (manos and metates) used for processing plant material and shellfish, flexed burial beneath rock or milling stone cairns, flaked core or cobble tools, dart points, cogstones, discoidals, and crescentics.

Late Holocene (3,650 – 233 BP)

During the late Holocene there was a migration of Takic speakers from the Great Basin into southern California. Sutton (2009) was able to show while Takic speakers did in fact physically migrate, linguistic, biological, and archaeological evidence indicates that by about 1,500 B.P., the Gabrielino language had become sufficiently distinct from its northern origins to be classified in a different branch of Takic. About this same time, the language was adopted by an existing Yuman group to the south that would become

Luiseño (Sutton 2009:62). Characteristics of the late Holocene include the introduction of the bow and arrow, mortar and pestle, use of ceramics, and a change in mortuary behavior from inhumations to cremations in southern California. This was also a period of climatic fluctuation. Paleoenvironmental data show that periods of drought alternated with cooler and moister periods (Vellanoweth and Grenda 2002; Byrd and Raab 2007; Jones et al. 2004). This resulted in dynamic regional cultural patterns with considerable local variation. Byrd and Raab (2007) suggest that foragers in southern California over-exploited high-ranked food, such as shellfish, fish, marine and land mammals, and plant remains. This led to resource depression, causing people to forage more costly resources that were more abundant.

Ethnography

The Project is located in an area that was used by three Tribes: the Gabrielino, the Cahuilla, and, the Luiseño Indians. All are Takic speakers and descended from Late Prehistoric populations of the region. Takic is part of the larger Uto-Aztecan language stock which migrated west from the Great Basin (Bean and Smith 1978).

The Gabrielino are one of the least known Native American groups in California (Bean and Smith 1978; Bean and Shipley 1978). Generally, their territory included all of the Los Angeles Basin, parts of the Santa Ana and Santa Monica Mountains along the coast from Aliso Creek in the south to Topanga Canyon in the north, and San Clemente, San Nicolas, and Santa Catalina Islands. The environmental conditions within this territory are very diverse, including the following zones: interior mountains/foothills, Prairie, exposed coast, and sheltered coast. The Gabrielino lived in villages year-round and utilized smaller camps from which they could hunt and gather, likely on a seasonal basis. Villages were almost always situated near water. Gabrielino families lived in domed, round structures with thatching made from local plants. Villages were politically autonomous from other villages, while each village was led by a chief who would, at times, reign over several villages (Bean and Smith 1978).

Acorns were the most important food for the Gabrielino; although the types and quantity of different foods varied by season and locale. Other important sources of food were grass and many other seed types, deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, quail, doves, ducks and other fowl, fish, shellfish, and marine mammals.

The territory of the Luiseño extended along the coast south to Agua Hedionda Lagoon, northwestward to Aliso Creek just north of San Juan Capistrano, and eastward to the Elsinore Valley and Palomar Mountain. Like other Native American groups in southern California, the Luiseño caught and collected seasonally available food resources and led a semi-sedentary lifestyle with the majority of individuals residing at the village for the entire year (Oxendine 1983:57). Luiseño villages were generally located in valley bottoms near to water. The Luiseño had a well-developed sense of ownership (White 1963:122), and their concept of property rights included the idea of private property. Property rights covered items and land owned by the village as well as items such as houses, gardens, ritual equipment, trade beads, eagle nests, and songs that were owned by individuals. Luiseño villages were politically independent and were administered by a chief, who inherited his position from his father (Bean and Shipek 1978).

Subsistence was based primarily on seeds from local grasses, manzanita, sunflower, sage, chía, and pine nuts, as well as acorns. Seeds were dried, ground, and cooked into a mush. Seasonal camps were also established along the coast and near bays and estuaries to gather shellfish and hunt waterfowl (Hudson 1971). Game animals such as deer, rabbit, jackrabbit, wood rat, mice, antelope, and many types of birds were regularly hunted (Bean and Shipek 1978). In addition, the Luiseño utilized fire for crop management and communal rabbit drives (Bean and Shipek 1978). Small seasonal habitation sites in the area would contain quantities of fire affected rock (FAR), some burned bone, and small amounts of ground and flaked stone tools. They might be found as open sites atop knolls or ridges, or in protected areas near streams, or even in rock shelters.

Cahuilla territory included the Coachella Valley, the San Jacinto and Santa Rosa Mountain ranges. Bean and Shipek (1978) estimated that the Cahuilla numbered between 6,000 and 10,000 people at the time of Spanish Contact. Politically and ceremonially Cahuilla clans were led by a Chief or *Net*. The *Net* had charge of the

sacred dance house and the sacred bundle, *masut*, which consisted of matting which was wrapped around items sacred to the clan such as ritual paraphernalia. Importantly, the *masut* was the sacred expression of each clan. A *Paha*, ritual assistant, is also found among other Takic speaking groups. The office of *Paha* varied however, as it was not always present within some of the southern-most Desert Cahuilla clans (Bean and Saubel 1972, Bean and Shipeck1978; Hooper 1920). As other Takic speaking groups did, the Cahuilla would publically gather for the naming of children, marriage, female and male initiation ceremonies, for the ascendency of a *Net*, for an Eagle-Killing Ceremony and the mourning ceremony. The mourning ceremony took place as a way to collectively mourn all those that died since the previous mourning ceremony. Each person was cremated along with his or her individual possessions in a ceremony separate from the mourning ceremony. Mourning ceremonies were one of the most important ceremonies for clan in that sacred songs were sung, sacred dances were danced, and moieties exchanged food and valued goods.

Cahuilla diet emphasized acorn, *Salvia islay*, yucca, agave and pinyon gathering, or the gathering of mesquite, cactus, and hard seeds such as screwbean, juniper and mesquite depending upon the local environment (Bean and Saubel 1972). The Cahuilla were also observed to cultivate small quantities of corn, beans, squashes, pumpkins, melons and wheat as early as 1824 by the Romero expedition. These crops and the cultivation of them potentially made their way from the Colorado River area to the Coachella Valley. The inhabitants of the Coachella did not practice flood recessional agriculture of the Colorado River groups (Bean and Lawton 1993).

History

The first Europeans to explore what would become the state of California belonged to the 1542 expedition of Juan Rodriguez Cabrillo, who sailed along and occasionally landed on the coast. Europeans are thought to have first visited portions of the interior in 1769, when Gaspar de Portola (Brown 2001) led a 62-person overland expedition from San Diego to Monterey (Cramer 1988). Two later expeditions, led by Juan Bautista de Anza in 1774 and 1775 from Sonora through southwestern Arizona and southern California, crossed the Santa Ana River at Anza Narrows in today's Santa Ana River Regional Park.

The Spanish government subsequently established missions and military outposts in San Diego in 1769 to facilitate colonization of the area and to keep rival European nations out of the area. After Mexico won independence from Spain in 1822, colonization efforts in Alta California decreased. The Spanish mission system was largely abandoned and the Mexican government bestowed land grants or ranchos to those loyal to the Mexican government including some Anglo settlers. The Mexican period (1822-1848) is largely identified with the ranchos acquired by individuals through the land grant system as well as the secularization of the missions. Mission secularization began on July 25, 1826 with a decree by Governor Jose Maria Echeandfa and was completed by 1836 after an additional decree in 1831 (Engstrand and Ward 1995).

The end of the Mexican period in California began on June 14, 1846 when a band of American settlers supported by the American explorer John C. Fremont and his team captured Mexican General Mariano Guadalupe Vallejo in a dawn raid in Sonoma (Ide 1967, Rolle 2003). The Americans raised a flag for the "California Republic" and their actions became known as the "Bear Flag Revolt." The so-called California Republic was short-lived however, as on July 7, 1846, U.S. Navy forces captured Monterey, California, where the U.S. flag was raised (Rolle 2003). On February 2, 1848, the war between the U.S. and Mexico ended with the signing of the Treaty of Guadalupe Hidalgo, which greatly expanded U.S. territory (including California) and resulted in Mexico being paid $15 million for the land (Rolle 2003).

Although gold had been found prior to this in various parts of California, the well-publicized discovery of gold near Sutter's fort in 1848 dramatically increased the Anglo settlement of California. Despite property rights of rancho owners being secured by provisions in the Treaty of Guadalupe Hidalgo, California in the early American period experienced the transfer and subdivision of many of the ranchos as well as a shift from ranching to agriculture as the primary means of subsistence.

In 1886, the City of Corona was established by the South Riverside Water and Land Company (Duke 2010). The company developed the purchased 12,000 acres of land then known as southwestern San Bernardino

County. A railroad depot and irrigation systems were put in place to transform the territory which would soon include a new citrus industry (City of Corona). As the rural community began to develop, it was referred to as South Riverside and on July 13,1896, the citizens voted for the incorporation of their small town into the newly formed Riverside County. Between 1913 and 1916 an international speedway was established which attracted over one million spectators in total during its operation. Ultimately, the speedway failed to attract additional commerce and development to the city and the speedway was shut down. Ultimately, the citrus industry would be responsible for attracting larger populations to the city (Duke 2010).

METHODS

Research materials, including historic maps, previous surveys, planning documents, ordinances, and published local and regional historical accounts were collected and reviewed. The reports, *A Phase I Cultural Resources Investigation Of 500 Acres in the Bedford Canyon Area Near the City of Corona of Riverside County, California* (McKenna et al. 2003) and *Cultural Resources Assessment Arantine Hills Specific Plan City of Corona Riverside County, California* (Duke 2010) are also used as a partial basis for this report.

Record Search

A record search was conducted on February 20, 2018, at the Eastern Information Center (EIC) by Sarah Nava with DUKE CRM. The EIC is part of the California Historical Resources Information System (CHRIS) and is located at University of California, Riverside. The records search included a review of all recorded historic and prehistoric archaeological sites within the expanded one-mile radius of the Project, as well as a review of cultural resource survey and excavation reports. In addition, the California State Historic Property Data File (HPD) was reviewed, which includes the National Register of Historic Places (National Register), California Register of Historical Resources (California Register), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). The paleontological research conducted for the Project was conducted by Benjamin Scherzer, M.S. This included a paleontological records search though the Western Science Center (WSC) in Hemet. In addition, Mr. Scherzer performed a search of the University of California Museum of Paleontology (UCMP) and San Diego Natural History Museum (SDNHM) online collections, the online Paleobiology Database (PBDB) and FAUNMAP, and other published literature for fossil localities from similar deposits near the Project.

Field Survey

The goal of the pedestrian survey was to identify cultural or paleontological resources that may be within the Project boundaries. The pedestrian survey covered the entire project area using 15 meter transects. Transects covered all areas within the Project which included areas of minimal disturbance, areas that had a moderate to high sensitivity for cultural resources, as well as various areas of prior disturbance.. Special attention was paid to rodent burrows, erosion cuts that allowed the observation of soils below the surface, including a close inspection of the approximately 15 meter high vertical cliff face along the eastern edge of the project. Digital photographs of the Project were taken, along with detailed field notes.

Personnel

Mr. Duke is the Principal Archaeologist of DUKE CRM. Mr. Duke meets the professional qualifications of the Secretary of the Interior for prehistoric and historical archaeology; he is also a Registered Professional Archaeologist (RPA) who has worked in all phases of archaeology (archival research, field survey, testing and data recovery excavation, laboratory analysis, construction monitoring) since 1994. Mr. Duke holds a Master of Arts degree in Anthropology with an emphasis in archaeology from California State University, Fullerton and a Bachelor of Arts degree in Anthropology from the University of California, Santa Cruz. Mr. Duke has worked throughout southern and Northern California and parts of Arizona and Nevada. He is included on the County's list of qualified archaeologists.

Benjamin Scherzer, Master of Science, Paleontologist, holds a M.S. in Earth Sciences from Montana State University, Bozeman. He has 15 years of experience in paleontological research, field surveys, fossil salvage, laboratory identification, report preparation, and curatorial experience. Mr. Scherzer is a registered

paleontologist with the Riverside County. Mr. Scherzer is a member of the Society for Vertebrate Paleontology, Geological Society of America, Society for Sedimentary Geology, and the Paleontological Society.

Curt Duke, M.A. RPA is the primary author; and Sarah Nava, B.A., Andrew DeLeon, M.A., and Matthew Stever, M.A., RPA are contributing authors of the report. Paleontologist Benjamin Scherzer, M.S., prepared the paleontology and geology sections. Mr. Scherzer and Mr. Stever conducted the field survey, and Ms. Nava conducted the record search. Mr. Duke is the Principal Investigator and oversaw completion of all tasks and reviewed this report. Please see Appendix A for staff resumes.

RESULTS

Records Search

Cultural Resources

On February 20, 2018, Sarah Nava conducted a records search at the EIC. There are nineteen cultural resources reports on file within one mile of the Project. One of these reports, *A Phase I Cultural Resources Investigation of 500 Acres in the Bedford Canyon Area Near the City of Corona of Riverside County, California* by McKenna et al 2003, covers the current area of the Project. There was one historic, glass fragment found during this survey. No prehistoric cultural resources were found during this study. The historic glass fragment that was recorded by McKenna et al. in 2003 attempted to be relocated in 2010 by LSA (Duke 2010). The isolate was not relocated at this time and no other resources were found during the study in 2010. All reports that fall within the one-mile radius of the records search area are listed in Table 1. Approximately 80 percent of the one-mile search radius has been surveyed for cultural resources.

Table 1- Prior Cultural Reports within One Mile of the Project

Report No.	Year	Author	Title	Resources Associated with Report
RI-00342	1978	Brown M.A.	Archaeological Assessment of Tentative Parcel Map No. 12441	None
RI-01184	1980	Roger J. Desautels	Archaeological Assessment of PM 17088	None
RI-01982	1985	Martha Hemphill	Archaeological Assessment Form - Tpm 21018, In Corona, Riverside County	None
RI-02347	1986	Richard C. Jenkins	An Archaeological Assessment of the Bedford Canyon Vegetation Management Project, Riverside County, California	None
RI-03106	1990	Dorothy Hall	Bedford Fire Survey (Archaeological Survey Report Short Form)	33-004096
RI-03136	1990	Scientific Resource Surveys, Inc.	Cultural and Paleontological Survey Report on the Mission Crest Property, Riverside County, California	None
RI-03137	1989	The Keith Companies	Cultural Resources Survey Report for the Mcmillan Ranch Project Near Corona, Riverside County, California	None
RI-04886	2001	Micheal Dice, Barbara Hall, E. Bruce Lander, and Leslie Nay Irish	An Archaeological and Paleontological Assessment of "The Retreat," Specific Plan 317, County of Riverside, California	33-009729, 33-009730, 33-009731, 33-009732
RI-04892	2002	L&L Environmental Inc.	Letter Report: Completion of Phase II Testing on Four Archaeological Sites (Ca-Riv-6585, -6486, -6487, and -6488h) on the Retreat, City of Corona, California	33-009729, 33-009730, 33-009731, 33-009732
RI-04985	2003	McKenna Et. Al.	A Phase I Cultural Resources Investigation Of 500 Acres in the Bedford Canyon Area Near the City of Corona of Riverside County, California	Historic Isolate (Glass Fragment)
RI-05597	1999	Robert S. White. and Laura S. White	An Archaeological Assessment of the +/-76 Acre Forecast Mine Expansion Site, Joseph Canyon Wash, South Corona, Riverside County	33-007719

RI-07107	2007	Anna M.Hoover and William R. Gillean	An Archaeological and Paleontological Mitigation, Monitoring Report for Eagle Glen III, 59-Lots, Tract 29867 Located in the City of Corona, Riverside County, California.	None
RI-07163	2003	Caprice D. Harper	Cultural Resource Assessment for Cingular Wireless Facility No. SB 257-01, Near Corona, Riverside County, California	None
RI-07283	2006	Leslie Nay Irish, Anna M. Hoover, Julia K. Fox, E. Bruce Lander, and Kristie R. Blevins	A Biological, Archaeological, and Paleontological Phase IV Mitigation Monitoring Report: Eagle Glen Specific Plan Amendment 3, 155.25 Acre Property, Corono, County of Riverside, California	None
RI-07732	2004	Meier, K. Harley and Brian F. Smith	A Cultural Resources Survey of the Temescal Canyon Project. Tpm #32727, APN #282-040-006	None
RI-07981	2008	Evelyn N. Chandler, Cary D. Cotterman, and Jennifer M. Howard	Cultural Resources Inventory of Proposed Pole Replacements in the City of Chino Hills, San Bernardino County and the Cities of Corona and Norco, Riverside County, California (DWO 6034-4800, AI 8-4850 and 8-4852)	None
RI-08099	2008	Jay K. Sander	Cultural and Paleontological Resources Inventory of 17 Acres: Tentative Tract 35576 Corona, Riverside County, California	None
RI-08906	2012	Carla Allred	Letter Report: Proposed Cellular Tower Project(s) in Riverside County, California, Site Number(s)/Name(s): MLAX04257A/ Eagle Glen Park, TCNS # 89285	None
RI-09150	2013	Tracy A. Stropes and Brian F. Smith	A Phase I Cultural Resources Assessment for TPM 36585, Riverside County, California	None

Records from the EIC indicate that there are seven cultural resources mapped within one mile of the Project boundary and none are recorded within, or adjacent to the Project. They are summarized in Table 2 below.

Table 2- Cultural Resources within One Mile of the Project

Primary #	Description	Distance
33-013856	Prehistoric bedrock milling features	~3/4-mile, west
33-013857	Prehistoric milling features, groundstone and lithics	~1/2-mile, west
33-004096	Historic refuse scatter with rock features	~1-mile, southwest
33-006485	Two-story residence.	~3/4-mile, southeast
33-006487	Single family residence	~3/4 mile, south
33-007719	Jones (Hoag Ranch) sand mine	~3/4 mile, northwest
33-013859	Steel tire isolate	~1 mile, northwest

Paleontological Resources

On February 21, 2018 the Western Science Center (WSC) performed a paleontological records search to locate fossil localities within and in the vicinity (1-mile radius) of the proposed Project area. No fossil localities were documented within or in the vicinity of the project area (McDonald, 2018). In addition, B. Scherzer performed a search of online collections for the University of California Museum of Paleontology (UCMP) and San Diego Natural History Museum (SDNHM), the online Paleobiology Database (PBDB) and FAUNMAP, and other published literature for fossil localities from similar deposits nearby (within ~3 miles).

Paleontological Sensitivity

Four Pleistocene-age localities were documented nearby: UC-RV8601 produced rabbit (Lagomorpha), mastodon (*Mammut*), horse (*Equus*), camel (*Camelops*), bison (*Bison*), meadow vole (*Microtus*), and pack rat (*Neotoma*) (UCMP), SBCM 5.6.229-5.6.246 and 5.6.250-5.6.258 produced desert cottontail (*Sylvilagus audubonii*), smooth-toothed pocket gopher (*Thomomys bottae*), kangaroo rat (*Dipodomys*), pocket mouse (*Perognathus*), harvest mouse (*Reithrodontomys*), deer mouse (*Peromyscus*), pack rat (*Neotoma*), California vole (*Microtus*

californicus), fox (*Vulpes*), mastodon (*Mammut americanum*), mammoth (*Mammuthus*), camel (*Camelops*), chub (*Gila*), toad (*Bufo*), pond frog (*Rana*), turtle (Chelonia), western side-blotched lizard (*Uta stansburiana*), skink (*Eumeces*), milk snake (*Lampropeltis*), pit viper (*Crotalidae*), and bird (Aves), UCRV 8601 produced bony fish (Osteichthyes) and lizard (Sauria), and LACM 1207 produced deer (*Odocoileus*) (Jefferson, 1991a,b). A geotechnical investigation by LGC Geotechnical (2018) indicated lithologically consistent alluvium to as deep as 30 - 50 feet, indicating a very high-energy depositional environment, and suggesting that the transition from Holocene to Pleistocene deposits occurs at great depth (Table 3 and Figure 5).

Table 3 - Geologic Units and Their Paleontological Potential

Age	Geologic Unit	Fossils Present[1]	Paleontological Sensitivity
Holocene	Young alluvial fan deposits (Qyf)	Rabbit, mastodon, horse, camel, bison, meadow vole, pack rat, desert cottontail, smooth-toothed pocket gopher, kangaroo rat, pocket mouse, harvest mouse, deer mouse, California vole, fox, mastodon, mammoth, camel, chub, toad, pond frog, turtle, western side-blotched lizard, skink, milk snake, pit viper, bird, bony fish, lizard, deer.	Low at surface, increasing to high at depth
Pleistocene			



Figure 5- Paleontological Sensitive Areas
Arantine Hills Specific Plan
Amendment No. 2

DUKE CRM

Project Boundary

Sensitivity

- High at Surface
- Low
- Undetermined

0 1,000 2,000 Feet

N

1 inch = 1,000 feet 1:12,000

Additional Research

Historic Map and Aerial Photograph Analysis

USGS topographic maps of the Project (1947 through present) were examined for details that would aid in reconstructing the history of the Project property. Maps were obtained from the USGS TopoView website (U.S. Department of the Interior, USGS 2018). The maps available earlier than 1942 are 1:250,000 scale and do not offer suitable resolution for analysis of this type. The 1947- Present USGS Corona South, Calif. 1:24,000 maps indicate that no structures, roads, or dwellings have been built within the Project. No other changes are noted on the topographic maps.

A review of available historic aerial photographs (Nationwide Environmental Title Research, LLC (NETR) 2018) was conducted to document changes to the Project property as far back as 1948. At that time, the Project property was undeveloped; however, there is a fairly wide dirt road in the 1948 photograph that trends southeast to northwest across the southern tip of the project property. At some time between 1948-1966 the project property was converted to orchards with irrigation present and associated tractor roads within it. The above mentioned wide dirt road appears in the aerial photographs until 1995, when it is barely visible on the surface, and is completely obscured by 2002. The road does not appear on any of the topographic maps, indicating it was not an official road. Due to a lack of aerial photographs from the intervening years it is unclear exactly when the orchards were removed; there is a time gap in the photographs from 1980 to 1995. Changes to locations of expedient orchard roads and agricultural disturbances were noted. No major natural changes such as flood events were noted.

Arantine Hills Specific Plan Prior Research

On Friday, June 1st, 2018, Curt Duke contacted the Arantine Hills Specific Plan Project Archaeologist at LSA. This was to gather information regarding a summary of findings during monitoring of the larger Specific Plan project. The monitoring report is currently pending and being drafted. However, the Arantine Hills Specific Plan Project Archaeologist was able to provide information on cultural resources found during excavation monitoring. During that time, a few isolated cultural resources were identified; however they were deemed insignificant and warranted no further investigation. A Cultural Resources Assessment was conducted in August, 2010 by Curt Duke, M.A., RPA with LSA. During the limited field survey, no cultural resources were discovered.

Field Survey

On February 28, 2018 a pedestrian survey of the 35.28-acre McMillan Project (Figures 6 and 7) and was conducted by DUKE C R M Archaeologist Matthew Stever, M.A., RPA, and Paleontologist Benjamin Scherzer, M.S. The pedestrian survey covered the entire Project using 15 meter transects. Special attention was paid to rodent burrows, erosion cuts that allowed the observation of soils below the surface, including a close inspection of the approximately 15 meter high vertical cliff face (Figure 8) along the eastern edge of the project. Soils are alluvial in origin, dark-brown to tan coarse sand at the surface, and contain approximately 60% gravel, cobbles, and boulders of Bedford Canyon Metasedimentary rock. Granite, quartzite, and sandstone cobbles make up less than 1% of the content. Soils at depth in the cliff face and erosion cut (Figure 9 below) appear to be a dark brown to brown, alluvial, coarse sand with the same gravel and cobble content. Topography of the project area is flat within the confines of the canyon, with Bedford Wash running southwest to northeast along the eastern edge of the project. Ground visibility averaged 40-50% over the entire project due to vegetation cover. Plant species within the project include invasive grasses, mustard, sugarbush, bamboo, castor beans, and invasive pepper trees.

Disturbances include agricultural plowing, erosion, modern ground disturbance, and a scatter of modern refuse. Agricultural disturbance consisted of windrows of cobbles (Figure 10) and a few small piles of cobbles and boulders. Other signs of disturbance include erosion within Bedford Wash, and an equipment blade scar in the wash that is approximately 35 meters long and three meters wide. Concrete irrigation pipe was observed in-situ near the center of the project, as well as a modern concrete irrigation pump pad with PVC pipe embedded in it, indicating that more irrigation disturbance can be expected subsurface. Modern refuse

consisting of concrete chunks, PVC pipe, glazed ceramic floor tile, and small metal fragments are also scattered across the project. No cultural resources were observed during the survey.



Figure 6: Overview North from Center of Project.



Figure 7: Overview South East from Center of Western Edge of Project.



Figure 8: Overview Southwest, Cliff Face on Eastern Edge of Project.



Figure 9: View West, Erosional Soil Exposure in Wash.



Figure 10: Overview Southwest, Cobble piles and Windows of Stones from Plowing.

IMPACTS ANALYSIS AND RECOMMENDATIONS

This section addresses the Project's potential to impact cultural and paleontological resources. If changes are made to the Project or if the level of planned disturbance changes, the recommendations herein may be subject to change.

Paleontological Resources

Our research indicates that there is a low sensitivity for paleontological resources in the project area. The consistent, extremely thick alluvium suggests high-sensitivity Pleistocene deposits would only be encountered below 30 – 50 feet in depth. Therefore, significant and unique paleontological resources should not be impacted by ground disturbance above this depth. Due to the low potential to impact paleontological resources, DUKE CRM does not recommend paleontological monitoring of the project. If previously unidentified paleontological materials are un-earthed during ground disturbing activity, work shall be halted in that area until a qualified paleontologist can assess the significance of the find.

Cultural Resources

Impacts to cultural resources are generally considered to be direct (e.g. destruction or demolition of a resource) or indirect (e.g. visual, audible, or cumulative changes to the setting). Under CEQA cultural resources are evaluated for significance and eligibility for the California Register. If a resource is considered eligible for the California Register it is considered a historical resource under CEQA. For the purposes of CEQA, impacts are only considered significant for historical resources.

DUKE CRM conducted a records search, field survey, and supplemental research for archaeological and historical resources. The results of the records search indicate there are no previously recorded cultural resources within, or near, the project boundary. Further, due to the high energy deposition of Bedford Canyon we do not anticipate any buried archaeological resources. Therefore, DUKE CRM recommends that no archaeological and/or historical resources are likely to be impacted by the Project.

Due to the low potential to impact cultural resources, DUKE CRM does not recommend archaeological monitoring of the Project. If previously unidentified cultural materials are un-earthed during ground disturbing activity, work shall be halted in that area until a qualified archaeologist can assess the significance of the find.

If archaeological and/or paleontological resources are discovered during construction, a qualified archaeologist and/or paleontologist shall be retained to assess the nature and significance of the discovery. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. In addition, according to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and unauthorized disturbance of Native American cemeteries is a felony (Section 7052).

If the proposed Project changes additional efforts may be necessary.

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Appendix A

Resumes

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Curt Duke

President/Archaeologist



Expertise

Cultural Resources Management
California Prehistory
Section 106 Compliance
CEQA Compliance
Native American Consultation

Education

CSU, Fullerton, M.A., Anth, 2006
SDSU, Grad Studies, Anth, 1996/97
UC Santa Cruz, B.A., Anth, 1994

Professional Registrations

RPA, No. 15969
County of Riverside (No. 151)
County of Orange

Professional Memberships

Society for California Archaeology
Society for American Archaeology
Pacific Coast Archaeological Society
Assoc. of Environmental Professionals
Building Industry Association

Professional Experience

President/Archaeologist, DUKE CRM, March 2011 to present.
Archaeologist/Principal, LSA Associates, 1997-2011.
Archaeological Technician, SRI, 1997.
Archaeological Technician, Petra Resources, 1997.
Archaeological Technician, KEA Environmental, 1997.
Archaeological Technician, Keith Companies, 1997.
Archaeological Technician, KEA Environmental, 1997.
Archaeological/Paleontological Technician, LSA Associates, 1996.
Archaeological/Paleontological Technician, Petra Resources, 1996.
Archaeological Technician, Affinis Environmental Services, 1996.
Archaeological Technician, KEA Environmental, 1996.
Archaeological Technician, Macko Archaeological Consulting, 1995 to 1996.
Archaeological Technician, Heritage Resource Consultants, 1995.
Archaeological Technician, Chambers Group, 1995.
Archaeological Technician/Teachers Assistant, Cabrillo College, 1994
Anthropological Laboratory Technician, UC Santa Cruz, 1994.

Selected Project Experience

Vantage Point Church Monitoring, Eastvale, 2018-Present
Ventura Cnty. Transportation On-Call, Ventura Cnty, 2018-Present
6th Street Viaduct Mission/Myers Roundabout, Los Angeles, 2018-President
Union Street Two-Way Protected Bikeway, Pasadena, 2017-Present
Murrieta's Hospitality Commons, Murrieta, 2017-Present
Pleasant Valley Turn Lanes, Camarillo, 2017
VA WLA Master Plan, Los Angeles, 2017-Present
Golden Avenue Bridge, Placentia, 2017
Avenue S-8 and 40th St. E. Roundabout, Palmdale, 2017
Soto Street Widening, Los Angeles, 2017
SR-110 Improvements, Los Angeles, 2017
Vanderham Monitoring, Jurupa Valley, 2017
Diamond Valley Estates Specific Plan, Hemet, 2017
Veterans Affairs West Los Angeles Campus Hospital Replacement, 2016-Present
Shoemaker Bridge Replacement, Los Angeles, 2016-Present
Spruce Goose Hangar, Playa Vista, 2016
Duarte 3rd and Oak Residential, Duarte, 2016
Vila Borba, Chino Hills, 2013-Present
Skyridge Residential, Mission Viejo, 2011-Present
Lincoln Specific Plan, Whittier, 2014
Baker Water Treatment Plant, Lake Forest, 2014-2015
Bryn Mawr Road Extension, Loma Linda, 2014-Present
VA Clinic, Loma Linda, 2014-Present
Evanston Inn, Pasadena, 2014-2016
California Street/Highway 101, Ventura, 2014-Present
Dhammakaya International Mediation Center, Azusa, 2013-2014
6th Street Bridge Replacement, Los Angeles, 2013-Present
Colton Bridges, 2013-14
Petersen Ranch, Leona Valley, 2013-2014
1st Street over Glendale Boulevard, Los Angeles, 2012
City of Los Angeles, DPW, On-Call, Cultural/Paleontological Resource Services, 2008-2011
San Fernando Road Widening, Los Angeles, 2011-121

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Benjamin Scherzer

Paleontologist

Expertise

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Fossil excavation
Fossil preparation
Stratigraphy
Natural gas mudlogging
Directional drilling

Education

M.S., Earth Science, 2008, MSU, Bozeman, MT
B.A., Geology/Math, 2002, Earlham College, IN

Professional Registrations

Paleontologist, County of Orange
Paleontologist, County of Riverside

Professional Memberships

Society of Vertebrate Paleontology
Geological Society of America
Society for Sedimentary Geology
American Association of Petroleum Geologists, Pacific Section

Publications and Professional Papers

Scherzer, B. 2017. A possible physeteroid (cetacea: odontoceti) from the Yorba member of the Puente Formation, Orange County, California: Western Association of Vertebrate Paleontology Annual Meeting: Program with Abstracts, PaleoBios, v. 34 (supplemental), p. 11.

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Professional Experience

Paleontologist, DUKE CRM, February 2014 to present.
Paleontologist, L&L Environmental, October 2017 to present.
Stratigrapher, Archeological Resource Management Corporation, November 2015 to present.
Paleontological Specialist II, San Diego Natural History Museum, October 2013 to present.
Paleontological Specialist II, SWCA Environmental Consultants (Pasadena), March 2012 to present.
Paleontologist, SWCA Environmental Consultants (Vernal, UT), 2011 to 2012.
Fossil Preparator, Carter County Museum, 2010 to 2011.
Physical Science Technician, Badlands National Park, 2010.
Mudlogger/Geologist, Pason Systems USA, 2006 to 2009.
Paleontological Field Assistant, ARCADIS US, 2006 to 2007.

Selected Project Experience

Vanderham Monitoring, Jurupa Valley, 2017-present
Ave S-8 and 40th St Roundabout, Palmdale, 2017-present
Gold Flora Farms, Desert Hot Springs, 2017-present
I-5 HOV Truck Lanes, Santa Clarita, 2017-present
Brasada Homes, San Dimas, 2017-present
Indus Light Industrial Building, Chino Hills, 2017-present
Murrieta's Hospitality Commons, Murrieta, 2017
6th Street Viaduct, Los Angeles, 2017-present
I-15 TEL, Riverside and San Bernardino Counties, 2017
Lewis Street, Anaheim, 2017
The Crossings, Chino Hills, 2016-2017
Reata Glen, Mission Viejo, 2016 - present
Greenville-Banning Channel, Costa Mesa, 2016
Fairfield Ranch, Chino Hills, 2016
Diamond Valley, Hemet, 2017
Marywood Residential, Orange, 2016-2018
Rancho Mission Viejo, Mission Viejo, 2015-present
Santa Margarita Water District Tesoro Reservoirs, Mission Viejo, 2015
Evanston Inn, Pasadena, 2015
Village of Terrasa, Corona, 2015
Sycamore to Peñasquitos 230 kV Tranmission Line, San Diego, 2015
Lakeside Temescal Valley, Temescal Valley, 2015-present
Vila Borba, Chino Hills, CA, 2013-present
Proposed State Route 60/Interstate 605 (SR-60/I-605) Interchange Improvement Project, Los Angeles County, 2014
RP-Outfall Relocation, Ontario, 2014
Serrano Ridge, Temesca Valley, 2014
Lago Los Serranos, Chino Hills, 2014
Vila Borba, Chino Hills, 2014-present
Baker WTP, Lake Forest, 2014
Skyridge Residential, Mission Viejo, 2014-present
Willow Heights, Diamond Bar, 2014
Pacific Highlands, San Diego, 2014
Sol y Mar, Ranchos Palos Verdes, 2013-2014
Mojave Solar Power, Hinkley, 2013
Genesis Solar Energy, Blythe, 2012-13

APPENDIX D: PRELIMINARY GEOTECHNICAL EVALUATION

April 3, 2018

Project No. 13208-02

Mr. John Sherwood
The New Home Company
95 Enterprise, Suite 325
Aliso Viejo, CA 92656

Subject: ***Preliminary Geotechnical Evaluation for Proposed Lower McMillan Parcel, Arantine Hills Residential Development, Parcels 1 and 2 of Parcel Map No. 37036, City of Corona, California***

In accordance with your request, LGC Geotechnical, Inc. has prepared a preliminary geotechnical evaluation for the Lower McMillan parcel in Arantine Hills residential development, Parcels 1 and 2 of Parcel Map No. 37036, in the City of Corona, California. This report presents a summary of our conclusions and preliminary recommendations relative to our understanding of the proposed development of the site.

If you should have any questions regarding this report, please do not hesitate to contact our office. We appreciate this opportunity to be of service.

Respectfully submitted,

LGC Geotechnical, Inc.

Tim Lawson, CEG 1821, GE 2626
Geotechnical Engineer/Geologist

Kevin Dyekman, CEG 2595
Project Geologist

CNJ/KAD/TJL/aca

Distribution: (1) Addressee (electronic copy)
(4) Recupero & Associates (3 wet signed copies & 1 electronic copy)
Attn: Mr. Tom Dellner

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1.0 INTRODUCTION

1.1 Purpose and Scope of Services

This report presents our preliminary geotechnical evaluation for the proposed Lower McMillan parcel as part of the Arantine Hills residential development, Parcels 1 and 2 of Parcel Map No. 37036, located in the City of Corona, California. The purpose of our review was to provide preliminary geotechnical recommendations relative to the proposed development of the site. As part of this preliminary geotechnical evaluation, we have: 1) reviewed the available previously prepared geotechnical reports pertinent to the site (Appendix A); 2) performed a geotechnical field evaluation; 3) performed field infiltration testing of the native soils onsite; 4) performed geotechnical analysis utilizing the data obtained; and 5) prepared this summary report presenting our preliminary findings, conclusions, and preliminary geotechnical recommendations. The findings, conclusions, and recommendations presented herein should be considered preliminary and must be confirmed by LGC Geotechnical during site grading.

1.2 Project Description

The McMillan Parcel, Parcel Map No. 37036, consists of approximately 160 acres of undeveloped land located at the foothills of the Santa Ana Mountains near the southern boundary of the City of Corona, Riverside County, California (Figure 1 – Site Location Map). The site is bound by the Eagle Glen Specific Plan development to the north and west, by the Cleveland National Forest to the southwest, and by the Retreat Specific Plan development to the south.

The site is primarily comprised of grasses and shrubs, with several scattered trees throughout. Native descending canyon slopes up to approximately 60 feet in height with varying slope ratios, ranging from approximately 1.25:1 to 3:1 (horizontal to vertical), are located in the central to southeastern portion of the site. Bluffs associated with Bedford Canyon are located in the central portion of the site and serve as the southern boundary of the Bedford Canyon Wash. The bluffs are up to approximately 100 feet in height with varying slope ratios ranging from approximately 1:1 (horizontal to vertical) to near vertical. The site can generally be divided into two basic regions based on topography: the lower-lying Bedford Canyon Wash area in the northern portion of the site; and the higher, elevated bluff regions above and southeast of Bedford Canyon Wash. This report is specific to the lower-lying Bedford Canyon Wash area in the northern portion of the McMillan Parcel which is represented by Parcels 1 and 2 on the Parcel Map No. 37036 prepared by Hunsaker & Associates (2018).

It is our understanding that the proposed development will consist of mass/rough grading to construct building pads for future residential dwellings and construction of an improved earthen channel associated with Bedford Canyon that will be located adjacent to the existing bluffs. The recommendations provided in this report are preliminary and are based upon current geotechnical conditions. We understand that the project grading plans are currently being developed at this time. LGC Geotechnical should be provided with updated project grading plans and structural loads as they become available in order to confirm or modify the recommendations provided herein.

1.3 Background

Previous geotechnical subsurface evaluations for the Arantine Hills residential development have been

performed and the information pertinent to the subject "Lower" McMillan Parcel site have been included in this report. Previous geotechnical evaluations are briefly summarized below. For further details regarding previous geotechnical evaluations see the referenced reports (Appendix A).

In 2002, LOR Geotechnical Group (LOR) performed a geotechnical field evaluation consisting of 31 exploratory trenches and 23 hollow-stem borings. The trenches were excavated to depths ranging from approximately 4.5 feet to 15 feet below existing ground surface and the borings ranged in depth from approximately 24.0 feet to 51.5 feet below existing ground surface. LOR also performed a review of aerial photographs and surface mapping of potential site faults identified as "A" through "I". At that time, the proposed development was larger in scale and the southern portion was located in an Alquist-Priolo Earthquake Fault Zone (AP Zone) based on the presence of the Elsinore Fault. LOR concluded that near-surface soils and undocumented fill soils were not suitable for the proposed improvements. LOR recommended a specific fault study be performed to evaluate the potential for fault rupture at the site.

LOR performed a fault investigation study (LOR, 2004) which consisted of five trenches ranging in length from approximately 200 to more than 800 feet and up to approximately 22 feet deep. Three of the trenches were performed in the current subject area known as Arantine Hills, along the southeastern base of the bluff, and two were located outside of the current subject area on top of the bluff at the southwestern corner of the previous, larger site in order to cross the entire portion of the Earthquake Fault Zone in that area. LOR concluded from their trenching that none of the features noted would classify the faults as "active" as defined by the State of California Alquist-Priolo Earthquake Fault Zone Act, thereby no structural setbacks would be required for the proposed development.

In 2014 and 2015, LGC Geotechnical Inc. (LGC Geotechnical), performed a supplemental field investigation including the excavation of five backhoe test pits and four fault trenches (LGC Geotechnical, 2014b & 2015a). The test pits were excavated to depths ranging from approximately five to seven feet below the ground surface utilizing a standard backhoe in order to evaluate the near-surface soil conditions. The fault trenches were excavated in order to evaluate the possible presence of active faults that were previously mapped to transect the site (LOR, 2004). The fault trenches were oriented approximately perpendicular to the previously mapped fault trends. Once excavated, the walls of the trenches were scraped clean and detailed logging of the exposed lithology, geologic structure, and stratigraphy was performed (LGC Geotechnical, 2014b & 2015a). No evidence of faulting was observed in the trenches and thereby no setback zones were recommended.

1.4 Subsurface Geotechnical Evaluation

LGC Geotechnical has conducted a recent subsurface geotechnical evaluation consisting of the excavation of six small-diameter hollow-stem auger borings and performed infiltration testing to evaluate onsite geotechnical conditions.

Six hollow-stem auger borings (HS-1 through HS-3 and I-1 through I-3) were excavated by 2R Drilling, Inc., under subcontract to LGC Geotechnical. The depth of the hollow-stem borings ranged from approximately 4 to 31.5 feet below existing grades. A LGC Geotechnical representative observed the drilling operations, logged the borings, and collected soil samples for laboratory testing. The borings were performed using a truck-mounted drill rig equipped with 6-inch diameter hollow-stem augers. Driven soil samples were collected by means of the Standard Penetration Test (SPT) and Modified California Drive (MCD) samplers, generally at 2.5 and 5-foot vertical increments. The MCD is a

split-barrel sampler with a tapered cutting tip and lined with a series of 1-inch tall brass rings. The SPT sampler (1.4-inch ID) and MCD sampler (2.4-inch ID, 3.0-inch OD) were driven using a 140-pound automatic hammer falling 30 inches to advance the sampler a total depth of 18 inches or until refusal. The raw blow counts for each 6-inch increment of penetration were recorded on the boring logs. Bulk samples of the near-surface soils were logged and collected for laboratory testing from select borings. At the completion of drilling, the borings were backfilled with native soils and tamped. Some settlement of the backfill should be expected.

Borings I-1 and I-3 were excavated and logged to 5 feet and I-2 was excavated and logged to 10 feet below the existing ground surface. Subsequent to excavation and logging, the borings were converted into infiltration test wells. Test well installation consisted of placing a 3-inch diameter perforated PVC pipe in each excavated borehole and backfilling the annulus with crushed rock including the placement of approximately 2 inches of crushed rock at the bottom of each borehole. Infiltration testing was performed in accordance with County of Riverside Guidelines (2011) using relatively clean water, free of particulates, silt, etc.

The approximate locations of our geotechnical borings and infiltration testing are shown on the Geotechnical Map (Figure 2) and the logs are provided in Appendix B. Boring and trench logs from previous site investigations pertinent to the subject site are also shown on the Geotechnical Map (Figure 2) and the logs are presented in Appendix B.

1.5 Preliminary Infiltration Testing

Preliminary field infiltration testing was performed in borings I-1, I-2, and I-3. Field infiltration rate testing was performed in general accordance with guidelines set forth by the County of Riverside (2011). Test well installation consisted of placing a 3-inch diameter perforated PVC pipe in each excavated borehole and backfilling the annulus with crushed rock and included the placement of approximately 2 inches of crushed rock at the bottom of each borehole. The infiltration test wells were presoaked the day of installation and testing took place within 24 hours of presoaking. During the pre-test of each well the water level was observed to drop more than 6 inches in 25 minutes for two consecutive readings. Therefore, the test procedure for coarse-grained soils was followed. The procedure for coarse-grained soils requires performing the test for at least 60 minutes and taking one reading every 10 minutes from a fixed reference point. Test well installation and the estimation of infiltration rates were accomplished in general accordance with the guidelines set forth by the County of Riverside (2011). In general, three-dimensional flow out of the test well (percolation), as observed in the field, is mathematically reduced to one-dimensional flow out of the bottom of the test well (infiltration). Infiltration tests are performed using relatively clean water, free of particulates, silt, etc. The results of our recent field infiltration testing is summarized on the next page.

TABLE 1

Summary of Preliminary Infiltration Testing

Infiltration Test Location	Measured Infiltration Rate* (Inch/Hr)	Calculated Infiltration Rate** (Inch/Hr)
I-1	2.5	1.25
I-2	2.1	1.05
I-3	6.5	3.25

*Does Not Include Any Factors of Safety

**Includes factor of safety of 2 from Measured Rate in order to Evaluate Feasibility (County of Riverside, 2012).

It should be emphasized that infiltration test results are only representative of the location and depth where they are performed. Varying subsurface conditions may exist outside of the test locations which could alter the calculated infiltration rates indicated above. Infiltration tests are performed using relatively clean water free of particulates, silt, etc.

Please note, the testing of infiltration rates is highly dependent upon the materials encountered at the point of testing (i.e. location and depth of testing). Variations from our test results must be expected.

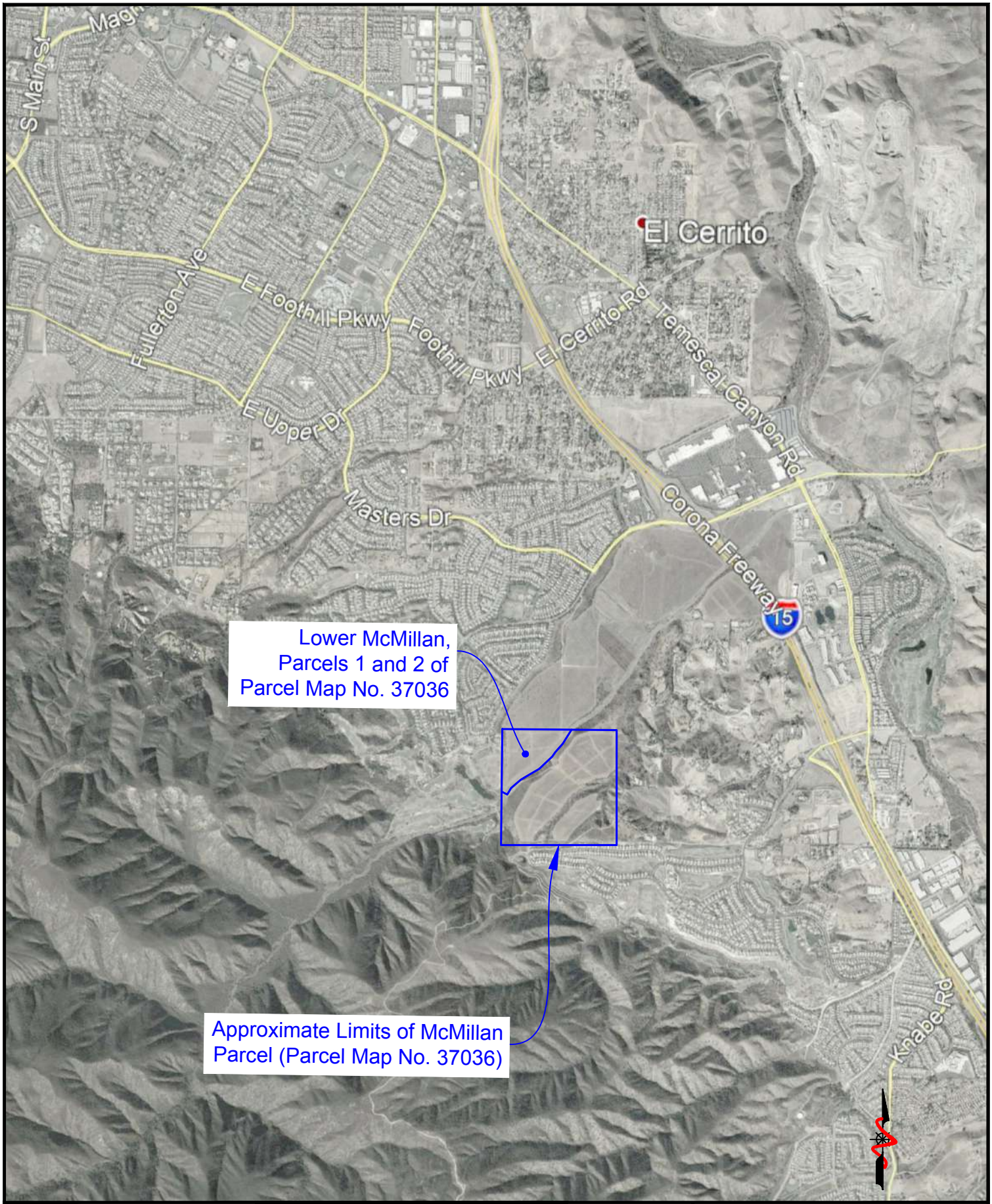
1.6 Laboratory Testing

Representative samples were retained for laboratory testing during our recent field evaluation. Laboratory testing included moisture content, dry density, expansion index, collapse, and corrosion (sulfate, chloride, pH and minimum resistivity).

The following is a summary of the laboratory test results.

- Dry density of the samples collected ranged from approximately 114 pounds per cubic foot (pcf) to 129 pcf, with an average of 121 pcf. Field moisture contents ranged from approximately 3 to 7 percent, with an average of 5 percent.
- Four gradation tests were performed and indicated a fines content (percent passing No. 200 sieve) ranging from approximately 10 to 15 percent. According to the Unified Soils Classification System (USCS), the tested samples would be classified as “coarse-grained” soil.
- One Expansion Index (EI) test was performed. Result was an EI value of 0, corresponding to “Very Low” expansion potential.
- Corrosion testing indicated soluble sulfate content of approximately 0.013 percent, chloride content of 32 parts per million (ppm), pH value of 7.4 and minimum resistivity value of 3,900 ohm-cm.
- Four collapse tests were performed. The load versus deformation plots are provided in Appendix C.

A summary of the recent laboratory results along with previous laboratory testing results are presented in Appendix C.



LGC Geotechnical, Inc.

FIGURE 1
Site Location Map

PROJECT NAME	Arantine Hills - Lower McMillan Parcel
PROJECT NO.	13208-02
ENG. / GEOL.	TJL / KAD
SCALE	Not to Scale
DATE	April 2018

2.0 GEOTECHNICAL CONDITIONS

2.1 Regional Geology

The subject site is located along the northeastern flank of the Santa Ana Mountains, just north of the Elsinore-Temecula basin, within the Peninsular Ranges Geomorphic Province. In this area, the Santa Ana Mountains are composed of a core of metamorphic rocks of the Bedford Canyon Formation with lesser amounts of volcanic rock. Erosion of the mountains has lead to a series of sub-parallel canyons out of the mountains. The material eroded from the mountains has formed a series of coalescing alluvial fans, also referred to as older alluvial deposits. Subsequently these fan deposits have been eroded by a series of drainage courses. The subject site is located in one of these drainages known as "Bedford Canyon". Located adjacent to the southeast corner of the site is the Elsinore Fault Zone. The Elsinore Fault Zone is a major active fault in Southern California and is regionally part of the San Andreas Fault system that distributes the right lateral movement across the North American and Pacific Plates.

2.2 Site-Specific Geology

The site is located on alluvial deposits of Bedford Canyon Wash. The alluvial deposits encountered during our subsurface exploration generally consisted of interbedded layers of variable materials including sand with varying amounts of silt, gravel, cobbles and minor amounts of clay. Moisture ranged from slightly moist to moist, with an increase with depth. Apparent density generally ranged from medium dense to very dense with an increase with depth.

2.3 Groundwater

Groundwater and seepage was not encountered to the maximum explored depth of approximately 30 feet below existing grade during our recent subsurface evaluation. Groundwater was not encountered in the previous geotechnical evaluations to maximum explored depth of approximately 50 feet below existing grade (LGC Geotechnical, 2014 & LOR, 2002).

Seasonal fluctuations of groundwater elevations should be expected over time. In general, groundwater levels fluctuate with the seasons and local zones of perched groundwater may be present due to local seepage caused by irrigation and/or recent precipitation. Local perched groundwater conditions or surface seepage may develop once site development is completed.

2.4 Seismicity

The site seismic characteristics were evaluated per the guidelines set forth in Chapter 16, Section 1613 of the 2016 California Building Code (CBC). Representative site coordinates of latitude 33.8063 degrees north and longitude -117.5311 degrees west were utilized in our analyses. The maximum considered earthquake (MCE) spectral response accelerations (S_{MS} and S_{M1}) and adjusted design spectral response acceleration parameters (S_{DS} and S_{D1}) for Site Class D are provided in Table 2 on the following page.

TABLE 2

2016 Seismic Design Parameters

Selected Parameters from 2016 CBC, Section 1613 - Earthquake Loads	Seismic Design Values
Site Class per Chapter 20 of ASCE 7	D
Risk-Targeted Spectral Acceleration for Short Periods (S_S)*	2.461g
Risk-Targeted Spectral Accelerations for 1-Second Periods (S_1)*	0.971g
Site Coefficient F_a per Table 1613.3.3(1)	1.0
Site Coefficient F_v per Table 1613.3.3(2)	1.5
Site Modified Spectral Acceleration for Short Periods (S_{MS}) for Site Class D [Note: $S_{MS} = F_aS_S$]	2.461g
Site Modified Spectral Acceleration for 1-Second Periods (S_{M1}) for Site Class D [Note: $S_{M1} = F_vS_1$]	1.456g
Design Spectral Acceleration for Short Periods (S_{DS}) for Site Class D [Note: $S_{DS} = (^2/_3)S_{MS}$]	1.641g
Design Spectral Acceleration for 1-Second Periods (S_{D1}) for Site Class D [Note: $S_{D1} = (^2/_3)S_{M1}$]	0.971g
Mapped Risk Coefficient at 0.2 sec Spectral Response Period, C_{RS} (per ASCE 7)	0.933
Mapped Risk Coefficient at 1 sec Spectral Response Period, C_{R1} (per ASCE 7)	0.918

* From USGS, 2014

Section 1803.5.12 of the 2016 CBC (per Section 11.8.3 of ASCE 7) states that the maximum considered earthquake geometric mean (MCE_G) Peak Ground Acceleration (PGA) should be used for geotechnical evaluations such as liquefaction potential. The PGA_M for the site is equal to 0.95g (USGS, 2018).

2.5 Faulting

California is located on the boundary between the Pacific and North American Lithospheric Plates. The average motion along this boundary is on the order of 50-mm/yr in a right-lateral sense. The majority of the motion is expressed at the surface along the northwest trending San Andreas Fault Zone with lesser amounts of motion accommodated by sub-parallel faults located predominantly west of the San Andreas Fault including the Elsinore, Newport-Inglewood, and Coronado Bank Faults.

Prompted by damaging earthquakes in California, State legislation and policies concerning the classification and land-use criteria associated with faults have been developed. The Alquist-Priolo (AP)

Earthquake Fault Zoning Act was established to prevent the construction of urban developments across the trace of active faults. An "active" fault is defined as a fault that has ruptured through materials that are younger than approximately 11,000 years old. Specific Earthquake Fault Zones (AP Zones) have been delineated along the traces of active faults within California, where this potential must be evaluated prior to construction of urban developments.

The subject site is not located within a State of California Earthquake Fault-Rupture Zone. However, the Glen Ivy Section of the Elsinore Fault Zone is located approximately 1,500 feet to the southwest of the site.

Previous studies have been performed on the general area of the Arantine Hills development with regards to active faulting. In general, the older studies recognized a series of faults crossing the Arantine Hills site including the McMillan Parcel. LOR recognized eight fault splays in the general vicinity and specifically noted that some of these faults appear to offset material that is less than 11,000 years old, which would therefore classify them as "active" (LOR, 2002). LOR conducted a further investigation of the site (LOR, 2004) and excavated five trenches across the suspected faults at the site. The conclusion of this investigation was that none of the faults at the site are considered to be "active" and therefore no structural setback zones were recommended.

LGC Geotechnical performed a supplemental fault trench evaluation and four fault trenches up to approximately 1100 feet in length were excavated. The lithology, geologic structure, and stratigraphy exposed in the fault trenches were documented presented in the referenced reports (LGC Geotechnical, 2014b &2015a). No evidence of active faulting was observed in the trenches and therefore no setback zones were recommended. For additional details regarding faulting the vicinity of the subject site please refer to the referenced reports (LGC Geotechnical, 2014b & 2015a).

Secondary effects of seismic shaking resulting from large earthquakes on the major faults in the Southern California region, which may affect the site, include ground lurching and shallow ground rupture, soil liquefaction, dynamic settlement. These secondary effects of seismic shaking are a possibility throughout the Southern California region and are dependant on the distance between the site and causative fault and the onsite geology. The closest major active faults that could produce these secondary effects include the Elsinore, Chino, Whittier and Puente Hills Faults among others (USGS, 2008b). A discussion of these secondary effects is provided in the following sections.

2.5.1 Liquefaction and Dynamic Settlement

Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking. Liquefaction occurs when three general conditions coexist: 1) shallow groundwater; 2) low density non-cohesive (granular) soils; and 3) high-intensity ground motion. Studies indicate that saturated, loose to medium dense, near-surface cohesionless soils exhibit the highest liquefaction potential, while dry, dense, cohesionless soils and cohesive soils exhibit low to negligible liquefaction potential. In general, cohesive soils are not considered susceptible to liquefaction, depending on their plasticity and moisture content (Bray & Sancio, 2006). Effects of liquefaction on level ground include settlement, sand boils, and bearing capacity failures below structures. Dynamic settlement of dry loose sands can occur as the sand particles tend to settle and densify as a result of a seismic event.

The site is mapped by the County of Riverside as having "Very Low" to "Low" potential for liquefaction (RCTLMA, 2014). Based on the proposed development and remedial grading, the site will primarily consist of compacted fill over dense native soils and groundwater is not present. Therefore, the potential for post construction liquefaction and liquefaction-induced dynamic settlement is considered very low.

2.5.2 Lateral Spreading

Lateral spreading is a type of liquefaction induced ground failure associated with the lateral displacement of surficial blocks of sediment resulting from liquefaction in a subsurface layer. Once liquefaction transforms the subsurface layer into a fluid mass, gravity plus the earthquake inertial forces may cause the mass to move downslope towards a free face (such as a river channel or an embankment). Lateral spreading may cause large horizontal displacements and such movement typically damages pipelines, utilities, bridges, and structures.

Due to the very low potential for liquefaction, the potential for lateral spreading is also considered very low.

2.6 Rippability

In general, moderate ripping utilizing heavy-duty excavation equipment should be anticipated for site soils. Localized difficult excavation due to very dense cemented zones should be anticipated. The use of blasting is not anticipated.

2.7 Oversized Material

Oversized material (material larger than 8 inches in maximum dimension) will likely be generated during site grading. Recommendations are provided for appropriate handling of oversized material, refer Appendix D.

2.8 Expansive Soil Characteristics

Previous and recent site laboratory testing of the onsite soils indicated "Very Low" to "Low" expansion potential. Final expansion potential must be determined at the completion of grading.

2.9 Corrosion Potential

Although not corrosion engineers (LGC Geotechnical is not a corrosion consultant), several governing agencies in Southern California require the geotechnical consultant to determine the corrosion potential of soils on buried concrete and metal facilities. We therefore present the results of our and previous testing results with regard to corrosion for the use of the client and other consultants, as they determine necessary.

Previous and recent corrosion test (pH, resistivity, soluble sulfate, and chloride content) results indicated soluble sulfate content of approximately 0.008 to 0.013 percent, chloride content of approximately 32 to 64 parts per million (ppm), pH values of approximately 7.4 to 8.1, and minimum resistivity values of approximately 3,495 to 3,900 ohm-centimeters.

Based on Caltrans Corrosion Guidelines (2012), soils are considered corrosive to structural elements if the pH is 5.5 or less, or the chloride concentration is 500 ppm or greater, or the sulfate concentration is 2,000 ppm (0.2 percent) or greater.

Based on laboratory test results of representative site soil samples, onsite soils have a designated sulfate exposure class of “S0” per ACI 318-14, Table 19.3.1.1.

3.0 CONCLUSIONS

Based on the results of our geotechnical field evaluation and our understanding of the proposed development, it is our opinion that the proposed development is feasible from a geotechnical standpoint, provided that the recommendations contained in the following sections are incorporated during site grading and construction. A summary of our geotechnical conclusions is as follows:

- The site is primarily underlain by alluvial soils. Near-surface soils are not considered suitable for support of the proposed improvements and will require removal and recompaction (See Section 4.1).
- Groundwater was not encountered during previous or recent subsurface evaluations to the maximum explored depths of approximately 50 feet and 30 feet below existing grade, respectively.
- Field infiltration test results indicated "measured" infiltration rates ranging from approximately 2.1 inches per hour to 6.5 inches per hour. Field infiltration rate testing was performed in general accordance with guidelines set forth by the County of Riverside (2011).
- The subject site is not located within a State of California Earthquake Fault-Rupture Zone. Potential damage to site improvements due to ground rupture are considered low since no active faults are known to transect the site.
- The main seismic hazard that may affect the site is ground shaking from one of the active regional faults. The subject site will likely experience strong seismic ground shaking during its design life. The PGA_M for the site is equal to 0.95g (USGS, 2018).
- Based on our understanding of the proposed development, the site will primarily consist of compacted fill over dense native soils and an absence of shallow groundwater. Therefore, the potential for post construction liquefaction and liquefaction-induced dynamic settlement is considered very low.
- Based on preliminary laboratory test results, the majority of onsite soils are anticipated to have "Very Low" to "Low" expansion potential. Final design expansion potential must be determined at the completion of grading.
- The generation of oversized material (rock greater than 8 inches in maximum dimension) during grading should be anticipated by the contractor. Oversized materials are to be properly handled during grading in accordance with Appendix D.

4.0 PRELIMINARY RECOMMENDATIONS

The following recommendations are to be considered preliminary and should be confirmed upon completion of grading and earthwork operations. In addition, they should be considered minimal from a geotechnical viewpoint, as there may be more restrictive requirements from the architect, structural engineer, building codes, governing agencies, or the owner.

It should be noted that the following geotechnical recommendations are intended to provide sufficient information to develop the site in general accordance with the 2016 CBC requirements. With regard to the potential occurrence of potentially catastrophic geotechnical hazards such as fault rupture, earthquake-induced landslides, liquefaction, etc. the following geotechnical recommendations should provide adequate protection for the proposed development to the extent required to reduce seismic risk to an "acceptable level." The "acceptable level" of risk is defined by the California Code of Regulations as "that level that provides reasonable protection of the public safety, though it does not necessarily ensure continued structural integrity and functionality of the project" [Section 3721(a)]. Therefore, repair and remedial work of the proposed improvement may be required after a significant seismic event. With regards to the potential for less significant geologic hazards to the proposed development, the recommendations contained herein are intended as a reasonable protection against the potential damaging effects of geotechnical phenomena such as expansive soils, fill settlement, groundwater seepage, etc. It should be understood, however, that although our recommendations are intended to maintain the structural integrity of the proposed development given the site geotechnical conditions, they cannot preclude the potential for some cosmetic distress or nuisance issues to develop as a result of the site geotechnical conditions.

The geotechnical recommendations contained herein must be confirmed to be suitable or modified based on the actual as-graded conditions.

4.1 Site Earthwork

We recommend that earthwork onsite be performed in accordance with the following recommendations, the City of Corona/2016 CBC requirements, and the General Earthwork and Grading Specifications for Rough Grading included in Appendix D. In case of conflict, the following recommendations shall supersede all previous recommendations and those included as part of Appendix D. The following recommendations should be considered preliminary and may be revised by the geotechnical consultant based on the actual conditions encountered during site grading.

4.1.1 Site Preparation

Prior to grading of areas to receive structural fill or engineered structures, the areas should be cleared of surface obstructions and potentially compressible material (such as undocumented fill, topsoil, colluvium, alluvium, and vegetation). Vegetation and debris should be removed and properly disposed of offsite. Holes resulting from the removal of buried obstructions, which extend below proposed removal bottoms, should be replaced with properly compacted fill material. Any encountered oil or water wells should be properly abandoned in accordance with regulatory requirements.

4.1.2 Removal Depths

In general, existing undocumented artificial fill and loose, upper alluvium soils should be removed to competent alluvium. In general, removal depths are estimated to be approximately 3 feet below existing grade or 2 feet below proposed footings, whichever is greater.

Local conditions may be encountered which could require additional removals beyond the estimated depths indicated above, deeper removals should be anticipated in isolated areas. The actual depth and lateral extents of removals should be determined by the geotechnical consultant, based on subsurface conditions encountered during grading.

4.1.3 Over-excavation of Design Cut and Cut/Fill Transition Pads and Streets

Due to the low moisture conditions of the site soils, we recommend design cut and cut/fill transition pads to be over-excavated to a minimum of 3 feet below ultimate finish pad grade based on the future rough grade design elevations. A maximum 3:1 differential fill thickness underneath individual lots should be maintained in order to reduce the potential for future differential settlement. Over-excavation should extend laterally a minimum of 5 feet beyond proposed building footprints.

It is our opinion, that utility excavations may be completed utilizing typical heavy machinery. As previously mentioned, the native soils at the site are generally uncemented alluvial sands and gravels which correlate to a Class "C" soil per Cal OSHA guidelines. These soils are anticipated to be unstable when excavated vertically. At the owners' discretion, the streets may be over-excavated, such that utility trenches will later be excavated through compacted fill soils which is considered more stable. If desired, it is recommended that the street over-excavation extend approximately 1-foot below the lowest utility.

The actual depth and lateral extends of over-excavation should be determined by the geotechnical consultant, based on subsurface conditions encountered during grading.

4.1.4 Temporary Excavations

We anticipate temporary slopes to be grossly stable at 1.5:1 (horizontal to vertical) or flatter; however, excavations must be made in accordance with Cal OSHA and OSHA requirements. Vehicular traffic, stockpiles, and equipment storage should be set back from the perimeter of excavations a minimum distance equivalent to a 1:1 projection from the bottom of the excavation or 5 feet, whichever is greater.

Soil conditions should be frequently observed by a representative of LGC Geotechnical, not only to confirm the geotechnical conditions, but to also help provide early warnings of potential failures. Based on observed conditions, flatter inclinations may be required. The majority of site soils are anticipated to be OSHA Type "C" soils. The contractor will be responsible for providing the "competent person" required by Cal/OSHA standards to evaluate soil conditions. Close coordination with the geotechnical consultant should be maintained to facilitate construction while providing safe excavations. Excavation safety is the sole responsibility of the contractor.

Once an excavation has been initiated, it should be backfilled as soon as practical. Prolonged exposure of temporary excavations may result in some localized instability. Excavations should be planned so that they are not initiated without sufficient time to shore/fill them prior to weekends, holidays, or forecasted rain.

4.1.5 Removal Bottoms and Subgrade Preparation

In general, removal bottom areas and areas to receive compacted fill should be scarified to a minimum depth of 6 inches, brought to a near-optimum moisture condition, and re-compacted per project recommendations. Removal bottoms and areas to receive fill should be observed and accepted by the geotechnical consultant prior to subsequent fill placement.

4.1.6 Material for Fill

From a geotechnical perspective, the onsite soils are generally considered suitable for use as general compacted fill, provided they are screened of organic materials and construction debris. Any encountered oversized material (material larger than 8 inches in maximum dimension) must be appropriately handled as outlined in Appendix D.

From a geotechnical viewpoint, any required import soils should consist of clean, relatively granular soils with a Very Low expansion potential (expansion index 20 or less based on ASTM D4829) and no particles larger than 3 inches in greatest dimension. Source samples of planned importation should be provided to the geotechnical consultant for laboratory testing a minimum of 3 working days prior to any planned importation.

4.1.7 Fill Placement and Compaction

Material to be placed as fill should be brought to near-optimum moisture content (generally within optimum to 2 percent above optimum moisture content) and recompacted to at least 90 percent relative compaction (per ASTM D1557). Moisture conditioning of site soils will be required in order to achieve adequate compaction. The optimum lift thickness to produce a uniformly compacted fill will depend on the type and size of compaction equipment used. In general, fill should be placed in uniform lifts not exceeding 8 inches in compacted thickness. Each lift should be thoroughly compacted and accepted prior to subsequent lifts. Generally, placement and compaction of fill should be performed in accordance with local grading ordinances and under the observation and testing performed by the geotechnical consultant.

Fill placed on any slopes greater than 5:1 (horizontal to vertical) should be properly keyed and benched into firm and competent soils as it is placed in lifts. During backfill of excavations, the fill should be properly benched into firm and competent soils of temporary backcut slopes as it is placed in lifts. All benching must be performed behind the design backcuts. Every bench must be a minimum of 4 feet high.

Slope face compaction must be achieved by the contractor by overfilling the slope face a minimum of 2 feet and cutting back to design finish grades or by other acceptable methods. Compaction of the slopes at grade is not considered an acceptable method of slope finishing.

4.1.8 Shrinkage

Volumetric changes in earth quantities will occur when excavated onsite earth materials are replaced as properly compacted fill. We estimate a shrinkage factor of 5 to 15 percent for the native soils onsite. It should be stressed that this is only an estimate and that an actual shrinkage factor is extremely difficult to predetermine. These values are estimates only and exclude losses due to removal of vegetation or debris. The effective shrinkage of onsite soils will depend primarily on the type of compaction equipment and method of compaction used onsite by the contractor and accuracy of the topographic survey. Contingencies should be made for balancing earthwork quantities based on actual shrinkage that occurs during grading. Shrinkage is also expected to vary with variations in survey accuracy during mass/rough grading.

4.2 Soil Corrosivity to Concrete and Metal

Although not corrosion engineers (LGC Geotechnical is not a corrosion consultant), several governing agencies in Southern California require the geotechnical consultant to determine the corrosion potential of soils to buried concrete and metal facilities. We therefore present the results of our testing with regard to corrosion for the use of the client and other consultants, as they determine necessary.

Previous and recent corrosion test (pH, resistivity, soluble sulfate, and chloride content) results indicated soluble sulfate content of approximately 0.008 to 0.013 percent, chloride content of approximately 32 to 64 parts per million (ppm), pH values of approximately 7.4 to 8.1, and minimum resistivity values of approximately 3,495 to 3,900 ohm-centimeters.

Based on Caltrans Corrosion Guidelines (2012), soils are considered corrosive to structural elements if the pH is 5.5 or less, or the chloride concentration is 500 ppm or greater, or the sulfate concentration is 2,000 ppm (0.2 percent) or greater.

Based on laboratory test results of representative site soil samples, onsite soils have a designated sulfate exposure class of “S0” per ACI 318-14, Table 19.3.1.1.

4.3 Subsurface Infiltration

Recent regulatory changes have occurred that make the infiltration of storm water into subsurface site soils, rather than having it collected in a conventional storm drain system, a priority. Typically, a combination of methods are implemented to reduce surface water runoff and increase infiltration including, but not limited to, permeable pavements/pavers for roadways, water quality/infiltration basins, directing surface water runoff to grass-lined swales, retention areas, and/or drywells.

It should be noted that collecting and concentrating surface water for the purpose of intentionally infiltrating it below grade into site soils conflicts with the geotechnical engineering objective of directing surface water away from slopes, structures, and other improvements. The geotechnical stability and integrity of a site is reliant upon appropriately handling surface water. In general, we do not recommend that surface water be intentionally infiltrated into the subsurface soils. However, if it is determined that water must be infiltrated due to regulatory requirements, we recommend the absolute minimum amount of water be infiltrated and that the infiltration areas not be located near slopes or near settlement sensitive existing/proposed improvements. We recommend the design of any infiltration

system include at least one redundancy or overflow system. It may be prudent to provide an overflow system, connected directly to a storm drain system, in order to prevent failure of the infiltration system, either as a result of lower than anticipated infiltration rates and/or very high flow volumes.

Preliminary field infiltration testing was performed in borings I-1, I-2, and I-3. Field infiltration rate testing was performed in general accordance with guidelines set forth by the County of Riverside (2011). In general, three-dimensional flow out of the test well (percolation), as observed in the field, is mathematically reduced to one-dimensional flow out of the bottom of the test well (infiltration) which results in the "measured" infiltration rate. The "calculated" infiltration rate was determined by applying a minimum factor of safety of 2 to the "measured" rate in order to evaluate feasibility. The "measured" and "design" infiltration rates provided in Section 1.4 are considered a general representation of the infiltration rates of the native soils near the location of the proposed water quality basin.

Based on Chapter 2, Section 2.4.5 of the Water Quality Management Plan for the Santa Ana Region of Riverside County (County of Riverside, 2012), the minimum infiltration rate for Low Impact Development (LID) infiltration Best Management Practices (BMP) is an average of 1.6 inches per hour which utilizes a minimum factor of safety of 2 in order to evaluate feasibility (County of Riverside, 2012). Adjusting the "measured" infiltration rates with a factor of safety of 2 results in "calculated" infiltration rates of 1.05. 1.25, and 3.25 inches per hour with an average of approximately 1.85 inches per hour. Therefore, LID infiltration BMPs may be utilized and designed for the proposed project in accordance with the County of Riverside.

It should be emphasized that infiltration test results are only representative of the location and depth where they are performed. Varying subsurface conditions may exist outside of the test locations which could alter the calculated infiltration rates indicated above. Once locations and elevations of proposed water quality basins or other LID infiltration BMPs are determined additional infiltration testing will be needed in order to confirm design infiltration rates.

4.4 Rough Grading Plan Review

LGC Geotechnical should perform a geotechnical review of the proposed rough grading plans. Updated recommendations and/or additional field work may be necessary. Preliminary geotechnical recommendations for foundation design will be provided at that time.

4.5 Geotechnical Observation and Testing During Construction

The recommendations provided in this report are based on limited subsurface observations and geotechnical analysis. The interpolated subsurface conditions should be checked in the field during construction by a representative of LGC Geotechnical. Geotechnical observation and testing is required per Section 1705 of the 2016 CBC.

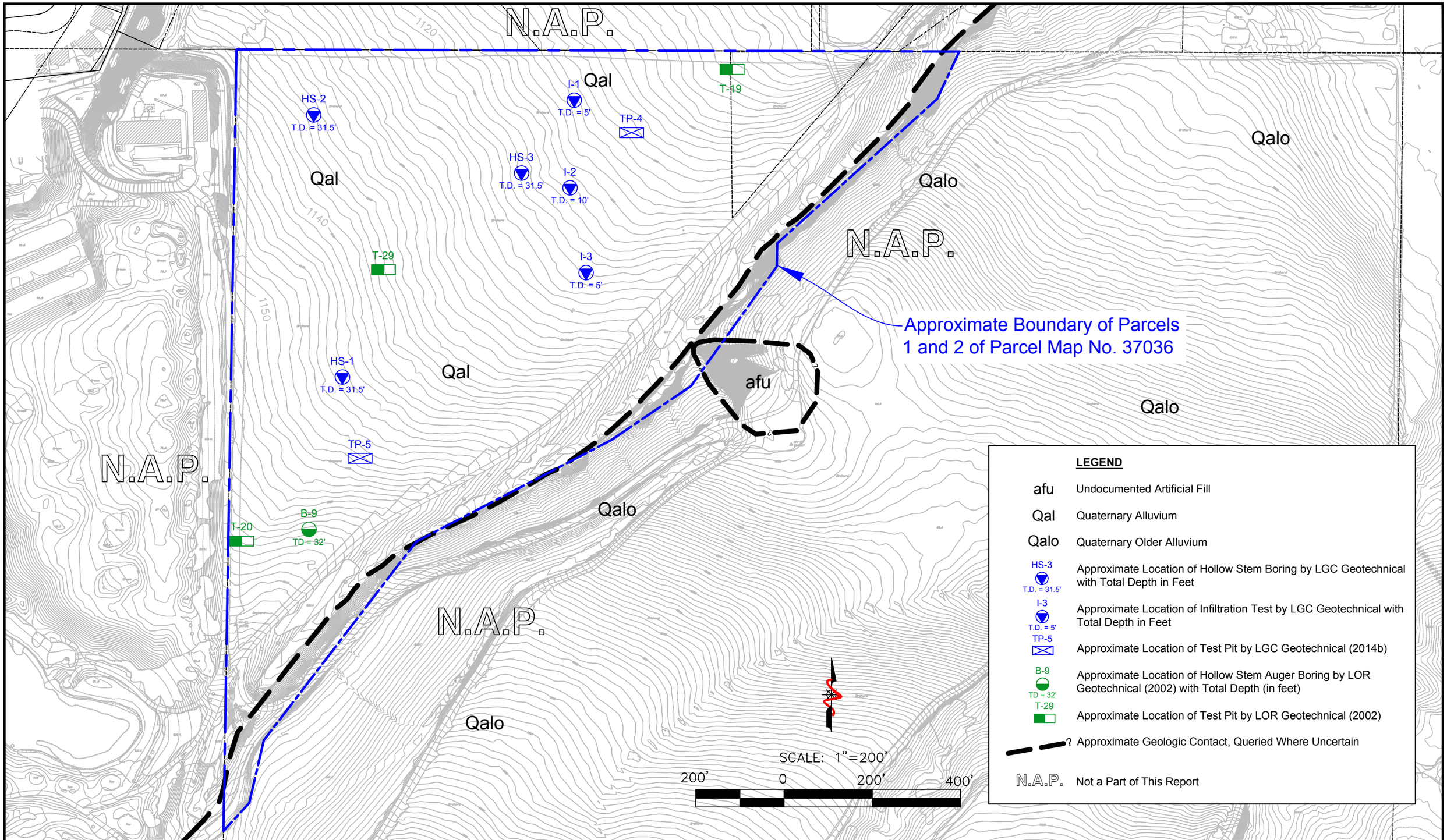
5.0 LIMITATIONS

Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable engineers and geologists practicing in this or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report. The samples taken and submitted for laboratory testing, the observations made and the in-situ field testing performed are believed representative of the entire project; however, soil and geologic conditions revealed by excavation may be different than our preliminary findings. If this occurs, the changed conditions must be evaluated by the project soils engineer and geologist and design(s) adjusted as required or alternate design(s) recommended.

This report is issued with the understanding that it is the responsibility of the owner, or of his/her representative, to ensure that the information and recommendations contained herein are brought to the attention of the designer and/or project engineer and incorporated into the plans, and the necessary steps are taken to see that the contractor and/or subcontractor properly implements the recommendations in the field. The contractor and/or subcontractor should notify the owner if they consider any of the recommendations presented herein to be unsafe.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can and do occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. Therefore, the findings, conclusions, and recommendations presented in this report can be relied upon only if LGC Geotechnical has the opportunity to observe the subsurface conditions during grading and construction of the project, in order to confirm that our preliminary findings are representative for the site.

In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and modification, and should not be relied upon after a period of 3 years.



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FIGURE 2
Geotechnical Map

PROJECT NAME	*Arantine Hills - Lower McMillan Parcel*
PROJECT NO.	*13208-02*
ENG. / GEOL.	*TJL / KAD*
SCALE	*1" = 200'*
DATE	*April 2018*

Appendix A
References

APPENDIX A

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Appendix B
Field Exploration Logs & Infiltration Test Data

Geotechnical Boring Log Borehole HS-1

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1143' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - Quaternary Alluvial Deposits (Qal):** @0' - Silty SAND with Gravel: brown, moist	
1140			R-1	16 17 20	119.5	6.0	SW-SM	@2.5' - SAND with Gravel and Silt: dark brown, slightly moist, dense; angular gravel up to 2" in diameter; scattered rootlets	
	5		SPT-1	12 12 12		4.2	GW-GM	@5' - GRAVEL with Sand and Silt: brown, slightly moist, medium dense; angular gravel	SA
1135			R-2	10 14 16	122.8	5.0	SW-SM	@7.5' - SAND with Gravel and Silt: brown, slightly moist, dense; angular gravel	CO
	10		SPT-2	5 12 13		6.2		@10' - SAND with Gravel and Silt: brown, slightly moist, medium dense	
1130									
	15		R-3	10 11 21	122.8	7.3		@15' - SAND with Gravel and Silt: brown, moist, dense	CO
1125									
	20		SPT-3	19 19 10		4.9	SM	@20' - Silty SAND with Gravel: brown, slightly moist, medium dense	
1120									
	25		R-4	26 33 35	122.5	5.7	SW-SM	@25' - SAND with Gravel and Silt: brown, slightly moist, very dense	
1115									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole HS-1

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1143' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-4	12 17 14		5.4	SM	@30' - Silty SAND with Gravel: brown, slightly moist, dense	
1110								Total Depth = 31.5' Groundwater Not Encountered Backfilled with Cuttings on 3/1/2018	
	35								
1105									
	40								
1100									
	45								
1095									
	50								
1090									
	55								
1085									
	60								

LGC Geotechnical, Inc.

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TEST TYPES:

DS	DIRECT SHEAR
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S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-2

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1135' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - Quaternary Alluvial Deposits (Qal):** @0' - Sandy SILT with Gravel: brown, moist	
			SPT-1	11 15 15		2.9	SM	@2.5' - Silty SAND with Gravel: brown, slightly moist, medium dense; angular gravel up to 1" in diameter; rootlets	SA
1130	5		R-1	13 13 13	117.6	4.8		@5' - SAND with Gravel and Silt: brown, slightly moist, medium dense	CO
			SPT-2	6 9 11		5.0	SM	@7.5' - Silty SAND with Gravel: brown, slightly moist, medium dense	
1125	10		R-2	12 12 11	114.8	3.7	SW-SM	@10' - SAND with Gravel and Silt: brown, slightly moist, medium dense	
1120	15		SPT-3	13 15 13		4.0	GW-GM	@15' - GRAVEL with Sand and Silt: brown, slightly moist, medium dense	SA
1115	20		R-3	14 25 22	119.6	3.6	SW-SM	@ 20' - SAND with Gravel and Silt: brown, slightly moist, dense	
1110	25		SPT-4	9 12 12		4.3	SM	@ 25' - Silty SAND with Gravel: brown, slightly moist, medium dense	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole HS-2

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1135' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		R-4	27 30 42	125.4	2.7	SW-SM	@30' - SAND with Gravel and Silty: brown, slightly moist, very dense	
								Total Depth = 31.5' Groundwater Not Encountered Backfilled with Cuttings on 3/1/2018	
1105	35								
1100	40								
1095	45								
1090	50								
1085	55								
	60								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
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▽	GROUNDWATER TABLE

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EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-3

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1120' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - Quaternary Alluvial Deposits (Qal):**	
			R-1	12 15 15	119.6	3.8	SW-SM	@2.5' - SAND with Gravel and Silt: brown, slightly moist, dense	CO
1115	5	B-1	SPT-1	6 6 6		4.4	SM	@5' - Silty SAND with Gravel: brown, slightly moist, medium dense	EI, CR
			R-2	4 9 13	117.4	5.7	SW-SM	@7.5' - SAND with Gravel and Silt: brown, slightly, medium dense	CO
1110	10		SPT-2	10 11 10		5.5		@10' - SAND with Gravel and Silt: brown, slightly moist, medium dense	SA
1105	15		R-3	19 23 22	119.0	7.1		@15' - SAND with Gravel and Silt: brown, moist, dense	
1100	20		SPT-3	10 13 18		3.9	SM	@20' - Silty SAND with Gravel: brown, slightly moist, dense	
1095	25		R-4	20 20 22	128.8	5.4		@25' - Silty SAND with Gravel: brown, slightly moist, dense	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
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SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

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MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
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CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole HS-3

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1120' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-4	14 17 21		5.2	SM	@30' - Silty SAND with Gravel: brown, slightly moist, dense	
1090	35							Total Depth = 31.5' Groundwater Not Encountered Backfilled with Cuttings on 3/1/2018	
1085	40								
1080	45								
1075	50								
1070	55								
	60								

LGC Geotechnical, Inc.

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▽	GROUNDWATER TABLE

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CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole I-1

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1112' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map |

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
1110	0						SW-SM	**@0' to T.D. - Quaternary Alluvial Deposits (Qal):** @0' to T.D. - SAND with Gravel and Silt: brown, slightly moist	
1105	5							Total Depth = 5' Groundwater Not Encountered 3" Perforated Pipe Installed, Surrounded with Gravel, and Presoaked on 3/1/2018. Pipe Removed and Boring Backfilled with Cuttings on 3/2/2018	
1100	10								
1095	15								
1090	20								
1085	25								
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole I-2

Date: 3/1/2018	**Drilling Company:** 2R Drilling
Project Name: Arantine Hills - McMillan	**Type of Rig:** Hollow Stem Auger
Project Number: 13208-02	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~1117' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
1115	0						SW-SM	**@0' to T.D. - Quaternary Alluvial Deposit (Qal):** @0' to T.D. - SAND with Gravel and Silt: brown, moist	
1110	5								
1105	10							Total Depth = 10' Groundwater Not Encountered 3" Perforated Pipe Installed, Surrounded with Gravel, and Presoaked on 3/1/2018. Pipe Removed and Boring Backfilled with Cuttings on 3/2/2018	
1100	15								
1095	20								
1090	25								
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
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SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
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CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole I-3

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1121' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
1120	0						SW-SM	**@0' to T.D. - Quaternary Alluvial Deposit (Qal):** @0' to T.D. - SAND with Gravel and Silt: brown, moist	
1115	5							Total Depth = 5' Groundwater Not Encountered 3" Perforated Pipe Installed, Surrounded with Gravel, and Presoaked on 3/1/2018. Pipe Removed and Boring Backfilled with Cuttings on 3/2/2018	
1110	10								
1105	15								
1100	20								
1095	25								
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
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CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Infiltration Test Data Sheet

LGC Geotechnical, Inc

131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Arantine - McMillan
Project Number: 13208-02
Date: 3/2/2018
Boring Number: I-1

Test hole dimensions (if circular)	
Boring Depth (feet)*:	4.85
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:32	7:57	25.0	3.00	4.85	1.85	Yes
2	7:57	8:22	25.0	3.12	4.85	1.73	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Measured Infiltration Rate(in/hr)
1	10:45	10:55	10.0	3.11	3.52	0.41	2.9
2	10:55	11:05	10.0	3.02	3.47	0.45	3.0
3	11:05	11:15	10.0	3.04	3.41	0.37	2.5
4	11:15	11:25	10.0	2.97	3.42	0.45	3.0
5	11:25	11:35	10.0	3	3.43	0.43	2.9
6	11:35	11:45	10.0	3.01	3.39	0.38	2.5
					Calculated Infiltration Rate (No factors of safety)		**2.5**

Sketch:

Notes:

Based on Guidelines from: Riverside County

LGC Geotechnical, Inc.

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Arantine - McMillan
Project Number: 13208-02
Date: 3/2/2018
Boring Number: I-2

Test hole dimensions (if circular)	
Boring Depth (feet)*:	9.95
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:37	8:02	25.0	8.10	9.82	1.72	Yes
2	8:02	8:27	25.0	8.17	9.65	1.48	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Measured Infiltration Rate(in/hr)
1	9:40	9:50	10.0	7.65	7.98	0.33	1.7
2	9:50	10:00	10.0	7.64	8.04	0.40	2.1
3	10:00	10:10	10.0	7.68	7.89	0.21	1.1
4	10:10	10:20	10.0	7.55	7.97	0.42	2.1
5	10:20	10:30	10.0	7.62	7.86	0.24	1.2
6	10:30	10:40	10.0	7.59	7.99	0.40	2.1

Calculated Infiltration Rate (No factors of safety) **2.1**

Sketch:

Notes:

Based on Guidelines from: Riverside County

LGC Geotechnical, Inc.

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Arantine - McMillan
Project Number: 13208-02
Date: 3/2/2018
Boring Number: I-3

Test hole dimensions (if circular)	
Boring Depth (feet)*:	5
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:42	8:07	25.0	3.12	5	1.88	Yes
2	8:07	8:32	25.0	3.01	5	1.99	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Measured Infiltration Rate(in/hr)
1	8:35	8:45	10.0	3.21	4.02	0.81	6.3
2	8:45	8:55	10.0	3.27	4.00	0.73	5.7
3	8:55	9:05	10.0	3.07	3.98	0.91	6.7
4	9:05	9:15	10.0	3.11	3.95	0.84	6.2
5	9:15	9:25	10.0	3.16	3.99	0.83	6.3
6	9:25	9:35	10.0	3.02	3.94	0.92	6.5
					Calculated Infiltration Rate (No factors of safety)		**6.5**

Sketch:

Notes:

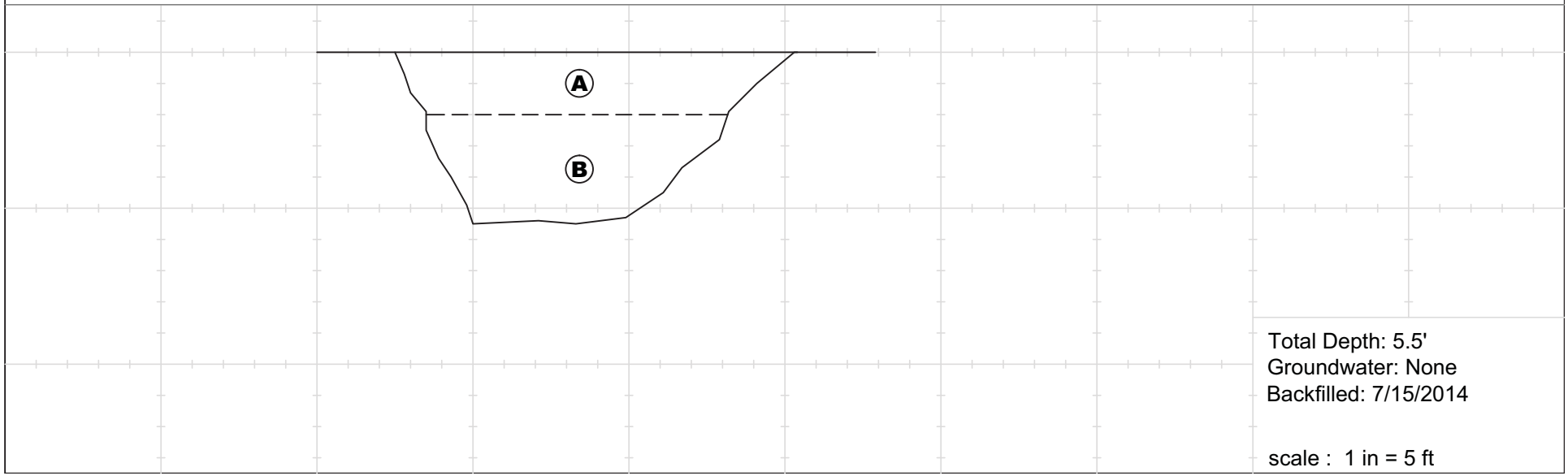
Based on Guidelines from: Riverside County

LGC Geotechnical, Inc.

Project Name: Arantine Hills	**Logged By: ASR**	**Trench No: TP-4**	
Project Number : 13208-01	**Date : 7/15/2014**	**Engineering Properties:**	
Equipment: CASE 580 Super M Backhoe	**Location: See Geotechnical Map**		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	Topsoil - light brownish grey gravelly sand with silt, dry, very loose, abundant grass roots	Qal	SM-SP			
	B	Dark grey sandy gravel with silt and occasional cobbles, slightly moist		GM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 1030 ' MSL** **Surface Slope: 0 deg.** **Trend: 321N**

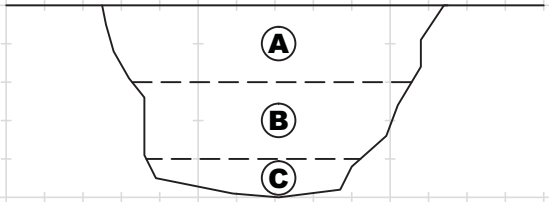


Last Edited: 7/31/2014

Project Name: Arantine Hills	**Logged By: ASR**	**Trench No: TP-5**	
Project Number : 13208-01	**Date : 7/15/2014**	**Engineering Properties:**	
Equipment: CASE 580 Super M Backhoe	**Location: See Geotechnical Map**		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	Topsoil - light grey gravelly sand with silt, dry to slightly moist, loose, abundant roots	Qal	SM-SP			
	B	Dark grey silty sand with gravel, slightly moist to moist, cohesive, marginal roots		SM	B-1		
	C	Dark grey silty sand with gravel, slightly moist to moist					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 1000 ' MSL** **Surface Slope: 0 deg.** **Trend: 13N**



Total Depth: 5'
Groundwater: None
Backfilled: 7/15/2014

scale : 1 in = 5 ft

Last Edited: 7/31/2014

LOG OF BORING B-9

DEPTH IN FEET	EQUIVALENT SPT BLOW COUNTS	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S	DESCRIPTION
0		2.2		T		SM	FILL: SILTY SAND with gravel, approximately 10% angular cobbles to 4", 20% gravel, 10% coarse grained sand, 15% medium grained sand, 30% fine grained sand, 15% silty fines.
	38-6"	4.2	117.3	■			
5	38-6"	5.3	106.7	■			
10	36	3.9	117.6	■		SM	@ 10 feet ALLUVIUM: SILTY SAND, approximately 10% fine gravel, 20% coarse grained sand, 15% medium grained sand, 30% fine grained sand, 25% silty fines, grayish brown, damp. @ 11 feet near refusal on cobbles.
15	22	5.1	113.2	■			@ 16 feet difficult drilling on cobbles.
20	36	4.4	126.2	■			@ 20 feet approximately 5% gravel, 15% coarse grained sand, 20% medium grained sand, 30% fines with trace of brown clay in pores, damp to slightly moist.
25	59	4.8	119.8	■			
30	48			■			END OF BORING
							Fill 0-10'
35							No caving No groundwater No bedrock

TEST DATA

PROJECT: **500+ Acres in Bedford Canyon, Corona, CA**	PROJECT NUMBER:	**31558.1**	
CLIENT: **Bluestone Communities**	ELEVATION:	**1156**	
	DATE DRILLED:	**February 4, 2002**	
LOR GEOTECHNICAL GROUP INC.	EQUIPMENT:	**CME 55**	
	HOLE DIA.: **8"**	ENCLOSURE:	**B-9**

LOG OF TRENCH T-19

DEPTH IN FEET	ESTIMATED COMPACTION (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S	DESCRIPTION
0		4.1				SM	FILL: **SILTY SAND with gravel, approximately 40% gravel to 2", 15% coarse grained sand, 15% medium grained sand, 15% fine grained sand, 15% silty fines, brown, moist, loose.**
	86	6.4	112.9			GW	**@ 2 feet ALLUVIUM: WELL GRADED GRAVEL with silt, approximately 5% cobbles to 6", 40% gravel to 3", 30% coarse grained sand, 10% medium grained sand, 10% fine grained sand, 5% silty fines, moist, brown.**
5	85	5.6	111.7				
10							
15							**END OF TRENCH** **Fill 0-2'** **No caving** **No groundwater** **No bedrock**

PROJECT: **500+ Acres in Bedford Canyon, Corona, CA**		PROJECT NUMBER:	**31558.1**
CLIENT:	**Bluestone Communities**	ELEVATION:	**1096**
		DATE EXCAVATED:	**February 6, 2002**
LOR GEOTECHNICAL GROUP INC.		EQUIPMENT:	**Ford 555E**
		BUCKET W.: **24"**	ENCLOSURE: **B-42**

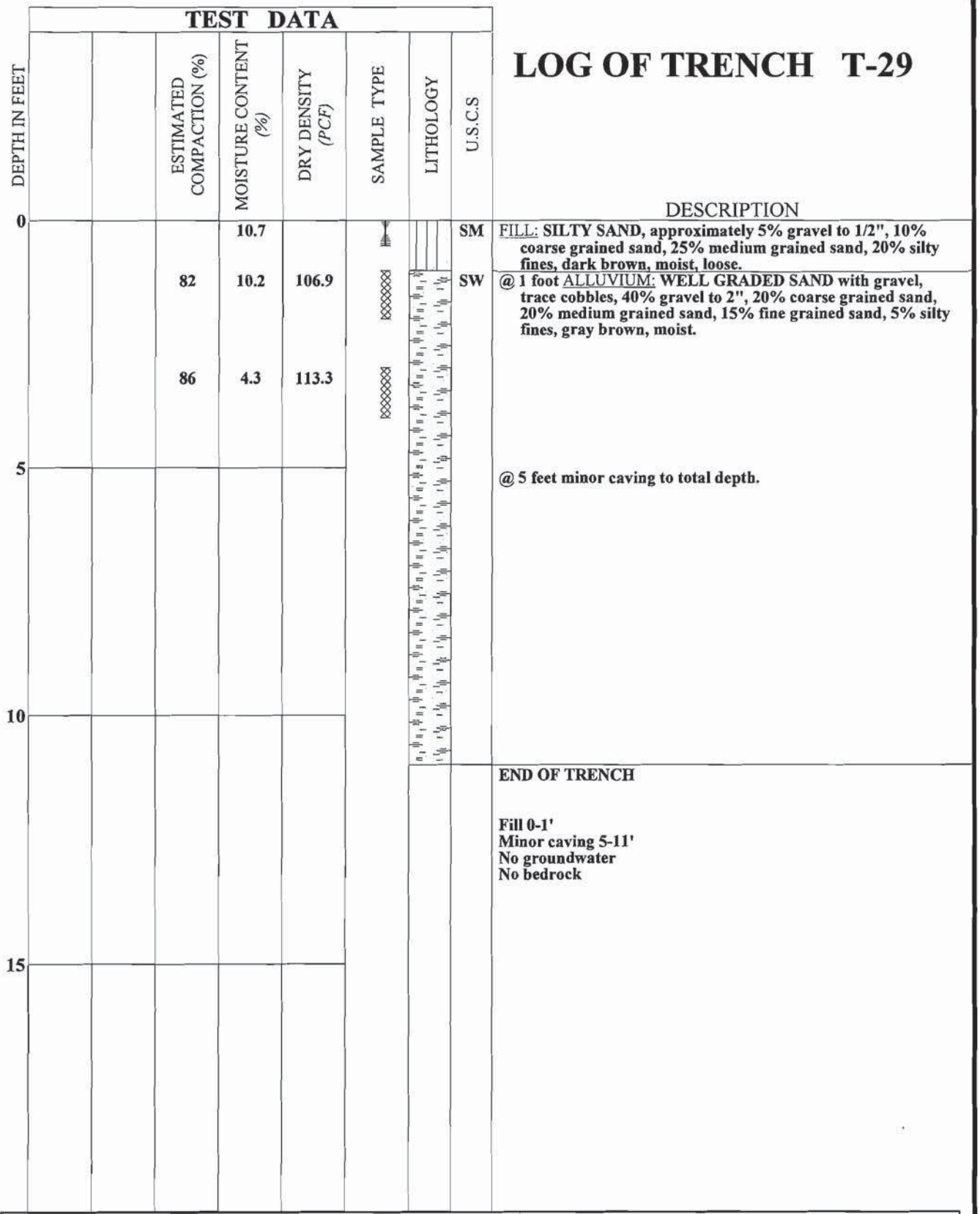
LOG OF TRENCH T-20

DEPTH IN FEET	ESTIMATED COMPACTION (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S	DESCRIPTION
0		3.8				GW	FILL: **WELL GRADED GRAVEL with silt, approximately 5% cobbles to 6", 55% gravel to 3", 15% coarse grained sand, 15% medium grained sand, 10% fine grained sand, brown, moist, loose.**
	78	11.0	101.9			GW	@ 1 foot ALLUVIUM: **WELL GRADED GRAVEL with sand and silt, approximately 5% cobbles to 8", 55% gravel to 3", 15% coarse grained sand, 10% medium grained sand, 10% fine grained sand, 5% silty fines, brown gray, moist.**
5	92	5.2	120.1				
10							**END OF TRENCH**
15							**Fill 0-1'** **No caving** **No groundwater** **No bedrock**

TEST DATA

PROJECT: **500+ Acres in Bedford Canyon, Corona, CA**		PROJECT NUMBER:	**31558.1**
CLIENT:	**Bluestone Communities**	ELEVATION:	**1160**
		DATE EXCAVATED:	**February 6, 2002**
LOR GEOTECHNICAL GROUP INC.		EQUIPMENT:	**Ford 555E**
		BUCKET W.: **24"**	ENCLOSURE: **B-43**

LOG OF TRENCH T-29



PROJECT: **500+ Acres in Bedford Canyon, Corona, CA**		PROJECT NUMBER:	**31558.1**
CLIENT:	**Bluestone Communities**	ELEVATION:	**1132**
		DATE EXCAVATED:	**February 7, 2002**
LOR GEOTECHNICAL GROUP INC.		EQUIPMENT:	**Ford 555E**
		BUCKET W.: **24"**	ENCLOSURE: **B-52**

Appendix C
Laboratory Test Results

APPENDIX C

Laboratory Test Results

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on driven samples obtained from the test borings. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution/Fines Content: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve (ASTM D1140). Where applicable, the portion retained on the No. 200 sieve was dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D6913 (sieve) or ASTM D422 (sieve and hydrometer).

Sample Location	Description	% Passing # 200 Sieve
HS-1 @ 5 ft	Well-Graded Gravel with Sand and Silt	11
HS-2 @ 2.5 ft	Well-Graded Silty Sand with Gravel	15
HS-2 @ 15 ft	Well-Graded Gravel with Sand and Silt	10
HS-3 @ 10 ft	Well-Graded Sand with Gravel and Silt	12
T-20 @ 1-3 ft	Well-Graded Gravel with Silt and Sand	5

Direct Shear: Direct shear tests were performed on selected driven and remolded samples, which were soaked for a minimum of 24 hours prior to testing. The samples were tested under various normal loads using a motor-driven, strain-controlled, direct-shear testing apparatus (ASTM D3080). The plot is provided in this Appendix.

Collapse/Swell Potential: Four collapse tests were performed per ASTM D4546. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and loaded to their approximate in-situ effective stress. The curves are presented in this Appendix.

Laboratory Test Results

Expansion Index: The expansion potential of selected representative samples was evaluated by the Expansion Index Test per ASTM D4829. The results are presented in the table below.

Sample Location	Expansion Index	Expansion Potential*
TP-5 @ 2-3 ft	3	Very Low
HS-3 @5-10 ft	0	Very Low

* Per ASTM D4829

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by standard geochemical methods (CTM 417). The test results are presented in the table below.

Sample Location	Sulfate Content
HS-3 @5-10 ft	0.013%
TP-5 @2-3 ft	0.008%

Chloride Content: Chloride content was tested per CTM 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-3 @5-10 ft	32
TP-5 @2-3 ft	64

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-3 @5-10 ft	7.4	3,900
TP-5 @2-3 ft	8.1	3,495

Laboratory Test Results

Laboratory Compaction: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results are presented in the table below.

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
TP-5 @ 2-3 ft	Silty Sand with Gravel	133.5	8.0

Boring No.		HS-1	HS-1	HS-1	HS-1	HS-1	HS-1	HS-2	HS-2	HS-2	HS-2	HS-2	HS-2
Sample No.		R-1	R-4	SPT-1	SPT-2	SPT-3	SPT-4	R-2	R-3	R-4	SPT-1	SPT-2	SPT-3
Depth (ft.)		2.5	25.0	5.0	10.0	20.0	30.0	10.0	20.0	30.0	2.5	7.5	15.0
Sample Type		Ring	Ring	SPT	SPT	SPT	SPT	Ring	Ring	Ring	SPT	SPT	SPT
Soil Identification		Dark Brown Sand w/ Gravel and Silt (SW-SM)	Brown Sand with Gravel and Silt (SC)	Brown Gravel with Sand and Silt (GW-GM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Silty Sand with Gravel (SM)	Brown Silty Sand w/ Gravel (SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Silty Sand with Gravel (SM)	Brown Gravel w/ Sand and Silt (GW-GM)
Pocket Penetrometer	($tons/ft^2$)												
Weight Soil + Rings / Tube	(g)	1185.0	1205.0	N/A	N/A	N/A	N/A	1130.0	1165.0	1200.0	N/A	N/A	N/A
Weight of Rings / Tube	(g)	270.0	270.0	N/A	N/A	N/A	N/A	270.0	270.0	270.0	N/A	N/A	N/A
Average Length	(in.)	6.0	6.0	N/A	N/A	N/A	N/A	6.0	6.0	6.0	N/A	N/A	N/A
Average Diameter	(in.)	2.416	2.416	N/A	N/A	N/A	N/A	2.416	2.416	2.416	N/A	N/A	N/A
Wet Wt. of Soil + Cont.	(g)	107.1	159.1	127.2	119.6	86.8	119.8	158.2	140.1	158.6	155.2	119.0	131.2
Dry Wt. Of Soil + Cont.	(g)	101.2	150.7	122.2	112.8	82.9	113.8	152.6	135.3	154.5	150.9	113.5	126.3
Weight of Container	(g)	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Container No.													
Wet Density	**(pcf)**	126.7	129.5	N/A	N/A	N/A	N/A	119.1	124.0	128.8	N/A	N/A	N/A
Moisture Content	**(%)**	**6.0**	**5.7**	**4.2**	**6.2**	**4.9**	**5.4**	**3.7**	**3.6**	**2.7**	**2.9**	**5.0**	**4.0**
Dry Density	**(pcf)**	**119.5**	**122.5**	**N/A**	**N/A**	**N/A**	**N/A**	**114.8**	**119.6**	**125.4**	**N/A**	**N/A**	**N/A**
Degree of Saturation	**(%)**	39.6	40.9	N/A	N/A	N/A	N/A	21.6	24.0	21.3	N/A	N/A	N/A

LGC Geotechnical, Inc.

MOISTURE & DENSITY of SOILS

ASTM D 2216 & ASTM D 2937

Specific Gravity Assumed 2.70

Project Name:	Arantine - McMillan		
Project No.:	13208-02		
Client Name:	The New Home Company		
Tested By:	CB	Date:	3/1/2018

Boring No.		HS-2	HS-3	HS-3	HS-3	HS-3	HS-3	HS-3					
Sample No.		SPT-4	R-3	R-4	SPT-1	SPT-2	SPT-3	SPT-4					
Depth (ft.)		25.0	15.0	25.0	5.0	10.0	20.0	30.0					
Sample Type		SPT	Ring	Ring	SPT	SPT	SPT	SPT					
Soil Identification		Brown Silty Sand with Gravel (SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Silty Sand w/ Gravel (SM)	Brown Silty Sand w/ Gravel (SM)	Brown Sand with Gravel and Siltl (SM)	Brown Sand w/ Gravel and Silt (SW-SM)	Brown Silty Sand w/ Gravel (SM)					
Pocket Penetrometer	(tons/ft^2)												
Weight Soil + Rings / Tube	(g)	N/A	1190.0	1250.0	N/A	N/A	N/A	N/A					
Weight of Rings / Tube	(g)	N/A	270.0	270.0	N/A	N/A	N/A	N/A					
Average Length	(in.)	N/A	6.0	6.0	N/A	N/A	N/A	N/A					
Average Diameter	(in.)	N/A	2.416	2.416	N/A	N/A	N/A	N/A					
Wet Wt. of Soil + Cont.	(g)	132.0	118.0	159.6	117.1	118.0	125.2	118.4					
Dry Wt. Of Soil + Cont.	(g)	126.7	110.4	151.6	112.3	112.0	120.6	112.7					
Weight of Container	(g)	3.1	3.1	3.1	3.1	3.1	3.1	3.1					
Container No.													
Wet Density	**(pcf)**	N/A	127.4	135.7	N/A	N/A	N/A	N/A					
Moisture Content	**(%)**	**4.3**	**7.1**	**5.4**	**4.4**	**5.5**	**3.9**	**5.2**					
Dry Density	**(pcf)**	**N/A**	**119.0**	**128.8**	**N/A**	**N/A**	**N/A**	**N/A**					
Degree of Saturation	**(%)**	N/A	45.9	47.1	N/A	N/A	N/A	N/A					

LGC Geotechnical, Inc.

MOISTURE & DENSITY of SOILS

ASTM D 2216 & ASTM D 2937

Specific Gravity Assumed 2.70

Project Name:	Arantine - McMillan		
Project No.:	13208-02		
Client Name:	The New Home Company		
Tested By:	CB	Date:	3/1/2018

Boring No.	HS-1	HS-1	HS-2	HS-3	HS-3			
Sample No.	R-2	R-3	R-1	R-1	R-2			
Depth (ft.)	7.5	15.0	5.0	2.5	7.5			
Sample Type	Ring	Ring	Ring	Ring	Ring			
Soil Identification	Dark olive gray well-graded sand with silt and gravel (SW-SM)g	Dark olive gray well-graded sand with silt and gravel (SW-SM)g	Dark olive gray well-graded sand with silt and gravel (SW-SM)g	Dark olive gray well-graded sand with silt and gravel (SW-SM)g	Dark olive gray well-graded sand with silt and gravel (SW-SM)g			
Pocket Penetrometer (tons/ft^2)	>4.50	>4.50	>4.50	>4.50	3.50/>4.50			
Weight Soil + Rings / Tube (g)	997.39	811.44	1155.60	968.22	967.71			
Weight of Rings / Tube (g)	222.0	177.6	266.4	222.0	222.0			
Average Length (in.)	5.0	4.0	6.0	5.0	5.0			
Average Diameter (in.)	2.415	2.415	2.415	2.415	2.415			
Wet. Wt. of Soil + Cont. (g)	199.52	188.57	223.41	199.03	222.53			
Dry Wt. of Soil + Cont. (g)	191.82	179.47	216.14	193.76	214.10			
Weight of Container (g)	37.94	55.53	65.33	55.51	65.33			
Container No.								
Wet Density	129.0	131.8	123.3	124.1	124.0			
Moisture Content (%)	**5.0**	**7.3**	**4.8**	**3.8**	**5.7**			
Dry Density (pcf)	**122.8**	**122.8**	**117.6**	**119.6**	**117.4**			
Degree of Saturation (%)	36.3	53.2	30.0	25.1	35.1			

MOISTURE & DENSITY of SOILS

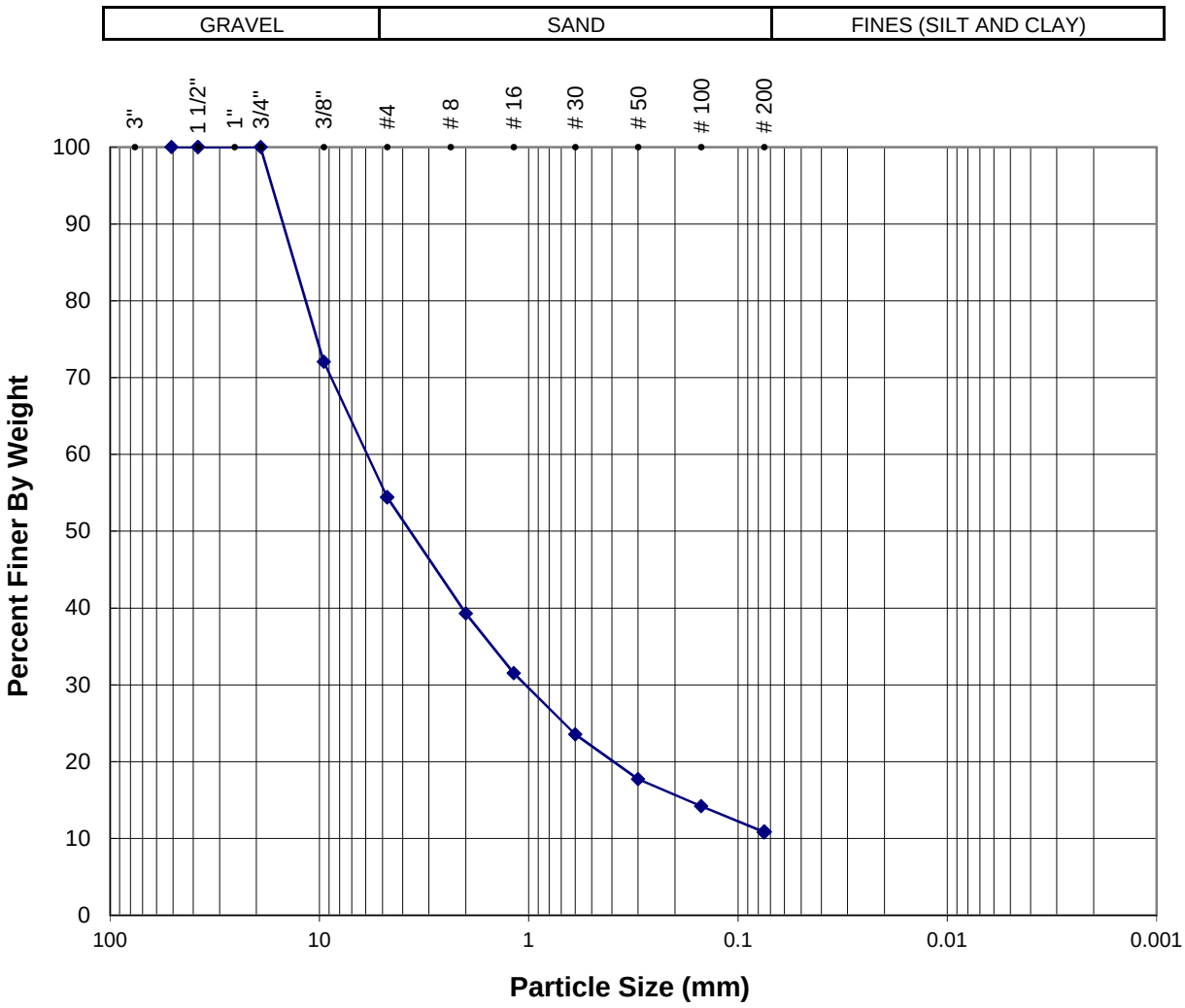
ASTM D 2216 & ASTM D 2937

Project Name: Arantine

Project No.: 13208-02

Client Name: LGC Geotechnical, Inc.

Tested By: G. Bathala Date: 03/15/18



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-1	**SPT-1**	**5'**	**GW-GM**	**46**	**44**	**11**

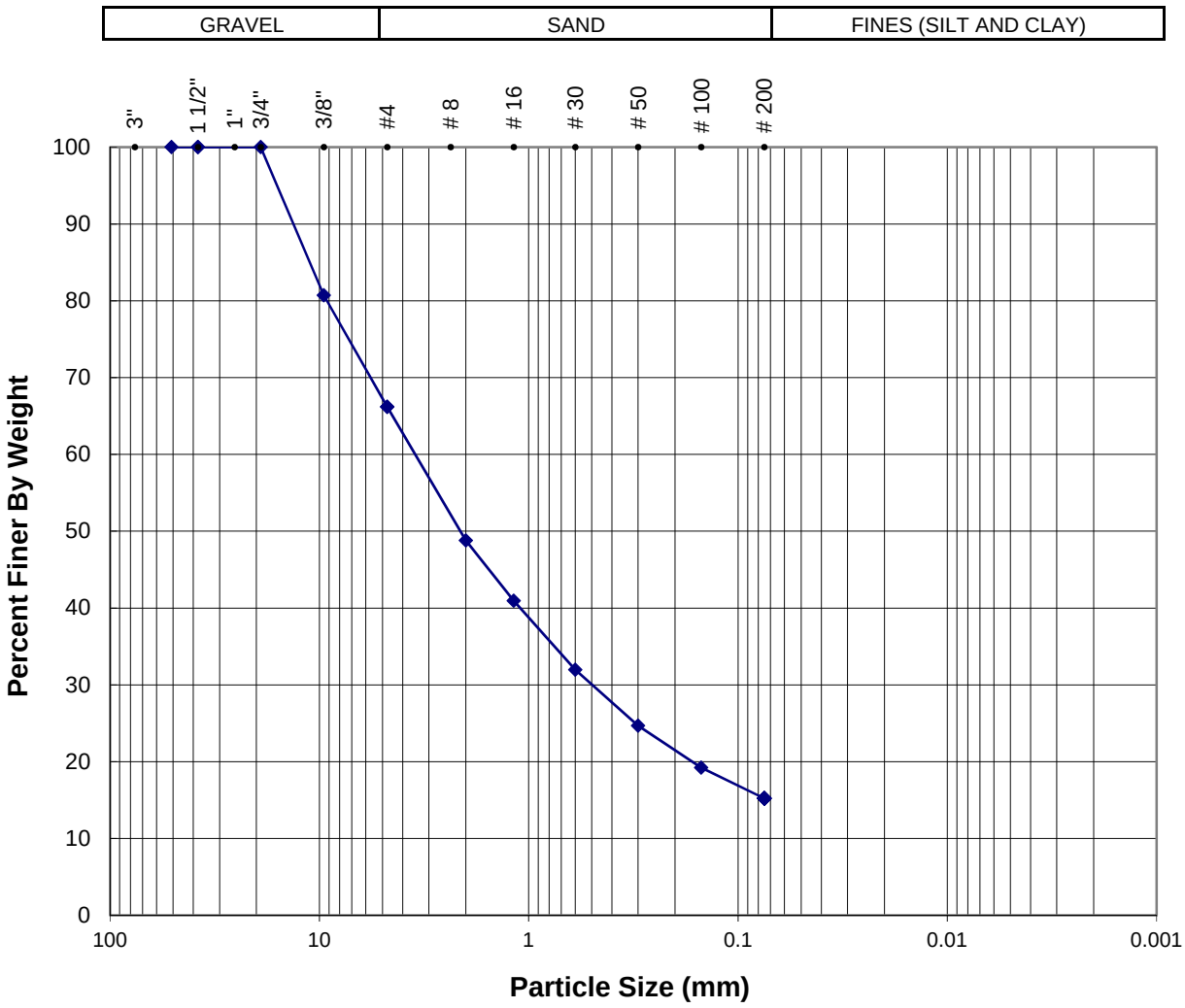
Sample Description: Well-graded gravel with sand and silt

LGC Geotechnical, Inc.

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 13208-02
Date: Mar-18

Arantine - McMillan



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-2	**SPT-1**	**2.5'**	**SW-SM**	**34**	**51**	**15**

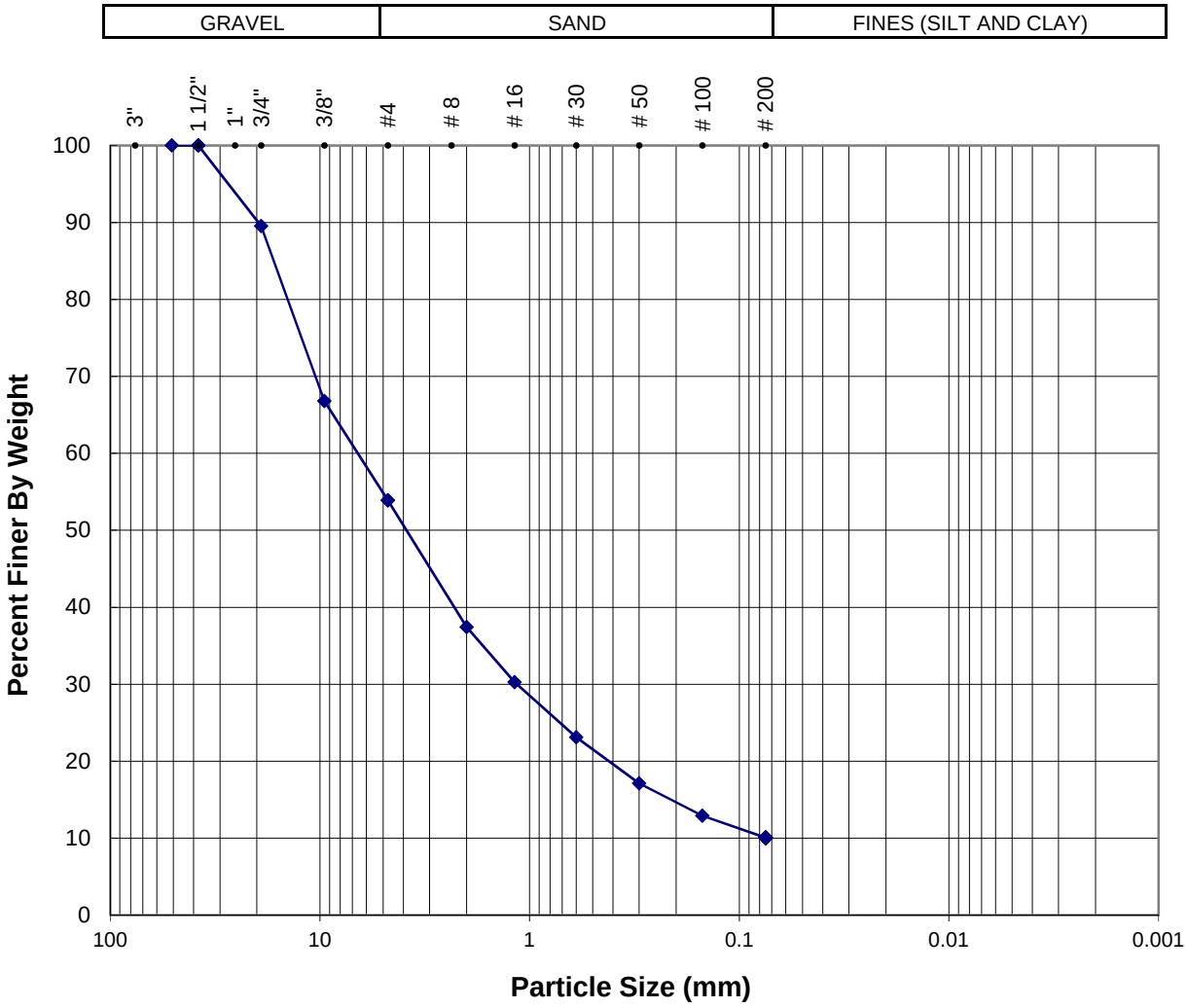
Sample Description: Well-graded silty sand with gravel

LGC Geotechnical, Inc.

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 13208-02
Date: Mar-18

Arantine - McMillan



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-2	**SPT-3**	**15'**	**GW-GM**	**46**	**44**	**10**

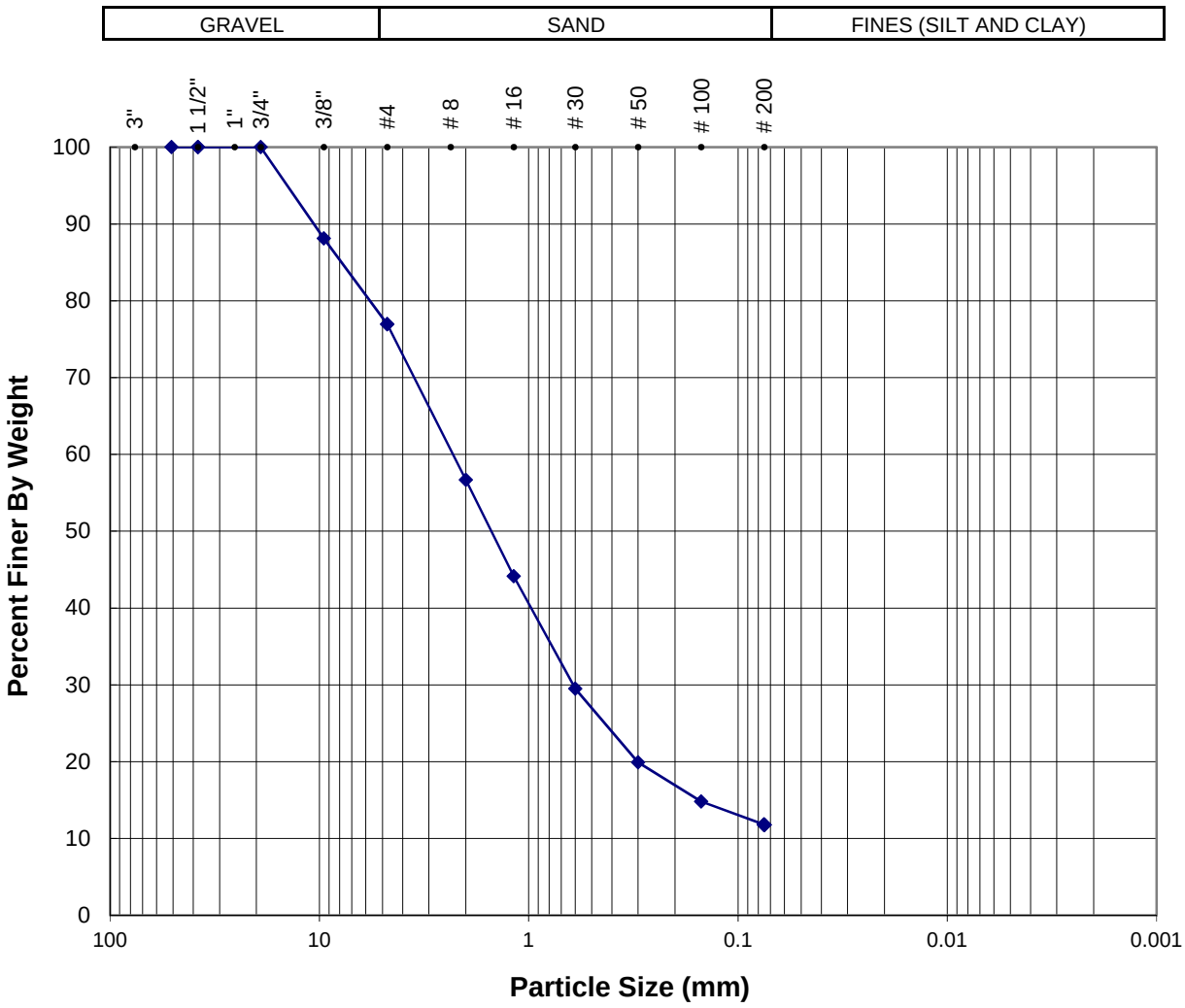
Sample Description: Well-graded gravel with sand and silt

LGC Geotechnical, Inc.

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 13208-02
Date: Mar-18

Arantine - McMillan



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-3	**SPT-2**	**10'**	**SW-SM**	**23**	**65**	**12**

Sample Description: Well-graded sand with gravel and silt

LGC Geotechnical, Inc.

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 13208-02
Date: Mar-18

Arantine - McMillan

One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

Project Name:	Arantine	Tested By:	G. Bathala	Date:	03/15/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-1	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	15.0		

Sample Description: Dark olive gray well-graded sand with silt and gravel (SW-SM)g

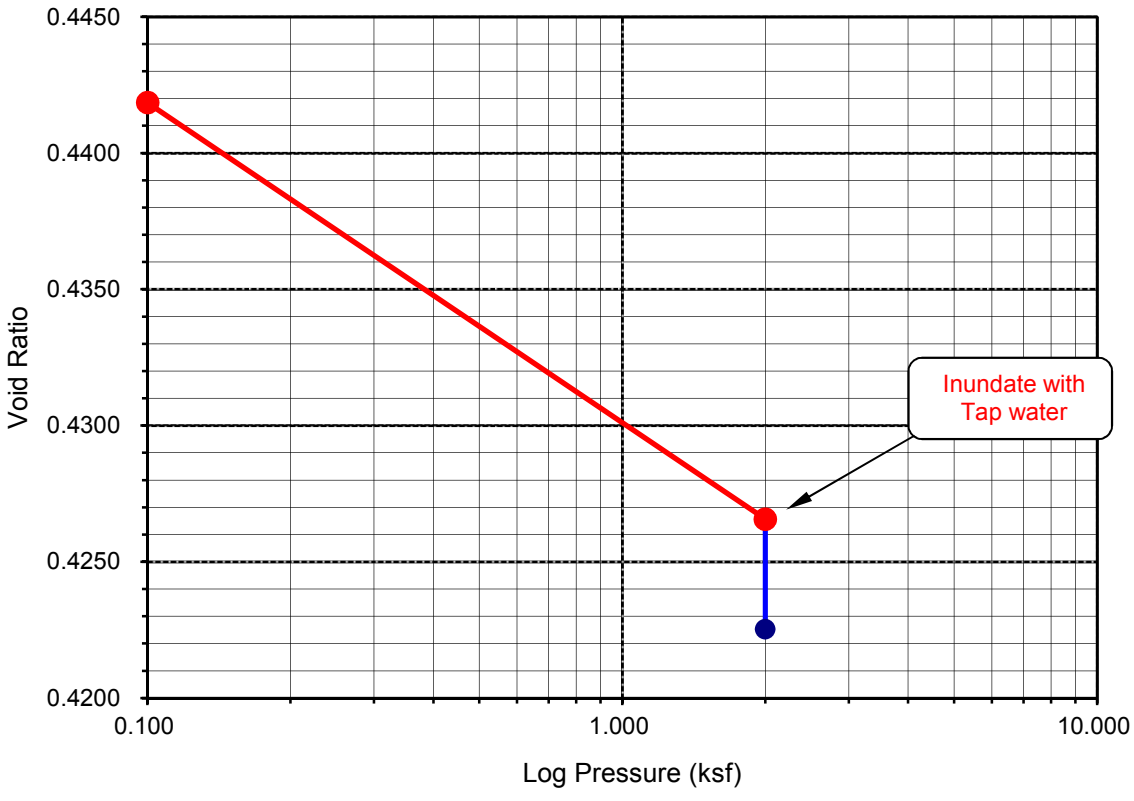
Initial Dry Density (pcf):	116.9
Initial Moisture (%):	7.34
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1099
Diameter(in):	2.415

Final Dry Density (pcf):	118.6
Final Moisture (%) :	13.1
Initial Void ratio:	0.4419
Specific Gravity(assumed):	2.70
Initial Saturation (%)	44.9

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1099	1.0000	0.00	0.00	0.4419	0.00
2.000	0.1211	0.9888	0.06	-1.12	0.4266	-1.06
H2O	0.1239	0.9860	0.06	-1.40	0.4225	-1.34

Percent Swell (+) / Settlement (-) After Inundation = -0.28

Void Ratio - Log Pressure Curve



One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

Project Name:	Arantine	Tested By:	G. Bathala	Date:	03/15/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-2	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	5.0		

Sample Description: Dark olive gray well-graded sand with silt and gravel (SW-SM)g

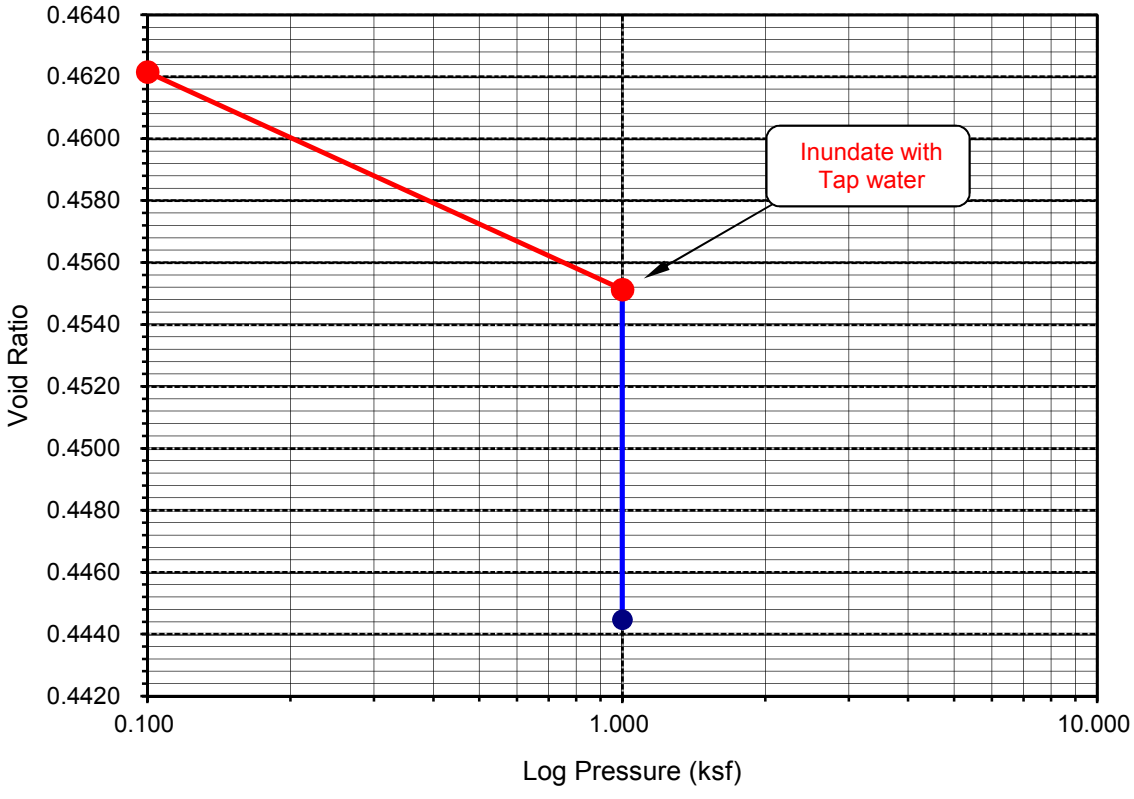
Initial Dry Density (pcf):	115.3
Initial Moisture (%):	4.82
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0926
Diameter(in):	2.415

Final Dry Density (pcf):	116.9
Final Moisture (%) :	12.0
Initial Void ratio:	0.4621
Specific Gravity(assumed):	2.70
Initial Saturation (%)	28.2

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0926	1.0000	0.00	0.00	0.4621	0.00
1.000	0.0982	0.9944	0.08	-0.56	0.4551	-0.48
H2O	0.1055	0.9871	0.08	-1.29	0.4445	-1.21

Percent Swell (+) / Settlement (-) After Inundation = -0.73

Void Ratio - Log Pressure Curve



One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

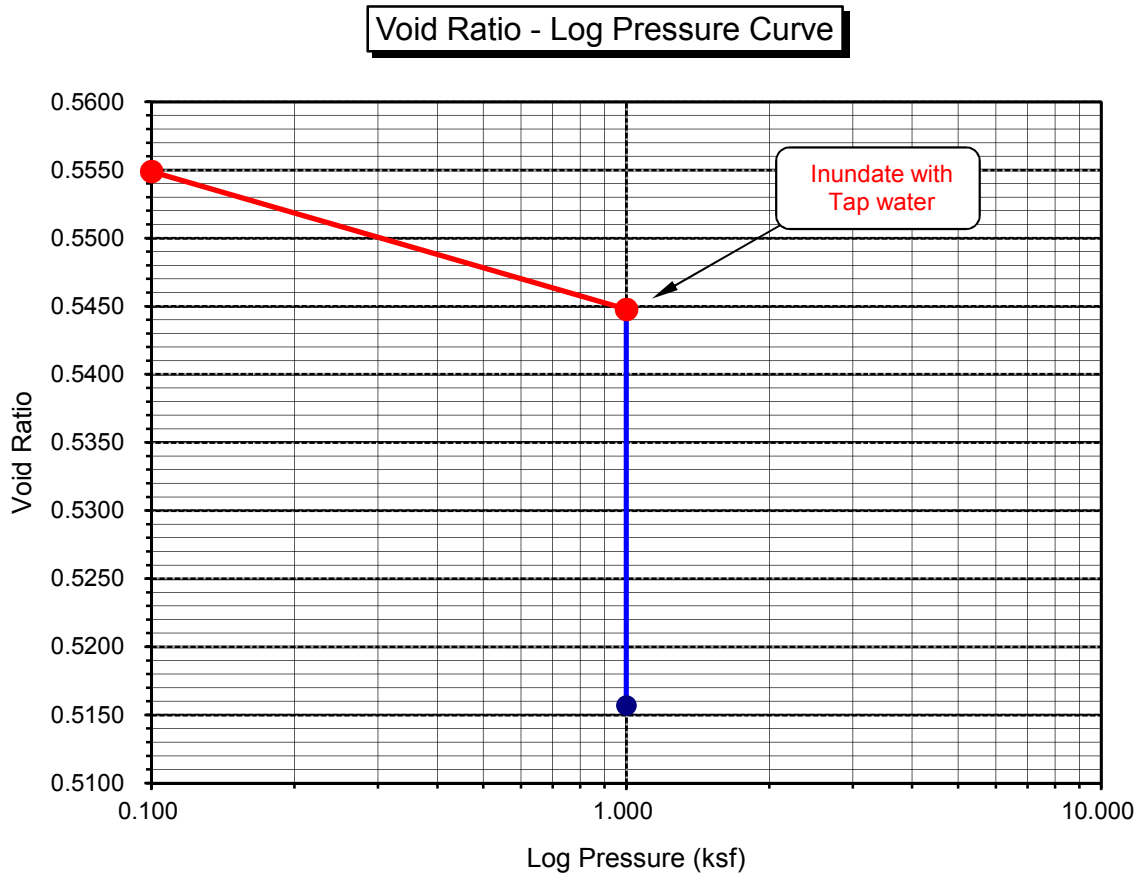
Project Name:	Arantine	Tested By:	G. Bathala	Date:	03/19/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-3	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	2.5		
Sample Description:	Dark olive gray well-graded sand with silt and gravel (SW-SM)g				

Initial Dry Density (pcf):	108.4
Initial Moisture (%):	3.81
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1065
Diameter(in):	2.415

Final Dry Density (pcf):	111.3
Final Moisture (%) :	12.3
Initial Void ratio:	0.5549
Specific Gravity(assumed):	2.70
Initial Saturation (%)	18.5

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1065	1.0000	0.00	0.00	0.5549	0.00
1.000	0.1133	0.9932	0.03	-0.68	0.5448	-0.65
H2O	0.1320	0.9745	0.03	-2.55	0.5157	-2.52

Percent Swell (+) / Settlement (-) After Inundation = -1.88



One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

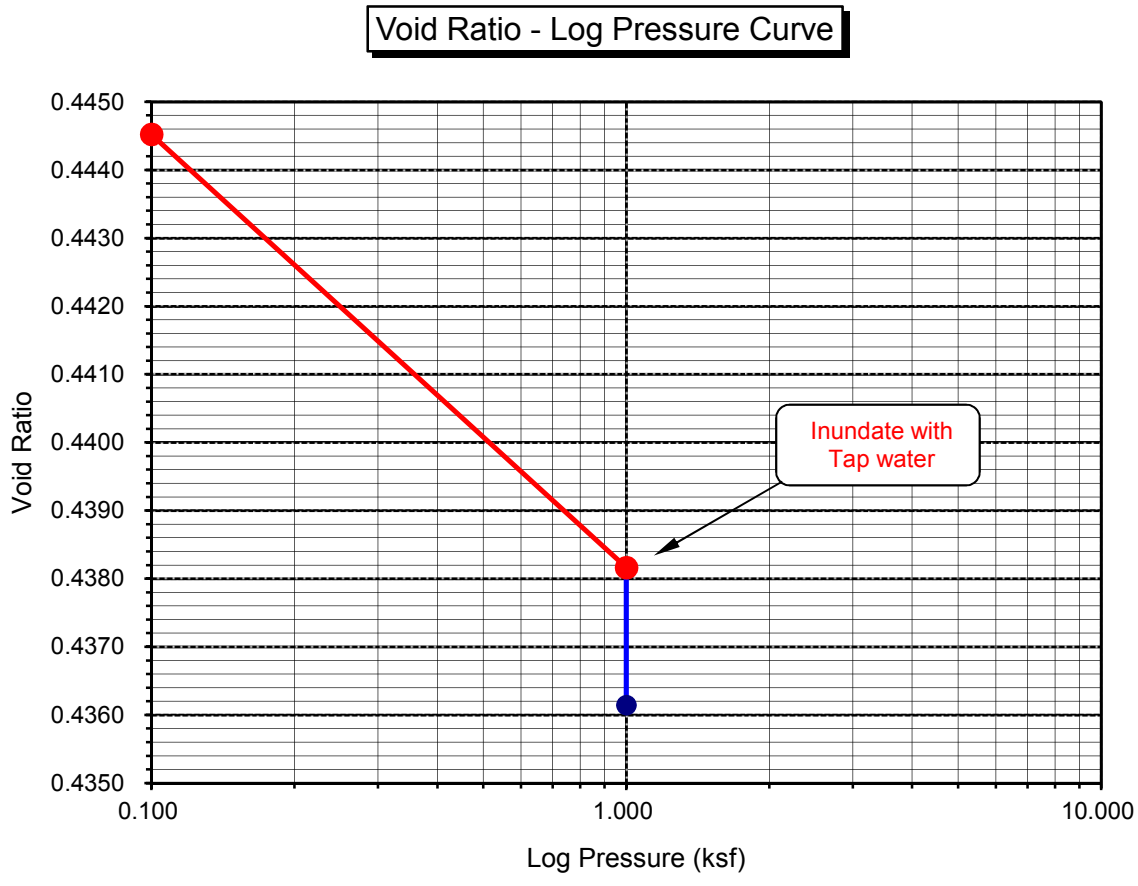
Project Name:	Arantine	Tested By:	G. Bathala	Date:	03/19/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-3	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	7.5		
Sample Description:	Dark olive gray well-graded sand with silt and gravel (SW-SM)g				

Initial Dry Density (pcf):	116.7
Initial Moisture (%):	5.67
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0986
Diameter(in):	2.415

Final Dry Density (pcf):	117.6
Final Moisture (%) :	12.1
Initial Void ratio:	0.4445
Specific Gravity(assumed):	2.70
Initial Saturation (%)	34.4

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0986	1.0000	0.00	0.00	0.4445	0.00
1.000	0.1038	0.9948	0.08	-0.52	0.4382	-0.44
H2O	0.1052	0.9934	0.08	-0.66	0.4361	-0.58

Percent Swell (+) / Settlement (-) After Inundation = -0.14



EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Arantine	Tested By:	G. Berdy	Date:	03/16/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-3	Depth (ft.):	5-10		
Sample No.:	B-1				
Soil Identification:	Dark olive gray well-graded sand with silt and gravel (SW-SM)g				

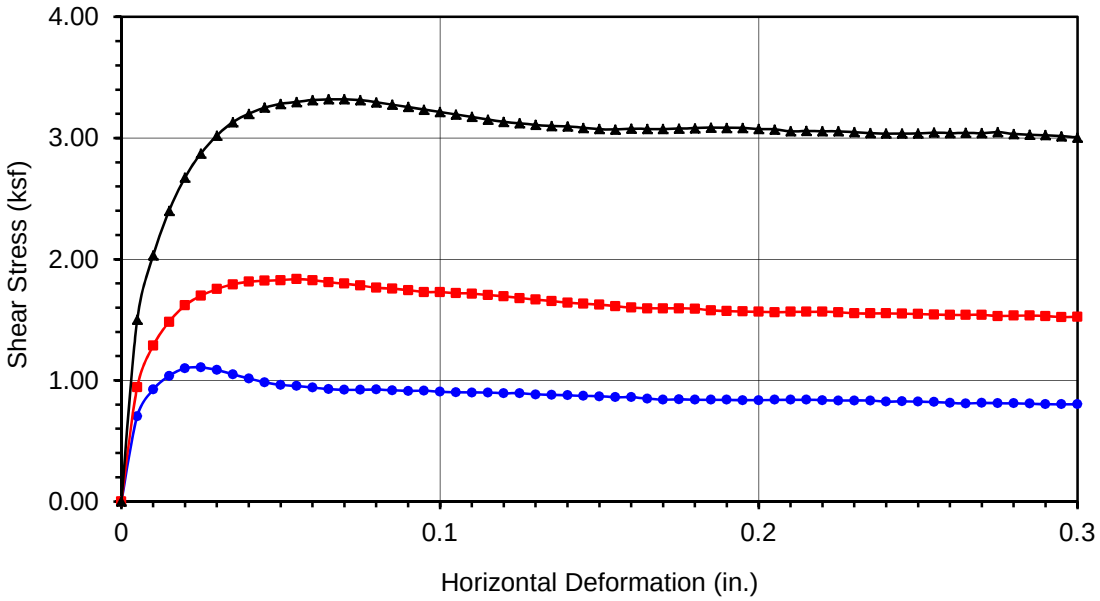
Dry Wt. of Soil + Cont.	(g)	1000.00
Wt. of Container No.	(g)	0.00
Dry Wt. of Soil	(g)	1000.00
Weight Soil Retained on #4 Sieve		0.00
Percent Passing # 4		100.00

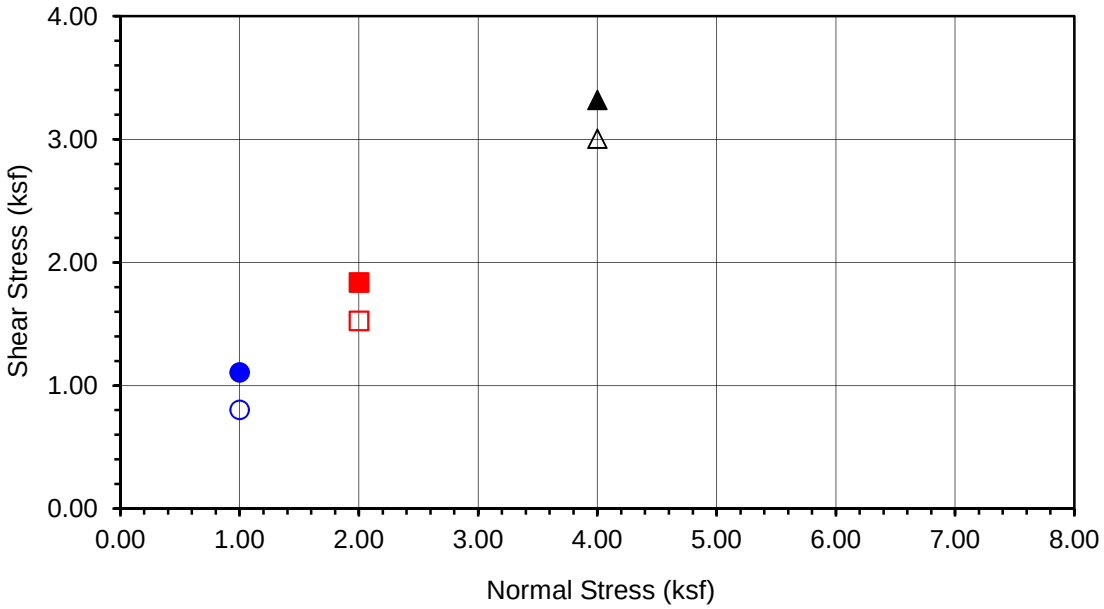
MOLDED SPECIMEN		Before Test	After Test
Specimen Diameter	(in.)	4.01	4.01
Specimen Height	(in.)	1.0000	0.9940
Wt. Comp. Soil + Mold	(g)	619.90	452.97
Wt. of Mold	(g)	190.20	0.00
Specific Gravity (Assumed)		2.70	2.70
Container No.		O	O
Wet Wt. of Soil + Cont.	(g)	852.50	643.17
Dry Wt. of Soil + Cont.	(g)	792.30	589.56
Wt. of Container	(g)	0.00	190.20
Moisture Content	(%)	7.60	13.42
Wet Density	(pcf)	129.6	137.5
Dry Density	(pcf)	120.5	121.2
Void Ratio		0.399	0.391
Total Porosity		0.285	0.281
Pore Volume	(cc)	59.1	57.8
Degree of Saturation (%) [S_{meas}]		**51.4**	92.7

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
03/16/18	14:27	1.0	0	0.1915
03/16/18	14:37	1.0	10	0.1900
Add Distilled Water to the Specimen				
03/16/18	14:58	1.0	21	0.1860
03/17/18	14:30	1.0	1433	0.1855
03/19/18	8:03	1.0	3926	0.1855

Expansion Index (EI_{meas}) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	**0**





Boring No.	**TP-5**
Sample No.	**B-1**
Depth (ft)	**2-3**
Sample Type: 90% Remold	
Soil Identification: Brown silty sand with gravel (SM)g	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 1.107	■ 1.836	▲ 3.320
Shear Stress @ End of Test (ksf)	○ 0.802	□ 1.525	△ 3.005
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	9.36	9.36	9.36
Dry Density (pcf)	114.6	114.6	114.6
Saturation (%)	53.6	53.6	53.6
Soil Height Before Shearing (in.)	0.9957	0.9902	0.9851
Final Moisture Content (%)	14.8	14.4	14.1

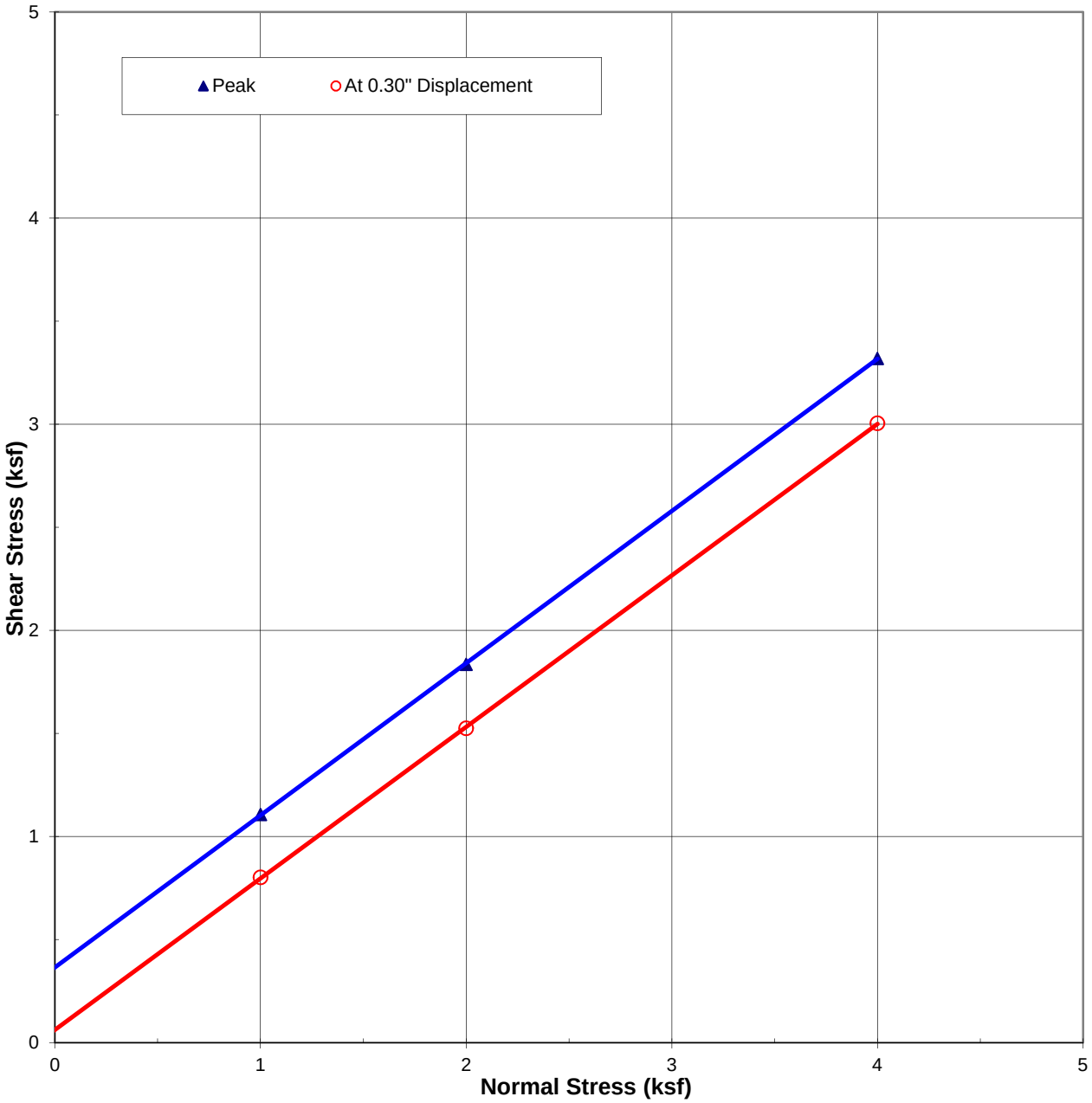
DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: 13208-01

Arantine Hills

07-14



Tested Sample:
TP-5 at 2-3 ft

	Peak:	At 0.30" Displacement:
	36.4 Degrees	36.3 Degrees
	0.37 ksf	0.06 ksf

Samples Remolded to 90% Relative Compaction

LGC Geotechnical, Inc.	**COMPOSITE DIRECT SHEAR PLOT**	**Project Number:** 13208-01 **Date:** Jul-14
		Arantine Hills Corona

EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Arantine Hills		Tested By:	S. Felter	Date: 07/22/14
Project No.:	13208-01		Checked By:	J. Ward	Date: 07/25/14
Boring No.:	TP-5		Depth (ft.):	2-3	
Sample No.:	B-1				
Soil Identification:	Brown silty sand with gravel (SM)g				

Dry Wt. of Soil + Cont. (g)	1000.00
Wt. of Container No. (g)	0.00
Dry Wt. of Soil (g)	1000.00
Weight Soil Retained on #4 Sieve	0.00
Percent Passing # 4	100.00

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0025
Wt. Comp. Soil + Mold (g)	607.20	427.23
Wt. of Mold (g)	201.50	0.00
Specific Gravity (Assumed)	2.70	2.70
Container No.	O	O
Wet Wt. of Soil + Cont. (g)	808.60	628.73
Dry Wt. of Soil + Cont. (g)	738.50	571.98
Wt. of Container (g)	0.00	201.50
Moisture Content (%)	9.49	15.32
Wet Density (pcf)	122.4	128.5
Dry Density (pcf)	111.8	111.5
Void Ratio	0.508	0.512
Total Porosity	0.337	0.339
Pore Volume (cc)	69.8	70.3
Degree of Saturation (%) [S_{meas}]	**50.4**	80.7

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
07/22/14	14:00	1.0	0	0.1180
07/22/14	14:10	1.0	10	0.1180
Add Distilled Water to the Specimen				
07/22/14	14:22	1.0	12	0.1195
07/23/14	6:10	1.0	960	0.1205
07/23/14	7:35	1.0	1045	0.1205

Expansion Index (EI_{meas}) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	**3**

MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	Arantine Hills	Tested By:	A. Santos	Date:	07/20/14
Project No.:	13208-01	Input By:	J. Ward	Date:	07/22/14
Boring No.:	TP-5	Depth (ft.):	2-3		
Sample No.:	B-1				
Soil Identification:	Brown silty sand with gravel (SM)g				

Preparation Method:	X	Moist	Scalp Fraction (%)		Rammer Weight (lb.) = 10.0
		Dry	#3/4		Height of Drop (in.) = 18.0
Compaction Method	X	Mechanical Ram	#3/8		
		Manual Ram	#4	20.1	Mold Volume (ft³) 0.03320

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3800.0	3937.0	3899.0	3828.0		
Weight of Mold (g)	1843.0	1843.0	1843.0	1843.0		
Net Weight of Soil (g)	1957.0	2094.0	2056.0	1985.0		
Wet Weight of Soil + Cont. (g)	594.40	605.90	576.50	607.00		
Dry Weight of Soil + Cont. (g)	560.60	558.80	522.20	539.80		
Weight of Container (g)	76.40	75.20	77.70	82.80		
Moisture Content (%)	6.98	9.74	12.22	14.70		
Wet Density (pcf)	130.0	139.0	136.5	131.8		
Dry Density (pcf)	121.5	126.7	121.7	114.9		

Maximum Dry Density (pcf)	**127.0**	**Optimum Moisture Content (%)**	**9.5**
Corrected Dry Density (pcf)	**133.5**	**Corrected Moisture Content (%)**	**8.0**

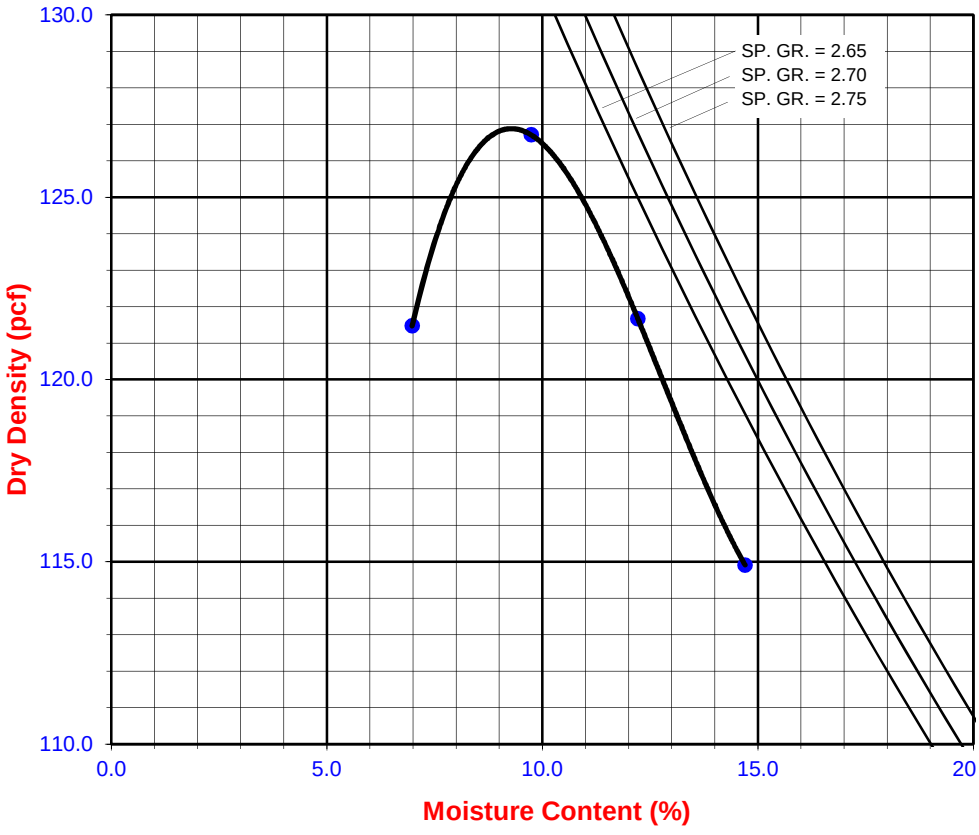
X Procedure A
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

☐ Procedure B
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

☐ Procedure C
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:
GR:SA:FI

Atterberg Limits:
LL,PL,PI



TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: Arantine Hills Tested By : G. Berdy Date: 07/21/14

Project No. : 13208-01 Data Input By: J. Ward Date: 07/25/14

Boring No.	TP-5			
Sample No.	B-1			
Sample Depth (ft)	2-3			
Soil Identification:	Brown (SM)g			
Wet Weight of Soil + Container (g)	202.99			
Dry Weight of Soil + Container (g)	193.94			
Weight of Container (g)	58.54			
Moisture Content (%)	6.68			
Weight of Soaked Soil (g)	100.91			

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	16			
Crucible No.	23			
Furnace Temperature (°C)	840			
Time In / Time Out	11:10/11:55			
Duration of Combustion (min)	45			
Wt. of Crucible + Residue (g)	18.4244			
Wt. of Crucible (g)	18.4225			
Wt. of Residue (g) (A)	0.0019			
PPM of Sulfate (A) x 41150	78.18			
PPM of Sulfate, Dry Weight Basis	**84**			

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	15			
ml of AgNO3 Soln. Used in Titration (C)	0.5			
PPM of Chloride (C -0.2) * 100 * 30 / B	60			
PPM of Chloride, Dry Wt. Basis	**64**			

pH TEST, DOT California Test 532/643

pH Value	**8.17**			
Temperature °C	22.2			

SOIL RESISTIVITY TEST

DOT CA TEST 532 / 643

Project Name:	Arantine Hills		Tested By :	G. Berdy	Date: 07/23/14
Project No. :	13208-01		Data Input By:	J. Ward	Date: 07/25/14
Boring No.:	TP-5		Depth (ft.) :	2-3	
Sample No. :	B-1				

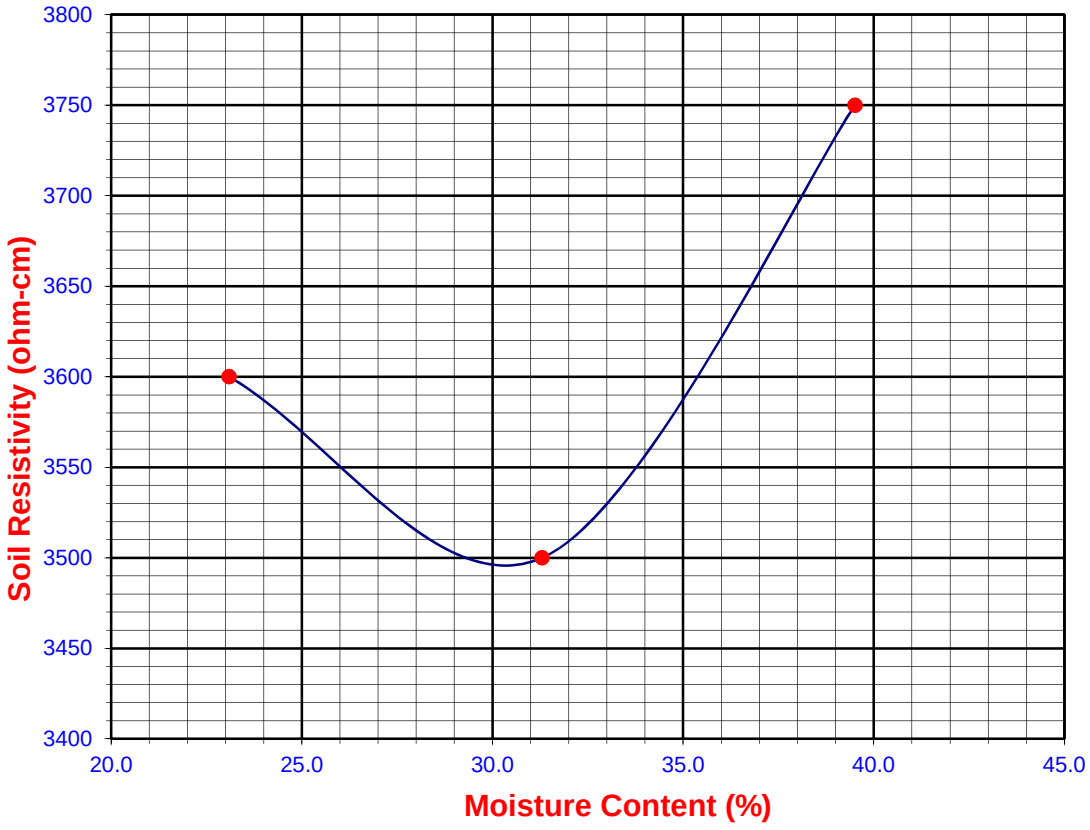
Soil Identification:* Brown (SM)g

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	20	23.10	3600	3600
2	30	31.30	3500	3500
3	40	39.51	3750	3750
4				
5				

Moisture Content (%) (MCi)	6.68
Wet Wt. of Soil + Cont. (g)	202.99
Dry Wt. of Soil + Cont. (g)	193.94
Wt. of Container (g)	58.54
Container No.	
Initial Soil Wt. (g) (Wt)	130.00
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 532 / 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 532 / 643	
3495	**30.3**	**84**	**64**	**8.17**	**22.2**



From LOR, 2002

APPENDIX C
LABORATORY TESTING

General

Selected soil samples obtained from the trenches and borings were tested in our laboratory to evaluate the physical properties of the soils affecting foundation design and construction procedures. The laboratory testing program performed in conjunction with our investigation included moisture content, dry density, laboratory compaction, direct shear, sieve analysis, sand equivalent, R-value, percent passing No. 200 sieve, expansion index, and chemical analysis. The chemical analysis testing was performed by E.S. Babock & Sons, Inc. and are attached as Enclosures C-3 through C-27. Descriptions of the laboratory tests are presented in the following paragraphs.

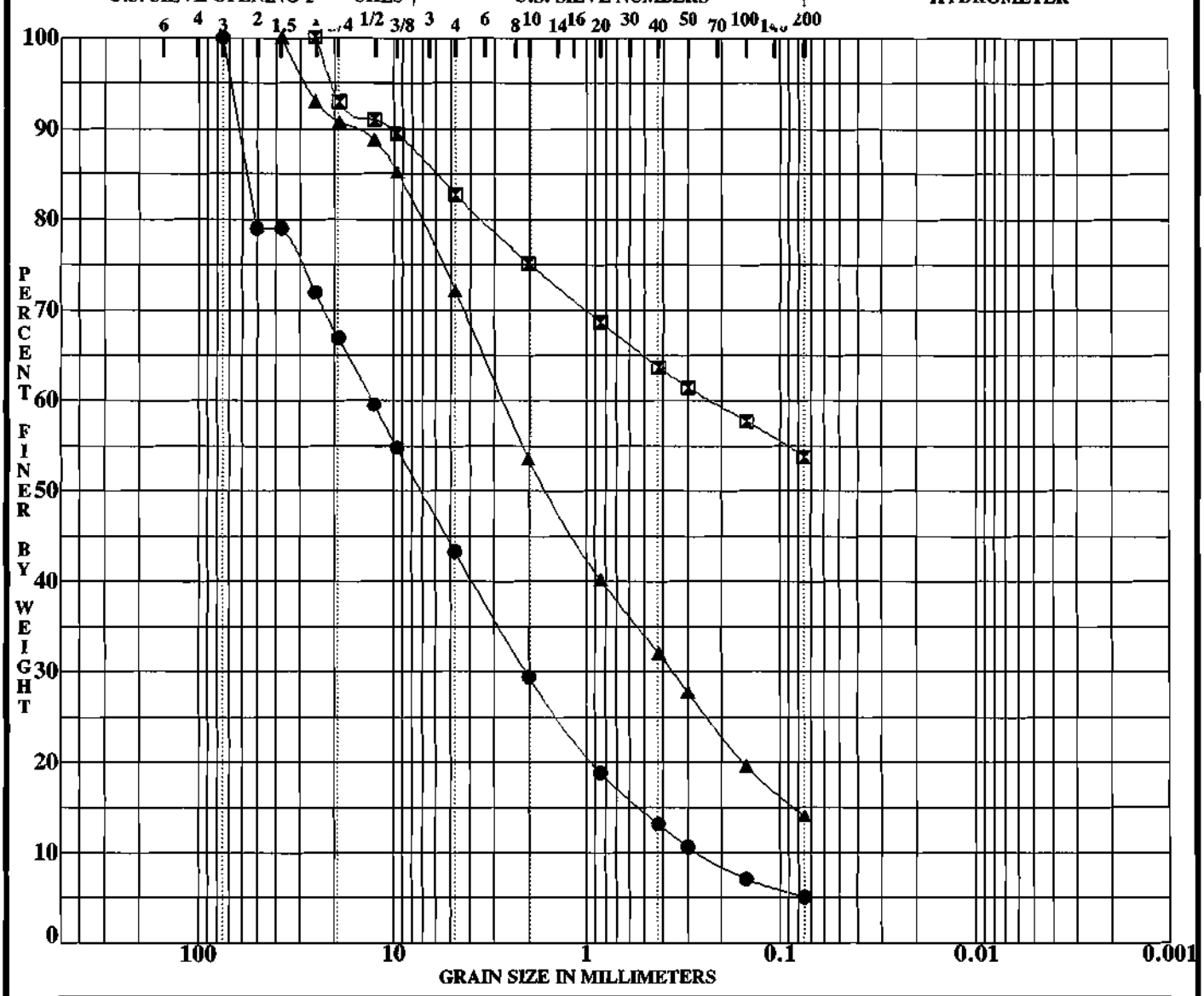
Moisture-Density Tests

The moisture content and dry density information provides an indirect measure of soil consistency for each stratum, and can also provide a correlation between soils on this site. The dry unit weight and field moisture content were determined for selected undisturbed samples, and the results are shown on the boring logs, Enclosures B-1 through B-54, for convenient correlation with the soil profile.

Direct Shear Tests

Shear tests are performed with a direct shear machine at a constant rate-of-strain (usually 0.05 inches/minute). The machine is designed to test a sample partially extruded from a sample ring in single shear. Samples are tested at varying normal loads in order to evaluate the shear strength parameters, angle of internal friction and cohesion. Samples are tested in a remolded condition (90% relative compaction per ASTM 1557) at field moisture content and soaked, according to conditions existing or expected in the field.

The results of the shear tests are presented in the following table:



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	SE	RV			Cc	Cu
● T-20	@ 1-3 ft	(GW) Well Graded Gravel w/ silt and sand	33	--			1.27	48.0
⊠ T-23	@ 1-3 ft	(ML) Sandy Silt w/ gravel	8	21				
▲ T-30	@ 1-3 ft	(SM) Silty Sand w/ gravel	25	65				

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● T-20	@ 1-3 ft	75.00	12.79	2.076	0.2664	56.7	38.2	5.1	
⊠ T-23	@ 1-3 ft	25.00	0.23			17.3	28.9	53.8	
▲ T-30	@ 1-3 ft	37.50	2.70	0.361		27.9	58.1	14.0	

PROJECT 580 ACRES, BEDFORD CANYON - CORONA AREA, CALIFORNIA

PROJECT NO. 31558.1

DATE 3/26/02

GRADATION CURVES

LOR Geotechnical Group, Inc.

Riverside, California

Enclosure C-2

Appendix D
General Earthwork and Grading Specifications for Rough Grading

General Earthwork and Grading Specifications for Rough Grading

1.0 General

1.1 Intent

These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 The Geotechnical Consultant of Record

Prior to commencement of work, the owner shall employ a qualified Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultant shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to confirm that the attained level of compaction is being accomplished as specified. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor

The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the project plans and specifications. The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of “equipment” of work and the estimated quantities of daily earthwork

contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the
Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate personnel will be available for observation and testing. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified. It is the contractor's sole responsibility to provide proper fill compaction.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing

Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed. The contractor is responsible for all hazardous waste relating to his work. The Geotechnical Consultant does not have expertise in this area. If hazardous waste is a concern, then the Client should acquire the services of a qualified environmental assessor.

2.2 Processing

Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be over-excavated as specified in the following section. Scarification shall continue until soils are broken down and free of oversize material and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

2.3 Over-excavation

In addition to removals and over-excavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be over-excavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 Benching

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise over-excavated to provide a flat subgrade for the fill.

2.5 Evaluation/Acceptance of Fill Areas

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 General

Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 Oversize

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 Import

If importing of fill material is required for grading, proposed import material shall meet the requirements of the geotechnical consultant. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers

Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning

Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557).

4.3 Compaction of Fill

After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes

In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557.

4.5 Compaction Testing

Field tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing

Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations

The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than
5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

7.1 The Contractor shall follow all OHSA and Cal/OSHA requirements for safety of trench excavations.

7.2 All bedding and backfill of utility trenches shall be done in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over

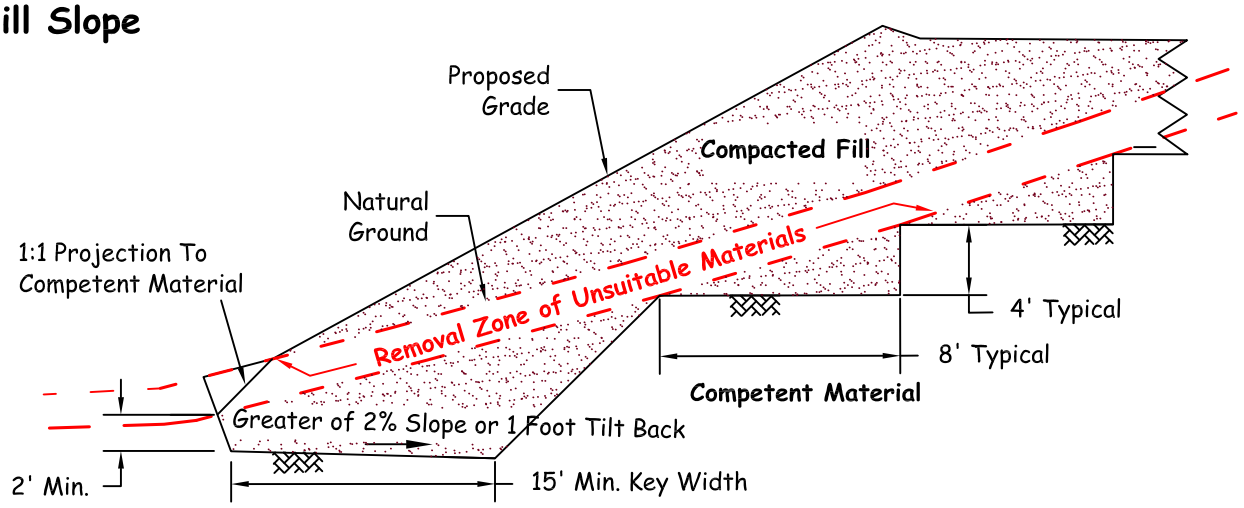
the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90 percent of maximum from 1 foot above the top of the conduit to the surface.

7.3 The jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.

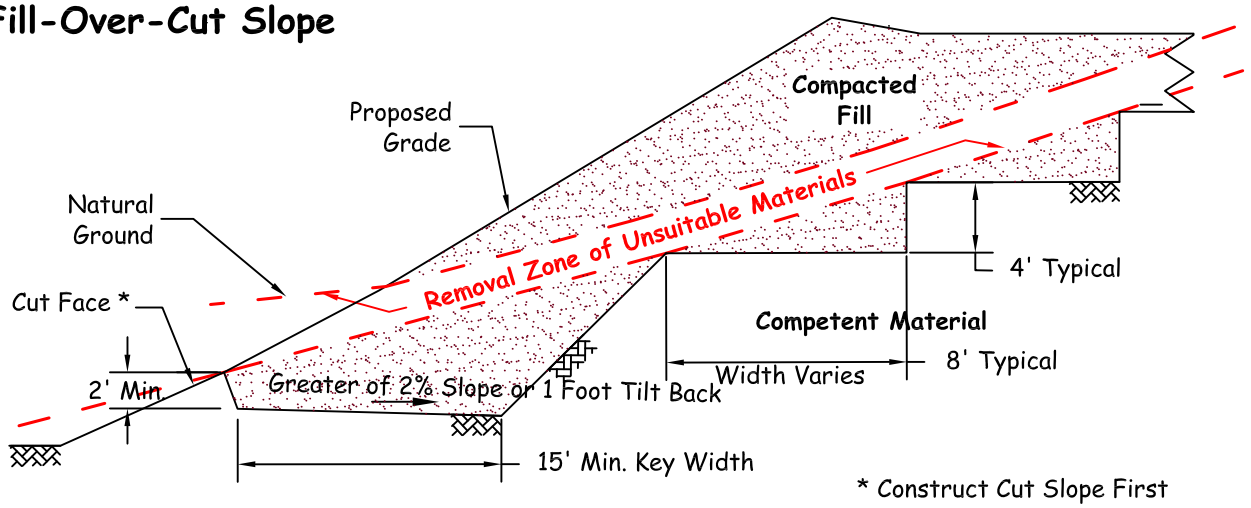
7.4 The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

7.5 Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

Fill Slope

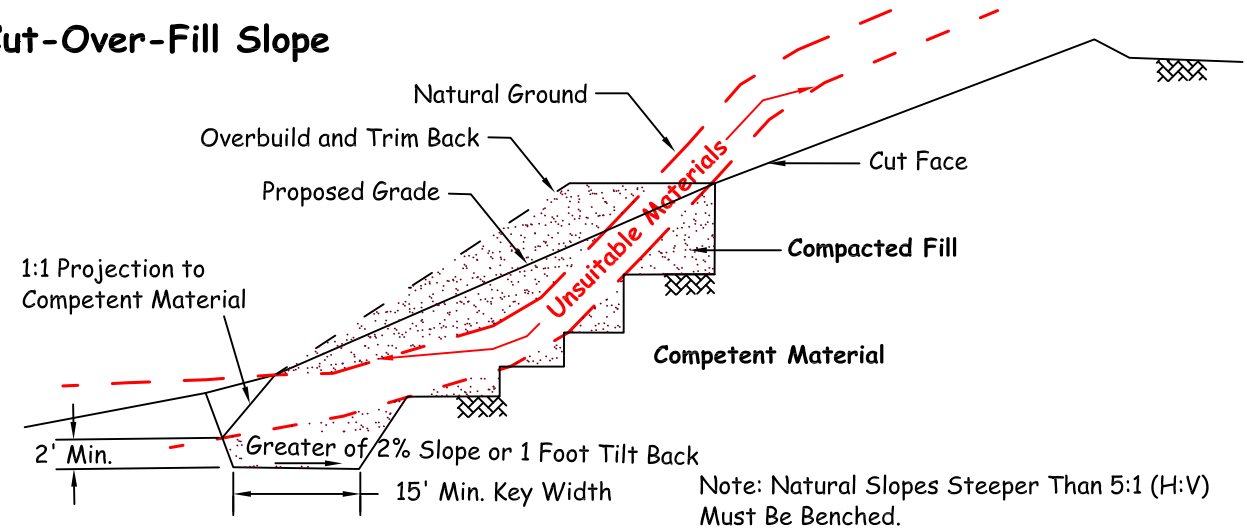


Fill-Over-Cut Slope



* Construct Cut Slope First

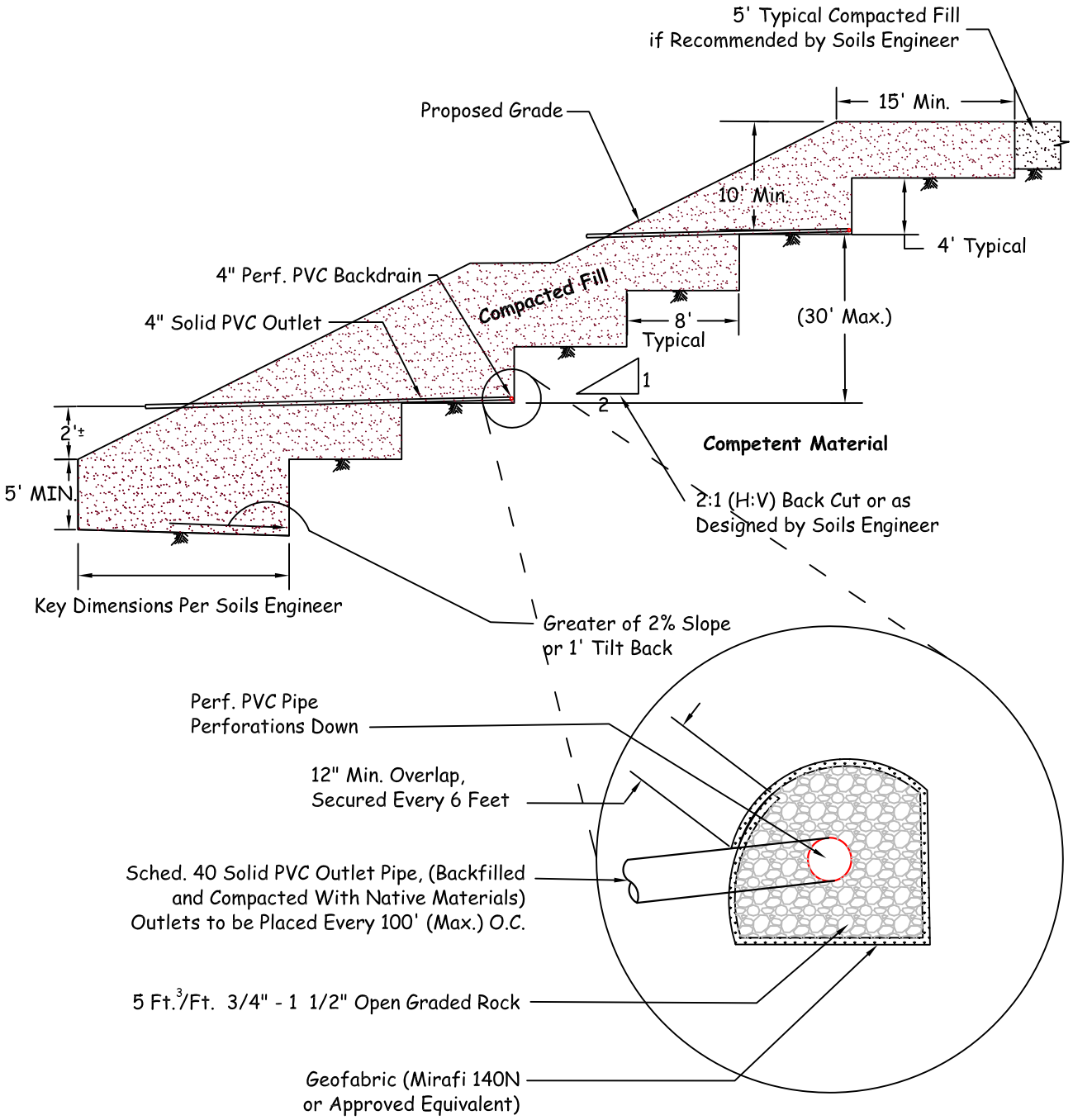
Cut-Over-Fill Slope



Note: Natural Slopes Steeper Than 5:1 (H:V) Must Be Benched.

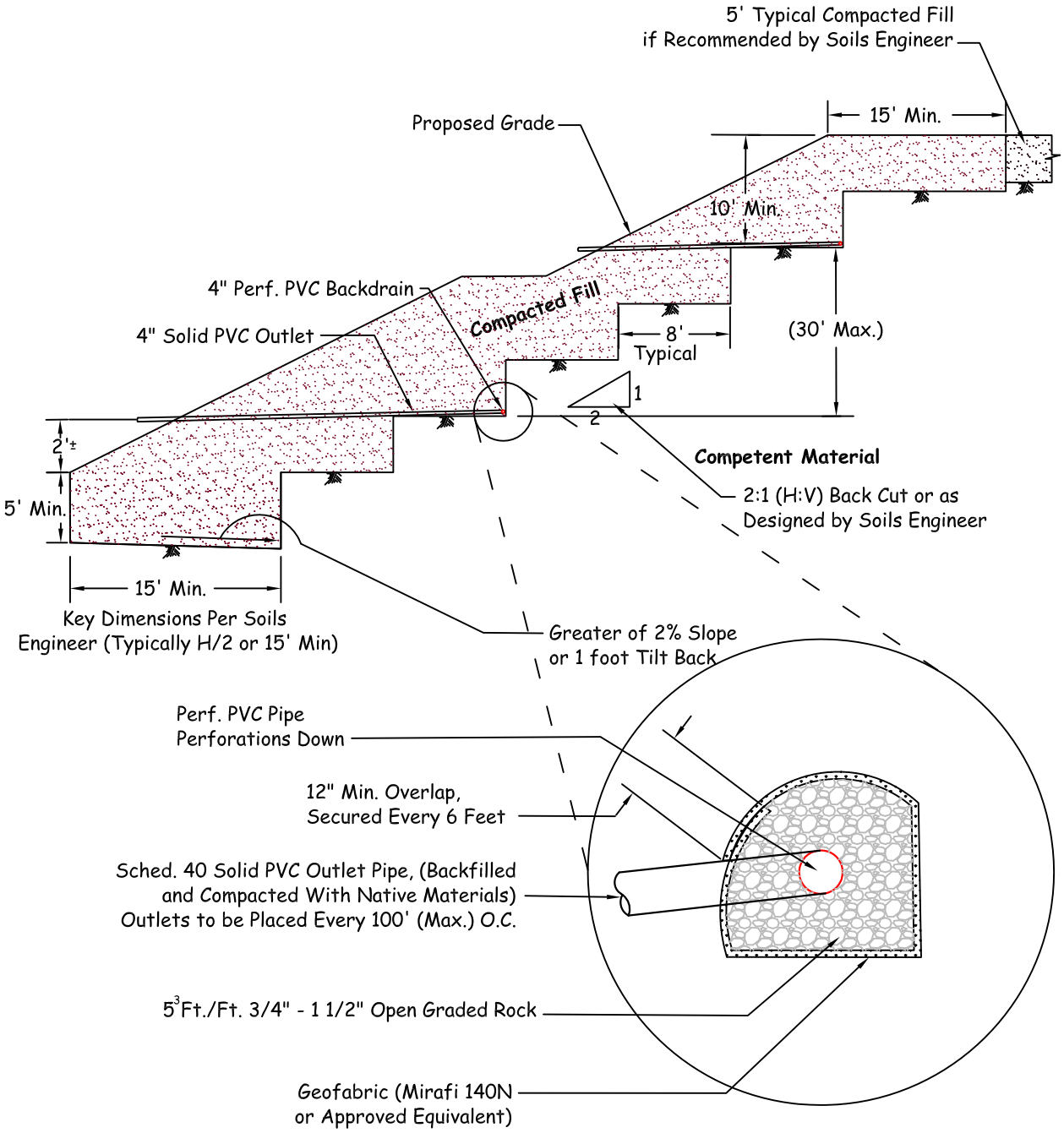
LGC Geotechnical, Inc.

KEYING AND BENCHING



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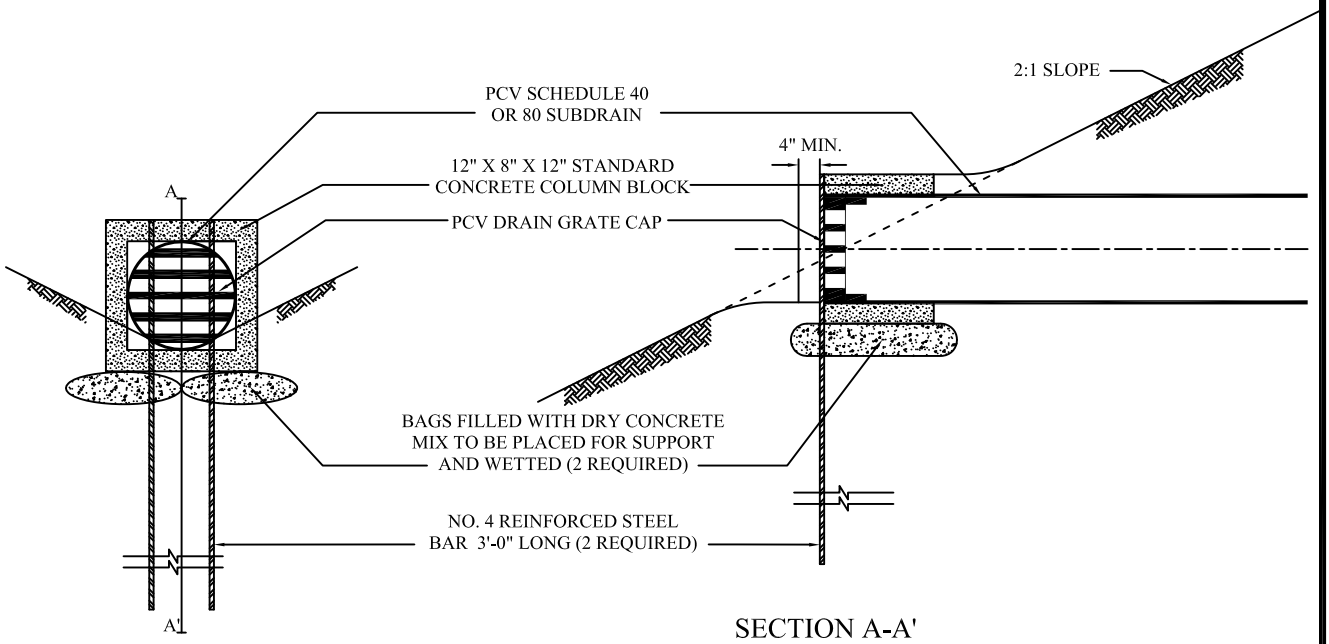
TYPICAL BUTTRESS DETAIL



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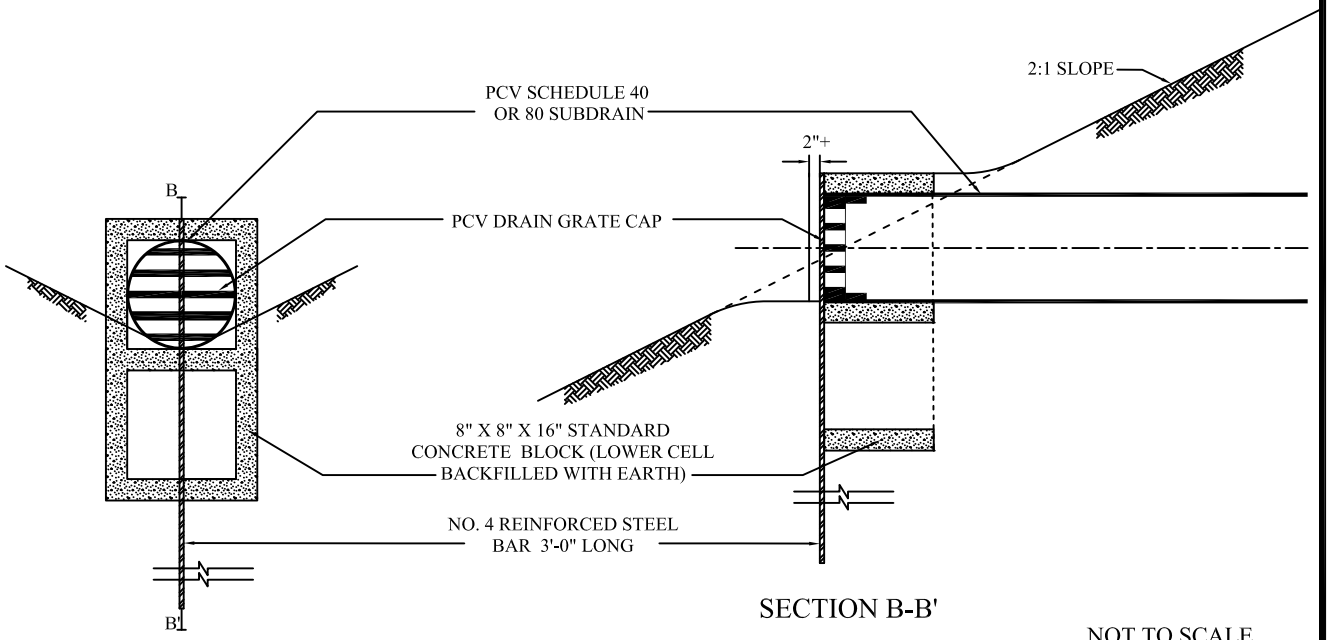
TYPICAL STABILIZATION FILL DETAIL

SUBDRAIN OUTLET MARKER -6" & 8" PIPE



SECTION A-A'

SUBDRAIN OUTLET MARKER -4" PIPE



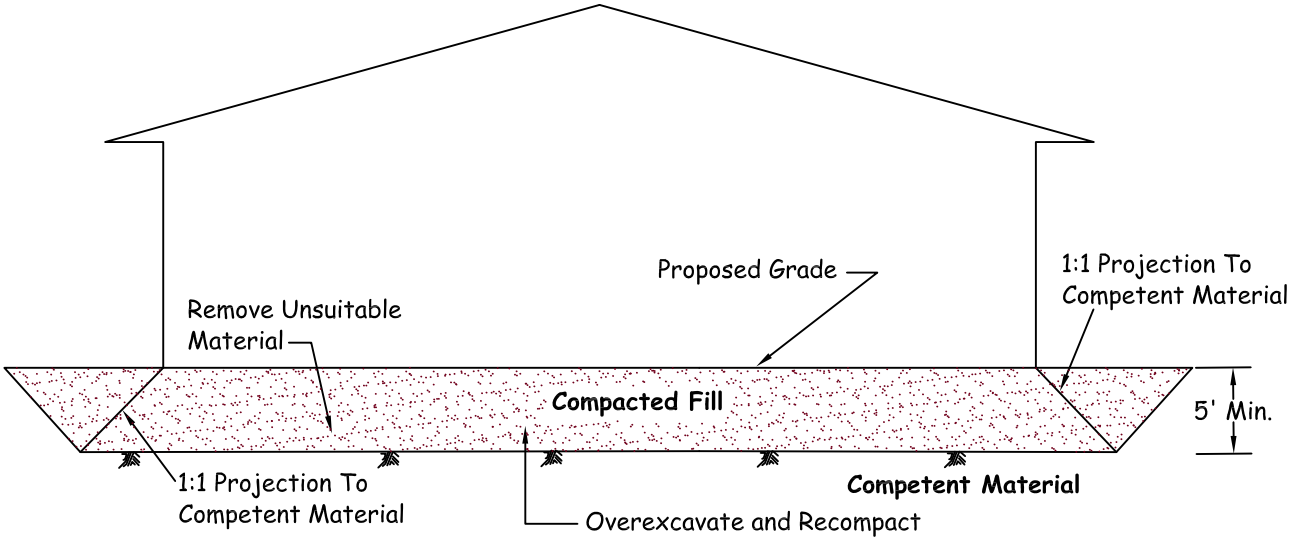
SECTION B-B'

NOT TO SCALE

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SUBDRAIN OUTLET MARKER DETAIL

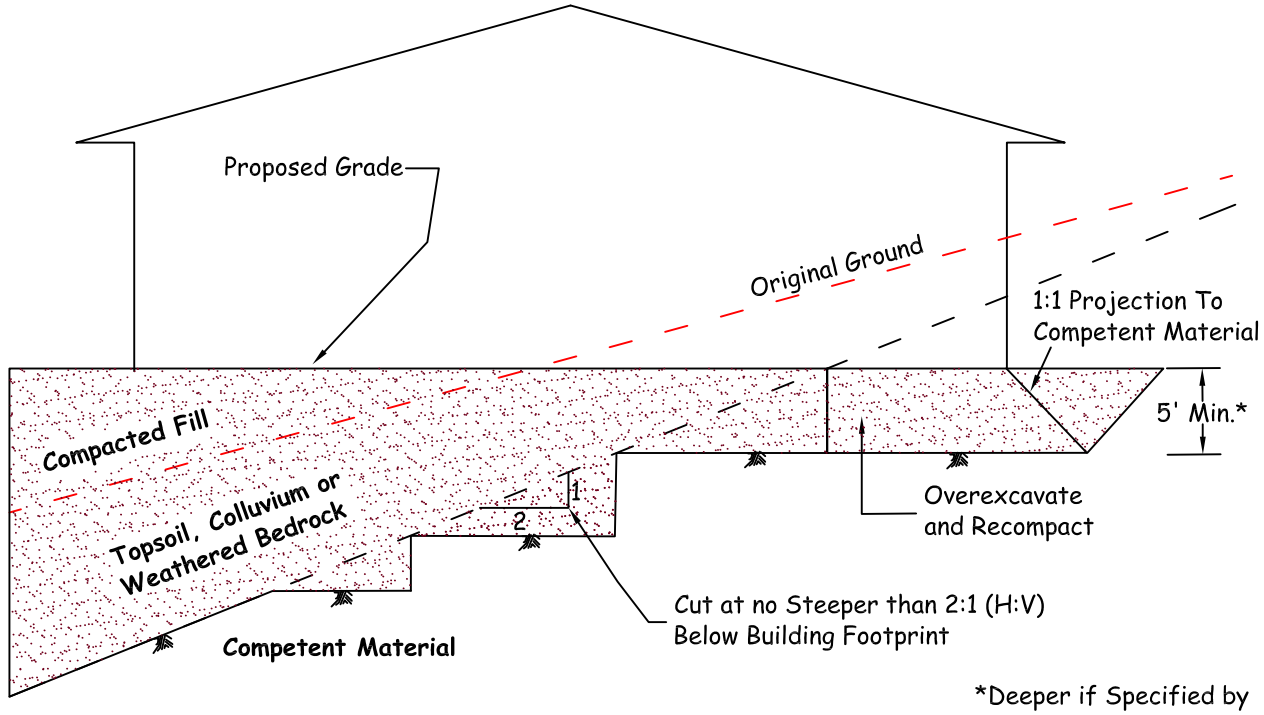
Cut Lot
(Exposing Unsuitable Soils at Design Grade)



Note 1: Removal Bottom Should be Graded With Minimum 2% Fall Towards Street or Other Suitable Area (as Determined by Soils Engineer) to Avoid Ponding Below Building

Note 2: Where Design Cut Lots are Excavated Entirely Into Competent Material, Overexcavation May Still be Required for Hard-Rock Conditions or for Materials With Variable Expansion Characteristics.

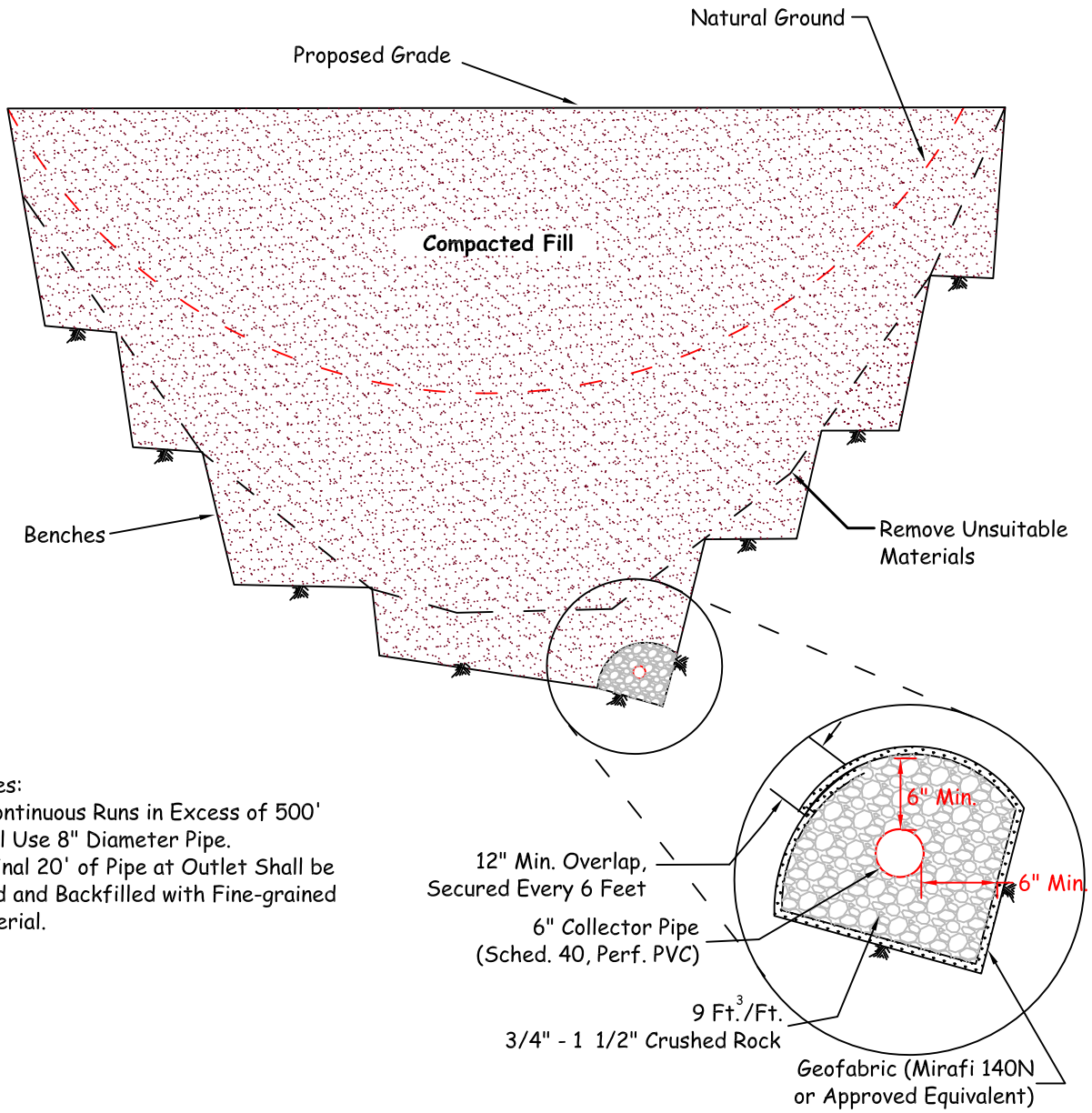
Cut/Fill Transition Lot



*Deeper if Specified by Soils Engineer

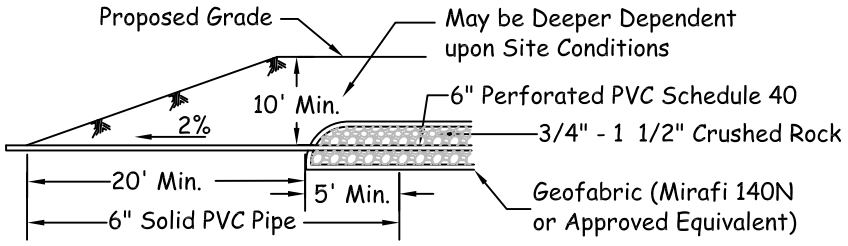
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CUT AND TRANSITION LOT OVEREXCAVATION DETAIL



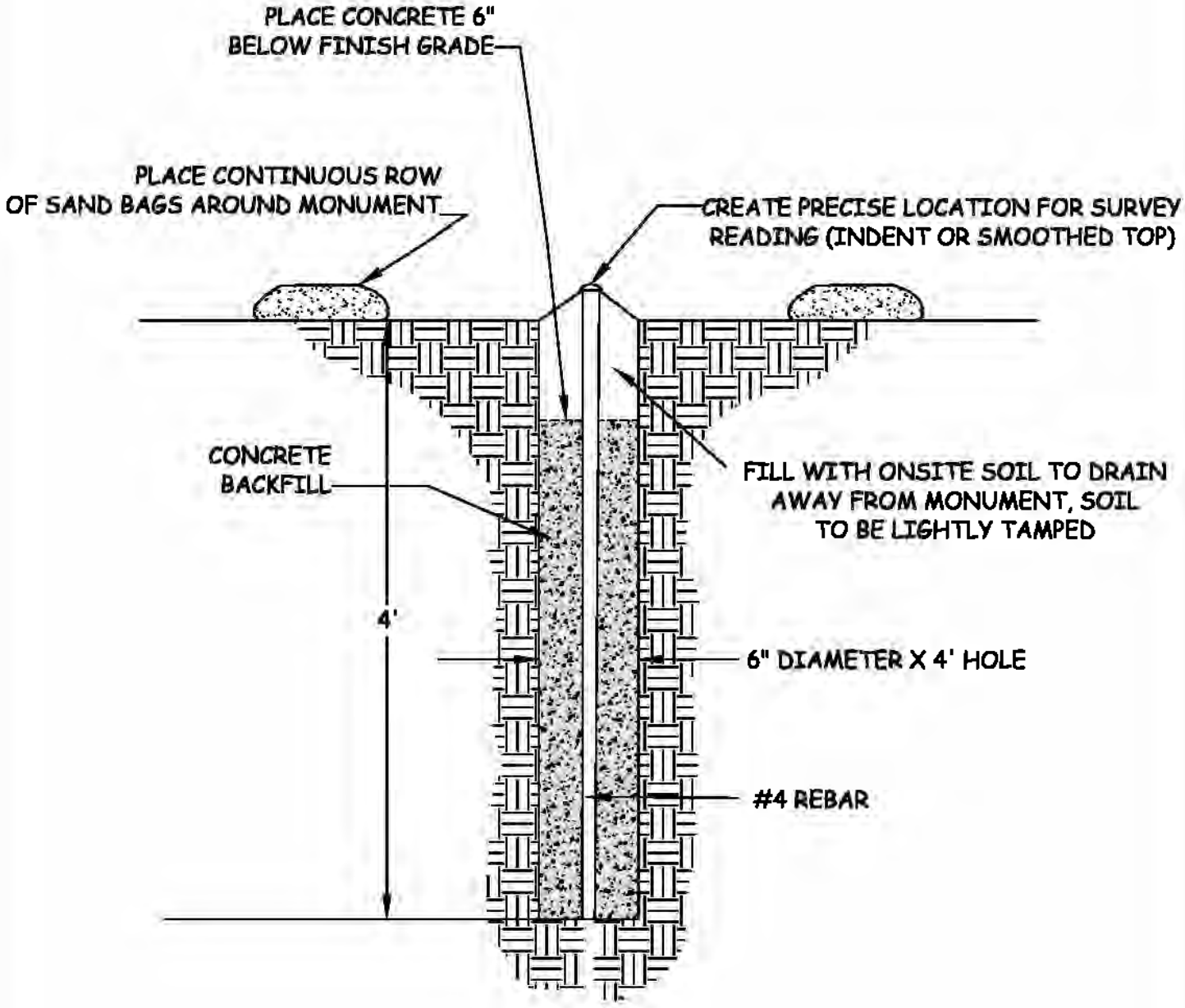
Notes:
1) Continuous Runs in Excess of 500' Shall Use 8" Diameter Pipe.
2) Final 20' of Pipe at Outlet Shall be Solid and Backfilled with Fine-grained Material.

Proposed Outlet Detail



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CANYON SUBDRAINS

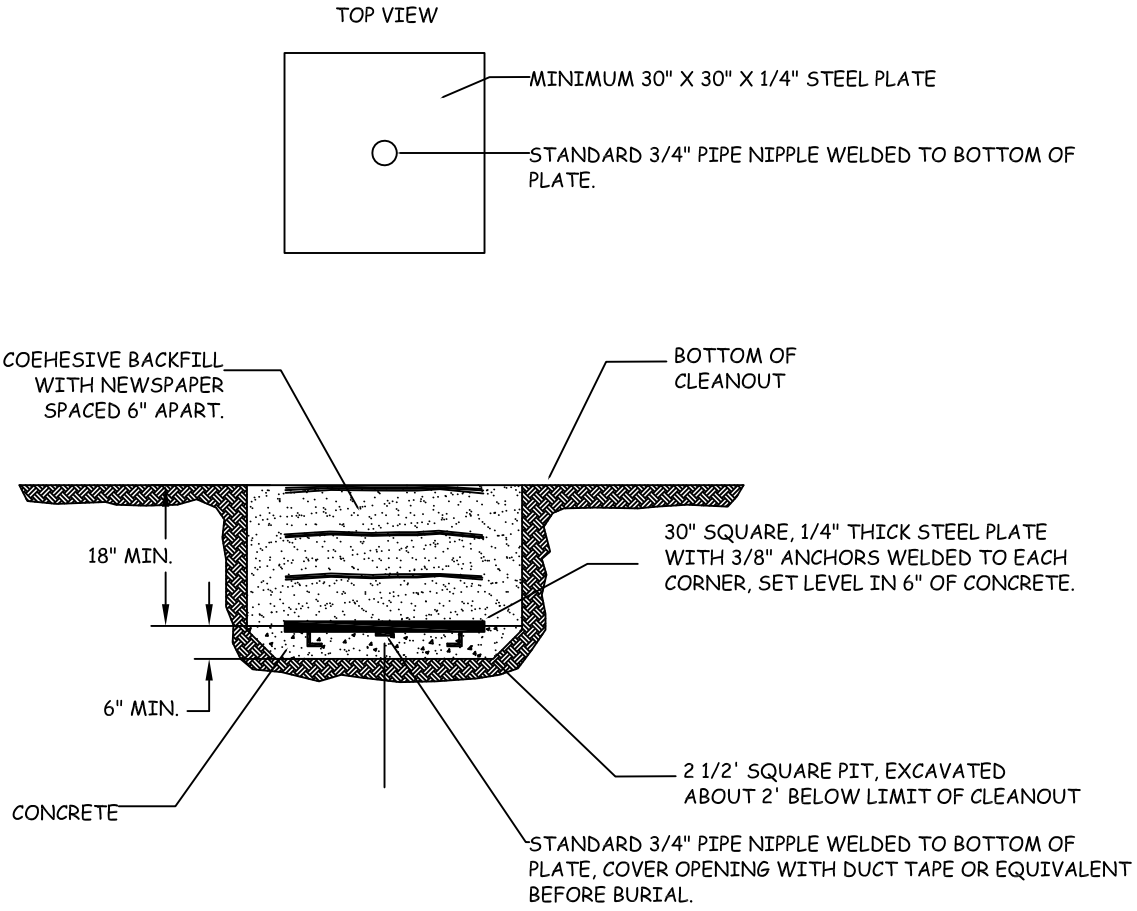


NO CONSTRUCTION EQUIPMENT WITHIN 25 FEET
OF ANY INSTALLED SETTLEMENT MONUMENTS

Revised 11/15

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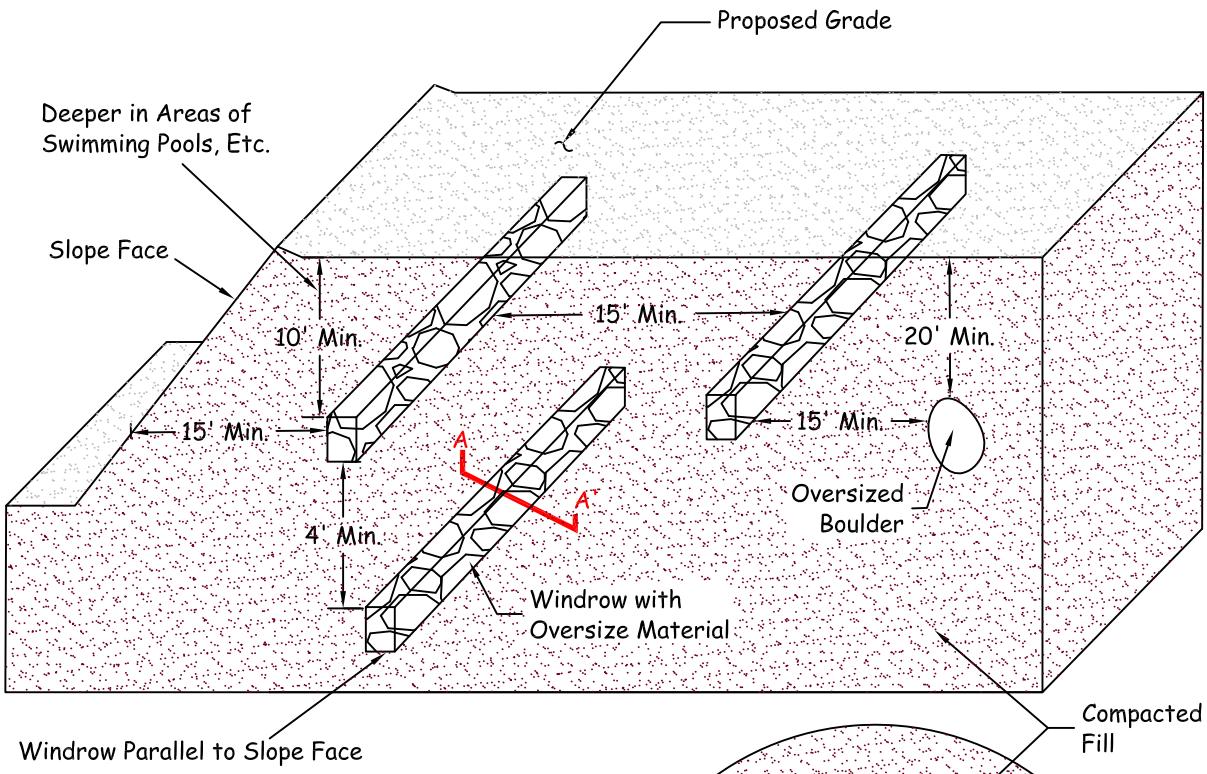
TYPICAL SURFACE SETTLEMENT MONUMENT

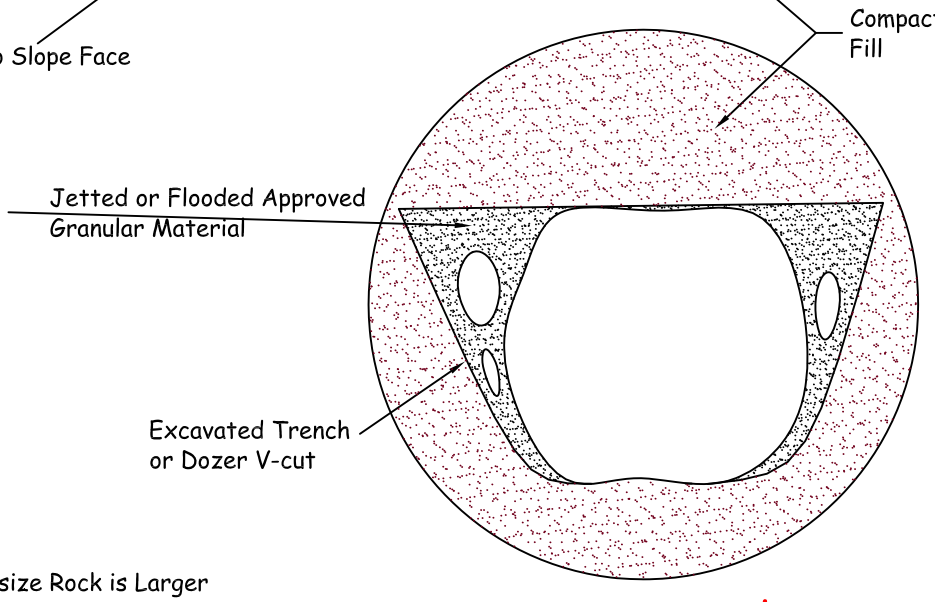


1. SURVEY FOR HORIZONTAL AND VERTICAL LOCATION TO NEAREST .01 INCH PRIOR TO BACKFILL USING KNOW LOCATIONS THAT WILL REMAIN INTACT DURING THE DURATION OF THE MONITORING PROGRAM. KNOW POINTS EXPLICITELY NOT ALLOWED ARE THOSE LOCATED ON FILL OR THAT WILL BE DESTROYED DURING GRADING.
2. IN THE EVENT OF DAMAGE TO SETTLEMENT PLATE DURING GRADING, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE GEOTECHNICAL ENGINEER AND SHALL BE RESPONSIBLE FOR RESTORING THE SETTLEMENT PLATES TO WORKING ORDER.
3. DRILL TO RECOVER AND ATTACH RISER PIPE.

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TYPICAL SETTLEMENT PLATE AND RISER





Note: Oversize Rock is Larger
than 8" in Maximum Dimension.

Section A-A'

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OVERSIZE ROCK DISPOSAL DETAIL

APPENDIX E: PHASE I ENVIRONMENTAL SITE ASSESSMENT

PHASE I ENVIRONMENTAL SITE ASSESSMENT

PROPOSED RESIDENTIAL DEVELOPMENT
Arantine Hills Residential Development
Lower McMillan
Parcels 1 and 2 of TPM 37036 (35.28 acres)
Corona, California 92883

April 24, 2018

EEI Project NHC-72767.1
Prepared For: Arantine Hills Holdings, LP

Corporate Office: 2195 Faraday Ave., Suite K, Carlsbad, CA 92008-7207 Ph: 760-431-3747 www.eeitiger.com
Camarillo * Carlsbad * Pleasanton * Sacramento * Reno

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Prepared for:

Greg Mendoza
Senior Project Manager
The New Home Company
85 Enterprise, Suite 450,
Aliso Viejo, CA 92656

Subject Property Location:

Arantine Hills Residential Development
Lower McMillan
Parcels 1 and 2 of TPM 37036 (35.28 acres)
Corona, California 92883

Prepared and Edited by:



Bernard A. Sentianin, PG 5530
Senior Geologist

EEI
2195 Faraday Avenue, Suite K
Carlsbad, California 92008-7207
(760) 431-3747

EEI Project NHC-72767.1

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Appendix E – Property Owner and User Provided Information
Appendix F – Photographic Log
Appendix G –Vapor Encroachment Screen User Questionnaire

GENERAL SITE INFORMATION

Project Information: Arantine Hills Residential Development – Lower McMillan

EEI Project: CAH-72690.1

Subject Property Information:
Parcels 1 and 2 of TPM 37036 (35.28 acres)
Portion of Assessor's Parcel Number 282-040-003
Southwest of Bedford Canyon Drive and Glen Eagle Parkway
Temescal Valley Area, Unincorporated Riverside County, California 92883

Site Access Contact: Greg Mendoza, The New Home Company; Ph: 951-847-5233

Consultant Information:
EEI
2195 Faraday Ave., Suite K, Carlsbad, California 92008
Phone: 805.987.8728
Fax: 760.431.3748
E-mail Address: bsentianin@eeitiger.com

Inspection Date: April 16, 2018; **Report Date:** April 24 2018

Client Information:
Greg Mendoza
Senior Project Manager
The New Home Company
85 Enterprise, Suite 450,
Aliso Viejo, CA 92656

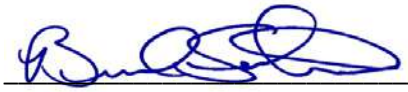
Site Assessor:
Bernard Sentianin – Senior Geologist

EP Certification:
I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR 312.10 (**Resume, Appendix A**).



_____
Bernard Sentianin – Senior Geologist

AAI Certification:
We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



_____
Bernard Sentianin – Senior Geologist

EXECUTIVE SUMMARY

At the request and authorization of the Clients (Arantine Hills, LP and The New Home company), EEI conducted a Phase I Environmental Site Assessment (ESA) for the property located at the mouth of Bedford Canyon, approximately one mile southwest of the intersection of Eagle Glen Parkway and Bedford Canyon Drive, in the City of Corona, California. The purpose of this Phase I ESA was to assess the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment (i.e., *recognized environmental condition* as delineated in ASTM International *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, Designation E1527-13 [ASTM E1527-13]).

The following bulleted items summarize the information obtained during the preparation of this ESA:

- The subject property is triangular in-shape and slopes gently to moderately to the northeast. It is comprised of 32.31-acres of undeveloped land in the northwestern portion of Assessor's Parcel Number (APN) 280-040-003. No street address is related to the subject parcel. The subject property is also identified as Parcels 1 and 2 of Tentative Parcel Map 37036. Of the total acreage, 12.31 acres is comprised of Bedford Wash, which occupies the eastern portion of the subject property.

- The subject property is surrounded by vacant, undeveloped land to the north, east, and south. Eagle Glen Golf Course is located immediately to the west. While the property is currently vacant land, previous land use had been agricultural dating back to the 1960's. Prior to the 1960's, the property was undeveloped.

- EEI reviewed the EnviroStor and GeoTracker online databases maintained by the California Department of Toxic Control (DTSC) and the State Water Resources Control Board (SWRCB), respectively, and reviewed other state and federal databases to determine if the subject property, or any adjacent properties, were listed as hazardous waste generators, underground storage tank (UST) releases, or as having other environmental concerns (i.e., spill, leak, or above-ground tank [AST]). Neither the subject property nor any adjacent property was listed on any of the databases researched.

- On April 16, 2018, EEI personnel conducted a site reconnaissance to physically observe the subject property and adjoining properties for conditions indicating a potential environmental concern. Concerns would include any evidence of contamination, distressed vegetation, petroleum-hydrocarbon staining, waste drums, illegal dumping, or improper waste storage and/or handling. No evidence of environmental concern was noted on the property during our site reconnaissance efforts.

- EEI performed a Vapor Encroachment Screen (VES) for the subject property, in accordance with ASTM E2600-10. The purpose was to evaluate whether sites (e.g., gas stations, dry cleaners, or other listings of environmental concern) that store or dispose of potential chemicals of concern or have documented releases, may migrate as vapors onto the property, as a result of contaminated soil and/or groundwater which may be present on or near the property (i.e., a Vapor Encroachment Condition or VEC). Based on the results of the Tier 1 VES, EEI concluded that a VEC can be ruled out, because a VEC does not or is not likely to exist due to the lack of known or suspected contaminated properties within the AOC.

Findings and Opinions

Based on the information obtained in this ESA, EEI has the following findings and opinions:

- *Known or suspected RECs* – are defined by the ASTM E1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

  This assessment has revealed no evidence of *known or suspected RECs* in connection with the subject property.

- *Controlled RECs (CRECs)* – are defined by the ASTM E1527-13 as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a No Further Action "NFA" letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls).

  This assessment has revealed no evidence of *CRECs* in connection with the subject property.

- *Historical RECs (HRECs)* – are defined by the ASTM E1527-13 as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls).

  This assessment has revealed no evidence of *HREC's* in connection with the subject property, with the exception of previous agricultural use. However, based on the information reviewed in the preparation of this ESA, no further investigation of the subject property appears to be warranted at this time.

- *De minimis* Conditions – include environmental concerns identified which may warrant discussion but do not qualify as RECs, as defined by the ASTM Standard Practice E 1527-13.

  No de minimis conditions were identified during the preparation of this report.

Conclusions

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-13 of Tentative Parcel Map 37036, Parcels 1 and 2, and a portion of APN 280-040-003 (32.31-acres), the *subject property*. Any exceptions to, or deletions from, this practice are described in Section 7.0 of this report. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the *subject property.*

1.0 INTRODUCTION

1.1 Purpose

The purpose of this Phase I Environmental Site Assessment (ESA) was to assess the possible presence of *recognized environmental conditions (RECs)* for the undeveloped property located at the mouth of Bedford Canyon, approximately one mile southwest of the intersection of Eagle Glen parkway and Bedford Canyon Drive, in the City of Corona, California (**Figure 1**). *RECs* include property uses that may indicate the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment The term *RECs* is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment, and that would not be subject to enforcement action by a regulatory agency.

This ESA was performed in general conformance with the ASTM International (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, Designation E1527-13.

1.2 Scope of Services

The following scope of services was conducted by EEI:

- A review of readily available documents which included topographic, geologic, and hydrogeologic conditions associated with the subject property.
- A review of readily available maps, aerial photographs and other documents relative to historical subject property usage and development.
- A review of readily available federal, state, county, and city documents and database files concerning hazardous material storage, generation and disposal, active and inactive landfills, existing environmental concerns, and associated permits related to the subject property and/or immediately adjacent sites.
- A site reconnaissance to ascertain current conditions of the subject property.
- Interviews with person(s) knowledgeable of the subject property.
- The preparation of this report which presents our findings, conclusions, and recommendations.

1.3 Reliance

This ESA has been prepared for the sole use of Arantine Hills, LP and The New Home Company (Client). This assessment should not be relied upon by other parties without the express written consent of EEI and the Client. Any use or reliance upon this assessment by a party other than the Client, therefore, shall be solely at the risk of such third party and without legal recourse against EEI, its employees, officers, or directors, regardless of whether the action in which recovery of damages is brought or based upon contract, tort, statute or otherwise.

This assessment should not be interpreted as a statistical evaluation of the subject property, but rather is intended to provide a preliminary indication of onsite impacts from previous site usage and/or the release of hazardous materials. If no significant indicators of the presence of hazardous materials and/or petroleum contamination are encountered during this search, this does not preclude their presence.

The findings in this report are based upon published geologic and hydrogeologic information and information (both documentary and oral) provided by the Client, the Property Owner, City of Corona, Riverside County, Environmental Data Resources Inc. (EDR®) (i.e., agency database search, and various state and federal agencies, and EEI's field observations. Some of these data are subject to change over time. Some of these data are based on information not currently observable or measurable but recorded by documents or orally reported by individuals.

2.0 PHYSIOGRAPHIC SETTING

2.1 Subject Property Description

The subject property is located at the mouth of Bedford Canyon, approximately one mile southwest of the intersection of Eagle Glen Parkway and Bedford Canyon Drive, in the City of Corona, California (**Figure 2**). The subject property is triangular in-shape and slopes gently to moderately to the northeast. It is comprised of 32.31-acres of undeveloped land in the northwestern portion of Assessor's Parcel Number (APN) 280-040-003. No street address is related to the subject parcel. The subject property is also identified as Parcels 1 and 2 of Tentative Parcel Map 37036. Of the total acreage, 12.31 acres is comprised of Bedford Wash, which occupies the eastern portion of the subject property.

The subject property is surrounded by vacant, undeveloped land to the north, east, and south. Eagle Glen Golf Course is located immediately to the west. While the property is currently vacant land, previous land use had been agricultural dating back to the 1960's. Prior to the 1960's, the property was undeveloped.

2.2 Topography

The subject property is located on the United States Geological Survey (USGS) 7.5 Minute Corona South Quadrangle map (USGS, 2012). The map indicates the elevation of the subject property ranges from approximately 1,170 feet above mean sea level (amsl) at the southern portion to approximately 1,100 feet amsl at the northeastern corner (i.e., Bedford Wash). In general, topography at the property slopes gently to moderately to the northeast. A steep escarpment is present along the eastern margin of Bedford Wash, and forms the boundary of the subject property in that direction.

2.3 Regional and Local Geology

The subject property lies within the Peninsular Ranges Geomorphic Province. The Peninsular Ranges geomorphic province, one of the largest geomorphic units in western North America, extends from the Transverse Ranges geomorphic province and the Los Angeles Basin, south to Baja California. It is bound on the west by the Pacific Ocean, on the south by the Gulf of California and on the east by the Colorado Desert Province. The Peninsular Ranges are a series of northeast-southeast oriented fault blocks (CDMG, 2002).

Three (3) major faults zones and some subordinate fault zones are found in this province. The Elsinore Fault zone and the San Jacinto Fault zones trend northwest-southeast and are found near the middle of the province (in close proximity to the subject property). The San Andreas Fault zone borders the northeasterly

margin of the province, whereas, a fault related to the San Andreas Transform Fault System, the Newport-Inglewood-Rose Canyon Fault zone exists near the western margin and Continental Borderland Geomorphic Province (CDMG, 1977). According to the Riverside County Information Technology – Geographic Information Services Map My County Website (RCIT), a mapped branch of the Elsinore Fault Zone is present on or near the subject property (RCIT, 2018).

Soil in the immediate vicinity of the subject property was researched on the United States Department of Agriculture - Natural Resource Conservation Service (USDA-NRCS), online Web Soil Survey database (USDA, 2018). Soil beneath the property was identified as Cortina cobbly loamy sand, 2 to 8 percent slopes (USDA, 2018). The Cortina soils typically occur along alluvial fans and are derived from weathered metasedimentary rock. Cortina soils are excessively drained soil with low runoff and high permeability.

2.4 Regional and Local Hydrogeology

According to the Santa Ana Regional Water Quality Control Board –Region 8 (SARWQCB, 1995), the subject property is located within the Bedford Hydrologic Subarea (801.32), of the Lake Mathews Hydrologic Area (801.30), of the Santa Ana River Hydrologic Unit (801.00). Groundwater in this subarea has been designated as beneficial for municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PROC). According to the Western Municipal Water District and the Elsinore Valley Water District, groundwater is expected to occur at depths greater than 100 feet. Based solely on topography, the regional groundwater flow direction is estimated to be to the north-northeast in the direction of the nearby Temescal Wash.

The California Department of Water Resources Water Data Library (WDL, 2018) website indicates that there are no water supply wells within the immediate vicinity of the subject property (Township 04 South, Range 06 West, and Section 20). The closest wells to the subject property are located approximately 1.5 miles to the east of the subject property in Temescal Canyon and have a reported depth to groundwater at 30 to 40 feet below ground surface (bgs).

2.5 Hydrologic Flood Plain Information

EEI reviewed the Federal Emergency Management Agency (FEMA) Flood Hazard Map online database (2018) to determine if the subject property was located within an area designated as a Flood Hazard Zone. According to the information reviewed on the Flood Insurance Rate Maps (FIRM), 06065C1370G (effective August 28, 2008), the subject property is located within Zone X, which are areas that are determined to be areas of minimal flooding.

3.0 SUBJECT PROPERTY BACKGROUND

3.1 Subject Property Ownership

Information regarding subject property ownership was obtained from a Preliminary Title Report (PTR) prepared by First American Title Company on February 18, 2016. According to the PTR, the current owner of the property, identified as “Vacant Land, Corona” (APN 282-040-003), is listed as Gary L. McMillan and Patricia A. McMillan, as Trustees of the McMillan Trust. The detailed parcel and legal descriptions are outlined in the PTR, which is included in **Appendix B**.

3.2 Subject Property History

EEI reviewed readily available information sources to evaluate historic land use in and around the subject property. These information sources include aerial photographs, USGS maps, County of Riverside Planning and Building and Safety Department files. The information sources are reviewed in the following sections.

3.2.1 Historical Aerial Photograph and Topographic Map Review

Aerial photographs and historical topographical maps, provided by EDR®, were reviewed to identify historical land development and any surface conditions which may have impacted the subject property. Photographs and historical topographic maps dating between 1902 and 2014 were reviewed. A 2017 aerial photograph was obtained from Google Earth®, and a copy is included herein (**Figure 2**). **Table 1** summarizes the results of the aerial photograph and historical topographic map review. Copies of the aerial photographs and historical topographic maps provided by EDR®, Inc. are included in **Appendix C**.

TABLE 1
Summary of Historical Use Review

Year	Source and Scale	Comments
1902	Topographic map 1:62,500	Subject property and vicinity appeared to be undeveloped. Bedford Canyon wash crosses through the property from the southwest to the northeast.
1931/ 1938/ 1948/ 1953	Aerial Photograph 1:500 feet	Subject property and adjacent and surrounding property appeared as undeveloped land consisting of Bedford Wash, and flanked by moderately to steeply sloped hillside terrain to the north and south. A NW-SE trending dirt road appears to cross the subject property along the western margin. A farm house is visible to the northwest, and orchards are present to the southeast.
1947/ 1954	Topographic map 1:24,000	Subject property appeared undeveloped. Bedford Canyon wash crosses through the property from the southwest to the northeast. Temescal Canyon and limited development are visible to the northeast, and orchards are present to the north, and east.
1961/ 1967	Aerial Photograph 1:500 feet	Subject property appeared to be cleared of native vegetation and has been planted with trees. Bedford Wash is present along the eastern margin. A farmhouse, pond, and orchards are visible to the northwest and southeast.
1967/ 1973/ 1982/ 1997	Topographic Map 1:24,000	Limited detail is shown on the subject property. Bedford Wash is indicated along the eastern margin of the property, and increased development of structures, roads and agricultural activity are visible in the surrounding areas. Corona Freeway (currently Interstate 15) is now visible to the northeast. The City of Corona appears to be expanding to the north.
1975/ 1985/ 1990	Aerial Photograph 1:500 feet	Subject property remained as orchards with Bedford Wash largely unchanged. Farmhouses, ponds, and dirt roads present to the northwest, north and southeast. Orchards are present to the northwest, north, and southeast.
2006	Aerial Photograph 1:500 feet	Subject property remained as orchards as before. Eagle Glen Golf Course is now visible immediately to the west, and a large residential development is present to the northwest. The parcel immediately north of the subject property has been cleared of trees, but orchards remain to the northeast and southeast,
2012	Topographic Map 1:24,000	Limited detail is shown on the subject property. An increased road network and the large residential development are reflected to the north and additional infrastructure is depicted to the east.
2010/20 15	Aerial Photograph Google Earth	The subject property generally appears in its current condition. Trees have been removed and the land cleared on the property and surrounding agricultural areas. The golf course is present to the north, with residential development to the north and south. A single farmhouse is visible to the northeast.

3.2.2 City/County Directories

The property has historically been undeveloped. Given that the subject property does not have an assigned address or recognized streets, directory information was not deemed to be sufficiently useful; and therefore, not researched during this Phase I ESA.

3.2.3 Sanborn Fire Insurance Maps

EEI researched available Sanborn Fire Insurance Maps of the subject property. Sanborn Maps provide detailed information on site structures, uses, and occupancies and were typically utilized by insurance companies to evaluate potential fire risk. EEI requested a Sanborn map search from EDR®, an environmental information/database retrieval service. According to EDR, there is no Sanborn map coverage for the area of the subject property. A copy of the Certified Sanborn Report indicating the subject property is unmapped is included in **Appendix C**.

3.2.4 City of Corona Community Development Department

EEI contacted the City of Corona Community Development Department Building Division to review any existing files related to the subject property. Department personnel instructed EEI to review the online Permit History Search tool City of Corona – Building Division, 2018), and the City of Corona-GIS Property Information tool. A review of the database for records related to the subject property APN and location revealed no useful data, aside from the zoning, which is Agricultural (A). No planning information or permit history was identified for the property. Abundant information was available for the adjacent Arantine Hills residential development, located immediately north of the subject property. The 376-acre Arantine Hills development includes construction of over 1,800 residential units, as well as recreation, trails, and a small amount of general commercial.

Additionally, EEI reviewed the Riverside County Information Technology (RCIT) Geographic Information System (GIS) website to review any existing records related to the subject property. According to the RCIT database, no building and safety, code, fire, or planning cases were reported as connected to the subject APN. However, The Tentative Parcel Map number (37036), as well as several planning case file numbers (SP-00317A1, CFG02961, TF32493, etc.) were listed with no details available.

3.2.5 Summary of Property History

According to the information reviewed, the subject property had been undeveloped land from at least 1902. Beginning in the early 1960s, the site appears to contain orchards. The orchards appear to have remained on site through at least 2006. By 2010, the area of orchards had been removed, and the property cleared of vegetation, reflecting its current condition.

3.3 Regulatory Database Search

EEI reviewed known electronic database listings for possible hazardous waste generating establishments in the vicinity of the subject property, as well as adjacent sites with known environmental concerns. Facilities were identified by county, state, or federal agencies that track/monitor properties which generate, store, or dispose of hazardous materials. The majority of information in this section was obtained from EDR®, an environmental information/database retrieval service.

A copy of the EDR® report is provided in **Appendix D,** along with a description of the individual databases.

In addition, the EDR® database search report lists sites identified as "orphans" if the database is unable to confirm the physical locations of these sites relative to the subject property or to assess whether they were located within the designated search radii.

Based on a review of the EDR Radius Report, the following **Table 2** summarizes the facilities within the selected search radii and whether the subject property or a facility that was interpreted to be adjacent to the subject property was listed on each database.

TABLE 2
Summary of Regulatory Database Search

Federal or State Government Database	Search Radius	Number of Reported Facilities	Subject Property	Adjacent Sites
National Priorities List (NPL)/NPL Delisted	1.00 mile	0	No	No
Federal Superfund Enterprise Management System (SEMS) (formerly known as CERCLIS)	0.50 mile	0	No	No
CERCLIS No Further Remedial Action Planned (NFRAP)	0.50 mile	0	No	No
Resource Conservation and Recovery Act– Corrective Action (RCRA COR ACTS)	1.00 mile	0	No	No
RCRA Treatment and Disposal Facilities (RCRA TSDF)	0.50 mile	0	No	No
RCRA Generators (RCRA GEN)	0.25 mile	0	No	No
Federal Engineering and Institutional Controls (IC/EC)	0.50 mile	0	No	No
Emergency Response Notification System (ERNS)	Site only	0	No	No
State/Tribal- Equivalent NPL	1.00 mile	0	No	No
State/Tribal-Equivalent CERCLIS (ENVIRSTOR)	1.00 mile	0	No	No
State/Tribal Solid Waste List (SWL)	0.50 mile	0	No	No
State/Tribal Leaking Underground Storage Tanks (LUST)	0.50 mile	0	No	No
State/Tribal Underground/Aboveground Storage Tanks (USTs/ASTs)	0.25 mile	0	No	No
State/Tribal Voluntary Cleanup Program (VCP)	0.50 mile	0	No	No
State/Tribal Deed-Restriction Site Listing (EC/IC)	0.25 mile	0	No	No
State/Tribal Brownfields	0.50 mile	0	No	No
Local Land Records (DEED)	0.50 mile	0	No	No
Other (Haznet)	0.25 mile	0	No	No
Orphan sites	N/A	0	No	No

3.3.1 Subject Property

- The subject property was not listed on any of the regulatory databases reviewed.

3.3.2 Surrounding Sites

- No surrounding properties were listed on any of the regulatory databases reviewed.

3.3.4 Orphan Sites

- No orphan sites were listed in the EDR Radius Report.

3.4 Regulatory Agency Review

3.4.1 Riverside County Fire Department

EEI contacted the Riverside County Fire Department (RCFD) concerning any permit, inspection, UST, or cleanup information available for the subject property. According to RCFD staff, they do not hold or track permits regarding hazardous materials. This information is regulated by the County of Riverside Department of Environmental Health (see below). No other pertinent information was available with the RCFD.

3.4.2 County of Riverside Department of Environmental Health

EEI attempted to review County of Riverside Department of Environmental Health's (RCDEH) Underground Storage Tank (UST) List, UST Sites to be Upgraded List, LUST List, LUST Disclosure List, Hazardous Waste Generator List, Emergency Response, Complaint and Investigation (ERCI) List, DTSC Calsite List, and Superfund Site List, for information pertaining to the subject property. According to the RCDEH, the aforementioned database listings are reported by site address

3.4.3 Department of Toxic Substances Control

EEI reviewed the California Department of Toxic Substances Control (DTSC, 2018) online database EnviroStor, which provides records on: Federal Superfund sites (National Priority List); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. Neither the subject property nor adjacent property was listed on the EnviroStor database. Based on the results of our database review and related information, interviews with DTSC officials were not performed.

3.4.4 State Water Resources Control Board

EEI reviewed the online database GeoTracker (2018), which provides records on LUSTs and Spills, Leaks, Investigation and Cleanup (SLIC) sites, which is maintained by the State Water Quality Control Board. Neither the subject property nor any adjacent property was listed on the GeoTracker database. Based on the results of our database review and related information, interviews with SWRCB officials were not performed.

3.4.5 Review of Division of Oil, Gas and Geothermal Resources Files

Oil and gas wells were not observed at the subject property during our site reconnaissance. A review of the California Division of Oil, Gas, and Geothermal Resources Website for oil and gas fields in California and Alaska (CDOGGR, 2018) did not indicate the presence of oil and gas wells on or adjacent to the subject property (identified as within Township 04 South, Range 06 West, Section 20, SBB&M).

3.4.6 National Pipeline Mapping System

EEI reviewed the National Pipeline Mapping System (NPMS, 2018) public viewer website for gas transmission pipelines and hazardous liquid trunklines on or close to the subject property. According to the information reviewed, no pipelines are located on or adjacent to the subject property. The nearest pipeline appears to be a Southern California Gas Company natural gas transmission line which runs parallel to Temescal Canyon Road, located approximately 1.5 miles east of the subject property.

3.5 Interview with Current Property Owner

The Client contacted the property owner representative, Gary L. McMillan of McMillan Farm Management, for information regarding the subject property. Mr. McMillan completed a questionnaire on April 24, 2018. The information provided by Mr. McMillan is documented below. No indication of environmental concern was indicated by Mr. McMillan.

3.5.1 Past or Present Uses Indicating Environmental Concern

Mr. McMillan stated that the subject property is currently vacant land and that the past use of the property included citrus groves.

3.5.2 Environmental Liens or Governmental Notification

Mr. McMillan stated that he was not aware of any environmental liens or governmental notification relating to past or recurrent violations of environmental laws with respect to the subject property. He also indicated that no deed restrictions or other activity or land use restrictions have been placed on the subject property as a result of an environmental issue.

3.5.3 Presence of Hazardous Substances or Environmental Violations

Mr. McMillan stated that he is not aware of the presence of hazardous substances or environmental violations associated with the subject property.

3.5.4 Previous Assessments

Mr. McMillan stated that he is not aware of any previous assessments conducted for the subject property.

3.5.5 Legal Proceedings

Mr. McMillan stated that he is not aware of any litigation related to a contamination issue at the subject property.

3.6 User Specific Information

Pursuant to ASTM E1527-13, EEI provided a Phase I ESA User Specific Questionnaire to the "user" (the person on whose behalf the Phase I ESA is being conducted), Greg Mendoza with The New Home Company. The User Specific Information provided by Mr. Mendoza on April 17, 2018, is documented below. A list of the user specific questions (per ASTM E1527-13) with associated responses is included in **Appendix E**.

3.6.1 Environmental Liens or Activity and Use Limitations

Mr. Mendoza stated that he is not aware of any environmental liens or activity and use limitations (AULs) in association with the subject property. To supplement this information, Mr. Doyle provided EEI with a PTR prepared for the subject property by First American Title Company on February 24, 2016, as well as previous environmental reports prepared by URS (2014) and others (see references). A review of the PTR and environmental reports confirmed the absence of any known environmental liens or AULs associated with the subject property.

3.6.2 Specialized Knowledge

Mr. Mendoza indicated no specialized knowledge or experience related to the property or nearby properties (i.e., knowledge of the chemicals or processes used by a type of business), and referred EEI to the previous environmental reports.

3.6.3 Valuation Reduction for Environmental Issues

Mr. Mendoza stated that the purchase price of the subject property is a fair price for the property assuming that the property does not have any contamination.

3.6.4 Presence or Likely Presence of Contamination

Mr. Mendoza stated that to his knowledge, there are no environmental issues related to the subject property, and referred EEI to the previous environmental reports for any additional information.

3.6.5 Other

Mr. Mendoza stated that the purpose of the Phase I ESA is to supplement the entitlement package submitted to the City of Corona.

3.7 Previous Assessments

EEI reviewed a previous Phase I ESA that was performed by URS in 2014 for the McMillan site, of which the subject property was apart. The following summarizes EEI's review of the URS report, which is included in **Appendix E**.

URS, Phase I ESA, McMillan Project, Riverside County Assessor Parcel Number 282-040-003, Corona, California, dated November 10, 2014.

URS Corporation (URS) conducted a Phase I ESA on behalf of the New Home Company for the McMillan Property, of which the subject property is a part. The approximately 160-acre property consisted of undeveloped land, located in the City of Corona, Riverside County, California. The Phase I ESA included a reconnaissance of the site, a drive-by survey of the site vicinity, and review of agency databases and other reasonably ascertainable records regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the site.

URS reported that the property had been previously used for citrus groves. According to review of available historical data, it appeared that the subject property was used for agriculture from at least the late 1950s through 2009. The land appeared to be fallow agricultural land at the time of their site visit on October 27, 2014. URS reported that no hazardous materials or hazardous wastes were observed on the subject property, and no environmental concerns were identified in association with the existing site use.

URS stated that common agricultural practices can result in residual concentrations of fertilizers, pesticides or herbicides in near-surface soil, though not generally at concentrations that pose a significant health risk. They also stated that "*It is URS' opinion that, since the site has been repeatedly graded and redeveloped, remaining pesticide or herbicide residues, if any, are likely to have been dispersed during these construction activities and therefore are unlikely to impact human health or the environment. Accordingly, no further investigation is recommended regarding residual pesticides.*"

URS Indicated that the agency database report obtained from Environmental Data Resources, Inc. (EDR) did not identify the current or former property address in the environmental and regulatory databases searched. A number of other sites in the vicinity of the property were included in agency environmental database lists. Sites listed in the EDR Report were either chemical use only sites where no chemical spill had occurred, located down-gradient from the site, located at such a distance that impact to the site would be unlikely, or were cases which have been closed or are considered soils only cases by the overseeing agency, indicating that the sites are unlikely to pose a threat to the property.

Based on the findings of their Phase I ESA, URS stated the following:

1) the assessment had revealed no evidence of recognized environmental conditions (RECs) associated with the current use of the property.
2) the assessment had revealed no evidence of historical recognized environmental conditions (HRECs) in connection with the property, with the exception of previous pesticide use.
3) No controlled recognized environmental conditions (CRECs) or *de minimis* conditions were identified in connection with the subject property.

Based on the information reviewed, it was URS' opinion that no further investigation of the subject property is warranted at this time.

EEI concurs with this opinion, given the site conditions, previous investigations on the adjacent Arantine Hills residential development and former McMillan Farm – which indicated no significant residual pesticide contamination (**LOR Geotechnical Group Inc., Pesticide Letter, 2011, and URS Phase 1 ESA, Arantine Hills Project, 2014, Appendix E**), and the proposed development which will incorporate extensive grading.

3.8 Other Environmental Issues

3.8.1 Asbestos-Containing Materials

Asbestos, a natural fiber used in the manufacturing of a number of different building materials, has been identified as a human carcinogen. Most friable (i.e., easily broken or crushed) Asbestos-Containing Materials (ACM) were banned in building materials by 1978. By 1989, most major manufacturers had voluntarily removed non-friable ACM (i.e., flooring, roofing, and mastics/sealants) from the market. These materials, however, were not banned completely.

The subject property is currently, and has historically, consisted of undeveloped land. Therefore, the presence of asbestos-containing materials is unlikely.

3.8.2 Lead-Based Paint

Lead-Based Paint has been identified by Occupational Safety and Health Administration (OSHA), the United States Environmental Protection Agency (U.S. EPA) and the Department of Housing and Urban Development (HUD) as being a potential health risk to humans, particularly children, based on its effects to the central nervous system, kidneys, and bloodstream. The risk of Lead-Based Paint has been classified by HUD based upon the age and condition of the painted surface.

The subject property is currently, and has historically, consisted of undeveloped land. Therefore, the presence of lead-based paint is unlikely.

3.8.3 Radon

Radon is a radioactive gas which has been identified as a human carcinogen. Radon gas is typically associated with fine-grained rock and soil, and results from the radioactive decay of radium. The U.S. EPA recommends that homeowners in areas with radon screening levels greater than 4 Picocurries per liter (pCi/L) conduct mitigation of radon gas to reduce exposure.

Sections 307 and 309 of the Indoor Radon Abatement Act of 1988 (IRAA) directed the U.S. EPA to list and identify areas of the U.S. with the potential for elevated indoor radon levels. U.S. EPA's Map of Radon Zones (EPA-402-R-93-071) assigns each of the 3,141 counties in the U.S. to one of three zones based on radon potential:

- Zone 1 counties have a predicted average indoor radon screening level greater than 4 pCi/L.
- Zone 2 counties have a predicted average indoor radon screening level between 2 and 4 pCi/L.
- Zone 3 counties have a predicted average indoor radon screening level less than 2 pCi/L.

Based on such factors as indoor radon measurements; geology; aerial radioactivity; and soil permeability, the U.S. EPA has identified the County of Riverside as Zone 2 (i.e., a predicted average indoor radon screening level between 2 and 4 pCi/L). EEI does not consider radon as a significant environmental concern at this time.

4.0 SITE RECONNAISSANCE

4.1 Purpose

The purpose of our site reconnaissance was to physically observe the subject property, site structures, and adjoining properties for conditions indicating an existing release, past release, or threatened release of any hazardous substances or petroleum products into structures on the property, or into soil and/or groundwater beneath the property. This would include any evidence of contamination, distressed vegetation, petroleum-hydrocarbon surface staining, waste drums, USTs, ASTs, illegal dumping, or improper waste storage/handling. Detailed information pertaining to our site reconnaissance is provided in the following section.

4.2 Subject Property

On April 16, 2018, EEI personnel conducted a site reconnaissance to visually observe the subject property and adjoining properties for conditions indicating a potential environmental concern. EEI was escorted during the initial portion of the site reconnaissance by Greg Mendoza, Senior Project Manager with The New Home Company (representing the User). Visual conditions present during the site reconnaissance are documented in the Photographic Log (**Appendix F**) and summarized in **Table 3**.

The subject property is located at the mouth of Bedford Canyon, approximately one mile southwest of the intersection of Eagle Glen Parkway and Bedford Canyon Drive. Bedford Wash, the major drainage in the site vicinity, forms the eastern margin of the subject property, beyond which lies a steep escarpment.

Access to the property was through the adjacent Arantine Hills residential development, which is currently under construction. EEI entered though Eagle Glen Parkway and passed through the development on unpaved roads which run along the western margin of Bedford Wash. Just south of the development the unpaved road leads to a large stormwater retention basin, located in the northeast corner of the subject property.

Just south of the retention basin, the subject property is accessed through a gated entrance in a chain-link fence. The fence surrounds the property on three sides, with the only unfenced portion along Bedford Wash to the east. A second gated entrance is present on the southwestern corner of the property, where it adjoins with a dirt access road leading to Eagle Glen Golf Course.

Aside from Bedford Wash and the associated stormwater retention basin (which were both dry at the time of EEI's visit), the triangular-shaped property was essentially flat (though sloping gently to the northeast) and featureless. There are no structures on the subject property. Moderate vegetation was noted along the western fenceline and in the wash channel. The only trash or debris encountered during the site reconnaissance was a section of corrugated drain pipe and black plastic sheeting in Bedford Wash near the stormwater retention basin.

No evidence of contamination, distressed vegetation, petroleum-hydrocarbon surface staining, waste drums, USTs, ASTs, illegal dumping, or improper waste storage/handling was noted during our site reconnaissance.

TABLE 3
Summary of Site Reconnaissance

Item	Concerns	Comments
General Housekeeping	No	No concerns observed.
Surface Spills	No	No concerns observed.
Stained Surfaces	No	No concerns observed.
Fill Materials	No	No concerns observed.
Pits/Ponds/Lagoons	No	No concerns observed.
Surface Impoundments	No	No concerns observed.
ASTs/USTs	No	No concerns observed.
Distressed Vegetation	No	No concerns observed.
Wetlands	No	No concerns observed.
Electrical Substations	No	No concerns observed.
Areas of Dumping	No	No concerns observed.
Transformers	No	No concerns observed.
Waste/Scrap Storage	No	No concerns observed.
Chemical Use/Storage	No	No concerns observed.

4.3 Adjacent Properties

EEI conducted a visual and auto reconnaissance of the adjoining properties (to the extent practical) to evaluate the potential for offsite impacts that may affect the subject property. These would include evidence of chemical storage or usage, surface staining or leakage, distressed vegetation, or evidence of illegal dumping. The following bullet items summarize our observations:

- North – the property to the north is vacant, undeveloped land, although the Bedford Wash channel northeast of the subject property is being improved to accommodate greater stormwater flow through the area.

- South – the properties to the south and east are undeveloped land.

- West – the property to the west is occupied by Eagle Glen Golf Course

Adjacent properties were not identified as having environmental related issues on any of the databases researched and are not considered as an environmental concern at this time. No service stations, dry cleaners, or industrial properties were identified in the immediate vicinity.

5.0 VAPOR ENCROACHMENT SCREEN

ASTM Standard E2600-10 Standard Guide for Vapor Encroachment Screening (VES) on Property Involved in Real Estate Transactions was used as guidance for conducting a VES for the subject property. The purpose of the screening is to determine whether a Vapor Encroachment Condition (VEC) exists from chemicals of concern (COC) that may migrate as vapors onto a property as a result of contaminated soil and groundwater on or near the subject property. The screening involves a two-tiered approach to assessing VEC risk as described below. The VES process includes a review of site conditions (e.g., aerial photographs, city directories, and environmental database information), which is information typically collected during a Phase I ESA, user provided information, and in some instances the use of a third-party vapor encroachment application. The following sections describe the VES performed on the subject property.

5.1 Site Conditions

The elevation of the subject property ranges from approximately 1,170 feet above mean sea level (amsl) at the southern portion to approximately 1,100 feet amsl at the northeastern corner (i.e., Bedford Wash). In general, topography at the property slopes gently to moderately to the northeast. A steep escarpment is present along the eastern margin of Bedford Wash, and forms the boundary of the subject property in that direction.

Soil in the immediate vicinity of the subject property was researched on the United States Department of Agriculture - Natural Resource Conservation Service (USDA-NRCS), online Web Soil Survey database (USDA, 2018). Soil beneath the property was identified as Cortina cobbly loamy sand, 2 to 8 percent slopes (USDA, 2018). The Cortina soils typically occur along alluvial fans and are derived from weathered metasedimentary rock. Cortina soils are excessively drained soil with low runoff and high permeability.

According to the Santa Ana Regional Water Quality Control Board –Region 8 (SARWQCB, 1995), the subject property is located within the Bedford Hydrologic Subarea (801.32), of the Lake Mathews Hydrologic Area (801.30), of the Santa Ana River Hydrologic Unit (801.00). Groundwater in this subarea has been designated as beneficial for municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PROC). According to the Western Municipal Water District and the Elsinore Valley Water District, groundwater is expected to occur at depths greater than 100 feet. Based solely on topography, the regional groundwater flow direction is estimated to be to the north-northeast in the direction of the nearby Temescal Wash.

5.2 User Provided Information

To assist EEI in the completion of the VES, Greg Mendoza with The New Home Company, completed a Vapor Encroachment Screen - User Questionnaire (**Appendix H**). The questionnaire provided basic information regarding the use, condition, and proposed development of the subject property.

According to Mr. Mendoza the subject property is currently vacant land, proposed for future residential development. Mr. Mendoza stated that he is not unaware of any reported instances of past or present gas stations, cleaners, storage tanks, odors, chemicals, or health concerns reported on the property.

5.3 Tier 1 Screening – Search Distance Test/Chemicals of Concern

A Tier 1 Screening includes the search distance test that involves a review of the regulatory database report and available historical records obtained during the Phase I ESA process to make a determination if any *known or suspect potentially contaminated* properties exist within the Area of Concern (AOC). High risk sites are typically current and former gas stations, former and current dry cleaners, manufactured gas plants, and industrial sites (Brownfields). The AOC is defined as any upgradient sites within the ASTM E1527-13 standard search distances and any cross or down gradient sites within 1/3 mile for solvents and petroleum products.

If the contamination at the known or potentially contaminated sites within the AOC consists of Chemicals of Concern (COCs), then a potential Vapor Encroachment Condition (pVEC) exists, and a Tier 2 Screening evaluation is recommended. If no known or potentially contaminated sites with COCs exist within the AOC, no further inquiry is necessary.

Based on EEI's Tier 1 Screening evaluation, no sites were identified within the AOC that were considered to pose a pVEC at the subject property.

5.4 Findings

Based on the results of the Tier 1 VES, EEI concluded that a VEC can be ruled out, because a VEC does not or is not likely to exist due to the lack of known or suspected contaminated properties within the AOC.

6.0 FINDINGS AND OPINIONS

Based on the information obtained in this ESA, EEI has the following findings and opinions:

- *Known or suspected RECs* – are defined by the ASTM E1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

  This assessment has revealed no evidence of *known or suspected RECs* in connection with the subject property.

- *Controlled RECs (CRECs)* – are defined by the ASTM E1527-13 as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a No Further Action "NFA" letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls).

  This assessment has revealed no evidence of *CRECs* in connection with the subject property.

- *Historical RECs (HRECs)* – are defined by the ASTM E1527-13 as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls).

  This assessment has revealed no evidence of *HREC's* in connection with the subject property, with the exception of previous agricultural use. However, based on the information reviewed in the preparation of this ESA, no further investigation of the subject property appears to be warranted at this time.

- *De minimis* Conditions – include environmental concerns identified which may warrant discussion but do not qualify as RECs, as defined by the ASTM Standard Practice E 1527-13.

  No de minimis conditions were identified during the preparation of this report.

7.0 DATA GAPS AND DEVIATIONS FROM ASTM PRACTICES

Section 3.2.21 (ASTM 1527-13) defines a data gap as "a lack or inability to obtain information required by the practice despite good faith efforts of the environmental professional to gather such information."

7.1 Historical Data Gaps

Based on the information obtained during the course of this investigation, no historical data gaps were encountered.

7.2 Regulatory Data Gaps

Based on the information obtained during the course of this investigation, no regulatory data gaps were encountered.

7.3 Onsite Data Gaps

Based on the information obtained during the course of this investigation, no onsite data gaps were encountered.

7.4 Deviations from ASTM Practices

Section 12.10 (ASTM 1527-13), states that all deletions and deviations from this practice shall be listed individually and in detail, including Client imposed constraints, and all additions should be listed.

EEI believes that there are no exceptions to, or deletions from, the ASTM Designation E1527-13 Guidelines.

8.0 CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-13 of Tentative Parcel Map 37036, Parcels 1 and 2, and a portion of APN 280-040-003 (32.31-acres), the *subject property*. Any exceptions to, or deletions from, this practice are described in Section 7.0 of this report. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the *subject property.*

9.0 REFERENCES

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California Department of Water Resources, Water Data Library (WDL), Website (http://www.water.ca.gov/waterdatalibrary), accessed April 2018.

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California Division of Mines and Geology (CDMG), 1977, Recency and Character of Faulting Along the Elsinore Fault Zone in Southern Riverside County, California, Special Report 131, Plate 1.

California Division of Oil, Gas, and Geothermal Resources (CDOGGR) website, www.consrv.ca.gov, Oil and Gas Maps District 1, accessed April 2018.

County of Riverside Transportation and Land Management Agency (TLMA) Online Services Permit Assistance Center (http://onlineservices.rctlma.org/), accessed April 2018.

Federal Emergency Management Agency (FEMA) website, (www.fema.gov), accessed April 2018.

LOR Geotechnical Group, Inc., Phase I Environmental Site Assessment and Limited Site Characterization, McMillan Farm Property, Corona County (sic), California, dated March 21, 2002.

LOR Geotechnical Group, Inc., Phase I Environmental Site Assessment Update, Arantine Hills, Corona, California, dated September 16, 2009.

LOR Geotechnical Group, Inc., Organochlorine Pesticides, Arantine Hills Project, City of Corona, Riverside County, California, Letter dated February 15, 2011.

National Pipeline Mapping System (NPMS), Public Map Viewer Website, (https://www.npms.phmsa.dot.gov/PublicViewer/), accessed April 2018.

Riverside County Information Technology – Geographic Information Services Map My County Website (RCIT) website (http://mmc.rivcoit.org/MMC_Public/Custom/disclaimer/Default.htm), accessed April 2018.

Santa Ana Regional Water Quality Control Board (SARWQCB) Region 8: Water Quality Control Plan, for the Santa Ana River Basin (8), January 1995 (Updated 2008), California State Water Resources Control Board Publication.

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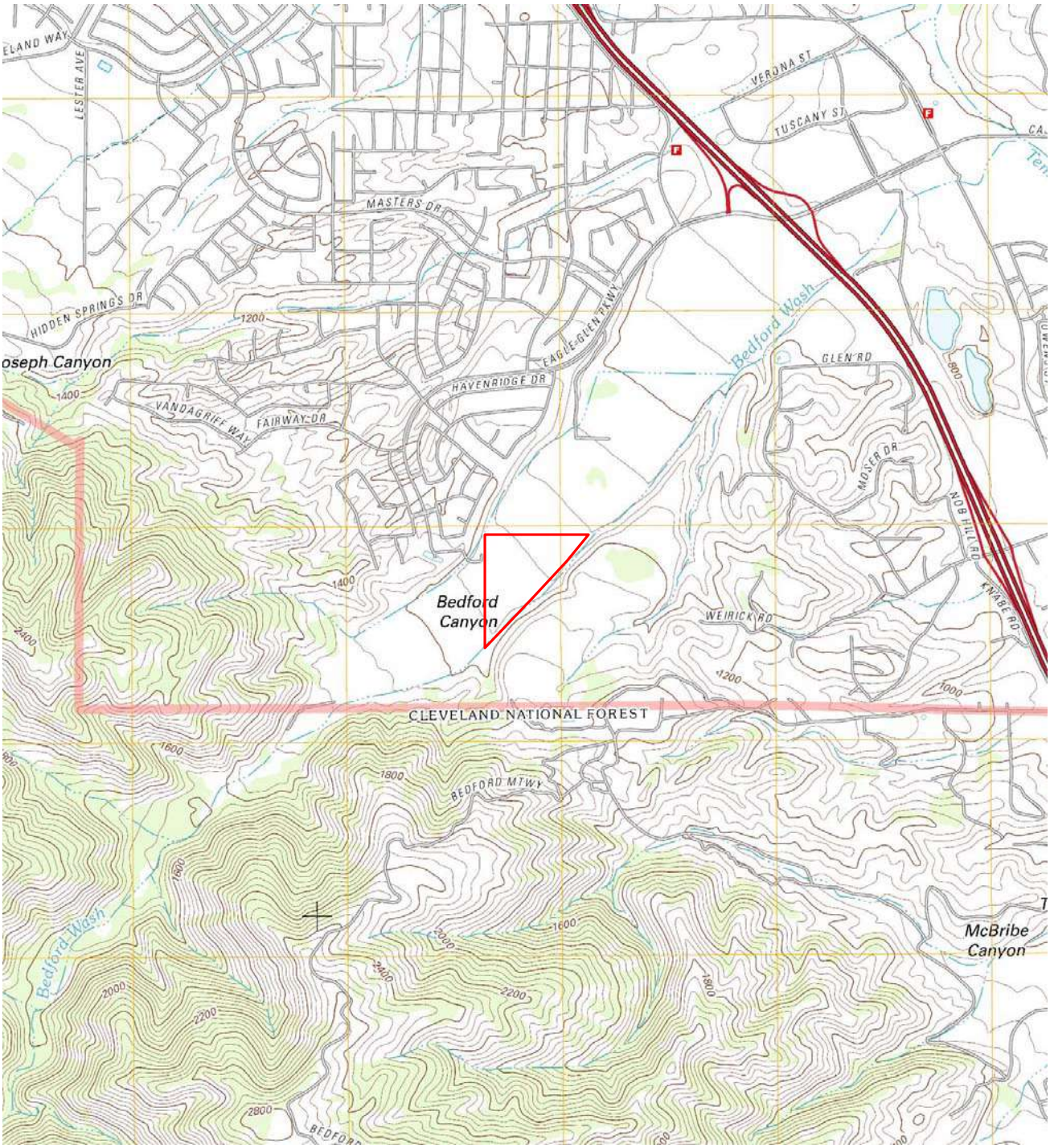
United States Department of Agriculture (USDA), Natural Resources Conservation Center, Website, Web Soil Survey (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx), accessed April 2018.

United States Geological Survey (USGS), 2012, 7.5' Topographic Map, Corona South, California Quadrangle.

URS, Phase I ESA, Arantine Hills Project, 4155 Eagle Glen Parkway, Corona, California, dated February 5, 2014.

URS, Phase I ESA, McMillan Project, Riverside County Assessor Parcel Number 282-040-003, Corona, California, dated November 10, 2014.

FIGURES



Map Source: USGS 7.5 Minute Topographic Map, Corona South, California Quadrangle, 2012

LEGEND

N

Approximate Scale: 1" = 2,300'

0 2,300 FT 4,600 FT

Note: All locations are approximate

SITE LOCATION MAP

Vacant Property
Parcel Map 37036
Lower McMillan
Corona, Riverside County, California
EEI Project NHC-72767.1
Created March 2018

EEI Engineering Solutions

FIGURE 1



Source: Google Earth, Accessed 2018; Image Date: March, 2017

LEGEND

N

Scale: 1" = 400'

0 240 FT 400 FT 800 FT

Note: All Locations Are Approximate

AERIAL SITE MAP

Vacant Property
Parcel Map 37036
Lower McMillan
Corona, Riverside County, California
EEI Project NHC-72767.1
Created March 2018

EEI Engineering Solutions

FIGURE 2

APPENDIX A
RESUME OF ENVIRONMENTAL PROFESSIONAL

BERNARD A. SENTIANIN, PG

SENIOR GEOLOGIST

SUMMARY

As Senior Geologist of EEI since 1997, Mr. Sentianin provides consulting and technical services as a project manager, expert witness, and senior geologist for investigation and cleanup efforts at sites impacted by Petroleum Hydrocarbons, heavy metals, pesticides, and chlorinated solvents. As a senior project manager, he has hands on experience designing, installing, and managing large scale projects involving above ground and in-situ bioremediation, soil vapor extraction, sparging, and groundwater extraction/treatment. He has 28 years of environmental project management experience, and over 30 years professional geologic experience. Mr. Sentianin has extensive experience in planning, implementing and evaluating Phase I and Phase II environmental assessments in commercial real estate transactions.

EDUCATION

1985 Bachelor of Science, Geology, California State University, Bakersfield
1989 Master of Science, Geological Sciences, San Diego State University

REGISTRATIONS/CERTIFICATIONS

Professional Geologist No. 5530, State of California.

Prior WORK HISTORY

1991 TO 1997 Senior Geologist, Senior Project Manager
PW ENVIRONMENTAL

Established in-house engineering and consulting services for mid-sized environmental contractor. Established regulatory, vendor, and client contacts. Initiated policies governing technical report content and format and instituted in-house training program for new technical staff. Selected prioritized and procured required support equipment. Actively managed Phase I and Phase II investigation and remediation projects. Reviewed assessment data, prepared feasibility studies, and evaluated remedial alternatives while preparing Remedial Action Plans (RAP) for fuel, heavy metal, and solvent-impacted sites. Prepared health-based risk assessment on large cleanup site adjacent to health care facility. Permitted, implemented, and successfully completed the first in-situ groundwater bioremediation system in Ventura County. Reviewed and implemented numerous Phase I and Phase II environmental site assessments throughout Central and Southern California.

1989 TO 1991 STAFF/Project Geologist
NACHANT ENVIRONMENTAL, INC.
Planned, implemented, and managed environmental site investigations and remediation projects following appropriate regulatory and professional guidelines. Prepared and reviewed project cost proposals, correspondence, regulatory permits, assessment and investigation reports, and remedial action plans.

1987 TO 1989 TEACHING ASSISTANT
SAN DIEGO STATE UNIVERSITY – DEPARTMENT OF GEOLOGICAL SCIENCES AND DEPARTMENT OF ENGINEERING

REPRESENTATIVE PROJECTS

Globe Mills, Sacramento CA - Conducted Phase I and Phase II environmental site assessment, evaluated environmental concerns for adaptive reuse project on behalf of Sacramento Housing and Redevelopment Agency. Coordinated regulatory oversight of the project with Sacramento County Environmental Management Division.

K Street Corridor – Sacramento, CA. Evaluated and conducted Phase I environmental site assessments on three block area of downtown Sacramento, as well as a number of individual properties in other areas within the K Street Corridor, on behalf of the City of Sacramento Downtown Development Group.

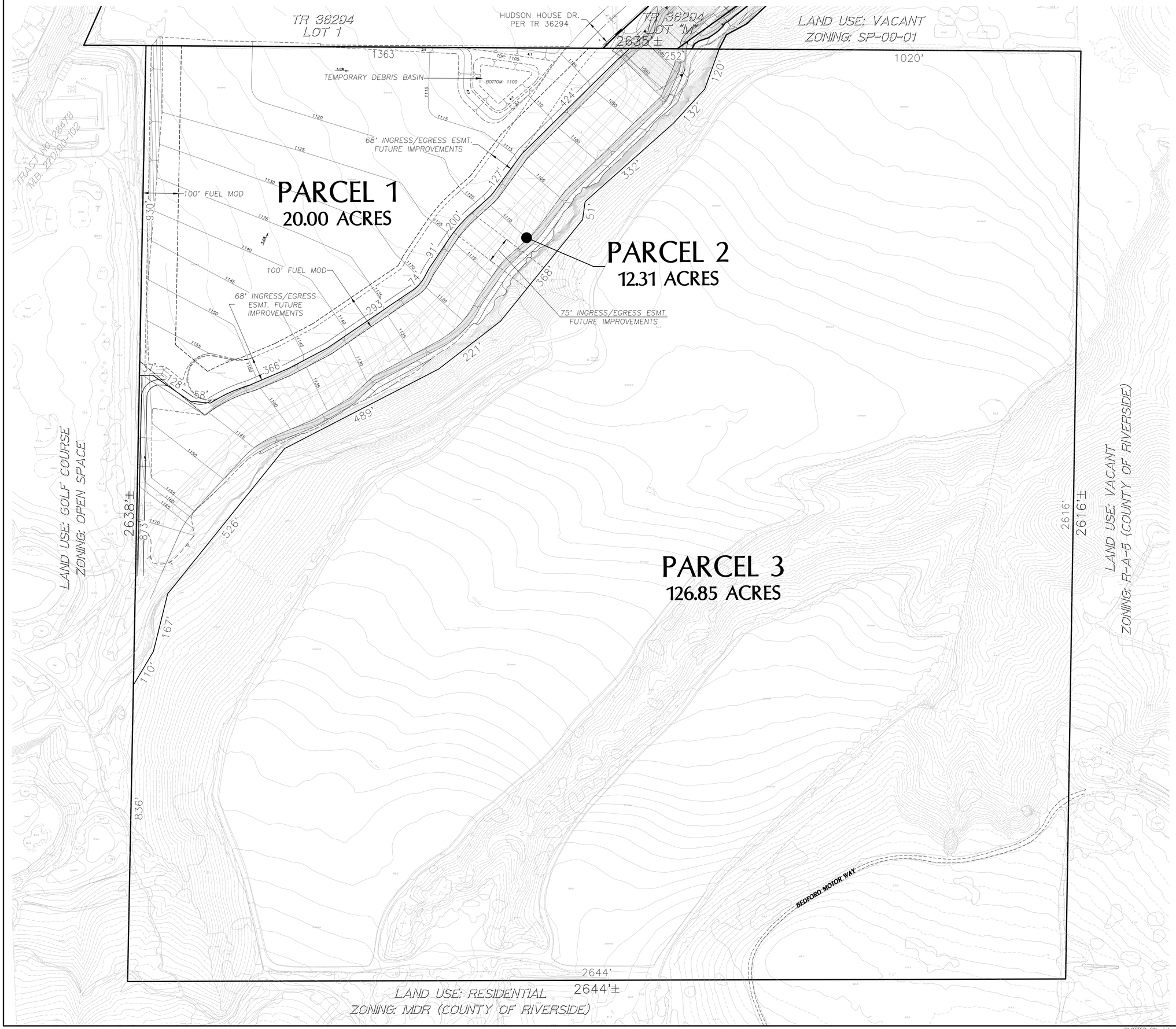
Southside Garden and Fremont Mews, Sacramento, CA – Conducted Phase I and Phase II environmental site assessments and evaluated environmental concerns on two community garden projects on behalf of the Capitol Area Development Authority. Coordinated regulatory oversight with Sacramento County Environmental Management Division and the State Office of Environmental Health Hazard Assessment. Prepared and evaluated requests for proposals for cleanup contractors and provided remediation oversight and management. Prepared closure documentation and obtained regulatory signoff form both the Southside Garden and Fremont Mews projects.

Electronics Manufacturing Facility/Fueling Depot, Santa Monica, CA. Performed soil and groundwater investigation, feasibility testing and evaluation of fuel hydrocarbon and chlorinated solvent plumes. Prepared RAP with design criteria for soil vapor extraction. After approval of RAP by State regulators, implemented and successfully completed remediation at site, obtaining closure.

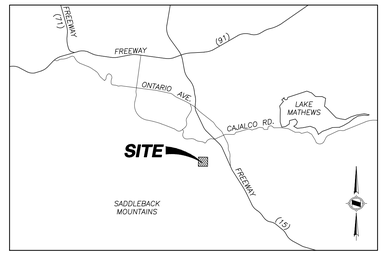
Former Aerospace Facility, Santa Ana, CA. Evaluated existing Phase I And Phase II assessments. Performed soil, soil vapor, and groundwater investigations of chlorinated solvent plumes at multiple locations on site. Modeled and evaluated potential plume source areas. Initiated site specific sampling protocol for chlorinated solvents. Liaison with lead regulatory agency regarding regional contamination issues and site closure requirements.

Major Land Owner/Developer, San Juan Capistrano, CA. Conducted Phase I and Phase II environmental site assessments at multiple sites in southern Orange County. Evaluated potential environmental concerns related to sand & gravel operations, fueling facilities, ordinance testing facilities, aerospace engineering labs, vehicle maintenance and repair facilities, agricultural operations, and illicit dump sites.

APPENDIX B
TPM NO. 37036 / TITLE DOCUMENT



VICINITY MAP



NOTES

1. EXISTING LAND USE: AGRICULTURE
2. EXISTING ZONING: AGRICULTURE
3. ASSESSOR PARCEL NUMBER: 282-040-003
4. TOTAL GROSS AREA: 159.16 ACRES
5. WATER SERVICE PROVIDED BY: CORONA DEPARTMENT OF WATER AND POWER, 755 CORPORATION YARD WAY, CORONA, CA 92880, (951) 736-2234
6. SEWER SERVICE PROVIDED BY: CORONA DEPARTMENT OF WATER AND POWER, 755 CORPORATION YARD WAY, CORONA, CA 92880, (951) 736-2234
7. GAS SERVICE PROVIDED BY: SOUTHERN CALIFORNIA GAS COMPANY, P.O. BOX 3150, SAN DIMAS, CA 91773, (800) 427-2200
8. ELECTRIC SERVICE PROVIDED BY: SOUTHERN CALIFORNIA EDISON, P.O. BOX 6400, RANCHO CUCAMONGA, CA 91729, (800) 990-7788
9. TELEPHONE SERVICE PROVIDED BY: AT&T, 1265 N. VAN BUREN STREET, SUITE 180, ANAHEIM, CA 92807, (800) 750-2355
10. CABLE PROVIDED BY: AT&T, 1265 N. VAN BUREN STREET, SUITE 180, ANAHEIM, CA 92807, (800) 750-2355
11. REFUSE PROVIDED BY: WASTE MANAGEMENT OF THE INLAND EMPIRE, 800 SOUTH TEMESCAL STREET, CORONA, CA 92876, (951) 280-4500
12. THE PROJECT IS LOCATED WITHIN THE CORONA-NORCO UNIFIED SCHOOL DISTRICT, 2820 CLARK AVENUE, NORCO CA, 92860, (951) 736-5000
13. THE PROJECT SITE IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN PER FLOOD INSURANCE RATE MAP NUMBER 06065C1360G, EFFECTIVE DATE AUGUST 28, 2008.

EXISTING EASEMENTS

1. AN EASEMENT FOR OVERHEAD AND UNDERGROUND ELECTRICAL SUPPLY SYSTEMS AND COMMUNICATON SYSTEMS AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 26, 1992 AS INSTRUMENT NO. 1992-64680 OF OFFICIAL RECORDS IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, AFFECTS AS DESCRIBED THEREIN.

LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF CORONA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS: THE EAST HALF OF THE SOUTHWEST QUARTER AND THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 20, TOWNSHIP 4 SOUTH, RNAGE 6 WEST, SAN BERNARDINO BASE AND MERIDIAN.

OWNER

GARY L. MCMILLAN AND PATRICIA A. MCMILLAN, AS TRUSTEES OF THE MCMILLAN TRUST, AS TO AN UNDIVIDED 50% INTEREST, AND GARY L. MCMILLAN AND PATRICIA MCMILLAN, AS TRUSTEES OF THE MCMILLAN TRUST, AS TO AN UNDIVIDED 50% INTEREST

STATEMENT OF OWNERSHIP

I HEREBY STATE THAT THIS MAP WAS PREPARED UNDER MY SUPERVISION AND THAT THE OWNER OF RECORD HAS KNOWLEDGE OF AND CONSENTS TO THE FILING OF THIS MAP.

REGISTERED PROFESSIONAL ENGINEER
DOUGLAS L. STATOM
NO. 38796
CIVIL
STATE OF CALIFORNIA

_____ DATE _____

DATE	REVISION	BY
--	--	--

DATE 03-14-2018
W.O. 2749-18
GROSS AREA 159.2±
CONTOUR INTERVAL 5'
TOTAL LOTS 3

FEET
0 50 100 200
INCHES
0 1/2 1 2

PREPARED FOR:

APPLICANT:
ARANTINE HILLS HOLDINGS, LP
85 ENTERPRISE, SUITE 450
ALISO VIEJO, CA 92656
(949) 382-2766

PREPARED BY:

HUNSAKER & ASSOCIATES
IRVINE, INC.
PLANNING • ENGINEERING • SURVEYING
Three Hughes • Irvine, CA 92618
FX: (949) 583-0759 • PH: (949) 583-1010

PARCEL MAP NO. 37036

W.O.: 2749-18 (McMillan)

PLOTTED BY: Jake Smith DATE: Mar. 14, 2018 08:01:35 AM FILE: F:\0853\Planning\SA_McMillan\Exh_TPM\TPM.dwg

UPDATED AND AMENDED FEBRUARY 24,K 2016

First American Title Company
National Commercial Services

4380 La Jolla Village Drive, Suite 110
San Diego, CA 92122

February 24, 2016

Matt Weaver
Lee & Associates
1900 Wright Pl Ste 200
Carlsbad , CA 92008
Phone: (760)929-9700
Fax:

Customer Reference:	Avantine Hills, McMillan
Title Officer:	Vince Tocco/ Linda Slavik
Phone:	(858)410-3886
Fax No.:	(877)461-2094
E-Mail:	vtocco@firstam.com
Buyer:	To Be Determined
Owner:	The McMillan Trust
Property:	Vacant Land, Corona, CA

PRELIMINARY REPORT

In response to the above referenced application for a policy of title insurance, this company hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an Exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Exhibit A attached. *The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties.* Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

First American Title Insurance Company

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

Dated as of February 18, 2016 at 7:30 A.M.

The form of Policy of title insurance contemplated by this report is:

ALTA Extended Loan Policy and
ALTA Standard Owner Policy

A specific request should be made if another form or additional coverage is desired.

Title to said estate or interest at the date hereof is vested in:

GARY L. MCMILLAN AND PATRICIA A. MCMILLAN, AS TRUSTEES OF THE MCMILLAN TRUST, AS TO AN UNDIVIDED 50% INTEREST, AND

GARY L. MCMILLAN AND PATRICIA MCMILLAN, AS TRUSTEES OF THE MCMILLAN TRUST, AS TO AN UNDIVIDED 50% INTEREST

The estate or interest in the land hereinafter described or referred to covered by this Report is:

FEE

The Land referred to herein is described as follows:

(See attached Legal Description)

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions in said policy form would be as follows:

1. General and special taxes and assessments for the fiscal year 2016-2017, a lien not yet due or payable.

2. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code.

3. This item has been intentionally deleted.

4. A right of way for ditches and canals as reserved by the United States of America in the patent recorded August 10, 1896 in Book 1 of Patents, Page 350.

5. The effect of a map purporting to show the land and other property, filed in Book 25, Page 13 of Record of Surveys.

6. This item has been intentionally deleted.

7. This item has been intentionally deleted.

8. Terms and provisions of an unrecorded lease dated November 15, 1989, by and between Adeline Edens and Mary Burnett as lessor and McMillan Farm Management, a General Partnership as lessee, as disclosed by a Memorandum of Lease recorded March 8, 1990 as Instrument No. 1990-85778 of Official Records.

   Defects, liens, encumbrances or other matters affecting the leasehold estate, whether or not shown by the public records.

9. This item has been intentionally deleted.

10. An easement for overhead and underground electrical supply systems and communication systems and incidental purposes, recorded February 26, 1992 as Instrument No. 1992-64680 of Official Records.

In Favor of:	Southern California Edison Company
Affects:	As described therein

11. This item has been intentionally deleted.

12. The terms and provisions contained in the document entitled "Dos Lagos Project Pre-Annexation Agreement and Statement of Intent" recorded June 20, 2001 as Instrument No. 2001-280967 of Official Records.

13. The terms and provisions contained in the document entitled "Memorandum of Sale Agreement" recorded November 24, 2014 as Instrument No. 2014-0448731 of Official Records. By and Between: Gary L. McMillan and Patricia A. McMillan, as Trustees of the McMillan Trust under Declaration dated November 9, 2005 and TNHC LAND COMPANY, LLC, a Delaware limited liability company

14. The lack of a right of access to and from the land.

    Notice: Paragraph 4 of the insuring provisions on the face page of the policy will be deleted from the policy to be issued.

15. Water rights, claims or title to water, whether or not shown by the public records.

16. Rights of the public in and to that portion of the land lying within any road, street and/or highway.

17. Rights of parties in possession.

INFORMATIONAL NOTES

1. Taxes for proration purposes only for the fiscal year 2015-2016.

First Installment:	$8,481.45, PAID
Second Installment:	$8,481.45, PAID
Tax Rate Area:	004-151
APN:	282-040-003-7

2. The property covered by this report is vacant land.

3. According to the public records, there has been no conveyance of the land within a period of twenty-four months prior to the date of this report, except as follows:

   None

4. This preliminary report/commitment was prepared based upon an application for a policy of title insurance that identified land by street address or assessor's parcel number only. It is the responsibility of the applicant to determine whether the land referred to herein is in fact the land that is to be described in the policy or policies to be issued.

5. Should this report be used to facilitate your transaction, we must be provided with the following prior to the issuance of the policy:

   A. WITH RESPECT TO A CORPORATION:
      1. A certificate of good standing of recent date issued by the Secretary of State of the corporation's state of domicile.
      2. A certificate copy of a resolution of the Board of Directors authorizing the contemplated transaction and designating which corporate officers shall have the power to execute on behalf of the corporation.
      3. Requirements which the Company may impose following its review of the above material and other information which the Company may require.

   B. WITH RESPECT TO A CALIFORNIA LIMITED PARTNERSHIP:
      1. A certified copy of the certificate of limited partnership (form LP-1) and any amendments thereto (form LP-2) to be recorded in the public records;
      2. A full copy of the partnership agreement and any amendments;
      3. Satisfactory evidence of the consent of a majority in interest of the limited partners to the contemplated transaction;
      4. Requirements which the Company may impose following its review of the above material and other information which the Company may require.

   C. WITH RESPECT TO A FOREIGN LIMITED PARTNERSHIP:
      1. A certified copy of the application for registration, foreign limited partnership (form LP-5) and any amendments thereto (form LP-6) to be recorded in the public records;
      2. A full copy of the partnership agreement and any amendment;
      3. Satisfactory evidence of the consent of a majority in interest of the limited partners to the contemplated transaction;

4. Requirements which the Company may impose following its review of the above material and other information which the Company may require.

D. WITH RESPECT TO A GENERAL PARTNERSHIP:

1. A certified copy of a statement of partnership authority pursuant to Section 16303 of the California Corporation Code (form GP-I), executed by at least two partners, and a certified copy of any amendments to such statement (form GP-7), to be recorded in the public records;
2. A full copy of the partnership agreement and any amendments;
3. Requirements which the Company may impose following its review of the above material required herein and other information which the Company may require.

E. WITH RESPECT TO A LIMITED LIABILITY COMPANY:

1. A copy of its operating agreement and any amendments thereto;
2. If it is a California limited liability company, a certified copy of its articles of organization (LLC-1) and any certificate of correction (LLC-11), certificate of amendment (LLC-2), or restatement of articles of organization (LLC-10) to be recorded in the public records;
3. If it is a foreign limited liability company, a certified copy of its application for registration (LLC-5) to be recorded in the public records;
4. With respect to any deed, deed of trust, lease, subordination agreement or other document or instrument executed by such limited liability company and presented for recordation by the Company or upon which the Company is asked to rely, such document or instrument must be executed in accordance with one of the following, as appropriate:
   (i) If the limited liability company properly operates through officers appointed or elected pursuant to the terms of a written operating agreement, such documents must be executed by at least two duly elected or appointed officers, as follows: the chairman of the board, the president or any vice president, and any secretary, assistant secretary, the chief financial officer or any assistant treasurer;
   (ii) If the limited liability company properly operates through a manager or managers identified in the articles of organization and/or duly elected pursuant to the terms of a written operating agreement, such document must be executed by at least two such managers or by one manager if the limited liability company properly operates with the existence of only one manager.
5. Requirements which the Company may impose following its review of the above material and other information which the Company may require.

F. WITH RESPECT TO A TRUST:

1. A certification pursuant to Section 18100.5 of the California Probate Code in a form satisfactory to the Company.
2. Copies of those excerpts from the original trust documents and amendments thereto which designate the trustee and confer upon the trustee the power to act in the pending transaction.
3. Other requirements which the Company may impose following its review of the material require herein and other information which the Company may require.

G. WITH RESPECT TO INDIVIDUALS:

1. A statement of information.

The map attached, if any, may or may not be a survey of the land depicted hereon. First American Title Insurance Company expressly disclaims any liability for loss or damage which may result from reliance on this map except to the extent coverage for such loss or damage is expressly provided by the terms and provisions of the title insurance policy, if any, to which this map is attached.

*****To obtain wire instructions for deposit of funds to your escrow file please contact your Escrow Officer.******

LEGAL DESCRIPTION

Real property in the City of Corona, County of Riverside, State of California, described as follows:

THE EAST HALF OF THE SOUTHWEST QUARTER AND THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 20, TOWNSHIP 4 SOUTH, RANGE 6 WEST, SAN BERNARDINO BASE AND MERIDIAN.

APN: 282-040-003-7

The First American Corporation
First American Title Company
Privacy Policy

We Are Committed to Safeguarding Customer Information

In order to better serve your needs now and in the future, we may ask you to provide us with certain information. We understand that you may be concerned about what we will do with such information - particularly any personal or financial information. We agree that you have a right to know how we will utilize the personal information you provide to us. Therefore, together with our parent company, The First American Corporation, we have adopted this Privacy Policy to govern the use and handling of your personal information.

Applicability

This Privacy Policy governs our use of the information which you provide to us. It does not govern the manner in which we may use information we have obtained from any other source, such as information obtained from a public record or from another person or entity. First American has also adopted broader guidelines that govern our use of personal information regardless of its source. First American calls these guidelines its Fair Information Values, a copy of which can be found on our website at www.firstam.com.

Types of Information

Depending upon which of our services you are utilizing, the types of nonpublic personal information that we may collect include:

- Information we receive from you on applications, forms and in other communications to us, whether in writing, in person, by telephone or any other means;
- Information about your transactions with us, our affiliated companies, or others; and
- Information we receive from a consumer reporting agency.

Use of Information

We request information from you for our own legitimate business purposes and not for the benefit of any nonaffiliated party. Therefore, we will not release your information to nonaffiliated parties except: (1) as necessary for us to provide the product or service you have requested of us; or (2) as permitted by law. We may, however, store such information indefinitely, including the period after which any customer relationship has ceased. Such information may be used for any internal purpose, such as quality control efforts or customer analysis. We may also provide all of the types of nonpublic personal information listed above to one or more of our affiliated companies. Such affiliated companies include financial service providers, such as title insurers, property and casualty insurers, and trust and investment advisory companies, or companies involved in real estate services, such as appraisal companies, home warranty companies, and escrow companies. Furthermore, we may also provide all the information we collect, as described above, to companies that perform marketing services on our behalf, on behalf of our affiliated companies, or to other financial institutions with whom we or our affiliated companies have joint marketing agreements.

Former Customers

Even if you are no longer our customer, our Privacy Policy will continue to apply to you.

Confidentiality and Security

We will use our best efforts to ensure that no unauthorized parties have access to any of your information. We restrict access to nonpublic personal information about you to those individuals and entities who need to know that information to provide products or services to you. We will use our best efforts to train and oversee our employees and agents to ensure that your information will be handled responsibly and in accordance with this Privacy Policy and First American's Fair Information Values. We currently maintain physical, electronic, and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.

CLTA/ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   (a) building; (d) improvements on the Land;
   (b) zoning; (e) land division; and
   (c) land use; (f) environmental protection.

   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   (a) that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   (b) that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   (c) that result in no loss to You; or
   (d) that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.
5. Failure to pay value for Your Title.
6. Lack of a right:
   (a) to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   (b) in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows: For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

Your Deductible Amount	**Our Maximum Dollar Limit of Liability**
Covered Risk 16: 1% of Policy Amount or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18: 1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19: 1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21: 1% of Policy Amount or $2,500.00 (whichever is less)	$5,000.00

ALTA RESIDENTIAL TITLE INSURANCE POLICY (6-1-87)

EXCLUSIONS

In addition to the Exceptions in Schedule B, you are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of any law or government regulation. This includes building and zoning ordinances and also laws and regulations concerning:
   (a) and use
   (b) improvements on the land
   (c) and division
   (d) environmental protection

   This exclusion does not apply to violations or the enforcement of these matters which appear in the public records at Policy Date.
   This exclusion does not limit the zoning coverage described in Items 12 and 13 of Covered Title Risks.
2. The right to take the land by condemning it, unless:
   (a) a notice of exercising the right appears in the public records on the Policy Date
   (b) the taking happened prior to the Policy Date and is binding on you if you bought the land without knowing of the taking

3. Title Risks:
   (a) that are created, allowed, or agreed to by you
   (b) that are known to you, but not to us, on the Policy Date -- unless they appeared in the public records
   (c) that result in no loss to you
   (d) that first affect your title after the Policy Date -- this does not limit the labor and material lien coverage in Item 8 of Covered Title Risks
4. Failure to pay value for your title.
5. Lack of a right:
   (a) to any land outside the area specifically described and referred to in Item 3 of Schedule A OR
   (b) in streets, alleys, or waterways that touch your land
   This exclusion does not limit the access coverage in Item 5 of Covered Title Risks.

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
      i. the occupancy, use, or enjoyment of the Land;
      ii. the character, dimensions, or location of any improvement erected on the Land;
      iii. the subdivision of land; or
      iv. environmental protection;

      or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   b. Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   e. resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   a. a fraudulent conveyance or fraudulent transfer, or
   b. a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) that arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to

   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement erected on the Land;
   iii. the subdivision of land; or
   iv. environmental protection;

   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

   b.Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at Date of Policy, but known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   e. resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   a. a fraudulent conveyance or fraudulent transfer, or
   b. a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) that arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (07-26-10)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement erected on the Land;
   iii. the subdivision of land; or
   iv. environmental protection;

   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.

   b. Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters

   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   e. resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   a. a fraudulent conveyance or fraudulent transfer, or
   b. a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.

APPENDIX C
HISTORICAL AERIAL PHOTOGRAPHS/ TOPOGRAPHIC MAPS/SANBORN MAP REPORT

Arantine Hills - TPM 37036 Parcels 1&2

Bedford Canyon

Corona, CA 92883

Inquiry Number: 5252175.9

April 09, 2018

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

04/09/18

Site Name:

Arantine Hills - TPM 37036 Par
Bedford Canyon
Corona, CA 92883
EDR Inquiry # 5252175.9

Client Name:

EEI, Inc.
2195 Faraday Avenue, Suite K
Carlsbad, CA 92008-0000
Contact: Bernard Sentianin

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2014	1"=500'	Flight Year: 2014	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1995	1"=500'	Acquisition Date: October 03, 1995	USGS/DOQQ
1990	1"=500'	Flight Date: August 29, 1990	USDA
1985	1"=500'	Flight Date: September 13, 1985	USDA
1975	1"=500'	Flight Date: August 01, 1975	USGS
1967	1"=500'	Flight Date: May 15, 1967	USDA
1961	1"=500'	Flight Date: June 17, 1961	USDA
1953	1"=500'	Flight Date: September 23, 1953	USDA
1948	1"=500'	Flight Date: July 10, 1948	USGS
1938	1"=500'	Flight Date: June 14, 1938	USDA
1931	1"=500'	Flight Date: September 18, 1931	USGS

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INQUIRY #: 5252175.9
YEAR: 2014
= 500'
N
EDR


INQUIRY #: 5252175.9
YEAR: 2010
= 500'
N
EDR


INQUIRY #: 5252175.9
YEAR: 2006
= 500'
N
EDR


INQUIRY #: 5252175.9
YEAR: 1995
= 500'
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EDR


INQUIRY #: 5252175.9
YEAR: 1990
= 500'
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EDR


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YEAR: 1985
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EDR


INQUIRY #: 5252175.9
YEAR: 1975
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EDR


INQUIRY #: 5252175.9
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EDR


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EDR



INQUIRY #: 5252175.9

YEAR: 1953

= 500'

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EDR



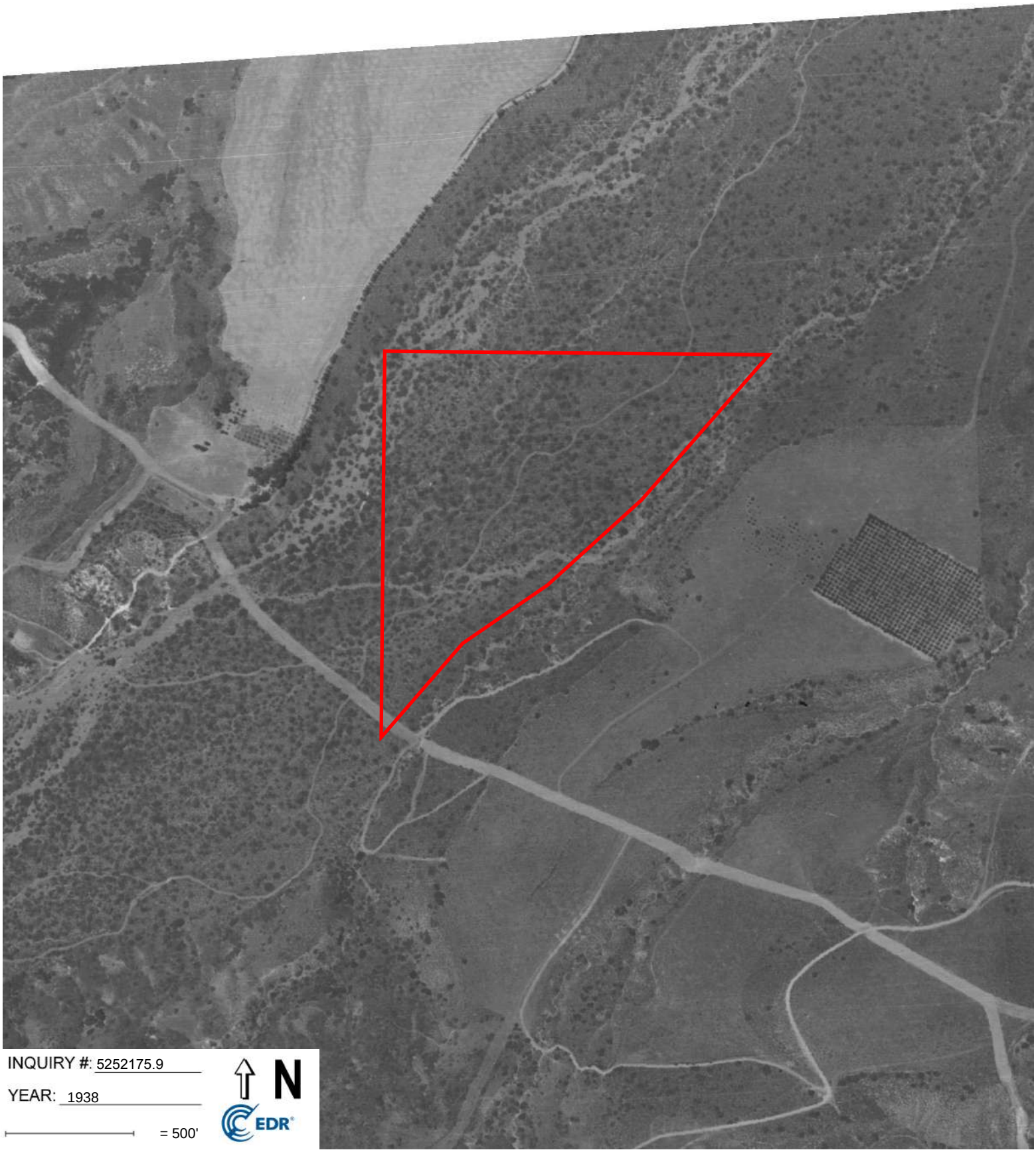
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EDR



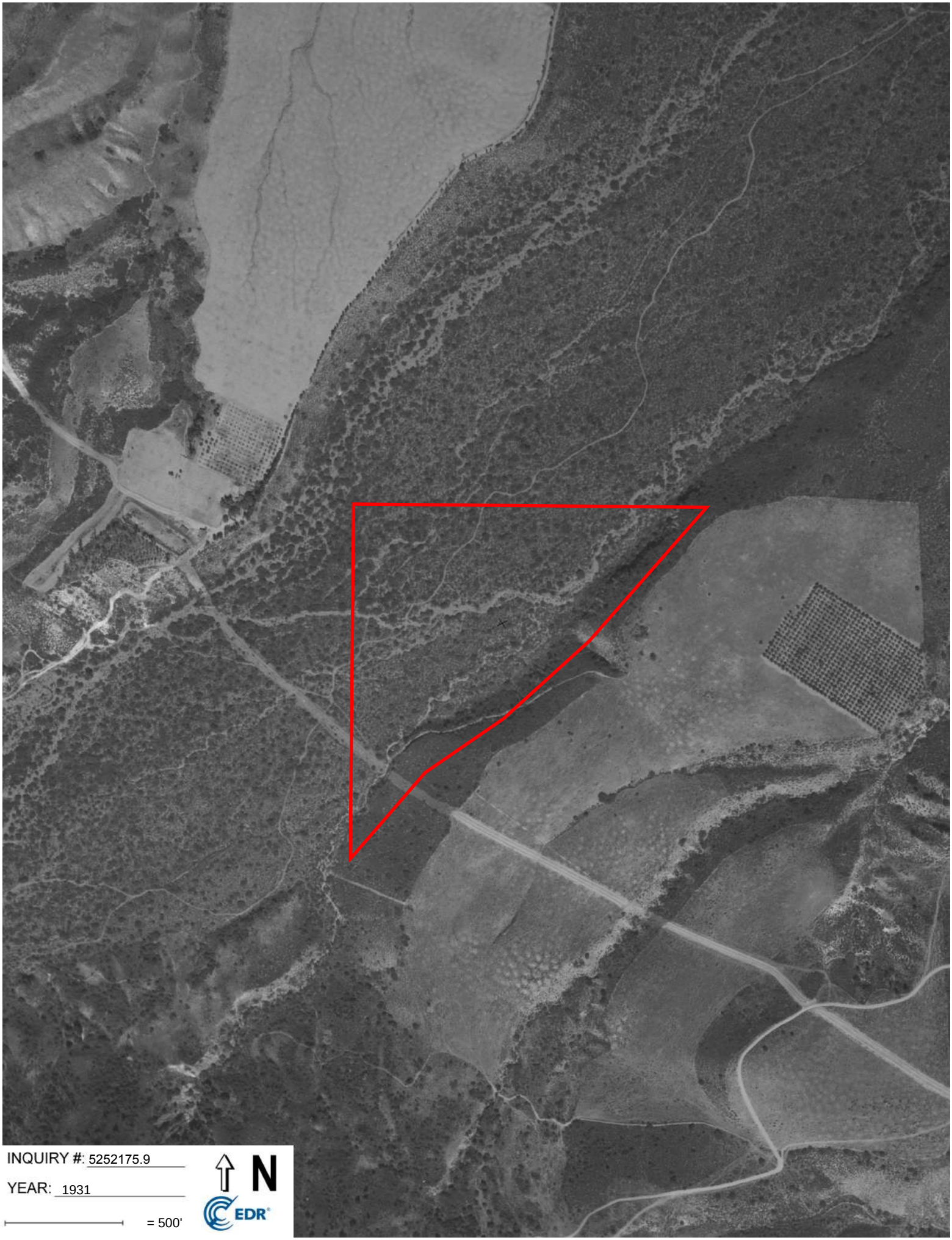
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EDR



INQUIRY #: 5252175.9

YEAR: 1931

= 500'

N

EDR

Arantine Hills - TPM 37036 Parcels 1&2

Bedford Canyon

Corona, CA 92883

Inquiry Number: 5252175.4

April 09, 2018

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

04/09/18

Site Name:	Client Name:
Arantine Hills - TPM 37036 Par	EEI, Inc.
Bedford Canyon	2195 Faraday Avenue, Suite K
Corona, CA 92883	Carlsbad, CA 92008-0000
EDR Inquiry # 5252175.4	Contact: Bernard Sentianin

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by EEI, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:		*Coordinates:*	
P.O.#	NHC-72767.1	**Latitude:**	33.806298 33° 48' 23" North
Project:	TNHC Arantine Hills TPM 3703	**Longitude:**	-117.531524 -117° 31' 53" West
		UTM Zone:	Zone 11 North
		UTM X Meters:	450803.51
		UTM Y Meters:	3740805.99
		Elevation:	1129.48' above sea level

Maps Provided:

2012	1942
1997	1902
1988	
1982	
1973	
1967	
1954	
1947	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Corona South
2012
7.5-minute, 24000

1997 Source Sheets



Corona South
1997
7.5-minute, 24000
Aerial Photo Revised 1994

1988 Source Sheets



Corona South
1988
7.5-minute, 24000
Aerial Photo Revised 1987

1982 Source Sheets



Corona South
1982
7.5-minute, 24000
Aerial Photo Revised 1980

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1973 Source Sheets



Corona South
1973
7.5-minute, 24000
Aerial Photo Revised 1973

1967 Source Sheets



Corona South
1967
7.5-minute, 24000
Aerial Photo Revised 1966

1954 Source Sheets



Corona South
1954
7.5-minute, 24000
Aerial Photo Revised 1952

1947 Source Sheets



CORONA
1947
15-minute, 50000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1942 Source Sheets



Corona and Vicinity
1942
7.5-minute, 31680

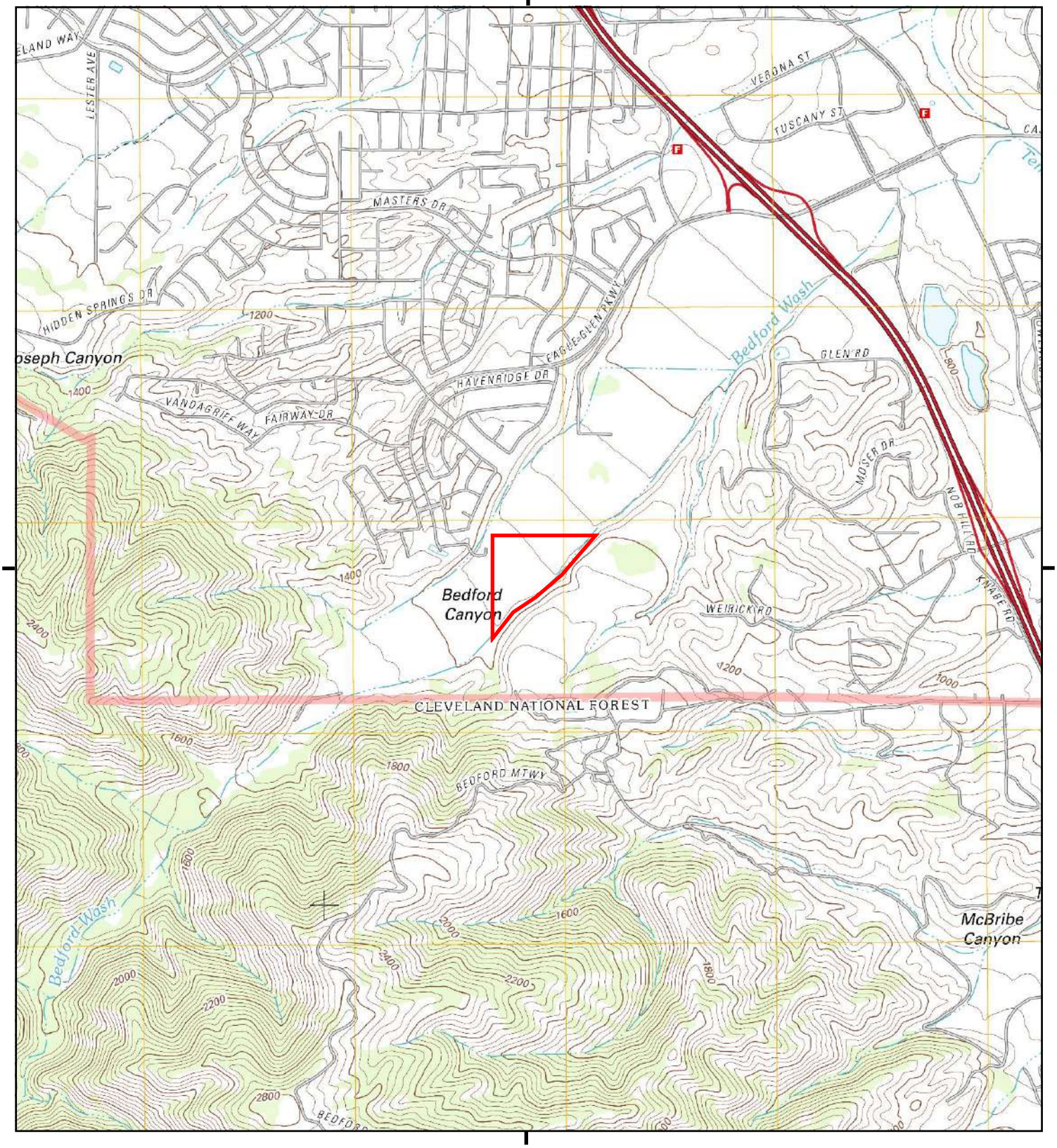
1902 Source Sheets



Corona
1902
30-minute, 125000

Historical Topo Map

2012



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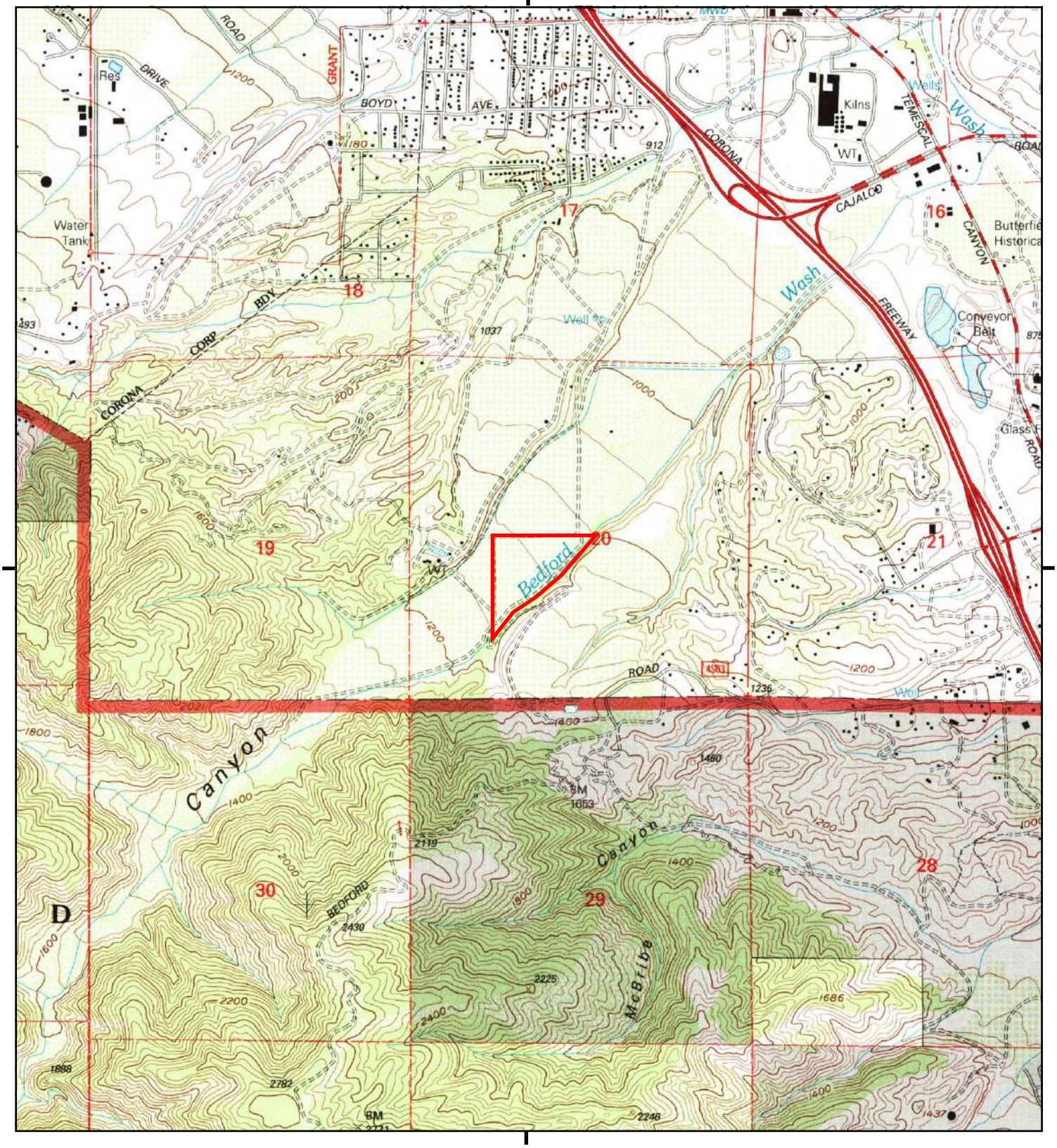
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NW N NE
W E
SW S SE

TP, Corona South, 2012, 7.5-minute

SITE NAME: Arantine Hills - TPM 37036 Parcels 1&2
ADDRESS: Bedford Canyon
Corona, CA 92883
CLIENT: EEI, Inc.

N



This report includes information from the following map sheet(s).

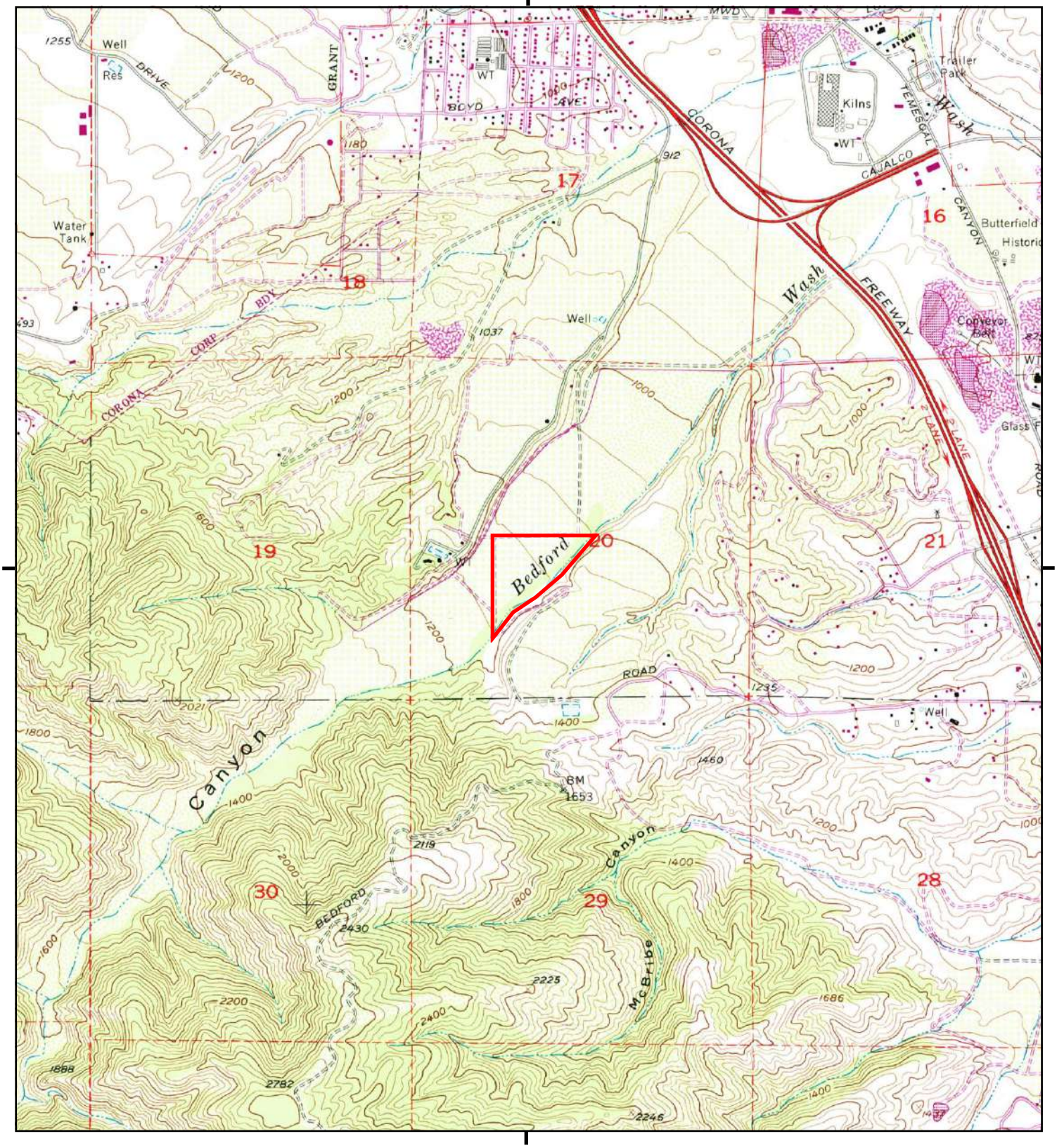
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W E
SW S SE

TP, Corona South, 1997, 7.5-minute

SITE NAME: Arantine Hills - TPM 37036 Parcels 1&2
ADDRESS: Bedford Canyon
Corona, CA 92883
CLIENT: EEI, Inc.

N



This report includes information from the following map sheet(s).

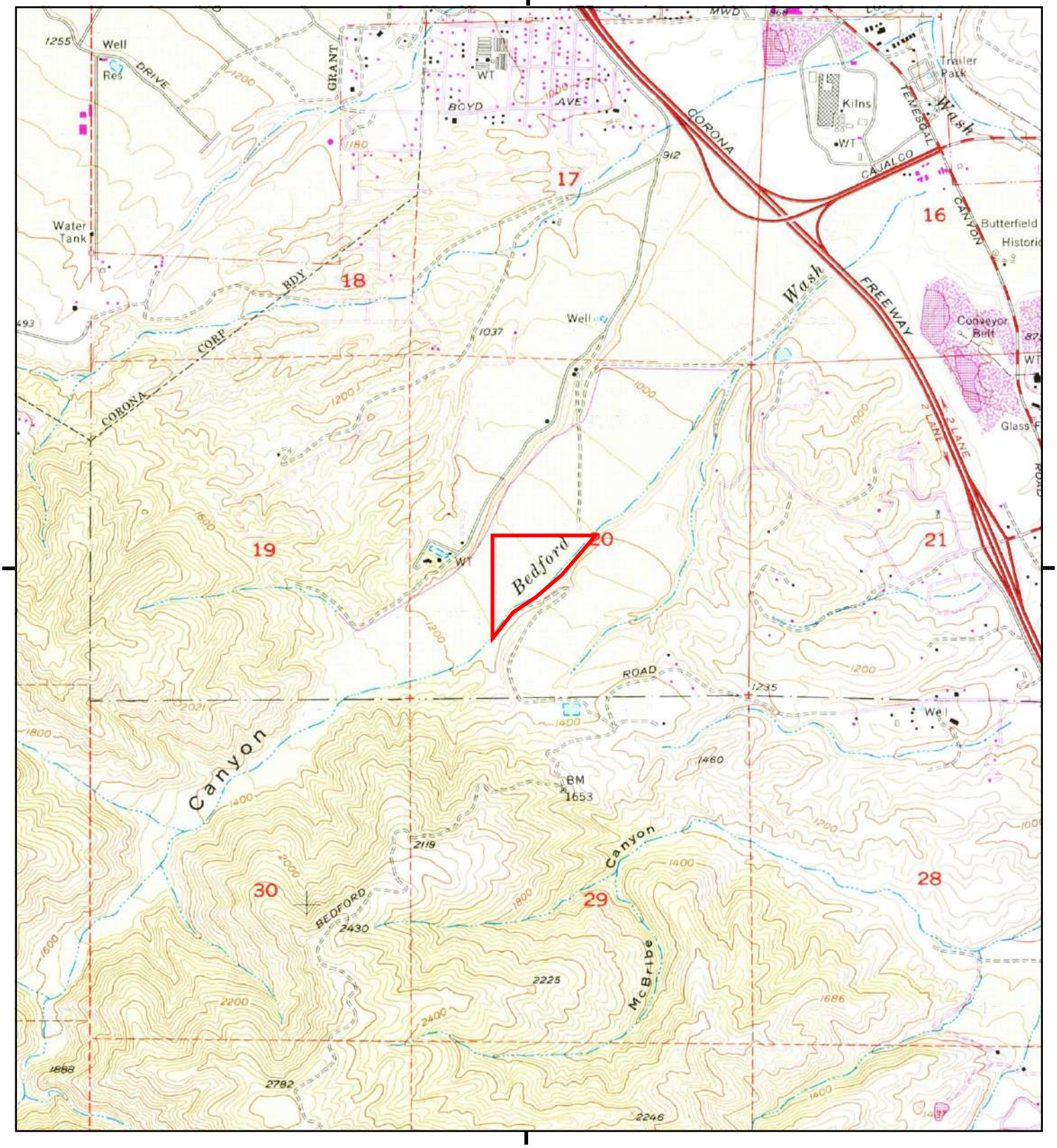
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W E
SW S SE

TP, Corona South, 1988, 7.5-minute

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ADDRESS: Bedford Canyon
Corona, CA 92883
CLIENT: EEI, Inc.

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This report includes information from the following map sheet(s).

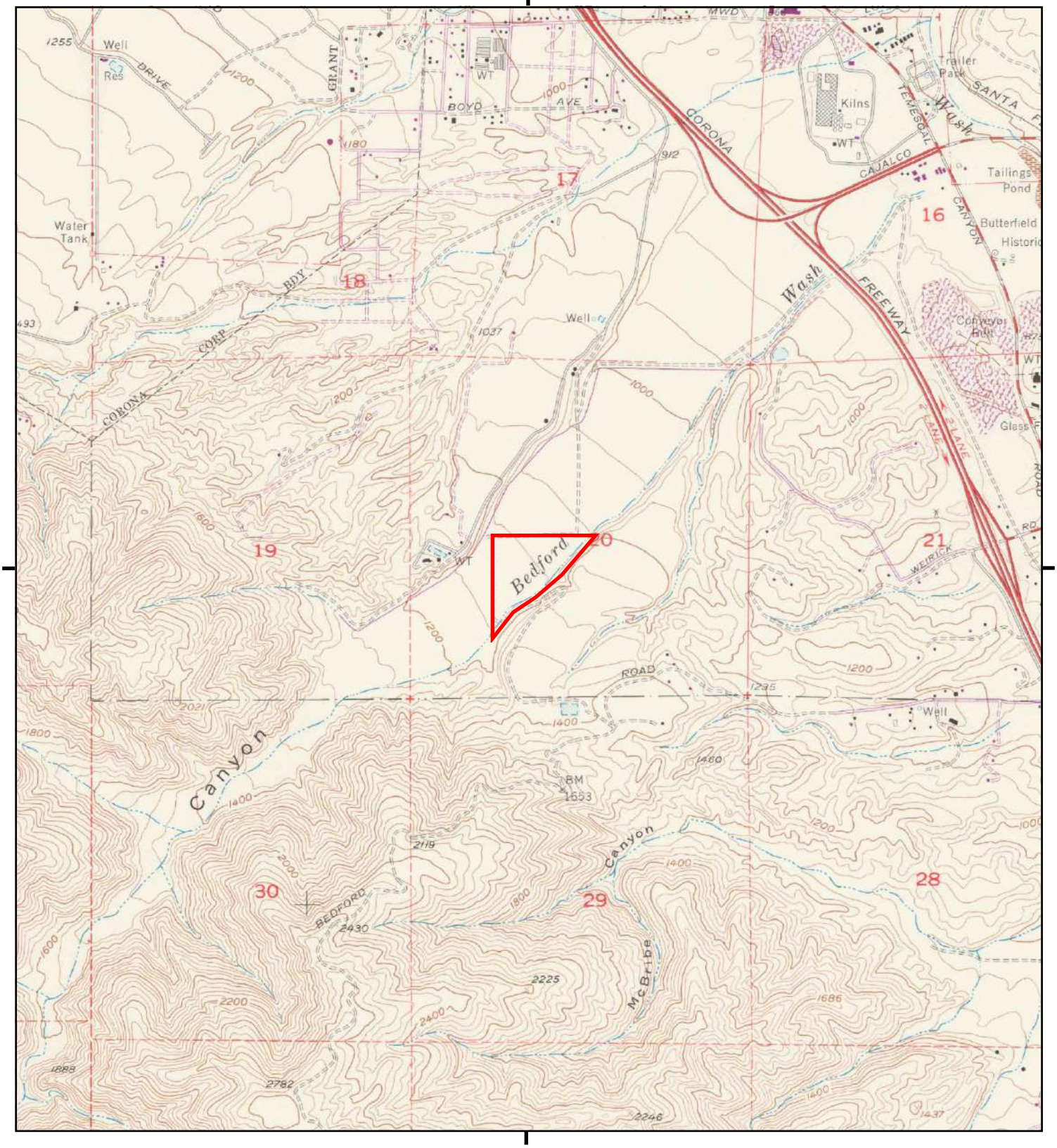
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NW N NE
W E
SW S SE

TP, Corona South, 1982, 7.5-minute

SITE NAME: Arantine Hills - TPM 37036 Parcels 1&2
ADDRESS: Bedford Canyon
Corona, CA 92883
CLIENT: EEI, Inc.

N



This report includes information from the following map sheet(s).

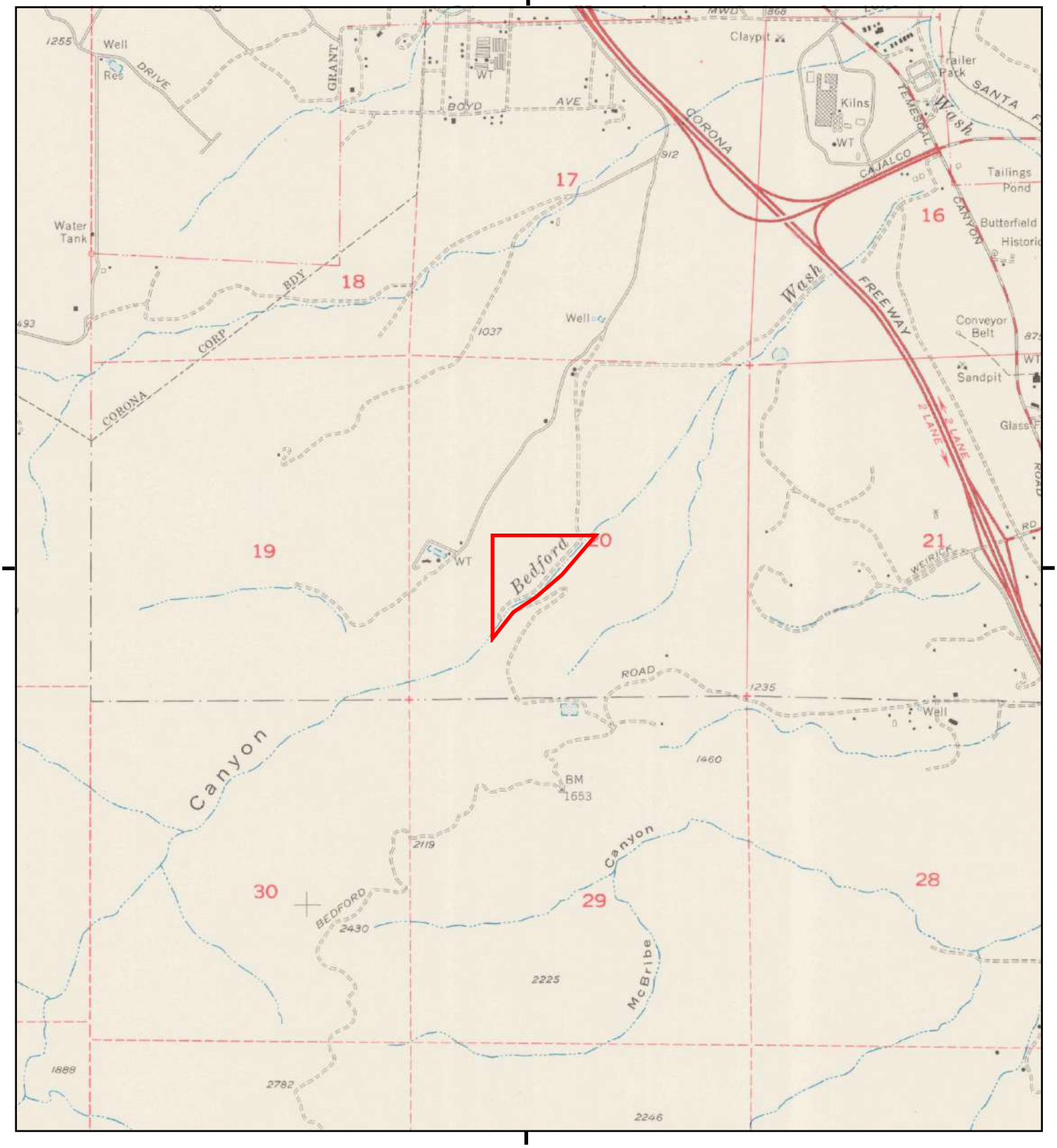
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Corona South, 1973, 7.5-minute

SITE NAME: Arantine Hills - TPM 37036 Parcels 1&2
ADDRESS: Bedford Canyon
Corona, CA 92883
CLIENT: EEI, Inc.

N



This report includes information from the following map sheet(s).

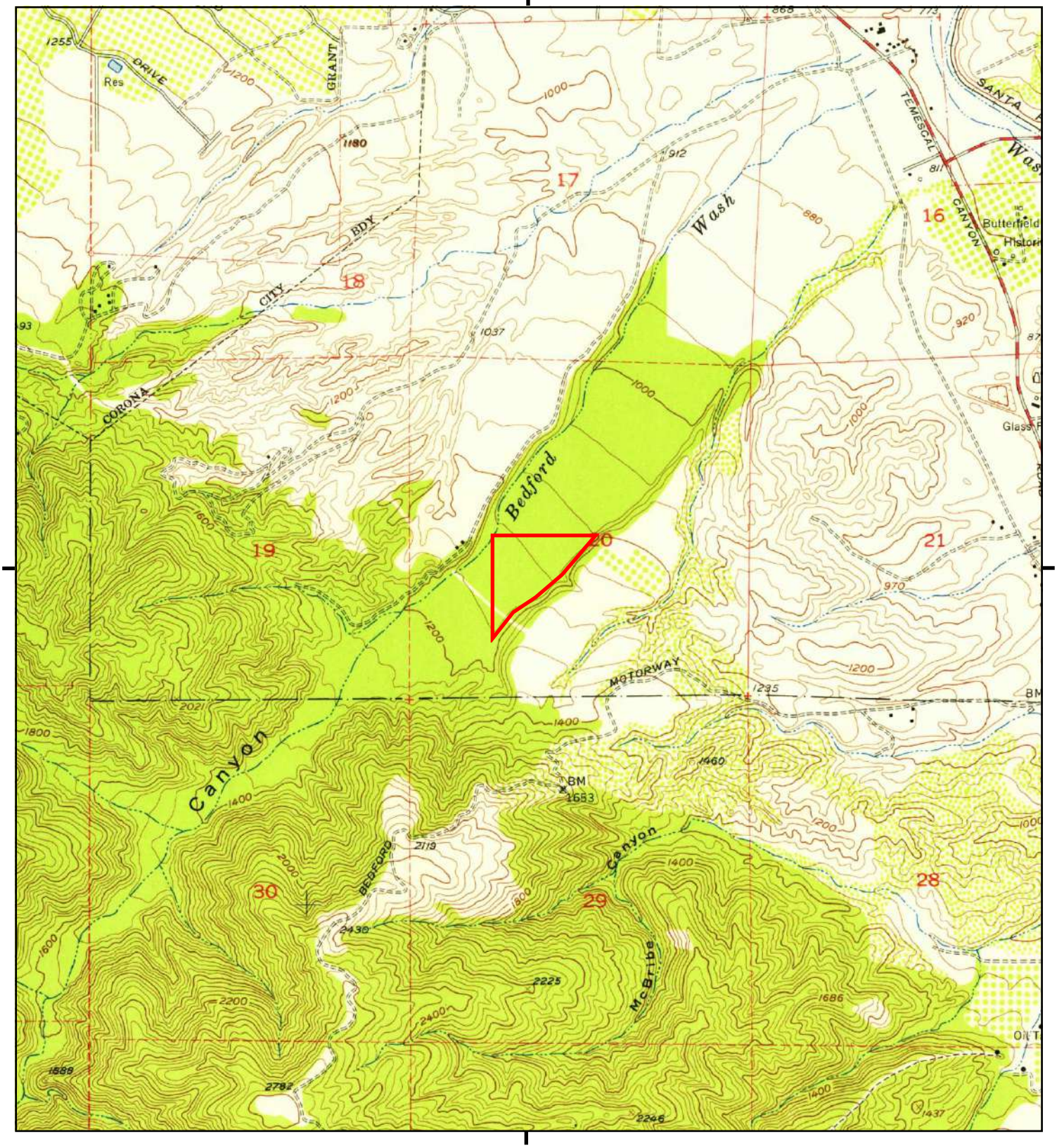
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Corona South, 1967, 7.5-minute

SITE NAME: Arantine Hills - TPM 37036 Parcels 1&2
ADDRESS: Bedford Canyon
Corona, CA 92883
CLIENT: EEI, Inc.

N



This report includes information from the following map sheet(s).

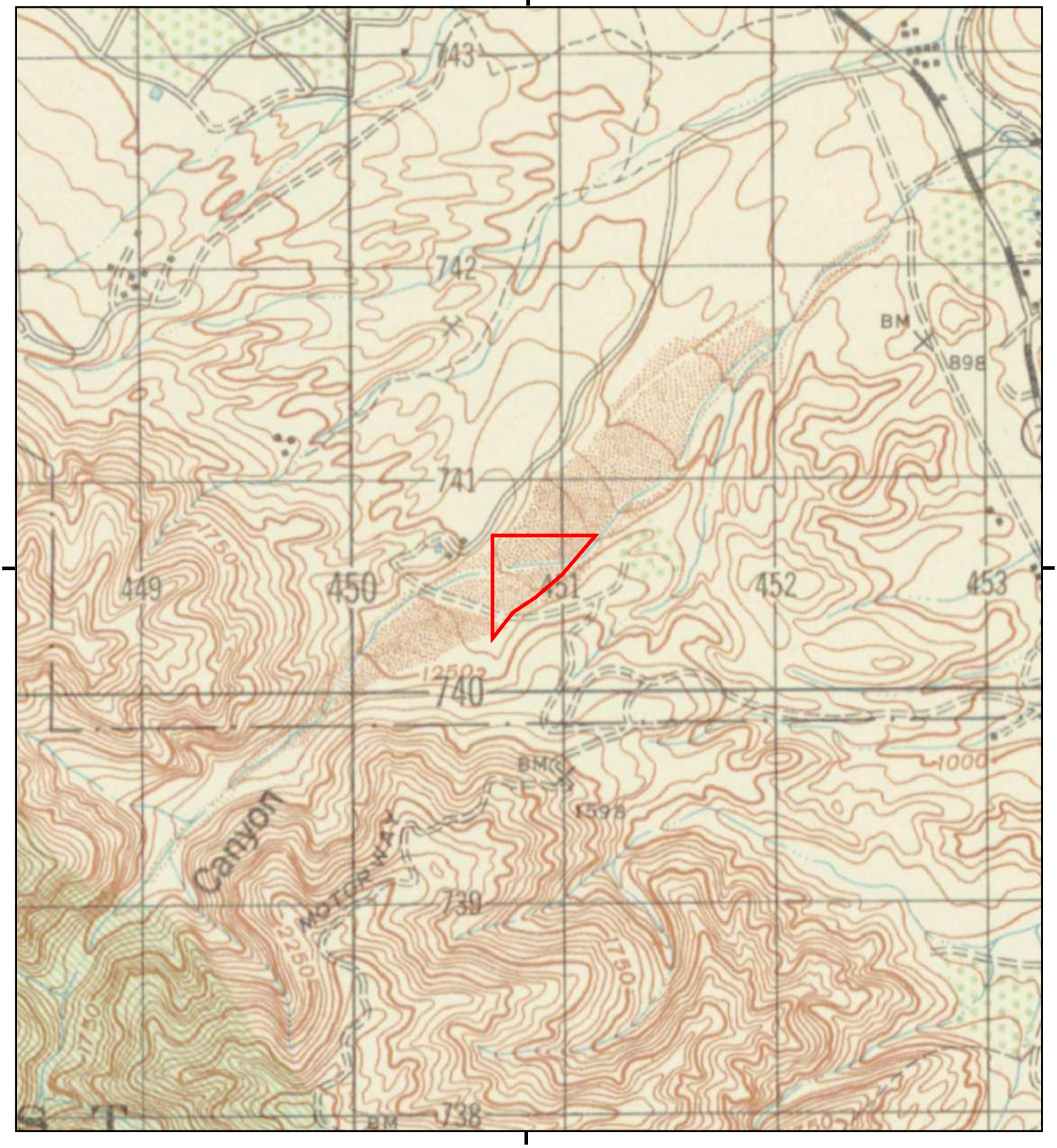
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Corona South, 1954, 7.5-minute

SITE NAME: Arantine Hills - TPM 37036 Parcels 1&2
ADDRESS: Bedford Canyon
Corona, CA 92883
CLIENT: EEI, Inc.

N



This report includes information from the following map sheet(s).

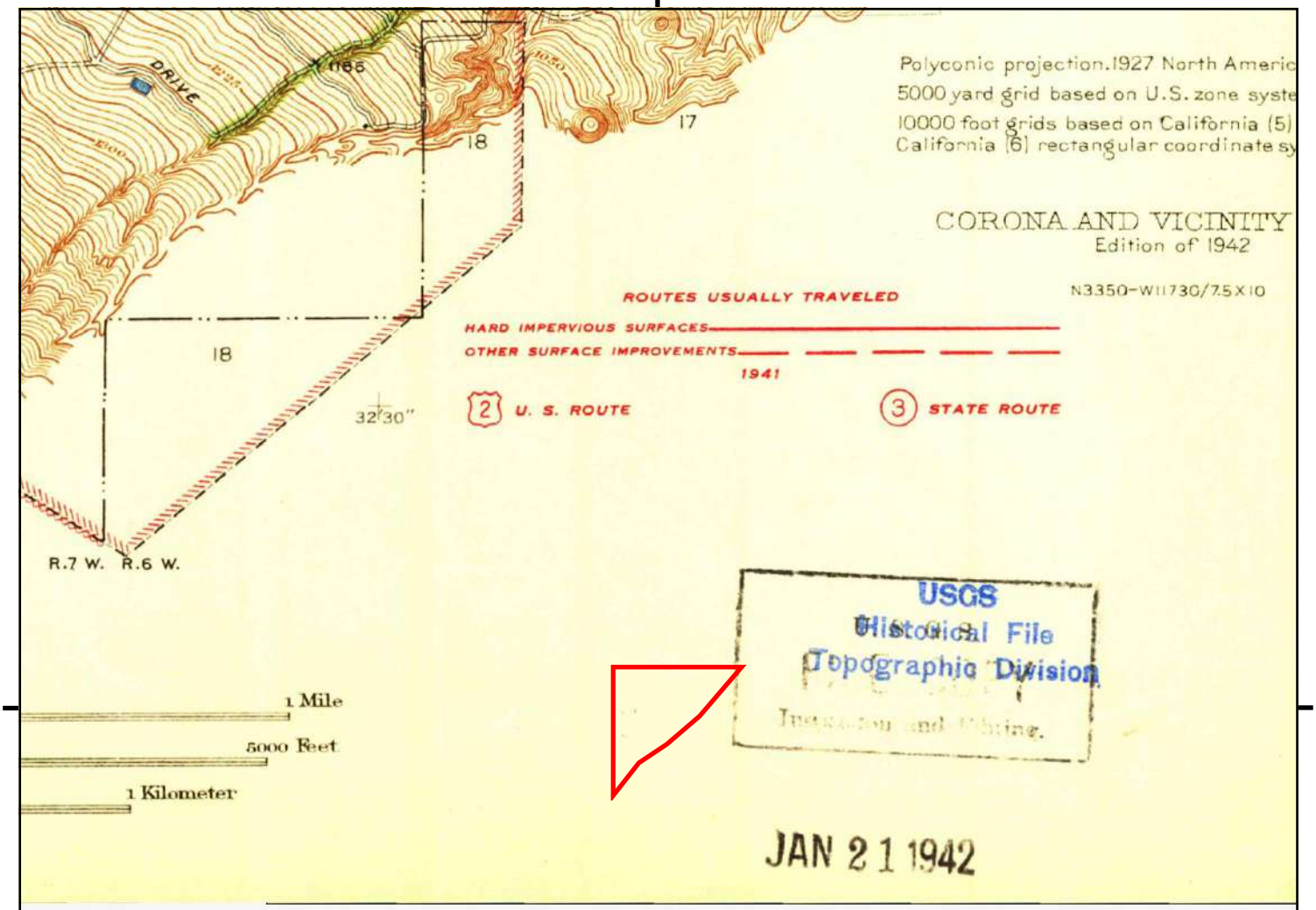
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, CORONA, 1947, 15-minute

SITE NAME: Arantine Hills - TPM 37036 Parcels 1&2
ADDRESS: Bedford Canyon
Corona, CA 92883
CLIENT: EEI, Inc.

N



UNMAPPED UNMAPPED UNMAPPED UNMAPPED UNMAPPED UNMAPPED
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This report includes information from the following map sheet(s).

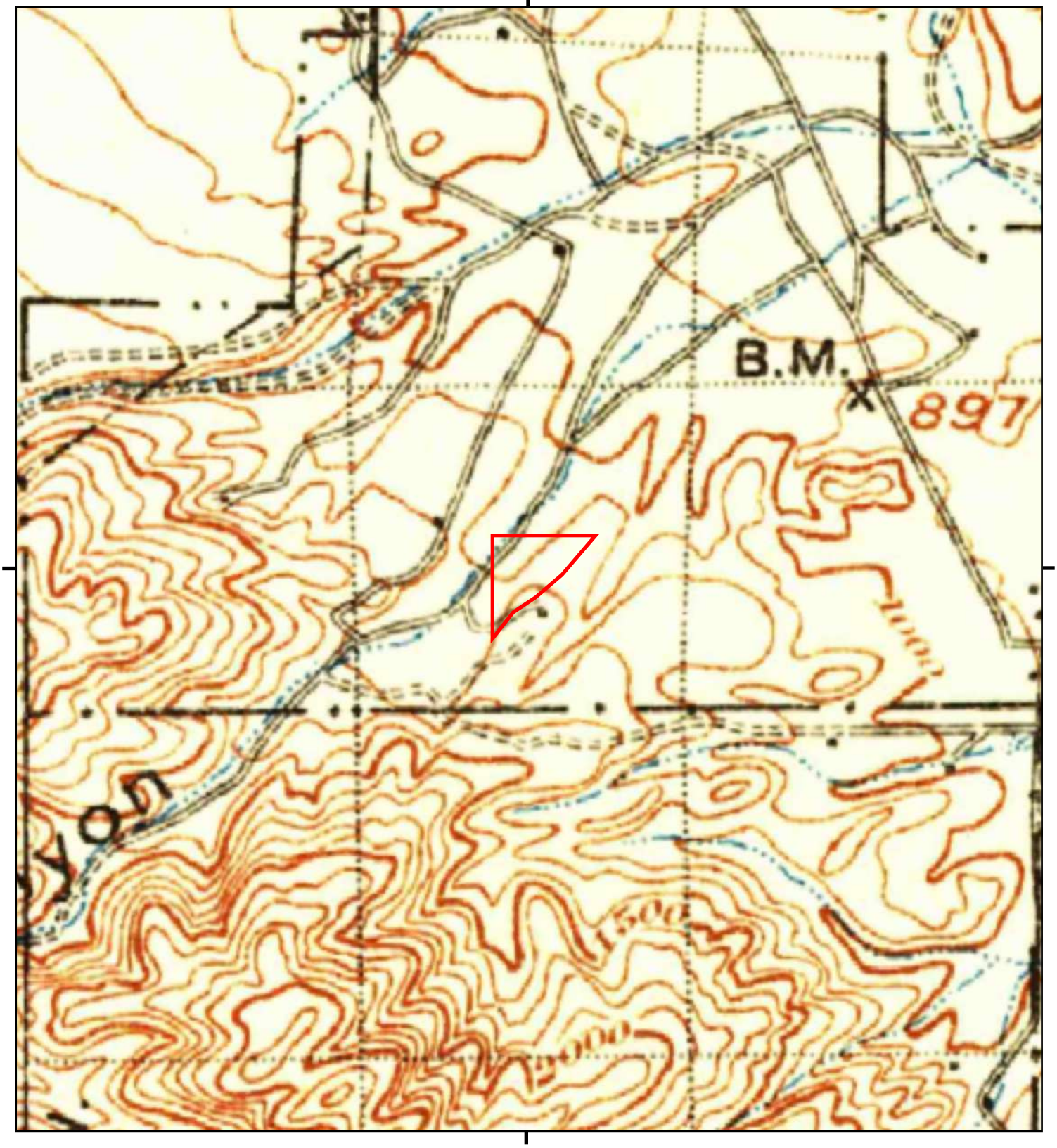
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

N, Corona and Vicinity, 1942, 7.5-minute

SITE NAME: Arantine Hills - TPM 37036 Parcels 1&2
ADDRESS: Bedford Canyon
Corona, CA 92883
CLIENT: EEI, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Corona, 1902, 30-minute

SITE NAME: Arantine Hills - TPM 37036 Parcels 1&2
ADDRESS: Bedford Canyon
Corona, CA 92883
CLIENT: EEI, Inc.

N

Arantine Hills - TPM 37036 Parcels 1&2

Bedford Canyon

Corona, CA 92883

Inquiry Number: 5252175.3

April 09, 2018

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

04/09/18

Site Name:

Arantine Hills - TPM 37036 Par
Bedford Canyon
Corona, CA 92883
EDR Inquiry # 5252175.3

Client Name:

EEI, Inc.
2195 Faraday Avenue, Suite K
Carlsbad, CA 92008-0000
Contact: Bernard Sentianin

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by EEI, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

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Certified Sanborn Results:

Certification # 005D-4269-B7BC

PO # NHC-72767.1

Project TNHC Arantine Hills TPM 37036

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 005D-4269-B7BC

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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APPENDIX D
ENVIRONMENTAL RECORDS SEARCH

Arantine Hills - TPM 37036 Parcels 1&2
Bedford Canyon
Corona, CA 92883

Inquiry Number: 5252175.2s
April 09, 2018

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
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Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
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Physical Setting SSURGO Soil Map	A-5
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Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

BEDFORD CANYON
CORONA, CA 92883

COORDINATES

Latitude (North):	33.8062980 - 33° 48' 22.67''
Longitude (West):	117.5315240 - 117° 31' 53.48''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	450802.4
UTM Y (Meters):	3740612.2
Elevation:	1130 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5636469 CORONA SOUTH, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140603
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
BEDFORD CANYON
CORONA, CA 92883

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List

US INST CONTROL---------- Sites with Institutional Controls

Federal ERNS list

ERNS---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE---------- State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR---------- EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST---------- Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST---------- Leaking Underground Storage Tanks on Indian Land
SLIC---------- Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST---------- Underground Storage Tank Listing
UST---------- Active UST Facilities
AST---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP---------- Voluntary Cleanup Priority Listing
VCP---------- Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT---------- Waste Management Unit Database
SWRCY---------- Recycler Database
HAULERS---------- Registered Waste Tire Haulers Listing
INDIAN ODI---------- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI---------- Open Dump Inventory

IHS OPEN DUMPS - Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL - Delisted National Clandestine Laboratory Register
HIST Cal-Sites - Historical Calsites Database
SCH - School Property Evaluation Program
CDL - Clandestine Drug Labs
Toxic Pits - Toxic Pits Cleanup Act Sites
US CDL - National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST - SWEEPS UST Listing
HIST UST - Hazardous Substance Storage Container Database
CA FID UST - Facility Inventory Database

Local Land Records

LIENS - Environmental Liens Listing
LIENS 2 - CERCLA Lien Information
DEED - Deed Restriction Listing

Records of Emergency Release Reports

HMIRS - Hazardous Materials Information Reporting System
CHMIRS - California Hazardous Material Incident Report System
LDS - Land Disposal Sites Listing
MCS - Military Cleanup Sites Listing
SPILLS 90 - SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR - RCRA - Non Generators / No Longer Regulated
FUDS - Formerly Used Defense Sites
DOD - Department of Defense Sites
SCRD DRYCLEANERS - State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR - Financial Assurance Information
EPA WATCH LIST - EPA WATCH LIST
2020 COR ACTION - 2020 Corrective Action Program List
TSCA - Toxic Substances Control Act
TRIS - Toxic Chemical Release Inventory System
SSTS - Section 7 Tracking Systems
ROD - Records Of Decision
RMP - Risk Management Plans
RAATS - RCRA Administrative Action Tracking System
PRP - Potentially Responsible Parties
PADS - PCB Activity Database System
ICIS - Integrated Compliance Information System
FTTS - FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS - Material Licensing Tracking System
COAL ASH DOE - Steam-Electric Plant Operation Data
COAL ASH EPA - Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER - PCB Transformer Registration Database

RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
FUSRAP ---- Formerly Utilized Sites Remedial Action Program
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
US MINES ---- Mines Master Index File
ABANDONED MINES ---- Abandoned Mines
FINDS ---- Facility Index System/Facility Registry System
UXO ---- Unexploded Ordnance Sites
ECHO ---- Enforcement & Compliance History Information
DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
FUELS PROGRAM ---- EPA Fuels Program Registered Listing
CA BOND EXP. PLAN ---- Bond Expenditure Plan
Cortese ---- "Cortese" Hazardous Waste & Substances Sites List
CUPA Listings ---- CUPA Resources List
DRYCLEANERS ---- Cleaner Facilities
EMI ---- Emissions Inventory Data
ENF ---- Enforcement Action Listing
Financial Assurance ---- Financial Assurance Information Listing
HAZNET ---- Facility and Manifest Data
ICE ---- ICE
HIST CORTESE ---- Hazardous Waste & Substance Site List
HWP ---- EnviroStor Permitted Facilities Listing
HWT ---- Registered Hazardous Waste Transporter Database
MINES ---- Mines Site Location Listing
MWMP ---- Medical Waste Management Program Listing
NPDES ---- NPDES Permits Listing
PEST LIC ---- Pesticide Regulation Licenses Listing
PROC ---- Certified Processors Database
Notify 65 ---- Proposition 65 Records
UIC ---- UIC Listing
WASTEWATER PITS ---- Oil Wastewater Pits Listing
WDS ---- Waste Discharge System
WIP ---- Well Investigation Program Case List

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ---- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner ---- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---- Recovered Government Archive Leaking Underground Storage Tank

EXECUTIVE SUMMARY

SURROUNDING SITES: SEARCH RESULTS

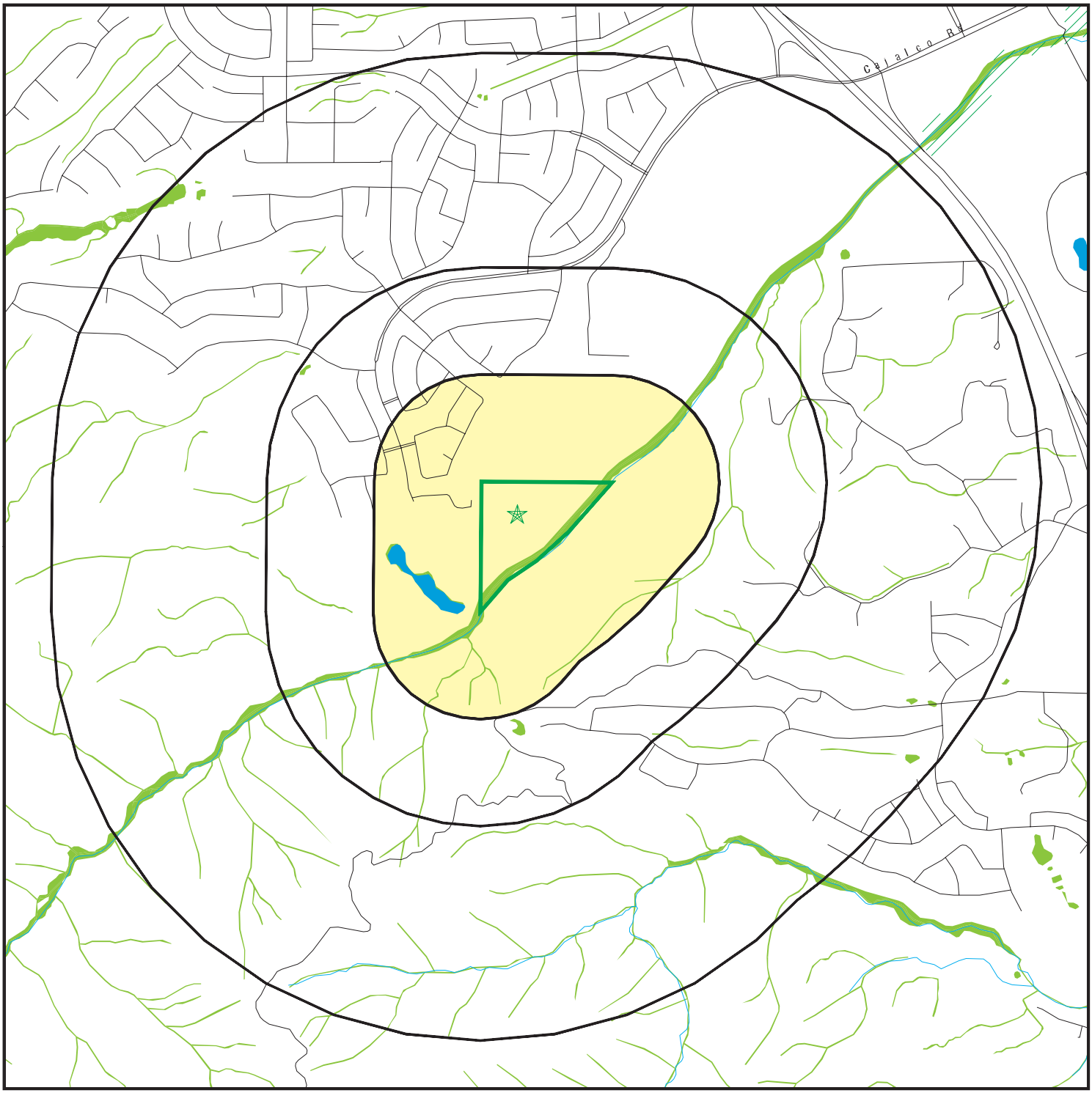
Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5252175.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Upgradient Area

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Arantine Hills - TPM 37036 Parcels 1&2	CLIENT:	EEI, Inc.
ADDRESS:	Bedford Canyon Corona CA 92883	CONTACT:	Bernard Sentianin
LAT/LONG:	33.806298 / 117.531524	INQUIRY #:	5252175.2s
		DATE:	April 09, 2018 3:07 pm

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DETAIL MAP - 5252175.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Arantine Hills - TPM 37036 Parcels 1&2	CLIENT:	EEI, Inc.
ADDRESS:	Bedford Canyon Corona CA 92883	CONTACT:	Bernard Sentianin
LAT/LONG:	33.806298 / 117.531524	INQUIRY #:	5252175.2s
		DATE:	April 09, 2018 3:09 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	0	0	0	0	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 02/06/2018
Next Scheduled EDR Contact: 04/16/2018
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 02/06/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 02/06/2018
Next Scheduled EDR Contact: 04/16/2018
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 01/05/2018
Next Scheduled EDR Contact: 04/16/2018
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/06/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/06/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/22/2017
Date Data Arrived at EDR: 06/13/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 94

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/09/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 11/13/2017
Date Data Arrived at EDR: 11/27/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 74

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/27/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 11/13/2017
Date Data Arrived at EDR: 11/27/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 74

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/27/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 63

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/12/2018
Date Data Arrived at EDR: 02/14/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 48

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/25/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 31

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/13/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/01/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/19/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Semi-Annually

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/26/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/09/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 15
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69
Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/25/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/13/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/01/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/02/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 134
Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/26/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/19/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Semi-Annually

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 12/22/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 01/31/2018
Number of Days to Update: 36
Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 01/19/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 21
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30
Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/12/2017
Date Made Active in Reports: 01/17/2018
Number of Days to Update: 36
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 02/08/2018
Date Data Arrived at EDR: 02/09/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 39

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 02/09/2018
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/30/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 02/02/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 01/19/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 16

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/27/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/18/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 34

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 16

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/27/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 02/28/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 27

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 11/30/2017
Date Data Arrived at EDR: 12/01/2017
Date Made Active in Reports: 01/11/2018
Number of Days to Update: 41

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 02/06/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 02/08/2018
Date Data Arrived at EDR: 02/08/2018
Date Made Active in Reports: 02/08/2018
Number of Days to Update: 0

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 01/19/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 63

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 02/15/2018
Date Data Arrived at EDR: 02/20/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 42

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 02/20/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/11/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63
Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/16/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 01/11/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 42
Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/08/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198
Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/23/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/25/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 21

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/09/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/19/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 02/06/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 126
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/12/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 01/09/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/19/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 03/09/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/26/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/02/2017
Date Data Arrived at EDR: 10/05/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 8
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/19/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 11/10/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 63

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/19/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/09/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 01/19/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 02/06/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 10/29/2017
Date Data Arrived at EDR: 11/28/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 45

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/02/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/02/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 12/20/2017
Date Data Arrived at EDR: 12/21/2017
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 92

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 28

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 10/31/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 73

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/02/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/27/2017
Date Data Arrived at EDR: 11/21/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 03/02/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 01/13/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 30

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 02/08/2018
Date Data Arrived at EDR: 02/08/2018
Date Made Active in Reports: 02/08/2018
Number of Days to Update: 0

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 12/01/2017
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/16/2018
Number of Days to Update: 42

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 147

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/23/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 54

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/14/2018
Date Data Arrived at EDR: 02/16/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 46

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/08/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 97

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/08/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 41

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 41
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/08/2018
Date Data Arrived at EDR: 01/09/2018
Date Made Active in Reports: 02/06/2018
Number of Days to Update: 28
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/09/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/12/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 31
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 11/29/2017
Date Data Arrived at EDR: 12/05/2017
Date Made Active in Reports: 01/16/2018
Number of Days to Update: 42
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 02/14/2018
Date Data Arrived at EDR: 02/14/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 29
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 12/04/2017
Date Data Arrived at EDR: 12/05/2017
Date Made Active in Reports: 01/16/2018
Number of Days to Update: 42
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 03/05/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/12/2017
Date Made Active in Reports: 01/16/2018
Number of Days to Update: 35
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 12/14/2017
Date Data Arrived at EDR: 12/15/2017
Date Made Active in Reports: 01/16/2018
Number of Days to Update: 32
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/12/2017
Date Made Active in Reports: 01/17/2018
Number of Days to Update: 36
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/12/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 01/11/2018
Date Made Active in Reports: 02/22/2018
Number of Days to Update: 42

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 63

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 10

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 01/25/2018
Date Data Arrived at EDR: 01/26/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 47

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/26/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 02/26/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 14

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 11/20/2017
Date Data Arrived at EDR: 11/29/2017
Date Made Active in Reports: 01/19/2018
Number of Days to Update: 51

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 01/29/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 01/05/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 40

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 01/29/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 12/04/2017
Date Data Arrived at EDR: 12/06/2017
Date Made Active in Reports: 12/27/2017
Number of Days to Update: 21

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 01/29/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 9

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/03/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 02/05/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/26/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 47

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/08/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 56

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 02/02/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 54

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 02/01/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/14/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 28

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 02/06/2018
Date Data Arrived at EDR: 02/09/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 33

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/16/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206
Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 56
Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 01/16/2018
Date Made Active in Reports: 02/14/2018
Number of Days to Update: 29
Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/16/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 04/21/2017
Date Made Active in Reports: 10/09/2017
Number of Days to Update: 171
Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/10/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/01/2018
Date Data Arrived at EDR: 01/17/2018
Date Made Active in Reports: 02/14/2018
Number of Days to Update: 28
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 01/17/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 01/10/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/05/2018
Date Made Active in Reports: 01/18/2018
Number of Days to Update: 13

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/22/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 40

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 01/02/2018
Date Data Arrived at EDR: 01/05/2018
Date Made Active in Reports: 01/17/2018
Number of Days to Update: 12

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 03/29/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 01/11/2018
Date Data Arrived at EDR: 01/12/2018
Date Made Active in Reports: 02/08/2018
Number of Days to Update: 27

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 15

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 01/11/2018
Date Made Active in Reports: 01/31/2018
Number of Days to Update: 20
Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 02/20/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 30
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 01/31/2018
Date Data Arrived at EDR: 02/01/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 41
Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 01/29/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 02/05/2018
Date Data Arrived at EDR: 02/13/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 49
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/05/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 02/05/2018
Date Data Arrived at EDR: 02/13/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 35
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/05/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 01/02/2018
Date Data Arrived at EDR: 02/07/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 49

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/07/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 12/08/2017
Date Data Arrived at EDR: 12/12/2017
Date Made Active in Reports: 01/31/2018
Number of Days to Update: 50

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 03/15/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 50

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/18/2018
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 56

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/19/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/18/2018
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 64

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/19/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 01/03/2018
Date Made Active in Reports: 02/05/2018
Number of Days to Update: 33

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 01/03/2018
Date Made Active in Reports: 02/14/2018
Number of Days to Update: 42

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 11/01/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 11/17/2017
Number of Days to Update: 14

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 11/30/2017
Date Data Arrived at EDR: 12/01/2017
Date Made Active in Reports: 01/16/2018
Number of Days to Update: 46

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 02/05/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 12/04/2017
Date Data Arrived at EDR: 12/05/2017
Date Made Active in Reports: 01/11/2018
Number of Days to Update: 37

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 02/01/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 02/01/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 12/19/2017
Number of Days to Update: 42
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 04/02/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 12/20/2017
Date Data Arrived at EDR: 12/21/2017
Date Made Active in Reports: 02/01/2018
Number of Days to Update: 42
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/16/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/18/2017
Number of Days to Update: 31
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 12/12/2017
Date Data Arrived at EDR: 12/14/2017
Date Made Active in Reports: 01/11/2018
Number of Days to Update: 28
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 12/12/2017
Date Data Arrived at EDR: 12/14/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 29
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/20/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 27
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/04/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 42

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 02/01/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 12/14/2017
Date Data Arrived at EDR: 12/15/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 28

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 16

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 12/20/2017
Date Data Arrived at EDR: 12/21/2017
Date Made Active in Reports: 01/31/2018
Number of Days to Update: 41

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/22/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/09/2018
Date Made Active in Reports: 02/06/2018
Number of Days to Update: 28

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 03/22/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 02/06/2018
Date Data Arrived at EDR: 02/07/2018
Date Made Active in Reports: 03/16/2018
Number of Days to Update: 37

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 01/16/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 01/08/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/30/2018
Number of Days to Update: 29

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List

Cupa facilities

Date of Government Version: 01/26/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 47

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 02/01/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 53

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

TULARE COUNTY:

CUPA Facility List
Cupa program facilities

Date of Government Version: 09/27/2017
Date Data Arrived at EDR: 09/28/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 18

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/16/2018
Number of Days to Update: 50

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/26/2017
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 48

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/29/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/08/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/26/2017
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 54

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/28/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/30/2018
Number of Days to Update: 16
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 01/02/2018
Date Data Arrived at EDR: 01/09/2018
Date Made Active in Reports: 01/19/2018
Number of Days to Update: 10
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/29/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 02/01/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 47
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 01/29/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 01/03/2018
Date Data Arrived at EDR: 02/14/2018
Date Made Active in Reports: 03/22/2018
Number of Days to Update: 36
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 107
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/05/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/09/2018
Number of Days to Update: 37

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 09/25/2017
Number of Days to Update: 62

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/16/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/13/2017
Date Made Active in Reports: 07/14/2017
Number of Days to Update: 92

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/08/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

ARANTINE HILLS - TPM 37036 PARCELS 1&2
BEDFORD CANYON
CORONA, CA 92883

TARGET PROPERTY COORDINATES

Latitude (North):	33.806298 - 33° 48' 22.67''
Longitude (West):	117.531524 - 117° 31' 53.49''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	450802.4
UTM Y (Meters):	3740612.2
Elevation:	1130 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5636469 CORONA SOUTH, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

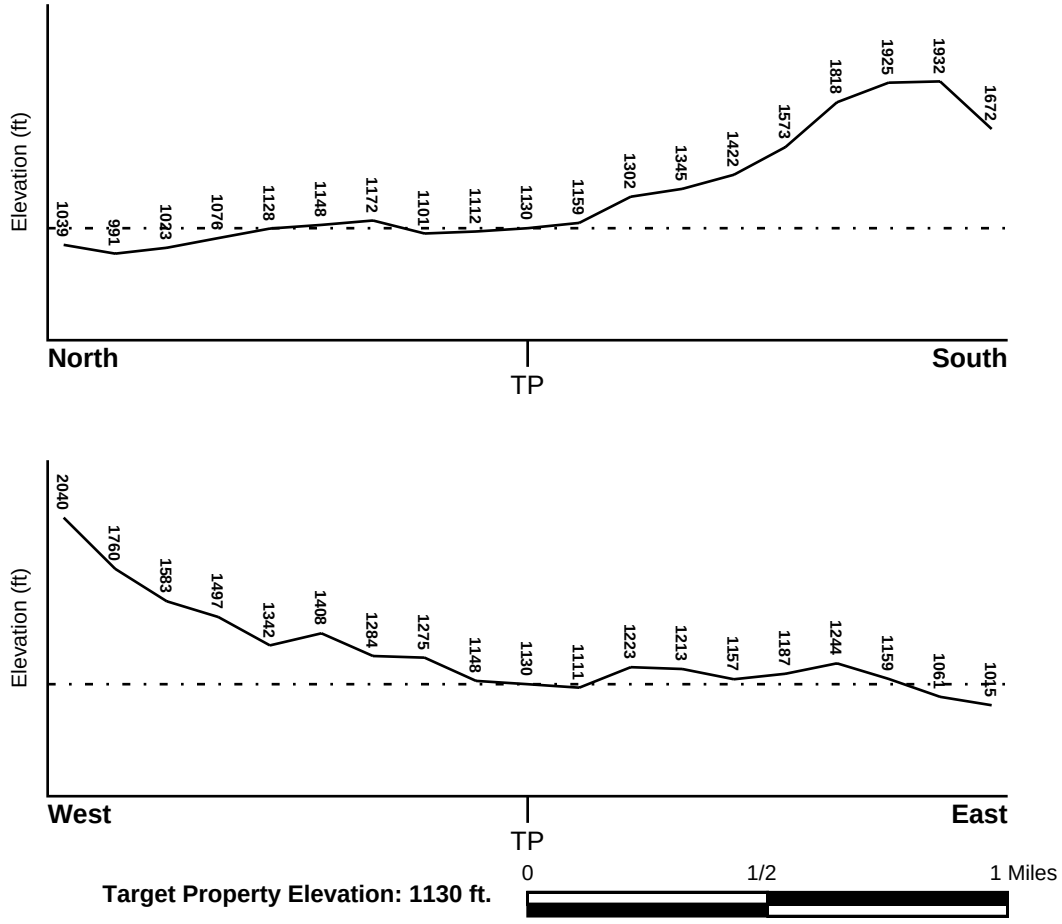
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NNE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06065C1370G	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06065C1360G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

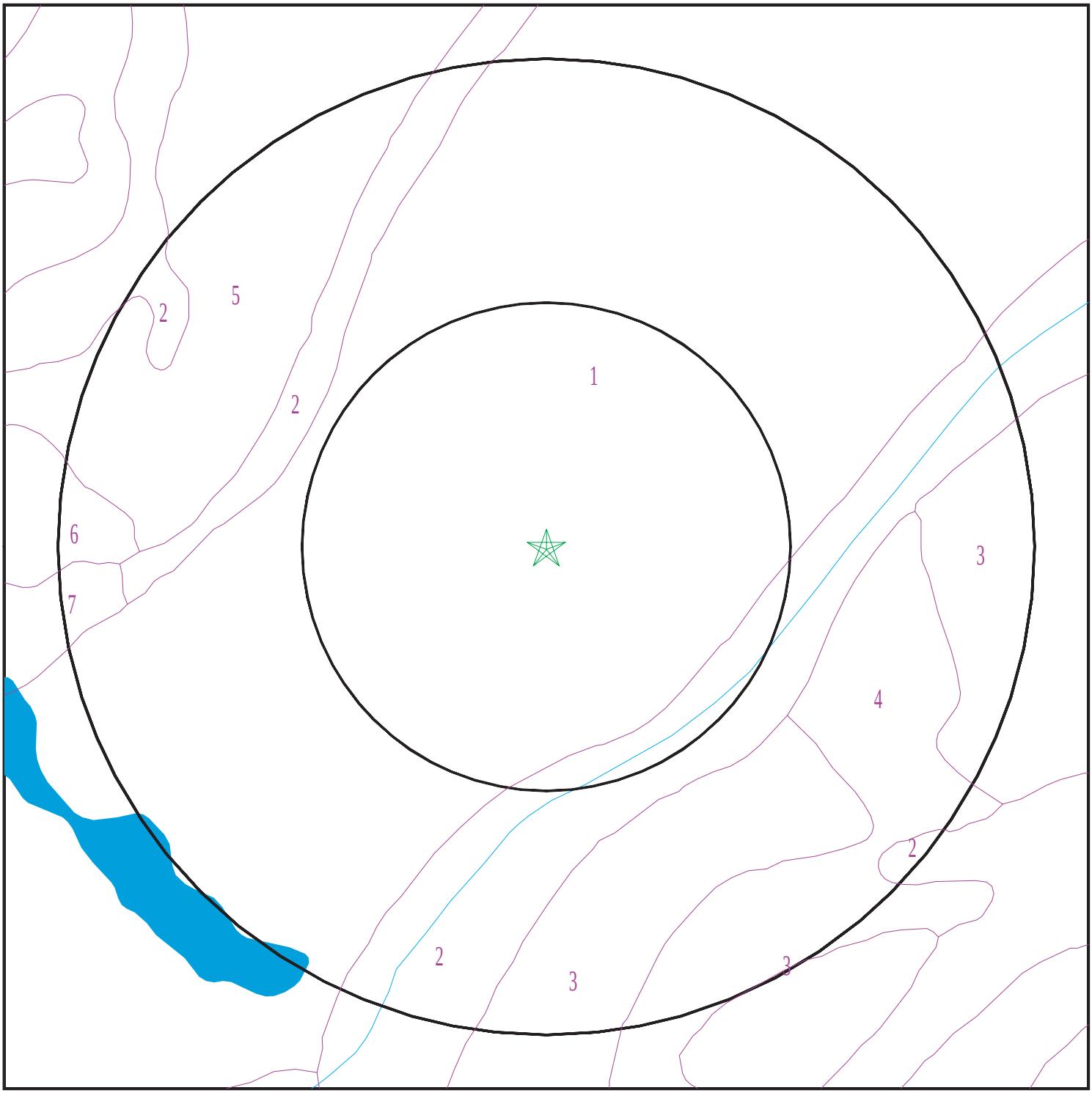
Era:	Mesozoic
System:	Lower Jurassic and Upper Triassic
Series:	Lower Mesozoic
Code:	lMze *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Eugeosynclinal Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5252175.2s



SITE NAME:	Arantine Hills - TPM 37036 Parcels 1&2	CLIENT:	EEI, Inc.
ADDRESS:	Bedford Canyon Corona CA 92883	CONTACT:	Bernard Sentianin
LAT/LONG:	33.806298 / 117.531524	INQUIRY #:	5252175.2s
		DATE:	April 09, 2018 3:10 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: CORTINA

Soil Surface Texture: cobbly loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	22 inches	cobbly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 5.6
2	22 inches	38 inches	stratified very cobbly loamy sand to very cobbly loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 5.6
3	38 inches	59 inches	stratified very gravelly sand to very gravelly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 141 Min: 42	Max: 8.4 Min: 5.6

Soil Map ID: 2

Soil Component Name: Terrace escarpments

Soil Surface Texture: cobbly loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name: ARBUCKLE

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	25 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 14 Min: 4	Max: 7.3 Min: 5.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	25 inches	44 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6
3	44 inches	68 inches	stratified very gravelly sandy loam to very gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6

Soil Map ID: 4

Soil Component Name: ARBUCKLE

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	25 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 14 Min: 4	Max: 7.3 Min: 5.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	25 inches	44 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6
3	44 inches	68 inches	stratified very gravelly sandy loam to very gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6

Soil Map ID: 5

Soil Component Name: PERKINS

Soil Surface Texture: gravelly loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	gravelly loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 14 Min: 4	Max: 6.5 Min: 5.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	11 inches	44 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.6
3	44 inches	59 inches	stratified very gravelly sandy loam to very gravelly clay loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 14 Min: 4	Max: 7.3 Min: 6.1

Soil Map ID: 6

Soil Component Name: PERKINS

Soil Surface Texture: gravelly loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	gravelly loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 14 Min: 4	Max: 6.5 Min: 5.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	9 inches	40 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.6
3	40 inches	59 inches	stratified very gravelly sandy loam to very gravelly clay loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 14 Min: 4	Max: 7.3 Min: 6.1

Soil Map ID: 7

Soil Component Name: EXCHEQUER

Soil Surface Texture: gravelly silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	18 inches	gravelly silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 6.5 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	18 inches	22 inches	unweathered bedrock	Not reported	Not reported	Max: 0.42 Min: 0	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

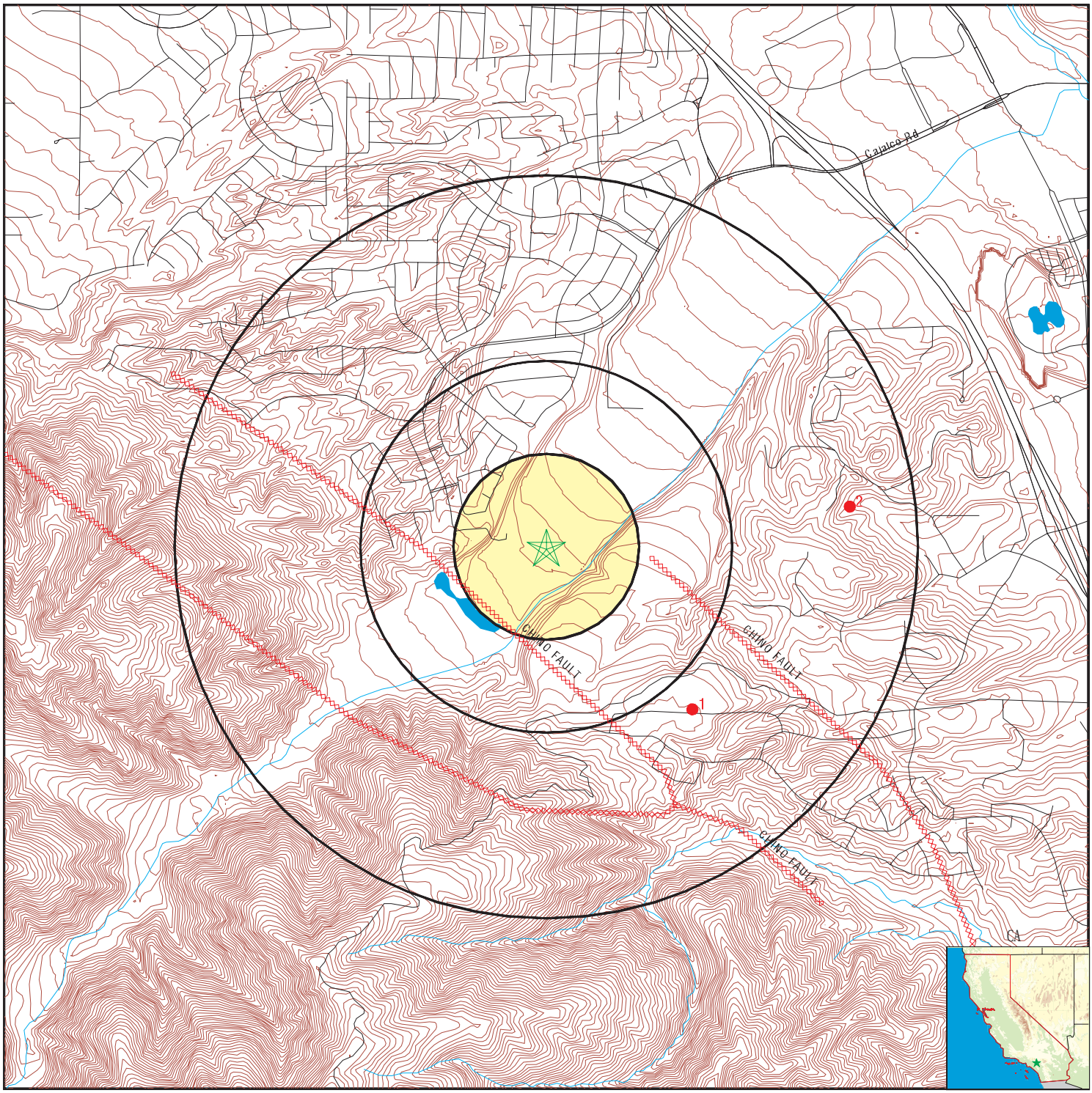
MAP ID	WELL ID	LOCATION FROM TP
1	CAOG11000222760	1/2 - 1 Mile SE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	CAOG11000222708	1/2 - 1 Mile East

PHYSICAL SETTING SOURCE MAP - 5252175.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Arantine Hills - TPM 37036 Parcels 1&2	CLIENT:	EEI, Inc.
ADDRESS:	Bedford Canyon Corona CA 92883	CONTACT:	Bernard Sentianin
LAT/LONG:	33.806298 / 117.531524	INQUIRY #:	5252175.2s
		DATE:	April 09, 2018 3:10 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
SE
1/2 - 1 Mile

OIL_GAS **CAOG11000222760**

District nun:	1	Api number:	06500147
Blm well:	N	Redrill can:	Not Reported
Dryhole:	Y	Well status:	P
Operator name:	V O D Oil Co., Inc.		
County name:	Riverside	Fieldname:	Any Field
Area name:	Any Area	Section:	29
Township:	04S	Range:	06W
Base meridian:	SB	Elevation:	Not Reported
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Berghofer	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000222760		

2
East
1/2 - 1 Mile

OIL_GAS **CAOG11000222708**

District nun:	1	Api number:	06500095
Blm well:	N	Redrill can:	Not Reported
Dryhole:	Y	Well status:	P
Operator name:	Max N. Hammerling		
County name:	Riverside	Fieldname:	Any Field
Area name:	Any Area	Section:	21
Township:	04S	Range:	06W
Base meridian:	SB	Elevation:	Not Reported
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Max N. Hammerling	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000222708		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92883	8	1

Federal EPA Radon Zone for RIVERSIDE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for RIVERSIDE COUNTY, CA

Number of sites tested: 12

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.117 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.450 pCi/L	100%	0%	0%
Basement	1.700 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX E
PROPERTY OWNER AND USER PROVIDED INFORMATION

Project Name: Arantine Hills Residential Development – Lower McMillan

Project Address: Parcels 1 and 2 of TPM 37036 (32.31 acres), Corona, California

OWNER/LANDLORD/OCCUPANT INTERVIEW QUESTIONS

1. What is/are the Current Use(s) of the Property (Project Description), to the best of your knowledge?

Vacated Land

2. What was/were the Past Use(s) of the Property, to the best of your knowledge?

Citrus Grove

3. Are there now or were there ever present any aboveground storage tanks, underground storage tanks or vent pipes, fill pipes or accessways indicating underground storage tanks? If so, have they been removed?

None to my knowledge

4. Are there any areas of the site with strong, pungent, or noxious odors?

No

5. Hydraulic lifts, clarifiers, oil water separators, sumps, or floor drains? If so, how are these areas managed?

None to my knowledge

6. Have you encountered any Hazardous Substances and/or Petroleum Product Containers stored on site? Can you provide a copy of your manifests for waste disposal, if any?

None

7. Are you aware of any unlabelled Drums or any Unidentified Substance Containers stored on the property?

No

8. Are you aware of any Electrical or hydraulic equipment known to contain PCBs or likely to contain PCBs?

No

9. Are you aware of any evidence of spills, leaks, or stained soil, indicating that a chemical release had taken place at the property?

No

10. Are you aware of any environmental investigations or cleanups that have taken place at the property? Can we obtain copies of any reports generated?

No - Not to my knowledge

11. Are you aware of any deed restrictions or other activity or land use restrictions that have been placed on the property as a result of an environmental issue?

No

12. Are you aware of any environmental liens, unresolved notices of violation, or litigation related to a contamination issue at the property?

No

13. Are you are of any asbestos containing materials (ACM) and/or lead based paint (LBP) at the property? If so, where the ACM and LBP materials mitigated or stabilized?

Not aware of any

Preparer:

Name: Gary L. McMillan

Address: 29379 Rancho California Rd. #201 Temecula, CA

Signature: Gary L. McMillan

Date: 4-24-18

EEI
Geotechnical & Environmental Solutions

Project Name: **Arantine Hills Residential Development – Lower McMillan**

Project Address: **Parcels 1 and 2 of TPM 37036 (32.31 acres), Corona, California**

USER SPECIFIC QUESTIONNAIRE

In order to comply with the ASTM E1527-05 Standard, EEI requests that the *user (i.e., the entity that orders the Phase I ESA)* provide the following information (if available). Your answers will be incorporated into the final Phase I ESA under the section "User-supplied Information." These questions have been incorporated into the new standard in order to ascertain the User's level of knowledge concerning any known environmental concerns or problems. Please complete these questions to the best of your knowledge and return to EEI as soon as possible.

(1.) Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25).
Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law? (A copy of a recent Title Search may assist in this determination).

No. See previous environmental reports

(2.) Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).
Are you aware of any Activity and/or Land Use Limitations (AUL's), such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? (A copy of a recent Title Search may assist in this determination).

No. See previous environmental reports

(3.) Specialized knowledge or experience of the person seeking to qualify for the Landowner Liability Protections (LLP - 40 CFR 312.28).
As the *user* of this *ESA* do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining *property* so that you would have specialized knowledge of the chemicals and processes used by this type of business? (self-explanatory)

No. See previous environmental reports

(4.) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).
Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

Yes.

(5.) Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).
Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example, as *user*,

(a.) Do you know the past uses of the *property*?

Yes. See previous environmental reports

(b.) Do you know of specific chemicals that are present or once were present at the *property*?

Yes. See previous environmental reports

(c.) Do you know of spills or other chemical releases that have taken place at the *property*?

No. See previous environmental reports

(d.) Do you know of any environmental cleanups that have taken place at the *property*?

No. See previous environmental reports

(6.) The degree of obviousness of the presence of likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

As the *user* of this *ESA*, based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property*?

No. See previous environmental reports

In addition, certain information should be collected, if available, and provided to the *environmental professional* selected to conduct the Phase I. This information is intended to assist the *environmental professional* but is not necessarily required to qualify for one of the *LLPs*. The information includes:

(a) the *reason* why the Phase I is required (e.g., due diligence, dedication to public agency, etc.),

This Phase 1 is being requested in order to supplement the entitlement package that has been submitted to the City of Corona.

(b) the type of *property* and type of *property* transaction, (e.g., sale, purchase, exchange, etc.,

The property is intended to be processed as a residential community.

(c) the complete and correct address for the *property* (a map or other documentation showing *property* location and boundaries is helpful),

The address of the property is not known. The address for the adjacent, larger property known as Arantine Hills was 3902 Eagle Glen Parkway, Corona, CA 92883.

(d) the *scope of services* desired for the Phase I (including whether any parties to the *property* transaction may have a required standard scope of services on whether any considerations beyond the requirements of Practice E 1527 are to be considered). If no special requests, simply specify "ASTM standard."

ASTM standard

(e) identification of *all parties* who will rely on the Phase I *report*,

It is unknown who will rely on this report. The report will become public record once it is appended to the entitlement applications for the property.

(f) identification of the site contact and how the contact can be reached,

Greg Mendoza
Senior Project Manager
The New Home Company
85 Enterprise, Suite 450
Aliso Viejo, CA 92656
(949) 382-7800

(g) special terms and conditions which must be agreed upon by the *environmental professional*, if any (i.e., time frame, delivery date, etc.),

April 24, 2018

(h) any other knowledge or experience with the *property* that may be pertinent to the *environmental professional* (for example, copies of any available prior *environmental site assessment reports*, documents, correspondence, etc., concerning the *property* and its environmental condition).

Prior reports have been made available

Preparer:

Name: Greg Mendoza, for Arantine Hills Holdings LP

Address: 85 Enterprise, Aliso Viejo, CA 92656

Signature:

Date: April 16, 2018

LOR GEOTECHNICAL GROUP, INC.
Soil Engineering ▲ Geology ▲ Environmental

February 15, 2011

Bluestone Communities
41 Corporate Park Suite 380
Irvine, California 92606

Project No. 31558.22

Attention: Mr. Bentley Kerr

Subject: Organochlorine Pesticides, Arantine Hills Project, City of Corona, Riverside County, California

Reference: Phase I Environmental Site Assessment Update, Arantine Hills, Corona, California, Dated September 16, 2009

The above referenced Phase I Environmental Site Assessment Update for the Arantine Hills project was for approximately 274 acres of the McMillan Farm property. In 2002 a Phase I report was conducted by this firm for an approximate 530 acre property, of which Arantine Hills project was a part. In that initial Phase I report a total of 385 discrete soil samples were obtained and composited into 77 samples for pesticide testing. Pesticides testing included organochlorine pesticides and selected samples were tested for Carbamate/UREA Pesticides and Chlorinated Herbicides. Of the 77 composite samples, 8 samples were tested discretely.

Based on our review of the test data and sample location map, it is our opinion that within the current approximate 274-acre Arantine Hills project none of the composite or discrete samples had organochlorine pesticides above 1.0 mg/kg.

We trust this information meets your needs. If you have any questions or comments regarding this information, please do not hesitate to contact this firm at your convenience.

Respectfully submitted,
LOR Geotechnical Group, Inc.

M. Kevin Osmun, CE, REA II 20058
Vice President

REGISTERED ENVIRONMENTAL ASSESSOR - II
M. KEVIN OSMUN
No. 20058
Expires 09/30/11
STATE OF CALIFORNIA

Distribution: Addressee (1)

URS

November 10, 2014

The New Home Company
85 Enterprise, Suite 450
Aliso Viejo, California 92656

Attn: Mr. John Neff

Re: Phase I Environmental Site Assessment
McMillan Project
Riverside County Assessor Parcel Number 282-040-003
Corona, California 92881

Dear Mr. Neff:

URS is pleased to submit this Phase I Environmental Site Assessment for the above-referenced site. No recognized environmental concerns were identified during this assessment. We appreciate the opportunity to provide environmental services to The New Home Company. Please contact us at (714) 835-6886 if you have any questions or require further assistance.

Very truly yours,

URS CORPORATION AMERICAS

Janet L. Tentler
Project Manager

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705
Tel: 714.835.6886
Fax: 714.667.7147
www.urscorp.com

PHASE I ENVIRONMENTAL SITE ASSESSMENT
M^{C}MILLAN PROJECT
RIVERSIDE COUNTY ASSESSOR PARCEL NUMBER 282-040-003
CORONA, CALIFORNIA 92881

PREPARED FOR:
THE NEW HOME COMPANY
85 ENTERPRISE, SUITE 450
ALISO VIEJO, CALIFORNIA 92656

URS PROJECT NO. 29869086

November 10, 2014



2020 East 1st Street
Suite 400
Santa Ana, California 92705
(714) 835-6886

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EXECUTIVE SUMMARY

URS Corporation (URS) conducted a Phase I Environmental Site Assessment (Phase I ESA) of the property proposed for development as the McMillan Project. The property is Riverside County Assessor Parcel Number (APN) 282-040-003 (approximately 160 acres) of undeveloped land and is located in the City of Corona, Riverside County, California (subject property or site). The purpose of the Phase I Environmental Site Assessment is to gather information about the subject property and surrounding areas to identify conditions indicative of releases or threatened releases of hazardous substances, pollutants and contaminants, petroleum or petroleum products, and controlled substances. This Phase I ESA was accomplished by, and limited to, a reconnaissance of the site, a drive-by survey of the site vicinity, and review of agency databases and other reasonably ascertainable records regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the site.

The subject property consists of approximately 160 acres of land previously used for citrus groves. Access to the subject property is via Bedford Motorway located to the south of the subject property.

At the time of the site visit on October 27, 2014, hazardous materials or hazardous wastes were not observed on the subject property. No environmental concerns were identified in association with the current site use.

According to review of available historical data, it appears that the subject property was used for agriculture from at least the late 1950s through 2009. The land appears to be fallow agricultural land.

Common agricultural practices can result in residual concentrations of fertilizers, pesticides or herbicides in near-surface soil, though not generally at concentrations that pose a significant health risk. It is URS' opinion that, since the site has been repeatedly graded and redeveloped, remaining pesticide or herbicide residues, if any, are likely to have been dispersed during these construction activities and therefore are unlikely to impact human health or the environment. Accordingly, no further investigation is recommended regarding residual pesticides.

The agency database report obtained from Environmental Data Resources, Inc. (EDR) did not identify the current or former subject property address in the environmental and regulatory databases searched. A number of other sites in the vicinity of the subject property are included in agency environmental database lists. Sites listed in the EDR Report were either chemical use only sites where no chemical spill had occurred, located down-gradient from the site, located at such a distance that impact to the site would be unlikely, or were cases which have been closed or are considered soils only cases by the overseeing agency, indicating that the sites are unlikely to pose a threat to the subject property.

An asbestos survey was not included as part of this Phase I ESA. With the exception of some miscellaneous dumped building materials located on the southern edge of the site, no potential asbestos-containing materials were observed.

URS has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of the proposed McMillan Project Property (APN 282-040-003) located on 160 acres within the City of Corona, Riverside County, California. Any exceptions to or deletions from this practice are described in Sections 1.3 and 1.5.

This assessment has revealed no evidence of recognized environmental conditions (RECs) associated with the current use of the subject property.

This assessment has revealed no evidence of historical recognized environmental conditions (HRECs) in connection with the subject property, with the exception of previous pesticide use.

No controlled recognized environmental conditions (CRECs) or *de minimis* conditions were identified in connection with the subject property. Based on the information reviewed, it is URS' opinion that no further investigation of the subject property is warranted at this time.

1.0 INTRODUCTION

Presented in this report are the results of the Phase I Environmental Site Assessment (Phase I ESA) conducted by URS Corporation (URS) of the proposed McMillan project property located north of Bedford Motorway within the City of Corona, Riverside County, California (subject property or site). This assessment was accomplished by, and limited to, a reconnaissance of the site, a drive-by survey of the site vicinity, and review of agency databases and other reasonably ascertainable information regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the site.

1.1 ASTM STANDARD AND ALL APPROPRIATE INQUIRY

The format and content of this Phase I ESA Report of the subject property are in general accordance with the ASTM International (ASTM) *Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessments* (Standard Designation E 1527-13) and the U.S. Environmental Protection Agency (US EPA) 40 CFR Part 312 *Standards and Practices for All Appropriate Inquires (AAI) – Final Rule* amended on December 30, 2013.

1.1.1 All Appropriate Inquiry Standards

The US EPA Rule on AAI was developed to establish federal regulatory requirements for conducting all appropriate inquiries into the previous ownership, uses, and environmental conditions of a property for the purposes of qualifying for certain landowner liability protections under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as innocent landowners, bona fide prospective purchasers, and/or contiguous property owners. The Final Rule was published in the Federal Register on November 1, 2005, went into effect on November 1, 2006, and was amended on December 30, 2013. The amendment dated December 30, 2013 provides that ASTM Standard E 1527-13 is consistent with the AAI statutory requirements and may be used to comply with the provisions of the AAI Final Rule.

1.1.2 ASTM Standard

The ASTM Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessments (Standard Designation E 1527-13) was approved by the US EPA on December 30, 2013. The goal of the ASTM Standard is to identify recognized environmental conditions (RECs). ASTM E 1527-13 defines a REC as:

> The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a

future release to the environment. Conditions determined to be *de minimis* are not recognized environmental conditions.

The publication of ASTM Standard E 1527-13 also includes the evaluation of environmental conditions as a controlled recognized environmental condition (CREC), a historical recognized environmental condition (HREC), or as a de minimis condition.

A CREC is defined as:

> A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Conditions determined to be *de minimis* are not CRECs.

A HREC is defined as:

> A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

A *de minimis* condition is defined as:

A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not RECs or CRECs.

1.2 SCOPE OF SERVICES

The Scope of Services performed is in accordance with the Agreement for Professional Consulting Services between The New Home Company and URS dated October 20, 2014. The format and content of this Phase I ESA Report of the subject property are in general accordance

with the scope and limitations of ASTM *Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process* E 1527-13 and the US EPA's standards for AAI.

This assessment was accomplished by, and limited to, a records review including government agency databases, regulatory agency files, physical setting sources, and reasonably ascertainable historical sources; a site reconnaissance including a drive-by survey of the site vicinity; interviews with present and past owners, operators, and occupants of the subject property; and interviews with state and/or local government officials. The site reconnaissance included a walking tour of areas at the subject property that were accessible by foot and a drive-by survey of surrounding and adjacent properties. To meet the objective of this Phase I ESA, URS completed the following tasks:

- Performed a reconnaissance survey of the subject property to make visual observations of existing site conditions and activities, and a drive-by survey of the area within ¼-mile of the site to observe types of general land use. Photographs of the site are provided as Appendix A.

- Reviewed pertinent, available documents and geologic maps regarding local physiographic and hydrogeologic conditions for the subject property.

- Reviewed User provided information for the subject property including, but not limited to, available title records, environmental lien or activity and use limitations (AULs), specialized knowledge, and valuation reductions for environmental issues. User provided information is provided in Appendix B.

- Conducted interviews with current property owners and occupants for the site usage and history, if contact information was provided to URS.

- Reviewed and interpreted reasonably ascertainable historical sources including, but not limited to, Sanborn Fire Insurance Maps, historical city directories, historical topographic maps and historical aerial photographs to research the history of the subject property and surrounding area. Historical sources are provided in Appendix C.

- Reviewed a prior environmental technical memorandum for the subject property, which is provided in Appendix D.

- Reviewed the federal, state, and local database list search provided by Environmental Data Resources, Inc., (EDR) of Shelton, Connecticut of known or potential underground storage tanks (USTs); landfills; hazardous waste generation or treatment, storage and

disposal facilities; and subsurface contamination in the surrounding area within specified radii of the subject property. The agency lists and search radii results (EDR Report) are provided in Appendix E.

- Conducted inquiries in person, by telephone, or in writing to the appropriate local and state regulatory agencies for information on file regarding environmental permits, violations or incidents, and/or the status of enforcement actions at the subject property and adjoining properties, as applicable. Agency correspondence and/or records are included as Appendix F.

- Prepared this report describing the research performed and presenting URS' findings, professional opinions, and conclusions regarding the potential for RECs at the subject property.

The Scope of Services specifically did not include sampling of asbestos, radon gas, lead-based paint, lead in drinking water; sampling and/or testing of soil or groundwater; or an environmental compliance audit.

1.3 LIMITATIONS AND EXCEPTIONS

The Phase I ESA report was prepared in accordance with the scope of work described in Section 1.2. The work conducted by URS is limited to the services agreed to with The New Home Company and no other services beyond those explicitly stated should be inferred or are implied.

The conclusions and findings presented in this report are professional opinions based solely upon URS' visual observations of the site and the immediate site vicinity, and upon URS' interpretations of the readily available historical information, conversations with personnel knowledgeable about the site, and other readily available information, as referenced in the report. These conclusions are intended exclusively for the purpose stated herein, at the site indicated, and for the project indicated.

This report is intended for the sole use of The New Home Company. The scope of services performed during this investigation may not be appropriate for other users, and any use or re-use of this document, or the findings and conclusions presented herein is at the sole risk of said user.

This study was not intended to be a definitive investigation of possible contamination at the subject property. The purpose and scope of this investigation was to determine whether there is reason to suspect the possibility of contamination at the site. No exploratory borings, soil or

groundwater sampling, or laboratory analyses were performed at the subject property by URS and, therefore, the conclusions set forth herein are made without the benefit of such investigation.

This report is intended to be used in its entirety. No excerpts may be taken to be representative of the findings of this assessment.

The findings and opinions presented in this report apply to site conditions and features as they existed at the time of URS' property visit, and those reasonably foreseeable. They cannot necessarily apply to conditions and features of which URS is unaware and has not had the opportunity to evaluate.

1.4 DATA GAPS

During this assessment, URS did not identify data gaps.

1.5 SPECIAL TERMS AND CONDITIONS

URS' objective is to perform our work in a professional manner, exercising the customary thoroughness and competence of environmental and engineering consulting professionals, in accordance with the standard for professional services at the time and location those services are rendered. It is important to recognize that even the most comprehensive scope of services may fail to detect environmental liability on a particular site. Therefore, URS cannot act as insurers and cannot "certify or underwrite" that a site is free of environmental contamination. No expressed or implied representation or warranty is included or intended in our reports except that our work was performed, within the limits prescribed by our client, with the customary thoroughness and competence of our profession.

1.6 USER RELIANCE

This report has been prepared for use by The New Home Company, and shall not be relied upon by or transferred to any other party, or used for any other purpose, without the express written authorization of URS. This Phase I ESA report is applicable for 180 days.

2.0 SITE DESCRIPTION

2.1 LOCATION

The subject property is located north of Bedford Motorway in the City of Corona, Riverside County, California. According to the Riverside County Treasurer-Tax Collector, the subject property consists of assessor parcel number (APN) 282-040-003. A Site Vicinity Map and a Site Plan are included as Figures 1 and 2, respectively.

2.2 FEATURES/USE

The subject property consists of approximately 160 acres of land previously used for citrus groves (McMillan Farms), and currently has no improvements on the property. The subject property is located to the east of the Eagle Glen Golf Course. The Bedford Wash crosses the site from the southwestern portion to the northeastern portion of the site. A pile of metal debris was observed within the southern portion of the site.

2.3 SITE VICINITY AND ADJACENT PROPERTIES

URS' observation and evaluation of adjoining properties were limited to features and conditions that were visible from public rights-of-way. The following observations were made:

North: The subject property is bordered to the north by vacant, undeveloped land, previously citrus orchards, known as the Corinta Ranch Company.

East: The subject property is bordered to the east by residences and some ranches along Weirick Road.

South: The subject property is bordered to the south by Bedford Motorway and recently developed residential tract homes.

West: The subject property is bordered to the west by the Eagle Glen Golf Club.

No environmental concerns associated with adjacent properties were identified based on visual observation from publicly accessible right-of-ways.

3.0 PHYSICAL SETTING

3.1 TOPOGRAPHY

The site is located in Section 20 of Township 4 South, Range 6 West of the San Bernardino Base & Meridian, within the City of Corona, Riverside County, California (Figure 1). Topographic map coverage is provided by the U.S. Geological Survey (USGS), 7.5-minute "Corona South, California" quadrangle map. The subject property lies at an approximate elevation of 1,100-1,200 feet above mean sea level (msl) with a local topographic gradient to the northeast from Bedford Canyon.

3.2 SURFACE WATER

The nearest surface water body is the Bedford Wash which is located within the center of the subject property and flows to the northeast to the Temescal Wash and the Santa Ana River during seasonal rain events. According to the EDR Report (Appendix B), the subject property is not located within a Federal Emergency Management Agency (FEMA)-designated 100-year or a 500-year flood zone.

3.3 GEOLOGY AND SOILS

The site vicinity is located in the north central portion of the Peninsular Ranges physiographic province. The Peninsular Ranges is bounded on the east by the Colorado Desert, on the south by the Mexican Border, on the west by the Pacific Ocean, and the north by the Transverse Ranges and the Los Angeles Basin. The Peninsular Ranges contain minor Jurassic and extensive Cretaceous igneous rocks associated with Nevadan plutonism. Marine Cretaceous sedimentary rocks are well represented and post-Cretaceous rocks form a r estricted veneer of volcanic, marine and non-marine sediments. The site is located within the northwestern portion of the Perris Plan, which lies within the Peninsular Ranges geomorphic province and is a mass of chiefly crystalline rock of Cretaceous age which was uplifted in relation to the surrounding areas and has been eroded to its present state. While the Perris Plain is considered stable, it is bound by active fault zones on all sides, including the San Jacinto fault adjacent to the south, the Elsinore fault to the west (which crosses the southern portion of the subject property), and the Cucamonga fault on the north.

The majority of the site lies within the Bedford Canyon Wash, emanating from the Santa Ana Mountains adjacent to the southwest of the site. Relatively young alluvial sediments comprise the wash, and erosion of the surrounding mountains has resulted in the deposition of relatively unconsolidated alluvial units across the wash. Steep, nearly vertical side walls traverse both the north and south portions of the wash. The depth of these units at the site is considered to be on the order of several hundred feet or more to the older sedimentary bedrock and crystalline bedrock which underlies the valley floor. The southeastern portions of the site lie on bluffs above the adjacent wash. The bluffs are underlain by older alluvial materials and relatively shallow

bedrock and the Vaqueros Formation. The bedrock is locally described as siltstone and sandstone.

3.4 HYDROGEOLOGY

The site is located in the Temescal Groundwater Basin portion of the Riverside County Groundwater Basin within the Upper Santa Ana River watershed. The aquifers comprising the Basin extend over 2,000 feet deep and form a complex series of interconnected sand and gravel deposits (DWR, 2003). In coastal and central portions of the basin, these deposits are typically separated by extensive lower permeability clay and silt deposits, known as aquitards. Runoff from the Santa Ana Mountains in the project vicinity generally drains in an easterly direction through tributaries such as the onsite intermittent Bedford Wash and collects in the Temescal Wash to the north of the Site.

According to the Western Municipal Water District and the Elsinore Valley Water District, groundwater is expected to occur at depths greater than 100 feet. Groundwater flow direction is assumed to follow topography and therefore is expected to flow generally toward the northeast.

4.0 SITE HISTORY

URS reviewed readily available historical data pertaining to the subject property. These references were reviewed for evidence of activities that would suggest the potential presence of hazardous substances at the subject property and to evaluate the potential for the subject property to be impacted by offsite sources of contamination. The following subsections are a summary of the review. All EDR provided historical sources are provided as Appendix C.

4.1 HISTORICAL SANBORN FIRE INSURANCE MAPS

URS contacted Environmental Data Resources, Inc. (EDR) of Milford, Connecticut for Sanborn Fire Insurance maps of the subject property and surrounding area. EDR reported that Sanborn Map coverage does not exist for the subject property area.

4.2 HISTORICAL CITY DIRECTORIES

Business directories including city, cross-reference and telephone directories were requested from EDR for the historic and adjacent subject property address and in the site vicinity. A physical address is not available for the site; therefore, a city directory search was not requested.

4.3 HISTORICAL USGS TOPOGRAPHIC MAPS

URS reviewed historical topographic maps dated 1901, 1902, 1947, 1954, 1967, 1973, 1982, 1988, and 1997 that were provided by EDR (Appendix C). The following is a summary of the review.

1901 and 1902

The subject property and surrounding properties are depicted as undeveloped land located to the northeast of the Santa Ana Mountains and to the southwest of the Temescal Wash. The Bedford Wash and an unnamed tributary cross the site from southwest to northeast. The City of Corona is depicted to the north and west of the subject property with no development evident in the site vicinity. No structures or significant features are depicted on the subject property and dirt roads are depicted in the site vicinity.

1947 and 1954

The subject property is depicted as vacant land and no structures are visible on the site. A cluster of small structures is depicted offsite to the north near an unnamed tributary that extends to the southwest across the site and agricultural operations are depicted offsite to the east in the nearby McBribe Canyon. Surrounding properties appear to be undeveloped vacant land or agriculturally developed land. Temescal Canyon Road is present to the north and east of the site and a glass factory, a tailings pond, and a quarry are shown offsite to the east across the current location of

Interstate 15 Freeway. A few paved streets and buildings are shown offsite to the north and west within a mile of the subject property.

1967 and 1973

The subject property is depicted as agricultural land. Dirt trails appear near the center of the property and offsite to the east and west. Similar agricultural land and Interstate 15 (Corona Freeway) is present to the north and east of the subject property, as observed during the site visit. A few small structures and a small reservoir are depicted offsite to the south/southwest.

1982

The subject property is shown as agricultural land except for the area immediately surrounding the Bedford Wash. Increased residential development is shown offsite to the north and west.

1988 and 1997

The subject property remains agricultural land except for the area immediately surrounding the Bedford Wash. Increased residential development is shown to the north, west and east, in the 1997 map.

4.4 HISTORICAL AERIAL PHOTOGRAPHS

Information regarding past subject property land use was obtained by a review of historical aerial photographs, dated 1931, 1938, 1948, 1953, 1963, 1968, 1974, 1989, 1995, 2005, 2006, 2009, 2010, and 2012 obtained from EDR (Appendix C). A summary evaluation of the historical aerial photographs is provided as follows.

1931, 1938 and 1948

The subject property and surrounding properties are depicted as undeveloped land. The site and vicinity appear to be in a natural, undisturbed state with the canyons and washes that characterize the Santa Ana Mountain Foothills. A quarry, a brick plant, and a glass plant shown on the topographic maps appear to the north/northeast near Temescal Canyon Road on the 1938 and 1948 photographs. Several dirt trails are present on the property and in the site vicinity. A rural residential parcel is present offsite, near Glen Road.

1953

The subject property and the site vicinity appear similar to the 1948 photograph. The area to the northwest appears to have been graded. Agricultural plots are present to the north and east.

1963

The subject property is occupied by orchards and Bedford Wash. Increased development is shown offsite to the northwest in the center of the City of Corona and Interstate 15 (Corona

Freeway) appears under construction to the north/northeast. Additional surface quarries or other areas of soil disturbance and activity are shown offsite to the northwest.

1968 and 1974

The subject property remains similar to the 1963 depiction. Construction of Interstate 15 (Corona Freeway) to the north and east of the subject property appears to be nearly completed. Other offsite areas appear similar to the 1963 photograph.

1989

The subject property appears similar to the 1974 depiction. An increase in development is evident in the surrounding area and Interstate 15 appears to be completed and in use. Ranch-style home are depicted to the east.

1995

The subject property is now completely developed with orchards. The surrounding areas have new residential developments. Ranch-style homes remain depicted to the east.

2005 and 2006

The subject property appears similar to the 1995 depiction. Residential neighborhoods and a retail shopping center appear, as today, northwest of the site and the Glen Eagle Golf Course is present offsite to the west. The retail shopping centers and business parks are present across Interstate 15 to the north/northeast of the subject property.

2009, 2010 and 2012

The onsite orchards appear to have been cleared from the site by 2010. Areas surrounding the subject property appear fully developed.

4.5 EDR HISTORICAL DATABASE REVIEW

URS reviewed the results of the EDR Proprietary Historical Database search presented in the EDR Report in order to identify past and current occupants of the subject property and surrounding area that may have had the potential to generate, use or store hazardous materials (i.e. manufactured gas plants, historical auto stations and dry cleaning facilities). The subject property was not identified in the EDR Proprietary Historical Databases. The EDR Report is included as Appendix B.

4.6 USER PROVIDED INFORMATION

URS interviewed Mr. Matt Weaver of Lee & Associates. Information obtained from this individual has been incorporated into the appropriate sections of this report. According to Mr. Weaver, the subject property was developed as orchards in the 1950s or 1960s and operated by McMillan Farms until approximately 2009. According to Mr. Weaver, pesticides have been

used historically on the site and soil sampling to evaluate the former use of onsite pesticides, smudge pots and fuel tanks was performed in 2002. The results of the sampling indicated that residual pesticides or impact from the use of onsite smudge pots or other materials was not present. It is URS' opinion that, given the results of the soil sampling in 2002 and since the site has since been graded, remaining pesticide or herbicide residues, if any, are likely to have been dispersed during these construction activities; therefore, are unlikely to impact human health or the environment. Accordingly, no further investigation is recommended regarding the former agricultural use of the property.

4.6.1 Title Records

A Preliminary Title Report was not provided for review nor requested by the client.

4.6.2 Environmental Liens

URS was not contracted to perform an environmental liens search. The EDR Report did not identify Federal Superfund liens or deed restrictions in association with the subject property. Based on available information, no environmental liens appear to be associated with the subject property.

4.6.3 Other Activity and Use Limitations

Based on available information, there appear to be no other activity or land use limitations, such as institutional controls, other than local zoning requirements that are in place on the site or that have been filed or recorded in a registry.

4.6.4 Valuation Reduction for Environmental Issues

Based on available information, there is no indication that the property value of the site has decreased due to environmental issues.

4.6.5 Prior Documents

URS was not provided any previous documents or reports for the subject property.

4.7 SUMMARY OF HISTORICAL DATA

According to review of available historical data, it appears that the subject property was developed with orchards from at least the late 1950s until approximately 2009. Prior to its use for agriculture the site was undeveloped, consisting of natural canyons and washes emanating from the adjacent Santa Ana Mountains. The previous use of the property for agriculture included application of pesticides.

Common agricultural practices can result in residual concentrations of fertilizers, pesticides or herbicides in near-surface soil, though not generally at concentrations that pose a significant health risk. It is URS' opinion that, since the site has been repeatedly graded and redeveloped, remaining pesticide or herbicide residues, if any, are likely to have been dispersed during these construction activities and therefore are unlikely to impact human health or the environment. Accordingly, no further investigation is recommended regarding residual pesticides.

4.8 HISTORICAL DATA GAPS

No historical data gaps were found during this ESA.

5.0 SITE RECONNAISSANCE

On October 27, 2014, Ms. Janet Tentler, a URS representative, conducted a reconnaissance of the subject property. The reconnaissance consisted of the observation and documentation of existing site conditions accessible by foot and nature of the neighboring property development within ¼-mile of the site. Photographs taken during the site reconnaissance are provided in Appendix A.

The subject property consists of approximately 160 acres of undeveloped land. A small amount of metal debris was observed within the southern portion of the site.

No utilities currently provide water, sewer, or gas service to the site. The subject property and surrounding parcels will be developed as a new residential community.

5.1 INTERVIEWS

URS interviewed Mr. Matt Weaver regarding the subject property. This individual provided site-specific information that has been incorporated into the appropriate sections of this report.

5.2 HAZARDOUS SUBSTANCES

At the time of the site visit, no hazardous material or petroleum products were observed on the subject property.

5.3 STORAGE TANKS

No evidence of aboveground storage tanks (ASTs) or underground storage tanks (USTs) were observed onsite at the time of the site visit. No emergency generators were observed onsite.

5.4 POLYCHLORINATED BIPHENYLS (PCBs)

No potentially PCB-containing equipment was observed onsite during the site reconnaissance.

5.5 WASTE DISPOSAL

No solid wastes are currently generated from the subject property.

5.6 WETLANDS, FLOODPLAIN, COASTAL ZONE

According to the EDR Report (Appendix B), the subject property is not located within a Federal Emergency Management Agency (FEMA)-designated 100-year or a 500-year flood zone. No wetlands were identified or observed on the subject property during the site reconnaissance. The subject property is not located within a coastal zone.

5.7 DRUMS/OTHER CHEMICAL CONTAINERS

No drums or other chemical containers were observed onsite during the site reconnaissance.

5.8 DUMPING

No evidence of unauthorized dumping of chemicals or substances was observed or reported onsite during the site reconnaissance. Metal straps were observed along the southern portion of the subject property.

5.9 PITS, PONDS, OR LAGOONS, SEPTIC SYSTEMS, CISTERNS, SUMPS, DRAINS, AND CLARIFIERS

Storm water at the subject property appears to be directed via sheet flow to the natural canyons on the east, north and south of the property. According to the City of Corona General Plan, a municipal storm water drainage system will be installed during construction of the proposed development.

No pits, ponds, lagoons, septic systems, sumps, drains, clarifiers or cisterns were observed or reported onsite during the site reconnaissance.

5.10 PESTICIDE USE

The onsite use or storage of pesticides was reportedly associated with the previous use of the site for citrus orchards.

5.11 STAINING AND DISCOLORED SOILS

No areas of staining or discolored soils were observed onsite during the site reconnaissance.

5.12 STRESSED VEGETATION

No stressed vegetation was observed onsite during the reconnaissance.

5.13 UNUSUAL ODORS

No unusual odors were noted onsite during the site reconnaissance.

5.14 ONSITE WELLS

No production or groundwater monitoring or oil and gas production wells were observed or reported onsite during the site reconnaissance. URS reviewed maps available on the State of California, Department of Conservation, Division of Oil, Gas, & Geothermal Resources (DOGGR) website for information regarding oil wells located at the subject property. No oil or gas production wells were identified within approximately 500 feet of the subject property.

5.15 NEARBY ENVIRONMENTALLY SENSITIVE SITES

No environmentally sensitive sites were observed immediately adjacent to the subject property.

5.16 ASBESTOS

An asbestos survey was not included as part of this Phase I ESA. No potential asbestos-containing materials were observed on the subject property.

5.17 LEAD

A lead-based paint survey was not included as part of this Phase I ESA. No potential lead-containing materials were observed on the subject property.

5.18 RADON

URS reviewed the United States Environmental Protection Agency (USEPA) Map of Radon Zones in California for information regarding radon concentrations in the subject property area. The map was produced in conjunction with the United States Geological Survey (USGS). The USEPA survey of indoor radon concentrations listed the radon zone level for Riverside County, California, as Zone 2 Zone 2 areas are predicted to have an average indoor radon screening potential is greater than 2.0 picoCuries per liter of air (pCi/l) and less than 4.0 pCi/l for the general area of the subject property. The USEPA action level for radon is 4.0 pCi/l. Therefore, no further assessment for radon is recommended for the subject property.

5.19 OTHER CONCERNS

No other concerns were noted or reported onsite during URS' site reconnaissance.

6.0 GOVERNMENT AGENCY INFORMATION

URS reviewed readily available records regarding past and current site use, contacted applicable agencies regarding potential environmental concerns at the site, and reviewed the agency database list search for potential environmental concerns at surrounding properties. The information obtained during the records review is provided in the following sections.

6.1 DATABASE LIST SEARCH

URS contracted an environmental database firm, Environmental Data Resources, Inc. (EDR) of Milford, Connecticut, to conduct a search for facilities listed by regulatory agencies as potentially having environmental concerns. The search was limited to within a one-mile radius (i.e., ASTM and AAI standards) of the subject property to assess whether activities on or near the site have the potential to create RECs, CRECs, or HRECs at the subject property. The complete list of databases reviewed is provided in the EDR Report, included as an attachment to this Phase I ESA, and is summarized in the table presented below. It should be noted that this information is reported as URS received it from EDR, which in turn reports information as it is provided in various government databases. It is not possible for either URS or EDR to verify the accuracy or completeness of information contained in these databases. However, the use of and reliance on this information is a generally accepted practice in the conduct of environmental due diligence.

The following table summarizes the number of facilities in the site vicinity that were identified in the indicated agency databases within the indicated survey distances.

AGENCY DATABASE	SURVEY DISTANCE	NUMBER OF SITES IDENTIFIED
FEDERAL STANDARD ENVIRONMENTAL RECORDS		
United States Environmental Protection Agency (EPA) National Priority List (NPL) for Superfund Sites	1.0 mile	0
U.S. Proposed NPL Sites (Proposed NPL)	1.0 mile	0
Federal Superfund Liens (NPL LIENS)	Property	0
U.S. NPL Deletions (Delisted NPL)	1.0 mile	0
U.S. EPA Comprehensive Environmental Response, Compensation and Liability Index System (CERCLIS)	0.5 mile	0
Federal Facility Site Information Listing (FEDERAL FACILITY)	1.0 mile	0
U.S. EPA CERCLIS – No Further Remedial Action Planned (CERC-NFRAP)	0.5 mile	0
U.S. EPA Resource Conservation and Recovery Act (RCRA) Corrective Action Report (CORRACTS)	1.0 mile	0
U.S. EPA RCRA Permitted Treatment, Storage, and Disposal Facilities (TSDFs)	0.5 mile	0
U.S. EPA RCRA Registered Large Quantity Generators of Hazardous Waste (RCRA-LQG)	0.25 mile	0

AGENCY DATABASE	SURVEY DISTANCE	NUMBER OF SITES IDENTIFIED
U.S. EPA RCRA Registered Small Quantity Generators of Hazardous Waste (RCRA-SQG)	0.25 mile	0
U.S. EPA RCRA Registered Conditionally Exempt Small Quantity Generators of Hazardous Waste (RCRA-CESQG)	02.5 mile	0
U.S. Engineering Controls Sites List (US ENG CONTROLS)	0.5 mile	0
U.S. Sites with Institutional Controls (US INST CONTROL)	0.5 mile	0
U.S. EPA Emergency Response Notification System (ERNS)	Property	0
STATE STANDARD ENVIRONMENTAL RECORDS		
State Response Sites (RESPONSE)	1.0 mile	0
State Site Mitigation and Brownfields Reuse Program (ENVIROSTOR) database	1.0 mile	0
State Solid Waste Information System of Permitted Solid Waste Disposal Facilities or Landfills (SWF/LF)	0.5 mile	0
Waste Discharge System (WDS)	Property	0
State Leaking Underground Storage Tank Incident Reports (LUST)	0.5 mile	0
State Spills, Leaks, Investigation & Cleanup Cost Recovery Listing (SLIC)	0.5 mile	0
State Leaking Underground Storage Tanks on Indian Land (INDIAN LUST)	0.5 mile	0
State Active Underground Storage Tank Facilities (UST)	0.25 mile	0
State Aboveground Petroleum Storage Tank Facilities (AST)	0.25 mile	0
State Underground Storage Tanks on Indian Land (INDIAN UST)	0.25 mile	0
FEMA Underground Storage Tank Listing (FEMA UST)	0.25 mile	0
State Voluntary Cleanup Program Properties (VCP)	0.5 mile	0
State Voluntary Cleanup Priority Listing on Indian Land (INDIAN VCP)	0.5 mile	0
ADDITIONAL ENVIRONMENTAL RECORDS		
U.S. Listing of Brownfields Sites (US BROWNFIELDS)	0.5 mile	0
U.S. Open Dump Inventory (ODI)	0.5 mile	0
State Waste Management Unit Database System (WMDUS/SWAT)	0.5 mile	0
State Listing of Recycling Facilities (SWRCY)	0.5 mile	0
State Registered Waste Tire Haulers Listing (HAULERS)	Property	0
State Report of the Status of Open Dumps on Indian Lands (INDIAN ODI)	0.5 mile	0
U.S. and State Clandestine Drug Labs (CDL)	Property	0
State Historical Hazardous Waste Sites (HIST Cal-Sites)	1.0 mile	0
State School Property Evaluation Program (SCH)	0.25 mile	0
State Toxic Pits Cleanup Act Sites (Toxic Pits)	1.0 mile	0
State Facility Inventory Database (CA FID UST) of historical active and inactive UST locations	0.25 mile	0
State Hazardous Substance Storage Container Database (HIST UST) of historical UST sites	0.25 mile	0
State SWEEPS UST Listing (SWEEPS UST)	0.25 mile	0
U.S. CERCLA Lien Information (LIENS 2)	Property	0
U.S. Land Use Control Information System (LUCIS) for former Navy properties	0.5 mile	0
State Environmental Liens Listing (LIENS)	Property	0
State Deed Restriction Listing (DEED)	0.5 mile	0
State Hazardous Materials Information Reporting System (HMIRS).	Property	0

AGENCY DATABASE	SURVEY DISTANCE	NUMBER OF SITES IDENTIFIED
State of California Hazardous Material Incident Report System (CHMIRS)	Property	0
State Land Disposal Sites Listing (LDS)	Property	0
State Military Cleanup Sites Listing (MCS)	Property	0
Riverside County Industrial Site	Property	0
Other Local and/or State Databases and Ascertainable Records (see EDR Report for complete listing of databases and search radii)	Varied according to database	2
EDR PROPRIETARY DATABASES		
Manufactured Gas Plants: A collection of potential manufactured gas plants from searched business directories.	1.0 mile	0
EDR Historical Auto Stations: A collection of potential gas station/filling station/service station sites from searched business directories.	0.25 mile	0
EDR Historical Cleaners: A collection of potential dry cleaner sites from searched business directories.	0.25 mile	0

The locations of EDR-listed sites are shown on the radius maps accompanying the EDR Report (Appendix B). The databases searched and the information obtained is summarized in the following sections.

6.1.1 Subject Property

The EDR Report did not identify the current or historical subject property addresses on any of the databases searched.

6.1.2 Adjacent Properties

The EDR Report did not identify any listed facilities adjacent to the subject property.

6.1.3 Site Vicinity

URS reviewed the EDR database report to identify offsite facilities that have suspected or documented environmental concerns or RECs that may negatively impact the subject property. URS' criteria for further evaluating the potential impact of a listed offsite facility are summarized below:

- The listed offsite facility is documented or assumed to be hydrogeologically upgradient and a likely pathway exists for known releases of environmentally mobile contaminants to reach the subject property; or, contaminants from the listed offsite facility can reach the subject through other pathways (i.e., surface runoff); and,

- The offsite facility is listed as an open case on one of the following databases: Federal NPL, Federal CORRACTS, Federal CERCLIS, Federal ERNS, and State-Specific lists including, but not limited to State Hazardous Waste Sites, State SCL, State LUST, State Deed Restrictions, State Toxic Pits, Landfill (excluding transfer stations); or

- The facility is a known or suspected concern based on URS' experience or observations made during the site reconnaissance. (i.e., Dry-cleaning operations that may or may not be listed as RCRA-SQG or a non-adjacent UST site that appears to have a remediation system in place).

URS did not identify facilities that, using the criteria discussed above, appeared to be a potential concern.

6.1.4 Unmapped Sites

URS reviewed EDR's Orphan Summary, which is a listing of sites that have not been geocoded based on lack of sufficient data regarding their exact location within the general area. None of the Unmapped Sites identified on the Orphan Summary appear to be located within the ASTM-designated radii of the subject property, and therefore, URS has no reason to believe that these sites had an impact on the subject property.

6.2 VAPOR MIGRATION

In order to evaluate the potential migration of hazardous substances or petroleum products in vapor, URS conducted a Vapor Encroachment Screening (VES) utilizing EDR's E2600-10 Tier 1 Vapor Encroachment Screening tool (VEC App) in general accordance with the procedures included in ASTM E 2600-10, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions. The purpose of the VES is to determine if a potential Vapor Encroachment Condition (VEC) exists, likely exists, cannot be ruled out, or can be ruled out because a VEC does not or is not likely to exist. The VES is not an exhaustive screening and is intended to reduce, but not eliminate, uncertainty regarding whether or not a VEC exists in connection with a property.

6.2.1 Subject Property

As noted in Section 7.1.1, the subject property was not identified as the location of an open LUST case or other releases. Based on the available information reviewed, it is unlikely that a VEC exists at the subject property due to an onsite source.

6.2.2 Surrounding Sites

As defined by ASTM E 2600-10, offsite properties with known or suspected soil or groundwater contamination located within an approximate minimum search distance of ⅓-mile for hazardous substances (volatile and semi-volatile nonpetroleum hydrocarbons, e.g. perchloroethylene associated with dry cleaners) or $^{1}/_{10}$-mile for petroleum hydrocarbons (e.g. gasoline fuel

associated with gas stations), were evaluated to determine if a potential VEC exists for the subject property due to an offsite source.

No offsite properties with known or suspected releases of petroleum products were identified within $^{1}/_{10}$-mile (528 feet) of the subject property in the EDR VEC App.

No other offsite properties with known or suspected releases of non-petroleum volatile contaminants were identified within ⅓-mile (1,760 feet) of the subject property in the EDR VEC App. Therefore, the potential for a VEC at the subject site is low.

6.3 REGULATORY CONTACTS

URS requested information from the local and state agencies regarding the subject property such as the status of environmental permits, violations, or corrective actions. Agencies contacted and a summary of the information obtained are provided below.

California EPA (Cal/EPA) Department of Toxic Substances Control, Cypress and Chatsworth Offices (DTSC) – the subject property was not identified in the online EnviroStor database maintained by the DTSC, reviewed by URS on October 30, 2014 (http://www.envirostor.dtsc.ca.gov/public/).

California Regional Water Quality Control Board (RWQCB), Santa Ana Region – The subject property was not identified in the online GeoTracker database maintained by the State Regional Water Resources Control Board, reviewed by URS on October 30, 2014 (http://geotracker.swrcb.ca.gov/).

California Office of the State Fire Marshal (OSFM), Pipeline Safety Division – No placards or markers indicating the presence of pipelines was observed on or adjacent to the subject property during the site visit.

South Coast Air Quality Management District (SCAQMD) – URS performed a review of online records available on the SCAQMD's Facility Information Detail (FIND) database (http://www3.aqmd.gov/webappl/fim/prog/search.aspx). No records for the subject property were identified in the FIND database and no unpermitted sources of potential air emissions were observed at the time of the site reconnaissance.

7.0 CONCLUSIONS AND RECOMMENDATIONS

URS has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of the of the proposed McMillan Project Property (APN 282-040-003) located on 160 acres within the City of Corona, Riverside County, California. Any exceptions to or deletions from this practice are described in Sections 1.3 and 1.5.

7.1 FINDINGS

This assessment has revealed no evidence of recognized environmental conditions (RECs) associated with the current use of the subject property.

This assessment has revealed no evidence of historical recognized environmental conditions (HRECs) in connection with the subject property, with the exception of previous pesticide use.

No controlled recognized environmental conditions (CRECs) or *de minimis* conditions were identified in connection with the subject property.

8.0 PREPARER SIGNATURES AND QUALIFICATIONS

This section includes qualification statements of the environmental professionals responsible for conducting the ESA and preparing this report.

The site visit was conducted and the report was written by Ms. Janet Tentler of the URS office in Santa Ana, California. Ms. Tentler has over 15 years of experience in environmental site investigations, characterizations, and assessments. The report was reviewed by Mr. Timothy Marshall of the URS office in Santa Ana, California. Mr. Marshall has over 20 years of experience in the environmental field, including 15 years of experience with Phase I Environmental Site Assessments.

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 40 CFR Part 312.10.

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312 and have performed the Phase I ESA in general accordance with the scope and limitations set forth in ASTM Standard Practice E1527-13 subject to the exceptions and deletions from this practice as described in this report and authorized scope of work.

Janet L. Tentler
Senior Environmental Scientist

Timothy R. Marshall, Ph.D.
Vice President

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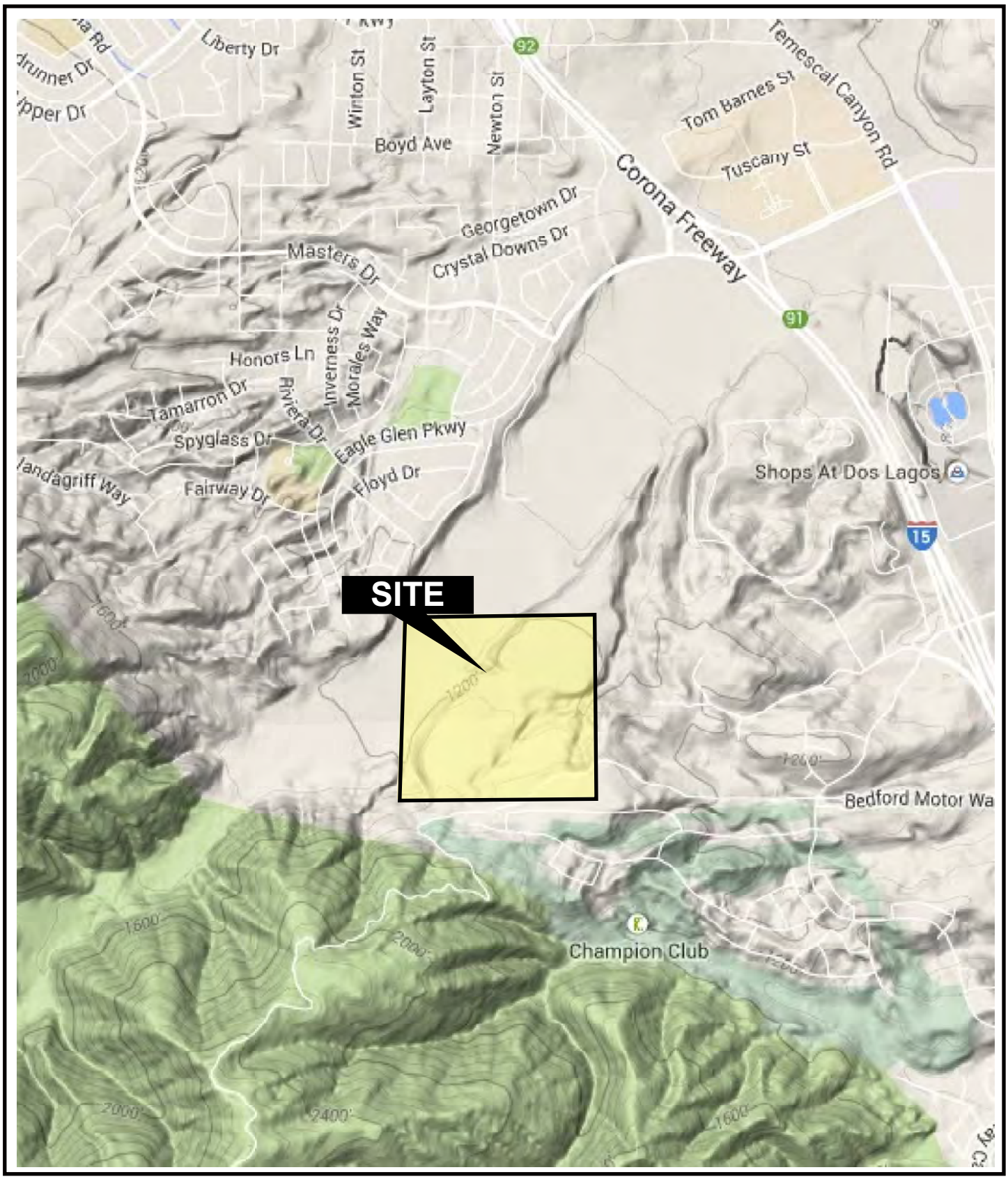
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FIGURES



Vicinity Map

N

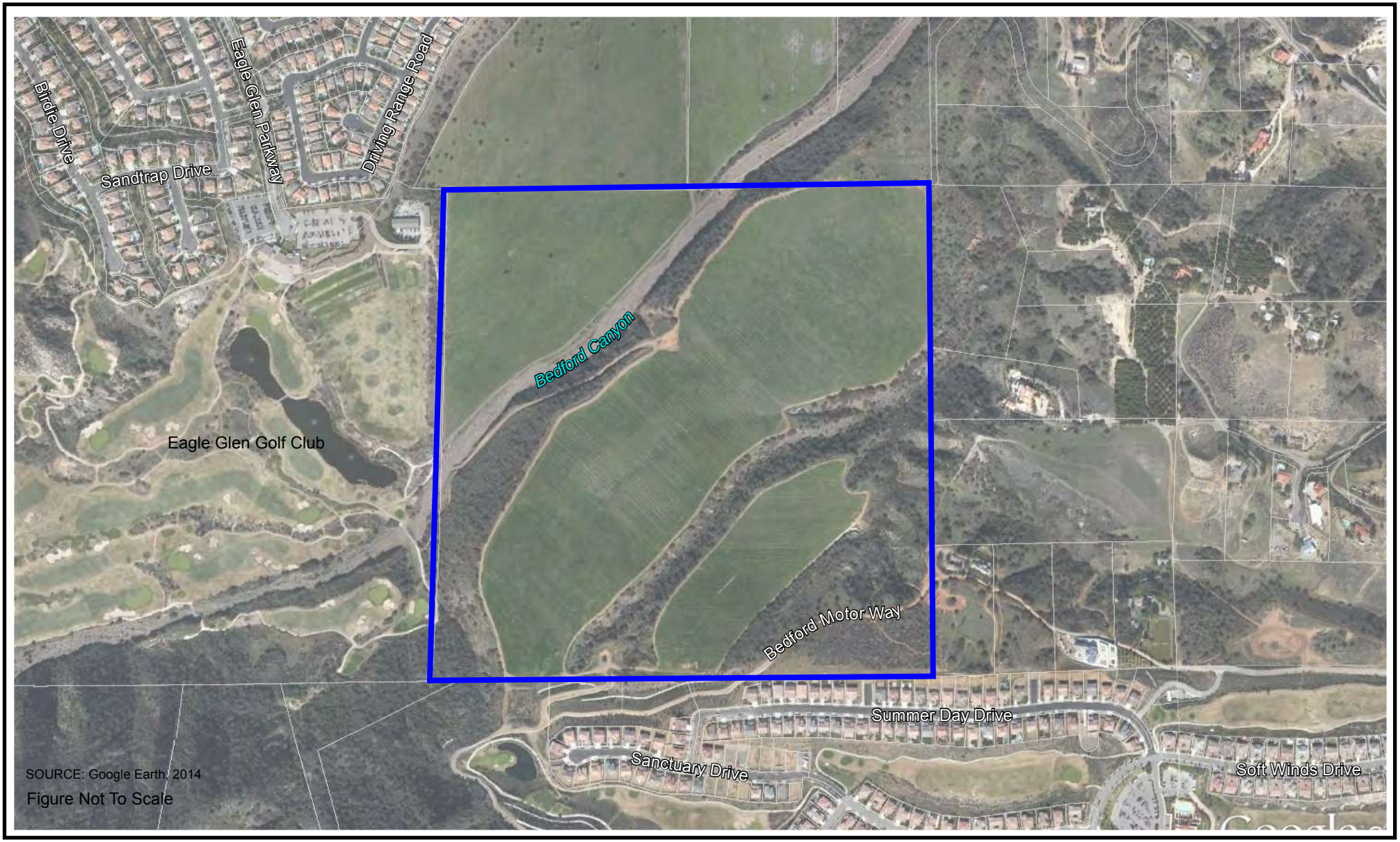
0 2000 4000 Feet

Approximate Scale

McMillan Property
APN: 282-040-003
Corona, California 92883

URS

FIGURE 1



LEGEND

Subject Property Boundary

N

Site Plan

McMillan Property
APN: 282-040-003
Corona, California 92883

URS

FIGURE 2

APPENDIX A
SITE PHOTOGRAPHS



Photograph 1

View to north/northwest from Bedford Motor Way looking across the southern half of the site.



Photograph 2

View to north/northeast from Bedford Motor Way looking across the southern half of the site.



Photograph 3

View to west from Bedford Motor Way looking across the southern portion of the site.



Photograph 4

View to northwest above Bedford Wash with metal strap debris.



Photograph 5

View to northwest above Bedford Wash with metal strap debris.



Photograph 6

View to west looking across the southern portion of the site looking towards Bedford Canyon. Tract residential housing to the south of the site.



Photograph 7

View to north with a view of Bedford Wash and Bedford Motor Way.



Photograph 8

View to northwest of the site: Eagle Glen Golf Club and adjacent golf course.

APPENDIX B
EDR REPORT

McMillan Property
Bedford Motor Way/Retreat Parkway
Corona, CA 92883

Inquiry Number: 4124432.2s
November 04, 2014

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

BEDFORD MOTOR WAY/RETREAT PARKWAY
CORONA, CA 92883

COORDINATES

Latitude (North):	33.8034000 - 33° 48' 12.24''
Longitude (West):	117.5300000 - 117° 31' 48.00''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	450941.8
UTM Y (Meters):	3740290.2
Elevation:	1297 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	33117-G5 CORONA SOUTH, CA
Most Recent Revision:	1988

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120519, 20120428
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ---------- CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls
LUCIS ---------- Land Use Control Information System

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR ---------- EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST ---------- Geotracker’s Leaking Underground Fuel Tank Report

SLIC ---------- Statewide SLIC Cases
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ---------- Active UST Facilities
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land
FEMA UST ---------- Underground Storage Tank Listing

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing
VCP ---------- Voluntary Cleanup Program Properties

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI ---------- Open Dump Inventory
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
WMUDS/SWAT ---------- Waste Management Unit Database

Local Lists of Hazardous waste / Contaminated Sites

US CDL ---------- Clandestine Drug Labs
HIST Cal-Sites ---------- Historical Calsites Database
SCH ---------- School Property Evaluation Program
Toxic Pits ---------- Toxic Pits Cleanup Act Sites
CDL ---------- Clandestine Drug Labs
US HIST CDL ---------- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST ---------- Facility Inventory Database
HIST UST ---------- Hazardous Substance Storage Container Database
SWEEPS UST ---------- SWEEPS UST Listing

Local Land Records

LIENS 2 ---------- CERCLA Lien Information
LIENS ---------- Environmental Liens Listing
DEED ---------- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System

CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
DOT OPS	Incident and Accident Data
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
CA BOND EXP. PLAN	Bond Expenditure Plan
NPDES	NPDES Permits Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
HIST CORTESE	Hazardous Waste & Substance Site List
CUPA Listings	CUPA Resources List
Notify 65	Proposition 65 Records
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
ENF	Enforcement Action Listing
EMI	Emissions Inventory Data
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
MWMP	Medical Waste Management Program Listing
US AIRS	Aerometric Information Retrieval System Facility Subsystem
LEAD SMELTERS	Lead Smelter Sites
COAL ASH DOE	Steam-Electric Plant Operation Data
2020 COR ACTION	2020 Corrective Action Program List
PRP	Potentially Responsible Parties
WDS	Waste Discharge System
Financial Assurance	Financial Assurance Information Listing
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
PROC	Certified Processors Database
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
PCB TRANSFORMER	PCB Transformer Registration Database
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP---------- EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat------- EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners-------- EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank
RGA LF---------- Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

UIC: A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

A review of the UIC list, as provided by EDR, and dated 07/14/2014 has revealed that there is 1 UIC site within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
V O D OIL CO., INC.		SE 0 - 1/8 (0.043 mi.)	1	8

HAZNET: The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from non-California manifests & continuation sheets are not included at the present time. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, & disposal method. The source is the Department of Toxic Substance Control is the agency

A review of the HAZNET list, as provided by EDR, and dated 12/31/2012 has revealed that there is 1

EXECUTIVE SUMMARY

HAZNET site within approximately 0.125 miles of the target property.

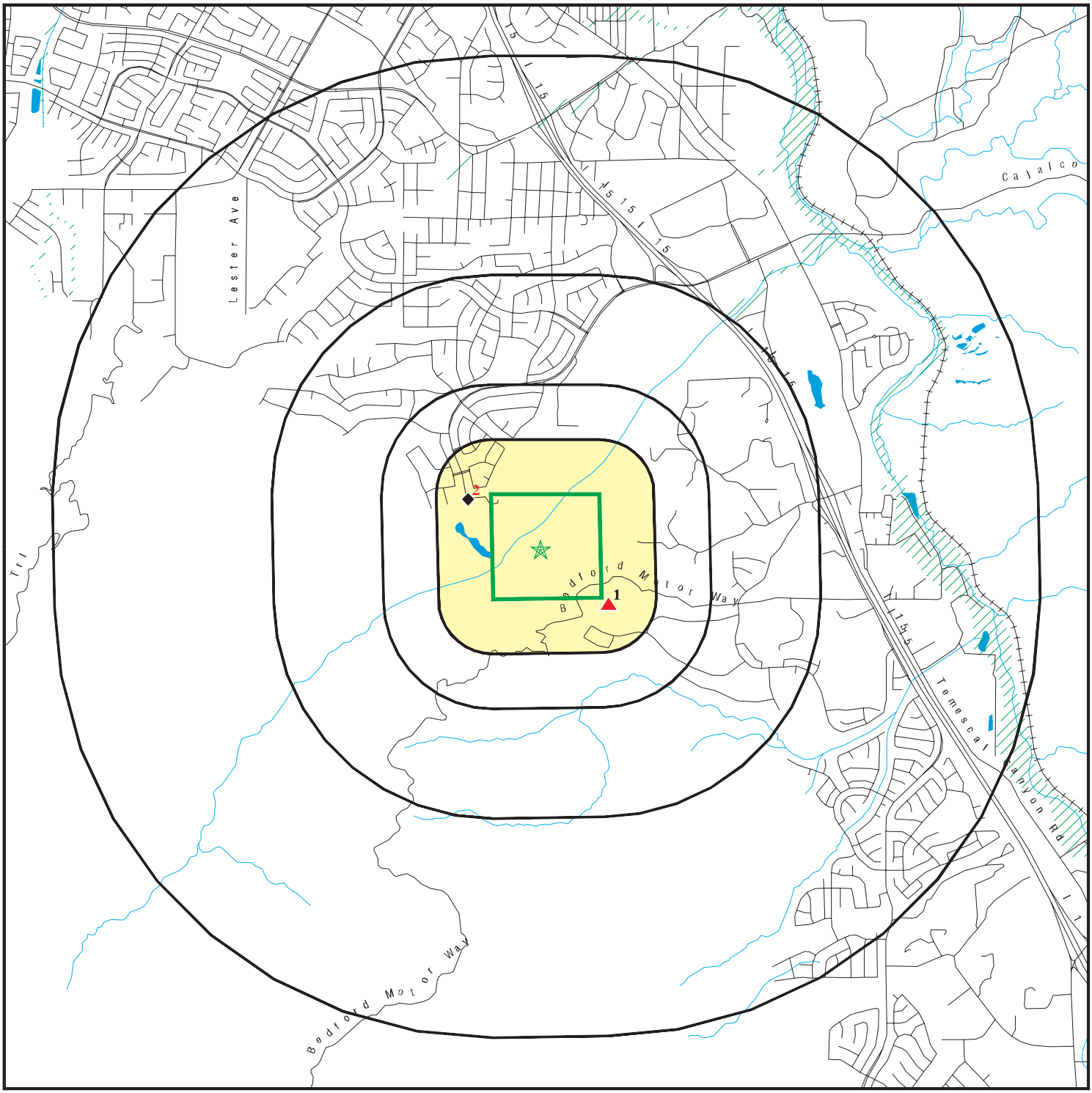
Lower Elevation	Address	Direction / Distance	Map ID	Page
EAGLE GLEN GOLF CLUB LLC	1800 EAGLE GLEN PKWY	NW 0 - 1/8 (0.104 mi.)	2	8

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 13 records.

Site Name	Database(s)
FOOTHILL PROPERTY	RGA LUST
FOOTHILL PROPERTY	RGA LUST
FOOTHILL PROPERTY	RGA LUST
HAROLD KING PROPERTY	RGA LUST
HAROLD KING PROPERTY	RGA LUST
BRINE FAC,MAHALA OIL FIELD	LDS
	CDL
	CDL
	CDL
WILD ROSE DEVELOPMENT	LUST
CALTRANS D-8/EA08-0M6604	HAZNET
CALTRANS D-8/CONSTR/EA08-0H7704	HAZNET
WEST COAST PROPERTY RESERVATION	HAZNET

OVERVIEW MAP - 4124432.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/2 1 2 Miles

Indian Reservations BIA

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

Areas of Concern

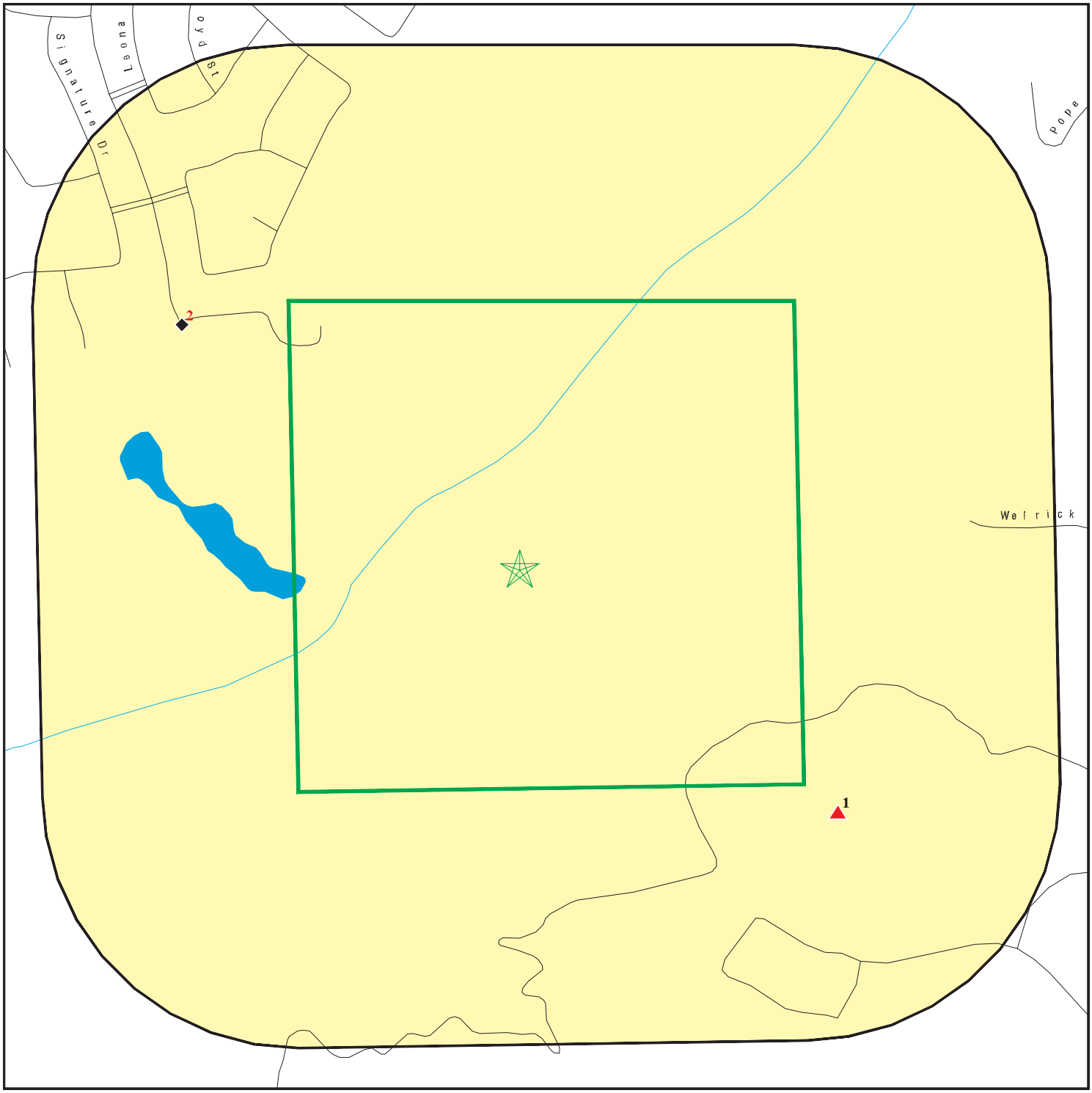
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This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	McMillan Property	CLIENT:	URS Corporation
ADDRESS:	Bedford Motor Way/Retreat Parkway Corona CA 92883	CONTACT:	Janet Tentler
LAT/LONG:	33.8034 / 117.53	INQUIRY #:	4124432.2s
		DATE:	November 04, 2014 9:33 am

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DETAIL MAP - 4124432.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

0 1/8 1/4 1/2 Miles

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	McMillan Property	CLIENT:	URS Corporation
ADDRESS:	Bedford Motor Way/Retreat Parkway Corona CA 92883	CONTACT:	Janet Tentler
		INQUIRY #:	4124432.2s
LAT/LONG:	33.8034 / 117.53	DATE:	November 04, 2014 9:34 am

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.125		0	0	0	0	0	0
Proposed NPL	1.125		0	0	0	0	0	0
NPL LIENS	0.125		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.125		0	0	0	0	0	0
Federal CERCLIS list								
CERCLIS	0.625		0	0	0	0	NR	0
FEDERAL FACILITY	0.625		0	0	0	0	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.625		0	0	0	0	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.125		0	0	0	0	0	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.625		0	0	0	0	NR	0
Federal RCRA generators list								
RCRA-LQG	0.375		0	0	0	NR	NR	0
RCRA-SQG	0.375		0	0	0	NR	NR	0
RCRA-CESQG	0.375		0	0	0	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.625		0	0	0	0	NR	0
US INST CONTROL	0.625		0	0	0	0	NR	0
LUCIS	0.625		0	0	0	0	NR	0
Federal ERNS list								
ERNS	0.125		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.125		0	0	0	0	0	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.125		0	0	0	0	0	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.625		0	0	0	0	NR	0
State and tribal leaking storage tank lists								
LUST	0.625		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC	0.625		0	0	0	0	NR	0
INDIAN LUST	0.625		0	0	0	0	NR	0
State and tribal registered storage tank lists								
UST	0.375		0	0	0	NR	NR	0
AST	0.375		0	0	0	NR	NR	0
INDIAN UST	0.375		0	0	0	NR	NR	0
FEMA UST	0.375		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.625		0	0	0	0	NR	0
VCP	0.625		0	0	0	0	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.625		0	0	0	0	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.625		0	0	0	0	NR	0
DEBRIS REGION 9	0.625		0	0	0	0	NR	0
SWRCY	0.625		0	0	0	0	NR	0
HAULERS	0.125		0	NR	NR	NR	NR	0
INDIAN ODI	0.625		0	0	0	0	NR	0
WMUDS/SWAT	0.625		0	0	0	0	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	0.125		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.125		0	0	0	0	0	0
SCH	0.375		0	0	0	NR	NR	0
Toxic Pits	1.125		0	0	0	0	0	0
CDL	0.125		0	NR	NR	NR	NR	0
US HIST CDL	0.125		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.375		0	0	0	NR	NR	0
HIST UST	0.375		0	0	0	NR	NR	0
SWEEPS UST	0.375		0	0	0	NR	NR	0
Local Land Records								
LIENS 2	0.125		0	NR	NR	NR	NR	0
LIENS	0.125		0	NR	NR	NR	NR	0
DEED	0.625		0	0	0	0	NR	0
Records of Emergency Release Reports								
HMIRS	0.125		0	NR	NR	NR	NR	0
CHMIRS	0.125		0	NR	NR	NR	NR	0
LDS	0.125		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MCS	0.125		0	NR	NR	NR	NR	0
SPILLS 90	0.125		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.375		0	0	0	NR	NR	0
DOT OPS	0.125		0	NR	NR	NR	NR	0
DOD	1.125		0	0	0	0	0	0
FUDS	1.125		0	0	0	0	0	0
CONSENT	1.125		0	0	0	0	0	0
ROD	1.125		0	0	0	0	0	0
UMTRA	0.625		0	0	0	0	NR	0
US MINES	0.375		0	0	0	NR	NR	0
TRIS	0.125		0	NR	NR	NR	NR	0
TSCA	0.125		0	NR	NR	NR	NR	0
FTTS	0.125		0	NR	NR	NR	NR	0
HIST FTTS	0.125		0	NR	NR	NR	NR	0
SSTS	0.125		0	NR	NR	NR	NR	0
ICIS	0.125		0	NR	NR	NR	NR	0
PADS	0.125		0	NR	NR	NR	NR	0
MLTS	0.125		0	NR	NR	NR	NR	0
RADINFO	0.125		0	NR	NR	NR	NR	0
FINDS	0.125		0	NR	NR	NR	NR	0
RAATS	0.125		0	NR	NR	NR	NR	0
RMP	0.125		0	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.125		0	0	0	0	0	0
UIC	0.125		1	NR	NR	NR	NR	1
NPDES	0.125		0	NR	NR	NR	NR	0
Cortese	0.625		0	0	0	0	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
CUPA Listings	0.375		0	0	0	NR	NR	0
Notify 65	1.125		0	0	0	0	0	0
DRYCLEANERS	0.375		0	0	0	NR	NR	0
WIP	0.375		0	0	0	NR	NR	0
ENF	0.125		0	NR	NR	NR	NR	0
HAZNET	0.125		1	NR	NR	NR	NR	1
EMI	0.125		0	NR	NR	NR	NR	0
INDIAN RESERV	1.125		0	0	0	0	0	0
SCRD DRYCLEANERS	0.625		0	0	0	0	NR	0
MWMP	0.375		0	0	0	NR	NR	0
US AIRS	0.125		0	NR	NR	NR	NR	0
LEAD SMELTERS	0.125		0	NR	NR	NR	NR	0
COAL ASH DOE	0.125		0	NR	NR	NR	NR	0
2020 COR ACTION	0.375		0	0	0	NR	NR	0
PRP	0.125		0	NR	NR	NR	NR	0
WDS	0.125		0	NR	NR	NR	NR	0
Financial Assurance	0.125		0	NR	NR	NR	NR	0
HWP	1.125		0	0	0	0	0	0
HWT	0.375		0	0	0	NR	NR	0
PROC	0.625		0	0	0	0	NR	0
US FIN ASSUR	0.125		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.125		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PCB TRANSFORMER	0.125		0	NR	NR	NR	NR	0
COAL ASH EPA	0.625		0	0	0	0	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.125		0	0	0	0	0	0
EDR US Hist Auto Stat	0.375		0	0	0	NR	NR	0
EDR US Hist Cleaners	0.375		0	0	0	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LUST	0.125		0	NR	NR	NR	NR	0
RGA LF	0.125		0	NR	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
SE
< 1/8
0.043 mi.
225 ft.

V O D OIL CO., INC.
RIVERSIDE (County), CA

UIC **S111645039**
N/A

Relative:
Higher

Actual:
1423 ft.

UIC:

API Number:	06500147
Confidential Well:	No
Well Number:	1
Direction:	Unknown
Lease Name:	Berghofer
Well Located On A BLW Lease:	No
Field Name:	Any Field
Area Name:	Any Area
Section:	29
Township:	04S
Range:	06W
Base And Meridian; Part Of The PLSS:	SB
Elevation:	Not reported
Location Desc:	Not reported
GIS Source Code:	hud
Comments:	Not reported
Latitude:	33.79994
Longitude:	-117.5246

2
NW
< 1/8
0.104 mi.
551 ft.

EAGLE GLEN GOLF CLUB LLC
1800 EAGLE GLEN PKWY
CORONA, CA 92883

HAZNET **S113112625**
N/A

Relative:
Lower

Actual:
1266 ft.

HAZNET:

Year:	2006
Gepaid:	CAL000223207
Contact:	KYLE JONES
Telephone:	9512702665
Mailing Name:	Not reported
Mailing Address:	1800 EAGLE GLEN PKWY
Mailing City,St,Zip:	CORONA, CA 928830620
Gen County:	Not reported
TSD EPA ID:	CAD982444481
TSD County:	Not reported
Waste Category:	Other organic solids
Disposal Method:	Recycler
Tons:	0.05
Facility County:	Riverside

Year:	2005
Gepaid:	CAL000223207
Contact:	KYLE JONES
Telephone:	9512702665
Mailing Name:	Not reported
Mailing Address:	1800 EAGLE GLEN PKWY
Mailing City,St,Zip:	CORONA, CA 928830620
Gen County:	Not reported
TSD EPA ID:	CAT080013352
TSD County:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Recycler

EAGLE GLEN GOLF CLUB LLC (Continued) **S113112625**

Tons:	0.18
Facility County:	Riverside
Year:	2001
Gepaid:	CAL000223207
Contact:	KYLE JONES
Telephone:	9512702665
Mailing Name:	Not reported
Mailing Address:	1800 EAGLE GLEN PKWY
Mailing City,St,Zip:	CORONA, CA 928830620
Gen County:	Not reported
TSD EPA ID:	CAT080013352
TSD County:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Recycler
Tons:	0.95
Facility County:	Riverside
Year:	2001
Gepaid:	CAL000223207
Contact:	KYLE JONES
Telephone:	9512702665
Mailing Name:	Not reported
Mailing Address:	1800 EAGLE GLEN PKWY
Mailing City,St,Zip:	CORONA, CA 928830620
Gen County:	Not reported
TSD EPA ID:	CAT080013352
TSD County:	Not reported
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Recycler
Tons:	0.41
Facility County:	Riverside

Count: 13 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CORONA	S109287426	BRINE FAC,MAHALA OIL FIELD	0000 HWY #71		LDS
CORONA	S113773681	CALTRANS D-8/EA08-0M6604	RTE 1-15 NB & SB PM 2.9/51.9	92883	HAZNET
CORONA	S106117708	WILD ROSE DEVELOPMENT	HIGHWAY 15 NEAR CLAY CANYON		LUST
CORONA	S114621629	FOOTHILL PROPERTY	510		RGA LUST
CORONA	S107538877		HWY 71 & HWY 91 INTERCHANGE		CDL
CORONA	S112966863	CALTRANS D-8/CONSTR/EA08-0H7704	RTE 91 EB PM R2.9-R3.6	92883	HAZNET
CORONA	S113457491	WEST COAST PROPERTY RESERVATION	815 BUCA CIR	92881	HAZNET
CORONA	S114621627	FOOTHILL PROPERTY	510 FOOTHILL PKWY		RGA LUST
CORONA	S114621626	FOOTHILL PROPERTY	510 FOOTHILL PARKWAY		RGA LUST
CORONA	S107540862		TEMESCAL CANYON RD (@ HWY 15)	92883	CDL
CORONA	S114630856	HAROLD KING PROPERTY	706 VICENTIA		RGA LUST
CORONA	S114630855	HAROLD KING PROPERTY	706 S VICENTIA		RGA LUST
RIVERSIDE COUNTY	S107537885		BOX SPRINGS RD & HWY 215 (SEE		CDL

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 78

Source: EPA
Telephone: N/A
Last EDR Contact: 10/08/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 78

Source: EPA
Telephone: N/A
Last EDR Contact: 10/08/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 78

Source: EPA
Telephone: N/A
Last EDR Contact: 10/08/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 08/28/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/21/2014
Date Data Arrived at EDR: 10/07/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/07/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 08/28/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/10/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 78

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/01/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/10/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/01/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/10/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/01/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/10/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/01/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/10/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/01/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/18/2014
Date Data Arrived at EDR: 09/19/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/08/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/18/2014
Date Data Arrived at EDR: 09/19/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/08/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/29/2014
Date Data Arrived at EDR: 10/09/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 11

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/14/2014
Next Scheduled EDR Contact: 12/01/2014
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/01/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 66

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/30/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 08/05/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 09/26/2014
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/06/2014
Next Scheduled EDR Contact: 11/17/2014
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 08/05/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 09/26/2014
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/06/2014
Next Scheduled EDR Contact: 11/17/2014
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/18/2014
Date Data Arrived at EDR: 08/18/2014
Date Made Active in Reports: 10/03/2014
Number of Days to Update: 46

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/18/2014
Next Scheduled EDR Contact: 12/01/2014
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 09/15/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/27/2014
Number of Days to Update: 40

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 10/30/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Quarterly

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/15/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/23/2014
Number of Days to Update: 36

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 10/30/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/20/2014
Date Data Arrived at EDR: 06/10/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 73

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 08/04/2014
Date Data Arrived at EDR: 08/05/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 17

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/31/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 05/22/2014
Date Data Arrived at EDR: 08/22/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 27

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/14/2014
Date Data Arrived at EDR: 05/15/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 61

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 07/30/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Semi-Annually

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/13/2014
Date Data Arrived at EDR: 08/15/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 7

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/17/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/24/2014
Number of Days to Update: 37

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/19/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 10/03/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 01/27/2014
Number of Days to Update: 271

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/31/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 07/30/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 08/04/2014
Date Data Arrived at EDR: 08/05/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 17

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 07/25/2014
Date Data Arrived at EDR: 07/28/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 25

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 08/20/2014
Date Data Arrived at EDR: 08/22/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 27

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 08/13/2014
Date Data Arrived at EDR: 08/15/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 7

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/20/2014
Date Data Arrived at EDR: 06/10/2014
Date Made Active in Reports: 08/15/2014
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 08/14/2014
Date Data Arrived at EDR: 08/15/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 7

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/10/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 05/30/2014
Date Data Arrived at EDR: 07/01/2014
Date Made Active in Reports: 08/15/2014
Number of Days to Update: 45
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 10/01/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/05/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 09/26/2014
Number of Days to Update: 51
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/06/2014
Next Scheduled EDR Contact: 11/17/2014
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/22/2014
Date Data Arrived at EDR: 09/23/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 27
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/23/2014
Next Scheduled EDR Contact: 01/05/2015
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/24/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/16/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/23/2014
Number of Days to Update: 36
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/17/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 09/08/2014
Date Data Arrived at EDR: 09/09/2014
Date Made Active in Reports: 10/22/2014
Number of Days to Update: 43
Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/14/2014
Next Scheduled EDR Contact: 12/01/2014
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/29/2014
Next Scheduled EDR Contact: 02/16/2015
Data Release Frequency: Varies

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30
Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 08/07/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 07/25/2014
Date Data Arrived at EDR: 09/09/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 41
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/03/2014
Next Scheduled EDR Contact: 12/15/2014
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21
Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/05/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 09/26/2014
Number of Days to Update: 51
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/06/2014
Next Scheduled EDR Contact: 11/17/2014
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27
Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2014
Date Data Arrived at EDR: 09/02/2014
Date Made Active in Reports: 09/24/2014
Number of Days to Update: 22
Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/10/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 07/25/2014
Date Data Arrived at EDR: 09/09/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 41

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/03/2014
Next Scheduled EDR Contact: 12/15/2014
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 08/28/2014
Next Scheduled EDR Contact: 12/15/2014
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/19/2014
Date Data Arrived at EDR: 08/20/2014
Date Made Active in Reports: 10/06/2014
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/08/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/08/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/22/2014
Number of Days to Update: 42

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 09/10/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/30/2014
Date Data Arrived at EDR: 07/01/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 79

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/01/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/26/2014
Date Data Arrived at EDR: 07/28/2014
Date Made Active in Reports: 09/15/2014
Number of Days to Update: 49

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/29/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 09/15/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/22/2014
Number of Days to Update: 35

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 10/30/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 09/15/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/23/2014
Number of Days to Update: 36

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 10/30/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/10/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/01/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/06/2014
Next Scheduled EDR Contact: 11/17/2014
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/24/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 06/06/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 8

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/10/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 01/24/2014
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 31

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/30/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/09/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/20/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 01/30/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 132

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/04/2014
Next Scheduled EDR Contact: 12/15/2014
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/29/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/26/2014
Next Scheduled EDR Contact: 01/05/2015
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/19/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/19/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 05/06/2014
Date Data Arrived at EDR: 05/16/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 10/10/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2013
Date Data Arrived at EDR: 07/17/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 107

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/15/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/08/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/07/2014
Date Data Arrived at EDR: 10/08/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 12

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/08/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 08/16/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/10/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 05/23/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/29/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 08/18/2014
Date Data Arrived at EDR: 08/18/2014
Date Made Active in Reports: 10/06/2014
Number of Days to Update: 49

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/18/2014
Next Scheduled EDR Contact: 12/01/2014
Data Release Frequency: Quarterly

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 07/14/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/23/2014
Number of Days to Update: 36
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/17/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/30/2014
Date Data Arrived at EDR: 07/01/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 27
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 09/30/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/22/2014
Next Scheduled EDR Contact: 01/05/2015
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 06/28/2014
Date Data Arrived at EDR: 07/03/2014
Date Made Active in Reports: 08/21/2014
Number of Days to Update: 49
Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 09/08/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Annually

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/29/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 08/11/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 09/30/2014
Number of Days to Update: 49

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 41

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/15/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 03/25/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 34

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/26/2014
Next Scheduled EDR Contact: 01/05/2015
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/24/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 10/20/2014
Next Scheduled EDR Contact: 02/02/2015
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 10/17/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/14/2014
Date Data Arrived at EDR: 07/15/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 13

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/15/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/26/2014
Date Data Arrived at EDR: 08/26/2014
Date Made Active in Reports: 10/06/2014
Number of Days to Update: 41

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/26/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Quarterly

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/23/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 30

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/29/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/23/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 30

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/29/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Annually

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 10/31/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/14/2014
Date Data Arrived at EDR: 08/18/2014
Date Made Active in Reports: 10/06/2014
Number of Days to Update: 49

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/14/2014
Next Scheduled EDR Contact: 12/01/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 07/31/2014
Date Data Arrived at EDR: 08/05/2014
Date Made Active in Reports: 09/26/2014
Number of Days to Update: 52

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/16/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/23/2014
Number of Days to Update: 36

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/17/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST
EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/15/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List
The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/15/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 09/30/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Quarterly

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/19/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Quarterly

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 06/04/2014
Date Data Arrived at EDR: 06/12/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 10/06/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/24/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: N/A

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/04/2014
Date Data Arrived at EDR: 09/04/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/14/2014
Next Scheduled EDR Contact: 12/01/2014
Data Release Frequency: Quarterly

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/10/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 08/20/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/23/2014
Number of Days to Update: 43

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 09/10/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 07/25/2014
Date Data Arrived at EDR: 07/28/2014
Date Made Active in Reports: 09/15/2014
Number of Days to Update: 49

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/29/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/25/2014
Date Data Arrived at EDR: 07/28/2014
Date Made Active in Reports: 08/20/2014
Number of Days to Update: 23

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/29/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 09/08/2014
Date Data Arrived at EDR: 09/09/2014
Date Made Active in Reports: 09/24/2014
Number of Days to Update: 15

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 09/08/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 20

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 07/02/2014
Date Data Arrived at EDR: 07/03/2014
Date Made Active in Reports: 07/30/2014
Number of Days to Update: 27

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/29/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/11/2014
Date Data Arrived at EDR: 06/13/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 24

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 08/08/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/11/2014
Date Data Arrived at EDR: 08/14/2014
Date Made Active in Reports: 10/09/2014
Number of Days to Update: 56

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 11/03/2014
Next Scheduled EDR Contact: 02/16/2015
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 07/31/2014
Date Data Arrived at EDR: 08/05/2014
Date Made Active in Reports: 09/26/2014
Number of Days to Update: 52

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 11/03/2014
Next Scheduled EDR Contact: 02/16/2015
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/25/2014
Date Data Arrived at EDR: 08/26/2014
Date Made Active in Reports: 09/29/2014
Number of Days to Update: 34

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 11/03/2014
Next Scheduled EDR Contact: 02/16/2015
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/30/2014
Date Data Arrived at EDR: 07/15/2014
Date Made Active in Reports: 08/19/2014
Number of Days to Update: 35

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/10/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 09/10/2014
Date Data Arrived at EDR: 09/11/2014
Date Made Active in Reports: 09/25/2014
Number of Days to Update: 14

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/20/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 07/28/2014
Date Data Arrived at EDR: 07/30/2014
Date Made Active in Reports: 09/15/2014
Number of Days to Update: 47

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 08/20/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 08/08/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/21/2014
Date Data Arrived at EDR: 08/26/2014
Date Made Active in Reports: 09/29/2014
Number of Days to Update: 34

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 08/20/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 07/23/2014
Date Data Arrived at EDR: 07/25/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 28

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/20/2014
Next Scheduled EDR Contact: 02/02/2015
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/22/2014
Next Scheduled EDR Contact: 01/05/2015
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/31/2014
Date Data Arrived at EDR: 06/06/2014
Date Made Active in Reports: 07/17/2014
Number of Days to Update: 41

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/14/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/21/2014
Date Data Arrived at EDR: 07/21/2014
Date Made Active in Reports: 08/19/2014
Number of Days to Update: 29

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/22/2014
Next Scheduled EDR Contact: 02/02/2015
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/17/2014
Next Scheduled EDR Contact: 02/02/2015
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/07/2014
Date Data Arrived at EDR: 02/25/2014
Date Made Active in Reports: 03/25/2014
Number of Days to Update: 28

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/17/2014
Next Scheduled EDR Contact: 02/02/2015
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 07/23/2014
Date Data Arrived at EDR: 07/28/2014
Date Made Active in Reports: 08/20/2014
Number of Days to Update: 23

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/20/2014
Next Scheduled EDR Contact: 02/02/2015
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 07/28/2014
Date Data Arrived at EDR: 07/28/2014
Date Made Active in Reports: 08/20/2014
Number of Days to Update: 23

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/13/2014
Date Data Arrived at EDR: 03/27/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 32

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/10/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 06/09/2014
Date Data Arrived at EDR: 06/11/2014
Date Made Active in Reports: 06/27/2014
Number of Days to Update: 16

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/26/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 07/02/2014
Date Data Arrived at EDR: 07/07/2014
Date Made Active in Reports: 08/18/2014
Number of Days to Update: 42

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 10/20/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/20/2014
Date Data Arrived at EDR: 08/26/2014
Date Made Active in Reports: 09/30/2014
Number of Days to Update: 35

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 08/20/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 09/02/2014
Date Data Arrived at EDR: 09/05/2014
Date Made Active in Reports: 09/24/2014
Number of Days to Update: 19

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 09/02/2014
Next Scheduled EDR Contact: 12/15/2014
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/09/2014
Date Data Arrived at EDR: 06/11/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 28

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 08/26/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/28/2014
Next Scheduled EDR Contact: 12/15/2014
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/28/2014
Next Scheduled EDR Contact: 12/15/2014
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 09/16/2014
Date Data Arrived at EDR: 09/18/2014
Date Made Active in Reports: 09/25/2014
Number of Days to Update: 7

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 11/03/2014
Next Scheduled EDR Contact: 02/16/2015
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 08/01/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 10/03/2014
Number of Days to Update: 52

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/01/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 09/26/2014
Number of Days to Update: 45

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/01/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 08/20/2014
Number of Days to Update: 8

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: Quarterly

PLACER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/09/2014
Date Data Arrived at EDR: 06/10/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 29

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 09/22/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/08/2014
Date Data Arrived at EDR: 07/11/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 17

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/22/2014
Next Scheduled EDR Contact: 01/05/2015
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/08/2014
Date Data Arrived at EDR: 07/11/2014
Date Made Active in Reports: 08/18/2014
Number of Days to Update: 38

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/22/2014
Next Scheduled EDR Contact: 01/05/2015
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/06/2014
Date Data Arrived at EDR: 04/08/2014
Date Made Active in Reports: 04/29/2014
Number of Days to Update: 21

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/06/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/05/2014
Date Data Arrived at EDR: 07/17/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 11

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/21/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/06/2014
Date Data Arrived at EDR: 08/07/2014
Date Made Active in Reports: 09/30/2014
Number of Days to Update: 54

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/07/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 10/21/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2013
Date Data Arrived at EDR: 11/19/2013
Date Made Active in Reports: 12/31/2013
Number of Days to Update: 42

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 09/08/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 08/07/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/07/2014
Next Scheduled EDR Contact: 11/27/2014
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/20/2014
Date Data Arrived at EDR: 06/23/2014
Date Made Active in Reports: 07/11/2014
Number of Days to Update: 18

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/22/2014
Next Scheduled EDR Contact: 01/05/2015
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/22/2014
Date Data Arrived at EDR: 08/26/2014
Date Made Active in Reports: 10/01/2014
Number of Days to Update: 36

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/20/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 07/07/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 10/03/2014
Number of Days to Update: 52

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/15/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 09/15/2014
Date Data Arrived at EDR: 09/16/2014
Date Made Active in Reports: 10/22/2014
Number of Days to Update: 36

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/15/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 10/21/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 08/22/2014
Date Data Arrived at EDR: 08/26/2014
Date Made Active in Reports: 10/03/2014
Number of Days to Update: 38

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 08/22/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 09/02/2014
Next Scheduled EDR Contact: 12/15/2014
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/14/2014
Date Data Arrived at EDR: 08/18/2014
Date Made Active in Reports: 10/03/2014
Number of Days to Update: 46

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/08/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 09/09/2014
Date Data Arrived at EDR: 09/11/2014
Date Made Active in Reports: 09/25/2014
Number of Days to Update: 14

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 09/08/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 09/16/2014
Date Data Arrived at EDR: 09/18/2014
Date Made Active in Reports: 10/22/2014
Number of Days to Update: 34

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/26/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/19/2014
Date Data Arrived at EDR: 06/26/2014
Date Made Active in Reports: 07/25/2014
Number of Days to Update: 29

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/15/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/19/2014
Date Data Arrived at EDR: 06/26/2014
Date Made Active in Reports: 07/25/2014
Number of Days to Update: 29

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/15/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 06/26/2014
Date Data Arrived at EDR: 08/20/2014
Date Made Active in Reports: 10/06/2014
Number of Days to Update: 47

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/29/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 07/03/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 25

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/29/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 09/08/2014
Date Data Arrived at EDR: 09/09/2014
Date Made Active in Reports: 10/24/2014
Number of Days to Update: 45

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 09/08/2014
Next Scheduled EDR Contact: 12/22/2014
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 08/13/2014
Date Data Arrived at EDR: 08/15/2014
Date Made Active in Reports: 10/03/2014
Number of Days to Update: 49

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 07/28/2014
Date Data Arrived at EDR: 08/18/2014
Date Made Active in Reports: 09/26/2014
Number of Days to Update: 39

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/14/2014
Next Scheduled EDR Contact: 12/01/2014
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/03/2014
Next Scheduled EDR Contact: 01/12/2015
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/13/2014
Next Scheduled EDR Contact: 12/01/2014
Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 06/26/2014
Date Data Arrived at EDR: 07/31/2014
Date Made Active in Reports: 09/15/2014
Number of Days to Update: 46

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/26/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/28/2014
Number of Days to Update: 41

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/17/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 06/30/2014
Date Data Arrived at EDR: 07/07/2014
Date Made Active in Reports: 08/18/2014
Number of Days to Update: 42

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/22/2014
Next Scheduled EDR Contact: 01/05/2015
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 08/05/2014
Date Data Arrived at EDR: 08/07/2014
Date Made Active in Reports: 10/06/2014
Number of Days to Update: 60

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 11/03/2014
Next Scheduled EDR Contact: 02/16/2015
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/19/2014
Next Scheduled EDR Contact: 12/01/2014
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/10/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2014
Date Data Arrived at EDR: 08/07/2014
Date Made Active in Reports: 10/17/2014
Number of Days to Update: 71

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/07/2014
Next Scheduled EDR Contact: 11/17/2014
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/21/2014
Date Made Active in Reports: 08/25/2014
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/20/2014
Next Scheduled EDR Contact: 02/02/2015
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/15/2014
Date Made Active in Reports: 08/13/2014
Number of Days to Update: 29

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/26/2014
Next Scheduled EDR Contact: 12/08/2014
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/20/2014
Date Made Active in Reports: 08/07/2014
Number of Days to Update: 48

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/15/2014
Next Scheduled EDR Contact: 12/29/2014
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

MCMILLAN PROPERTY
BEDFORD MOTOR WAY/RETREAT PARKWAY
CORONA, CA 92883

TARGET PROPERTY COORDINATES

Latitude (North):	33.8034 - 33° 48' 12.24''
Longitude (West):	117.53 - 117° 31' 48.00''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	450941.8
UTM Y (Meters):	3740290.2
Elevation:	1297 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	33117-G5 CORONA SOUTH, CA
Most Recent Revision:	1988

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

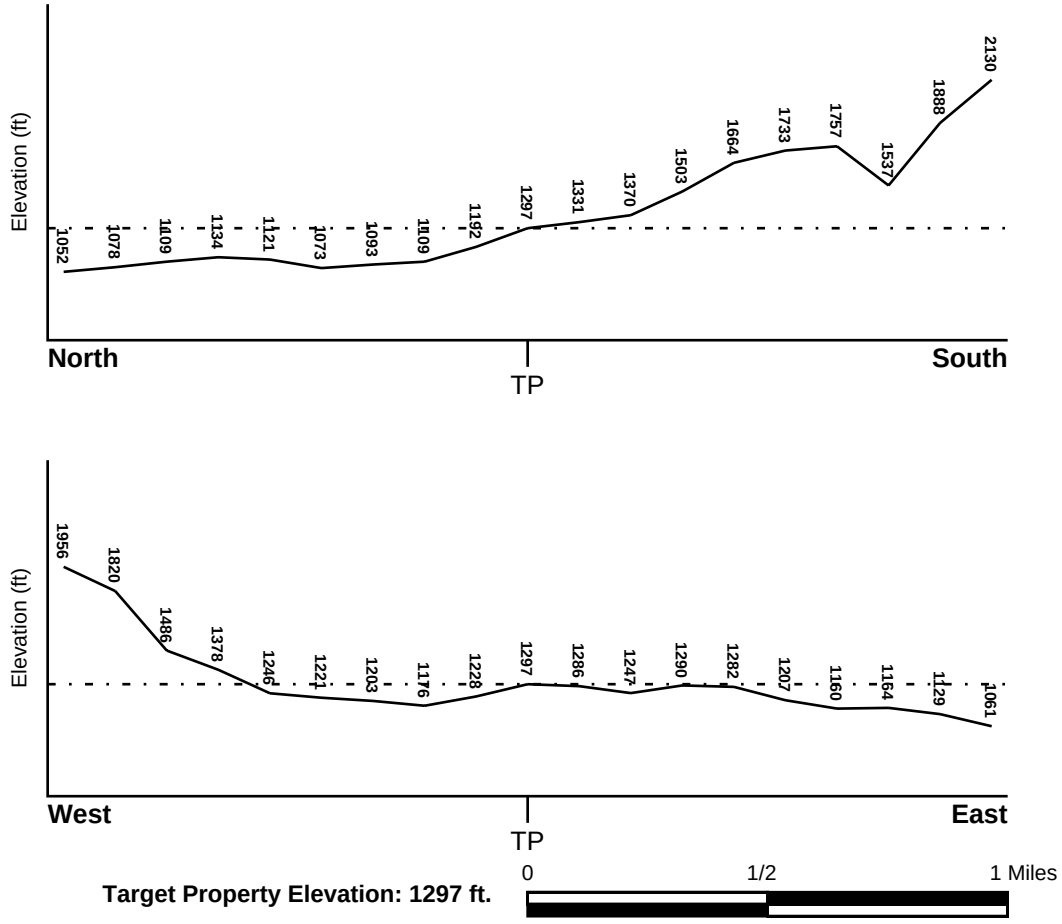
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General North

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
RIVERSIDE, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06065C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

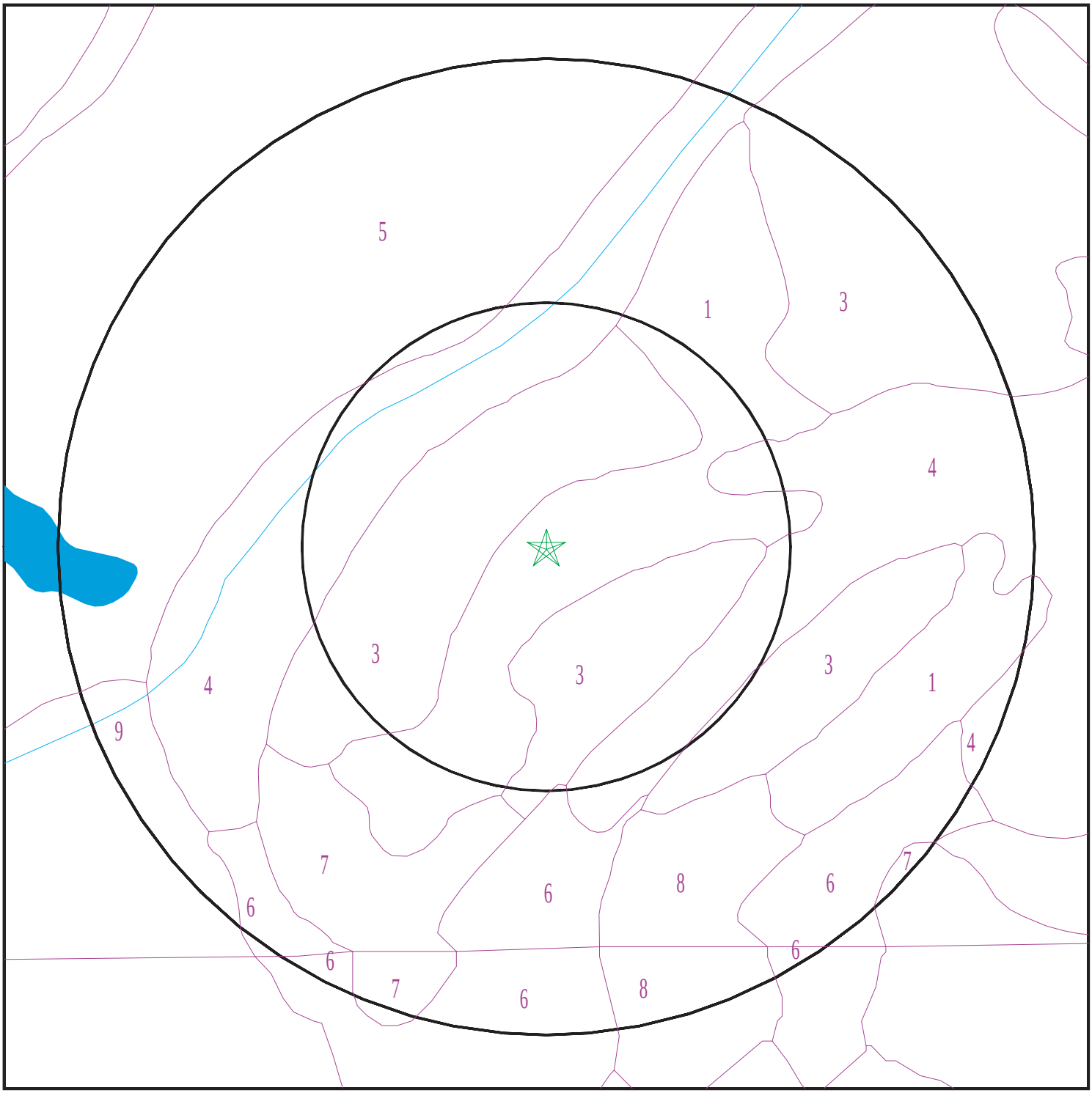
Era:	Mesozoic
System:	Lower Jurassic and Upper Triassic
Series:	Lower Mesozoic
Code:	lMze *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Eugeosynclinal Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4124432.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	McMillan Property	CLIENT:	URS Corporation
ADDRESS:	Bedford Motor Way/Retreat Parkway Corona CA 92883	CONTACT:	Janet Tentler
LAT/LONG:	33.8034 / 117.53	INQUIRY #:	4124432.2s
		DATE:	November 04, 2014 9:34 am

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: ARBUCKLE

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	25 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	GC-GM	Max: 14 Min: 4	Max: 7.3 Min: 5.6
2	25 inches	44 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6
3	44 inches	68 inches	stratified very gravelly sandy loam to very gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6

Soil Map ID: 2

Soil Component Name: PERKINS

Soil Surface Texture: gravelly loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	gravelly loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 14 Min: 4	Max: 6.5 Min: 5.6
2	9 inches	40 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.6
3	40 inches	59 inches	stratified very gravelly sandy loam to very gravelly clay loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 14 Min: 4	Max: 7.3 Min: 6.1

Soil Map ID: 3

Soil Component Name: ARBUCKLE

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	25 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 14 Min: 4	Max: 7.3 Min: 5.6
2	25 inches	44 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6
3	44 inches	68 inches	stratified very gravelly sandy loam to very gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6

Soil Map ID: 4

Soil Component Name: Terrace escarpments

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 5

Soil Component Name: CORTINA

Soil Surface Texture: cobbly loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	22 inches	cobbly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 5.6
2	22 inches	38 inches	stratified very cobbly loamy sand to very cobbly loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 5.6
3	38 inches	59 inches	stratified very gravelly sand to very gravelly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 141 Min: 42	Max: 8.4 Min: 5.6

Soil Map ID: 6

Soil Component Name: YORBA

Soil Surface Texture: very cobbly sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	very cobbly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 4	Max: 6.5 Min: 5.6
2	11 inches	40 inches	very gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 1.4 Min: 0.42	Max: 6.5 Min: 5.6
3	40 inches	62 inches	very gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 14 Min: 4	Max: 8.4 Min: 5.1

Soil Map ID: 7

Soil Component Name: YORBA

Soil Surface Texture: gravelly sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 4	Max: 6.5 Min: 5.6
2	11 inches	40 inches	very gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 5.6
3	40 inches	62 inches	very gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 14 Min: 4	Max: 8.4 Min: 5.1

Soil Map ID: 8

Soil Component Name: MODJESKA

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 42 Min: 14	Max: 6.5 Min: 6.1
2	14 inches	62 inches	very cobbly loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 6.5 Min: 6.1
3	62 inches	70 inches	very gravelly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 141	Max: 6.5 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 9

Soil Component Name: FRIANT

Soil Surface Texture: gravelly fine sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 36 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	gravelly fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 5.6
2	16 inches	20 inches	unweathered bedrock	Not reported	Not reported	Max: 14 Min: 1.4	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

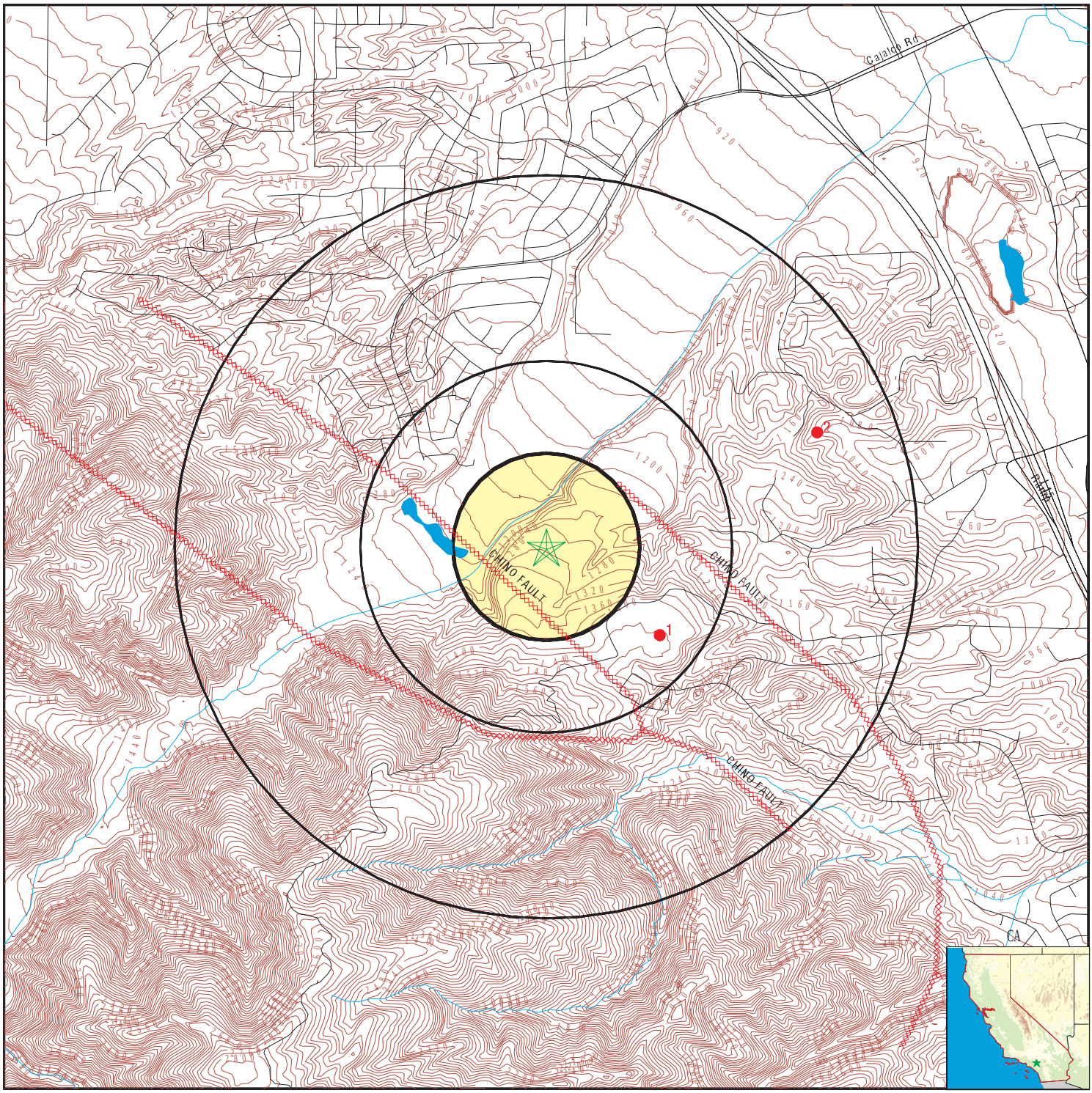
MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CAOG9A000015858	1/4 - 1/2 Mile SE
2	CAOG9A000016961	1/2 - 1 Mile ENE

PHYSICAL SETTING SOURCE MAP - 4124432.2s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	McMillan Property	CLIENT:	URS Corporation
ADDRESS:	Bedford Motor Way/Retreat Parkway Corona CA 92883	CONTACT:	Janet Tentler
LAT/LONG:	33.8034 / 117.53	INQUIRY #:	4124432.2s
		DATE:	November 04, 2014 9:34 am

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
SE
1/4 - 1/2 Mile

OIL_GAS **CAOG9A000015858**

Districtnu:	1	Apinumber:	06500147
Blmwell:	N	Redrillcan:	Not Reported
Dryhole:	N	Wellstatus:	P
Operatorna:	V O D Oil Co., Inc.		
Countyname:	Riverside	Fieldname:	Any Field
Areaname:	Any Area		
Section:	29		
Township:	04S	Range:	06W
Basemeridi:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Glat:	33.799947		
Glong:	-117.52469		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Berghofer	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	30-DEC-99
Welldeptha:	Not Reported	Redrillfoo:	Not Reported
Abandonedd:	/ /	Completion:	/ /
Gissymbol:	PDH	Site id:	CAOG9A000015858

2
ENE
1/2 - 1 Mile

OIL_GAS **CAOG9A000016961**

Districtnu:	1	Apinumber:	06500095
Blmwell:	N	Redrillcan:	Not Reported
Dryhole:	N	Wellstatus:	P
Operatorna:	Max N. Hammerling		
Countyname:	Riverside	Fieldname:	Any Field
Areaname:	Any Area		
Section:	21		
Township:	04S	Range:	06W
Basemeridi:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Glat:	33.807867		
Glong:	-117.517329		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Max N. Hammerling	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	30-DEC-99
Welldeptha:	Not Reported	Redrillfoo:	Not Reported
Abandonedd:	/ /	Completion:	/ /
Gissymbol:	PDH	Site id:	CAOG9A000016961

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92883	8	1

Federal EPA Radon Zone for RIVERSIDE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for RIVERSIDE COUNTY, CA

Number of sites tested: 12

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.117 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.450 pCi/L	100%	0%	0%
Basement	1.700 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX C
EDR HISTORICAL SOURCES

McMillan Property
Bedford Motor Way/Retreat Parkway
Corona, CA 92883

Inquiry Number: 4124432.9
November 06, 2014

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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Please contact EDR at 1-800-352-0050
with any questions or comments.

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Date EDR Searched Historical Sources:

Aerial Photography November 06, 2014

Target Property:

Bedford Motor Way/Retreat Parkway
Corona, CA 92883

Year	***Scale***	***Details***	***Source***
1938	Aerial Photograph. Scale: 1"=500'	Flight Year: 1938	USGS
1948	Aerial Photograph. Scale: 1"=500'	Flight Year: 1948	USGS
1953	Aerial Photograph. Scale: 1"=500'	Flight Year: 1953	USGS
1966	Aerial Photograph. Scale: 1"=500'	Flight Year: 1966	USGS
1975	Aerial Photograph. Scale: 1"=500'	Flight Year: 1975	USGS
1985	Aerial Photograph. Scale: 1"=500'	Flight Year: 1985	USGS
1990	Aerial Photograph. Scale: 1"=500'	Flight Year: 1990	USGS
1995	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1995	USGS/DOQQ
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	USDA/NAIP
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	USDA/NAIP
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	USDA/NAIP


INQUIRY #: 4124432.9
YEAR: 1938
= 500'
N
EDR


INQUIRY #: 4124432.9
YEAR: 1948
= 500'
N
EDR


INQUIRY #: 4124432.9
YEAR: 1953
= 500'
N
EDR


INQUIRY #: 4124432.9
YEAR: 1995
= 500'
N
EDR


INQUIRY #: 4124432.9
YEAR: 2005
= 500'
N
EDR


INQUIRY #: 4124432.9
YEAR: 2006
= 500'
N
EDR


INQUIRY #: 4124432.9
YEAR: 2009
= 500'
N
EDR


INQUIRY #: 4124432.9
YEAR: 2010
= 500'
N
EDR


INQUIRY #: 4124432.9
YEAR: 2012
= 500'
N
EDR

McMillan Property
Bedford Motor Way/Retreat Parkway
Corona, CA 92883

Inquiry Number: 4124432.4
November 04, 2014

EDR Historical Topographic Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

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with any questions or comments.

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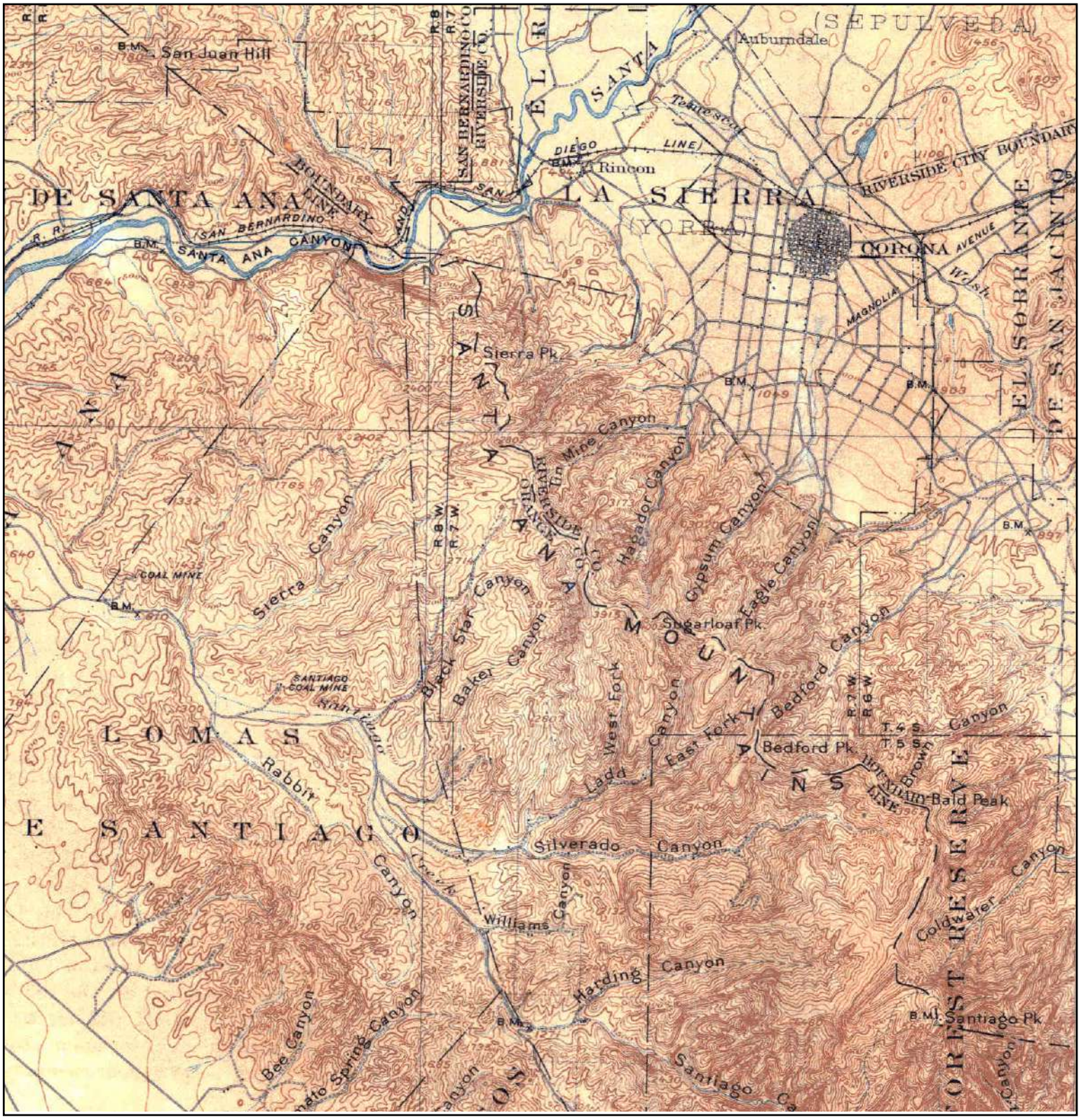
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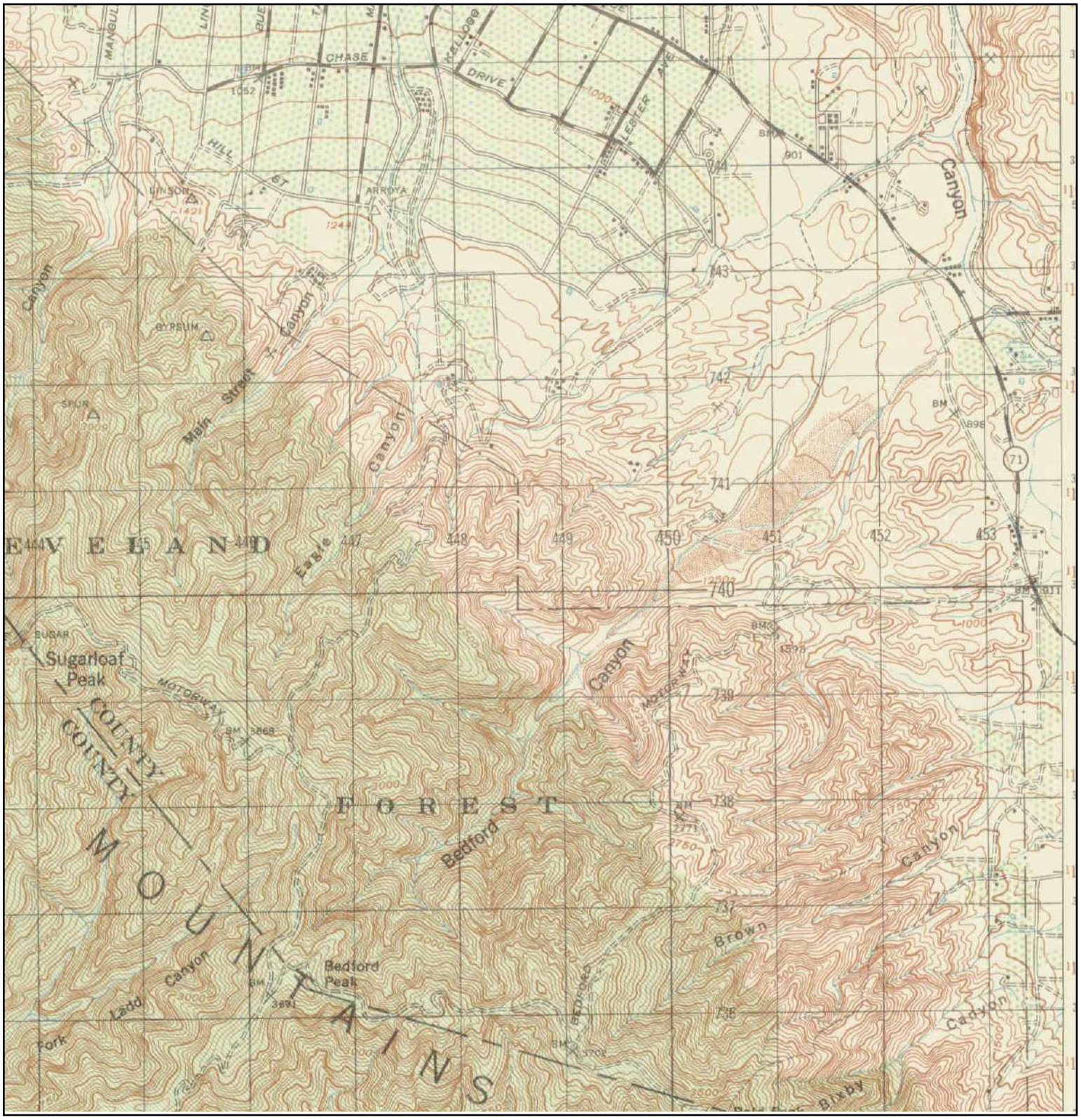
N	TARGET QUAD NAME: SOUTHERN CA SHEET 1 MAP YEAR: 1901 SERIES: 60 SCALE: 1:250000	SITE NAME: McMillan Property ADDRESS: Bedford Motor Way/Retreat Parkway Corona, CA 92883 LAT/LONG: 33.8034 / -117.53	CLIENT: URS Corporation CONTACT: Janet Tentler INQUIRY#: 4124432.4 RESEARCH DATE: 11/04/2014

Historical Topographic Map



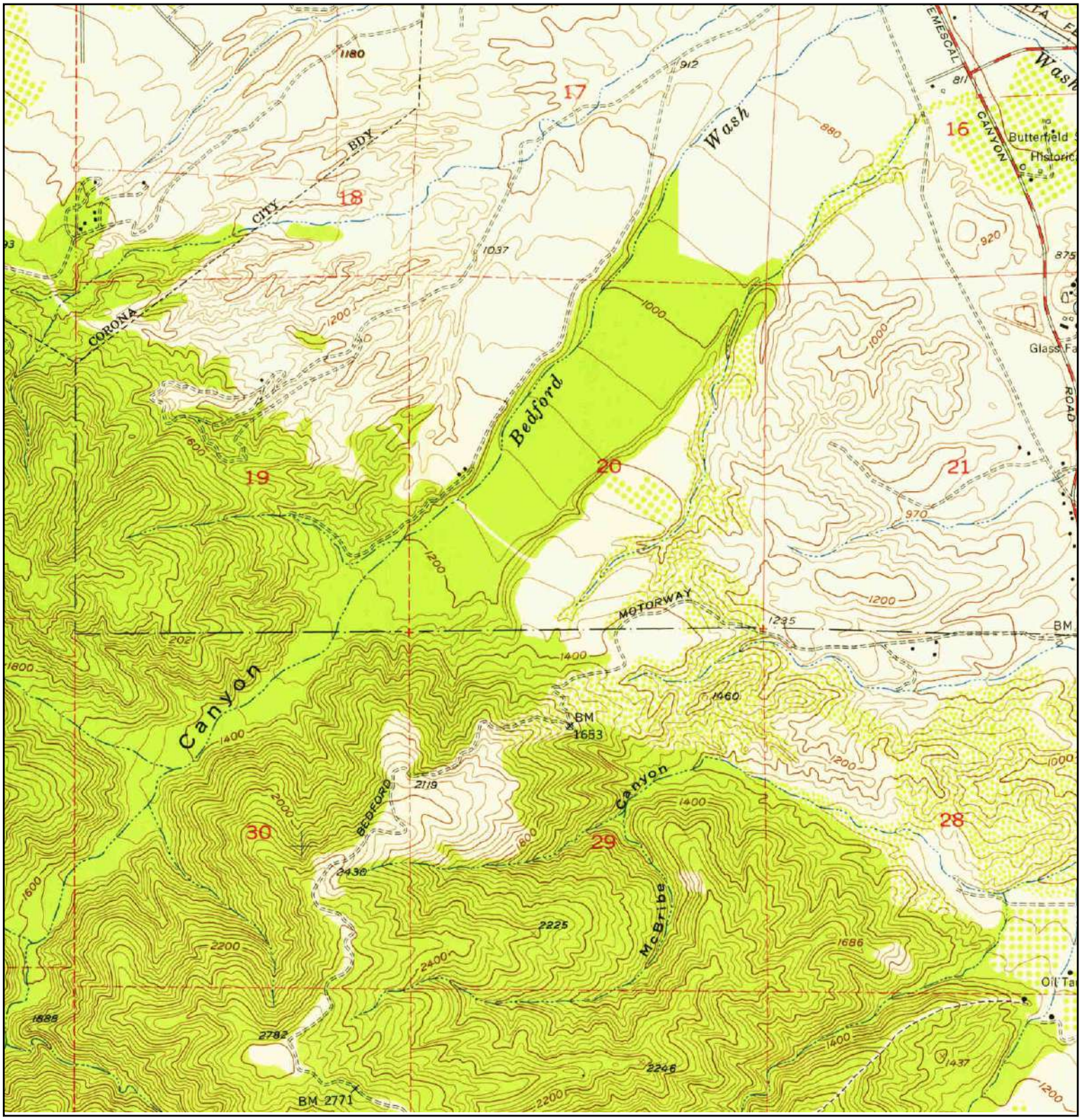
N	TARGET QUAD NAME: CORONA MAP YEAR: 1902 SERIES: 30 SCALE: 1:125000	SITE NAME: McMillan Property ADDRESS: Bedford Motor Way/Retreat Parkway Corona, CA 92883 LAT/LONG: 33.8034 / -117.53	CLIENT: URS Corporation CONTACT: Janet Tentler INQUIRY#: 4124432.4 RESEARCH DATE: 11/04/2014

Historical Topographic Map



N	TARGET QUAD NAME: CORONA MAP YEAR: 1947 SERIES: 15 SCALE: 1:50000	SITE NAME: McMillan Property ADDRESS: Bedford Motor Way/Retreat Parkway Corona, CA 92883 LAT/LONG: 33.8034 / -117.53	CLIENT: URS Corporation CONTACT: Janet Tentler INQUIRY#: 4124432.4 RESEARCH DATE: 11/04/2014

Historical Topographic Map



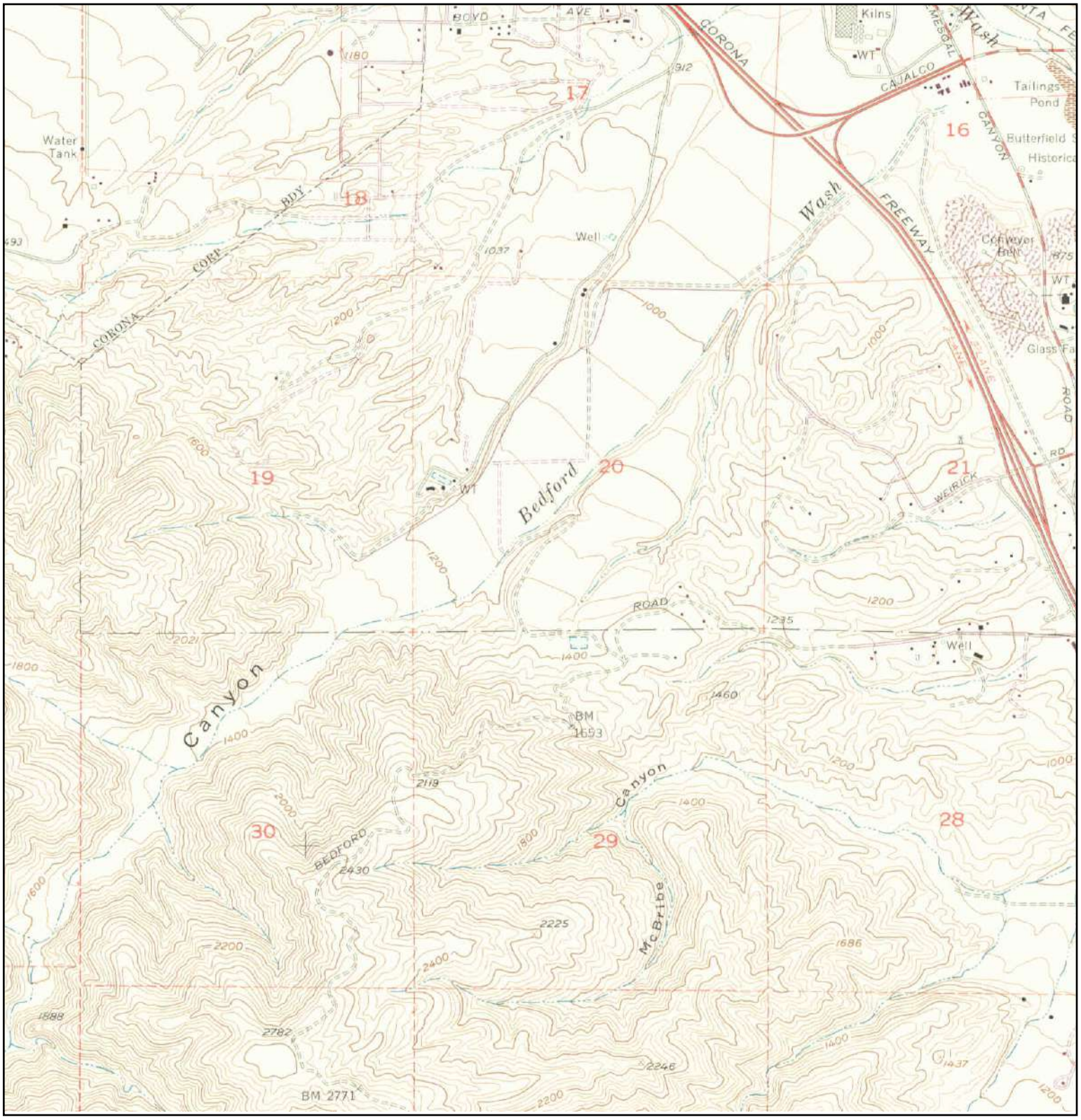
N	TARGET QUAD NAME: CORONA SOUTH MAP YEAR: 1954 SERIES: 7.5 SCALE: 1:24000	SITE NAME: McMillan Property ADDRESS: Bedford Motor Way/Retreat Parkway Corona, CA 92883 LAT/LONG: 33.8034 / -117.53	CLIENT: URS Corporation CONTACT: Janet Tentler INQUIRY#: 4124432.4 RESEARCH DATE: 11/04/2014

Historical Topographic Map



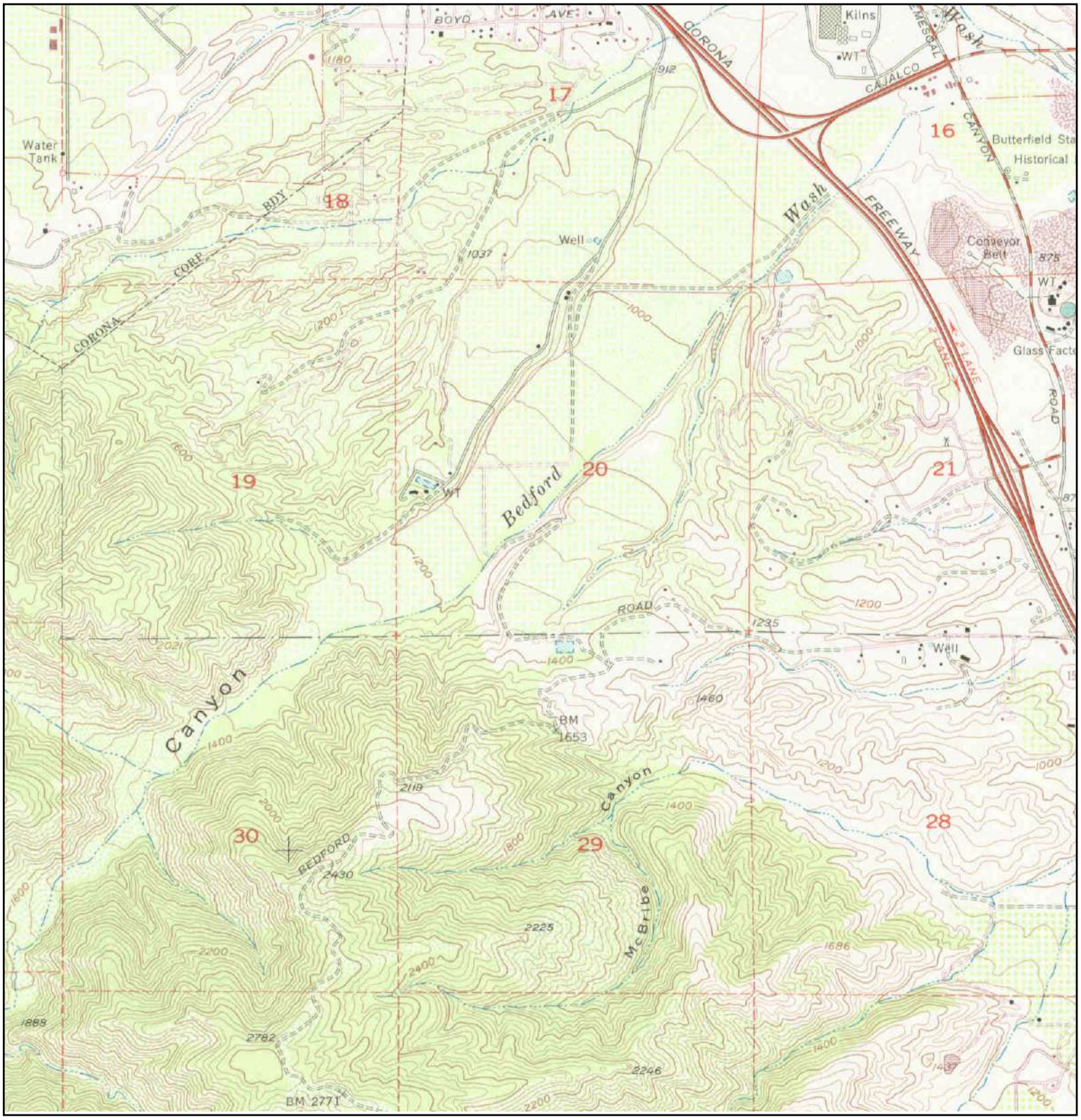
N	TARGET QUAD NAME: CORONA SOUTH MAP YEAR: 1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: McMillan Property ADDRESS: Bedford Motor Way/Retreat Parkway Corona, CA 92883 LAT/LONG: 33.8034 / -117.53	CLIENT: URS Corporation CONTACT: Janet Tentler INQUIRY#: 4124432.4 RESEARCH DATE: 11/04/2014

Historical Topographic Map



N	TARGET QUAD					
	NAME:	CORONA SOUTH	SITE NAME:	McMillan Property	CLIENT:	URS Corporation
	MAP YEAR:	1973	ADDRESS:	Bedford Motor Way/Retreat Parkway	CONTACT:	Janet Tentler
	PHOTOREVISED FROM :	1967		Corona, CA 92883	INQUIRY#:	4124432.4
	SERIES:	7.5	LAT/LONG:	33.8034 / -117.53	RESEARCH DATE:	11/04/2014
	SCALE:	1:24000				

Historical Topographic Map



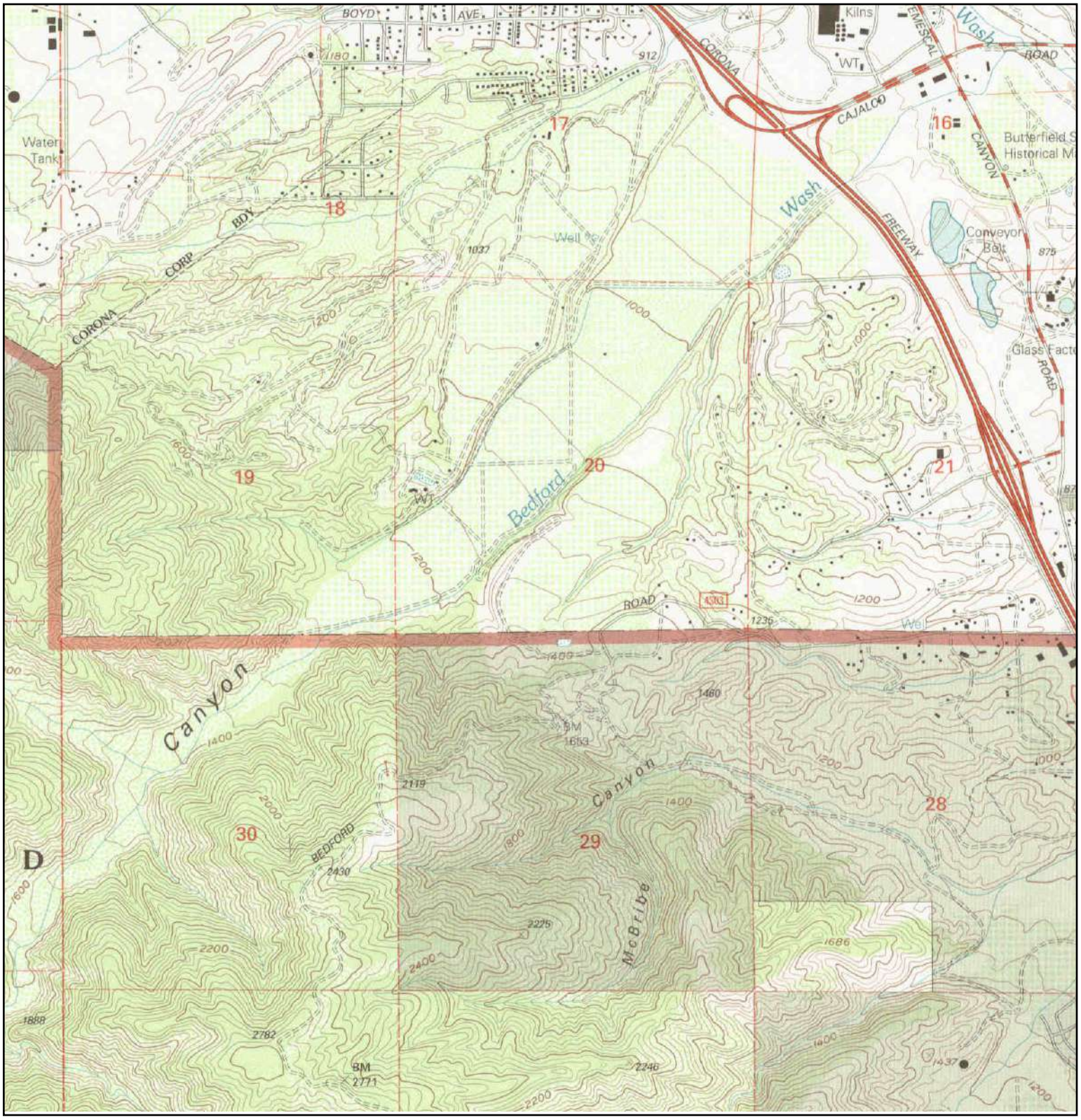
N	TARGET QUAD		SITE NAME:	McMillan Property	CLIENT:	URS Corporation
	NAME:	CORONA SOUTH	ADDRESS:	Bedford Motor Way/Retreat Parkway	CONTACT:	Janet Tentler
	MAP YEAR:	1982		Corona, CA 92883	INQUIRY#:	4124432.4
	PHOTOREVISED FROM :	1967	LAT/LONG:	33.8034 / -117.53	RESEARCH DATE:	11/04/2014
	SERIES:	7.5				
	SCALE:	1:24000				

Historical Topographic Map



N	TARGET QUAD NAME: CORONA SOUTH MAP YEAR: 1988 PHOTOREVISED FROM :1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: McMillan Property ADDRESS: Bedford Motor Way/Retreat Parkway Corona, CA 92883 LAT/LONG: 33.8034 / -117.53	CLIENT: URS Corporation CONTACT: Janet Tentler INQUIRY#: 4124432.4 RESEARCH DATE: 11/04/2014

Historical Topographic Map



N	TARGET QUAD NAME: CORONA SOUTH MAP YEAR: 1997 SERIES: 7.5 SCALE: 1:24000	SITE NAME: McMillan Property ADDRESS: Bedford Motor Way/Retreat Parkway Corona, CA 92883 LAT/LONG: 33.8034 / -117.53	CLIENT: URS Corporation CONTACT: Janet Tentler INQUIRY#: 4124432.4 RESEARCH DATE: 11/04/2014

McMillan Property
Bedford Motor Way/Retreat Parkway
Corona, CA 92883

Inquiry Number: 4124432.3
November 04, 2014

Certified Sanborn® Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

11/04/14

Site Name:
McMillan Property
Bedford Motor Way/Retreat
Corona, CA 92883

Client Name:
URS Corporation
2020 East First Street
Santa Ana, CA 92705

EDR Inquiry # 4124432.3

Contact: Janet Tentler

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The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name: McMillan Property
Address: Bedford Motor Way/Retreat Parkway
City, State, Zip: Corona, CA 92883
Cross Street:
P.O. # NA
Project: 29869115.10000
Certification # D1F3-4462-B64A

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results
Certification # D1F3-4462-B64A

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

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APPENDIX D
AAI QUESTIONNAIRE

ASTM E 1527-05 User Questionnaire

In order to qualify for the protection offered under the EPA All Appropriate Inquiry (AAI) Standard, the **User** (entities seeking to use the ASTM E1 527-05 Practice to complete an environmental site assessment of the property; i.e. Lenders and/or Borrowers) must provide the following information (if available) to the *environmental professional* (URS). Failure to provide this information could result in a determination that AAI is not complete. This information should be the collective knowledge of the entities relying on the Phase I.

Please note that you are not being asked to evaluate the property, but rather to provide your knowledge of information on the property.

Person Interviewed/Title: John Neff_____ Date: 11/4/2014 _____

1. Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25).
Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law? (**Note:** If unknown, a review of title records or an environmental lien search is recommended)

Yes___No_X__ If you answer yes, please include an explanation in the space provided below:

2. Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).
Are you aware of any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

> *Engineering Controls* are defined as physical modifications to a site or facility to reduce or eliminate the potential for exposure to hazardous substances or petroleum products in the soil or ground water on the property). *Institutional Controls* are defined as a legal or administrative restriction on the use of, or access to, a site or facility to 1) reduce or eliminate the potential for exposure to hazardous substances or petroleum products in the soil or ground water on the property, or 2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment.

Yes___No__X_ If you answer yes, please include an explanation in the space provided below:

3. Specialized knowledge or experience of the person seeking to qualify for the LLP* (40 CFR 312.28).
***Landowner Liability Protection (LLP)** offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001
As the *User* of this *ESA* do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining *property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?

Yes___No__X_ If you answer yes, please include an explanation in the space provided below:

4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).

Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*?

Yes_X__No___ If you answer no, please include an explanation in the space provided below, including whether the lower purchase price is because contamination is known or believed to be present at the *property*?

5. Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).

Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example, as *User*:

a. Do you know the past uses of the *property*?
Yes__X_ No___

b. Do you know of specific chemicals that are present or once were present at the *property*?
Yes___ No_X__

c. Do you know of spills or other chemical releases that have taken place at the *property*?
Yes___ No__X_

d. Do you know of any environmental cleanups that have taken place at the *property*?
Yes___ No__X_

If you answered yes to any of the questions above, please include an explanation in the space provided below:
The property was once used for citrus orchards, but it is now vacant and undeveloped.

6. The degree of obviousness of the presence of likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

As the *User* of this *ESA*, based on your knowledge and experience related to the *property*, are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property*?

Yes___No__X_ If you answer yes, please include an explanation in the space provided below:

In addition to the above questions, certain information should be collected, if available, and provided to the *environmental professional*. This information is intended to assist the *environmental professional*, but is not necessarily required to qualify for one of the LLPs.

1. The reason why the ESA is required (i.e. sale, purchase, exchange, etc.).

Purchase

2. The complete name, correct address and/or parcel number for the property (a map or other documentation showing property location and boundaries is helpful).

APN 282-040-003-7

3. A description of the property (i.e. acreage, square footage, number of buildings, other structures, age of buildings, above/underground storage tanks, etc.)

Approximately 159 AC, no structures, undeveloped. No known storage tanks.

4. Knowledge or previous owners and/or previous uses of the property?

Citrus Orchards

5. Current or previous deeds?

Unknown

6. The site contact name and number.

Matt Weaver | Principal
Land Sales
Lee & Associates
D: 760.448.2458
C: 619.203.4967
F: 760.929.9977
1900 Wright Place, Suite 200
Carlsbad, CA 92008
mweaver@lee-associates.com
www.leelandteam.com

7. Previous reports available? Any other available documentation, correspondence, etc. concerning the environmental condition of the property?

Unknown

APPENDIX F
PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG
Parcels 1 & 2, TPM 37036 – Corona, California



Photograph 1 – Looking south toward subject property from the southern margin of the Arantine Hills residential development.



Photograph 2 – Looking east along northern margin of subject property.

PHOTOGRAPHIC LOG
Parcels 1 & 2, TPM 37036 – Corona, California



Photograph 3 – Looking southwest along Bedford Wash and western margin of subject property.



Photograph 4 – Looking northeast across subject property from southern margin.

PHOTOGRAPHIC LOG
Parcels 1 & 2, TPM 37036 – Corona, California



Photograph 5 – Looking south from central portion of subject property.



Photograph 6 – Looking west from central portion of subject property.

PHOTOGRAPHIC LOG
Parcels 1 & 2, TPM 37036 – Corona, California



Photograph 7 – Looking north from central portion of subject property.



Photograph 8 – Looking east from central portion of subject property.

PHOTOGRAPHIC LOG
Parcels 1 & 2, TPM 37036 – Corona, California



Photograph 9 – Looking north across stormwater retention basin in northeast corner of subject property.



Photograph 10 – Looking north toward adjacent Arantine Hills residential development.

APPENDIX G
VAPOR ENCROACHMENT SCREEN USER QUESTIONNAIRE

EEI
Geotechnical & Environmental Solutions

ASTM E2600-10
VAPOR ENCROACHMENT SURVEY – USER QUESTIONNAIRE

Project Name: **Arantine Hills Residential Development – Lower McMillan**

Project Address: **Parcels 1 and 2 of TPM 37036 (32.31 acres), Corona, California**

1. Property type: [X] Commercial [X] Residential [ ] Industrial [ ] Multi-Tenant [X] Vacant Land

2. Are there any buildings/ structures on the property? Yes [X] No [ ] Unknown [ ]

If yes, type construction Commerical and Residential structures are under construction

3. Will buildings/structures be constructed on the property in the future? Yes [X] No [ ] Unknown [ ]

If yes, type construction Commercial and Residential

4. If buildings exist or are proposed, do/will they have elevators? Yes [X] No [ ]

5. Type of level below grade (existing or proposed)? [ ] Full Basement [ ] Crawl Space [X] Slab on grade [ ] Parking Garage [ ] Multi-level

6. Ventilation in level below grade? Yes [ ] No [X] Unknown [ ]

7. Sump pumps, floor drains, or trenches (existing or proposed)? Yes [X] No [ ] Unknown [ ]

8. Radon or methane mitigation system installed? Yes [ ] No [ ] Unknown [X]

9. Heating system type (existing or proposed)? (CHECK ALL THAT APPLY)

[ ] Hot Air Circulation [ ] Electric Baseboard [ ] Hot Air Radiation [ ] Heat Pump [ ] Hot Water Radiation [ ] Wood Stove [ ] Kerosene Heater [ ] Steam Radiation [X] Fireplace [ ] Coal Furnace [ ] Radiant Floor Heat [ ] Hot Water Circulation [ ] Fuel Oil Furnace [X] Gas Furnace [ ] Other

10. Type of fuel energy (existing or proposed)? (CHECK ALL THAT APPLY)

[X] Natural Gas [X] Electric [ ] Propane [ ] Fuel Oil [ ] Kerosene [ ] Wood [ ] Coal [X] Solar [ ] Other

11. Have there ever been any environmental problems at the property? Yes [ ] No [X] Unknown [ ]

If yes, describe) See previous environmental reports

12. Does/will a gas station or dry cleaner operate anywhere on the property? Yes [ ] No [X] Unknown [ ]

13. Do any tenants use hazardous chemicals in relatively large quantities on the property? Yes [ ] No [X] Unknown [ ]

If yes, describe_____

14. Have any tenants ever complained about odors in the building or experienced health-related problems that may have been associated with the building? Yes [ ] No [X] Unknown [ ]

15. Are the operations (or proposed operations to be performed) on the property OSHA regulated? Yes [X] No [ ] Unknown [ ]

16. Are there any existing or proposed underground storage tanks (USTs) or above ground storage tanks (ASTs)? Yes. [ ] No [X] Unknown [ ]

17. Are there any sensitive receptors (for example, children, elderly, people in poor health, and so forth) that occupy or will occupy the property? Yes [X] No [ ] Unknown [ ]

Parcel ID #_____

Preparer:

Name: **Greg Mendoza for Arantine Hills Holdings LP**

Address: **85 Enterprise, Aliso Viejo, CA 92656**

Signature:

Date: **April 16, 2018**

APPENDIX F: HYDRAULIC AND SEDIMENT TRANSPORT STUDIES

Technical Memorandum

To: John Sherwood – Vice President – The New Home Company

From: Joseph C. Caldwell, P.E. – Director Stormwater Engineering

Date: June 4, 2018

Re: Bedford Wash Analysis for McMillan Channel Extension



The following Technical Memorandum is prepared to document the hydraulic capacity and sediment transport/scour potential of the conceptual Bedford Wash Channel extension upstream on the McMillan Property. WEBB prepared engineering improvement plans for the downstream Bedford Wash Channel that is currently under construction. The New Home Company is under contract to acquire the upstream McMillan property and is processing planning and environmental studies for the future development of this property.

As part our analysis, WEBB has prepared a conceptual design of the channel extension onto the McMillan Property as per the attached exhibit. The conceptual design ties into the Bedford Wash Channel at the outlet of the existing debris basin (which will be eliminated). The channel extends upstream from there across the McMillan Property. A new debris basin is located at the southwesterly corner of the site at the new upstream end of the channel. The conceptual channel has an average base width of approximately 130 feet and an approximate depth of 9 feet. The channel will have rip-rap along both slopes and an earthen bottom, consistent with the downstream channel design.

A HEC-RAS model was prepared for Bedford Wash that hydraulically models the downstream channel portion that is currently being constructed along with the upstream conceptual reach. The model indicates that the 100-Year velocities in the new segment will be in the range of 11 to 12 feet per second. The planned ¼ Ton rip rap is more than adequate to withstand velocities in this calculated range during the 100-Year storm event. The flow depth will be approximately five feet deep which would leave 4 feet of freeboard, which is greater than Riverside County Flood Control and Water Conservation District's requirement of 3 feet.. These depths and velocities are consistent with the upper segments of the downstream channel.

A bridge crossing was included in the model to account for a potential future road crossing. For conceptual purposes it was assumed that the bridge would have one eight foot diameter pier with a foot of debris racking on each side of the pier. There is flexibility in the conceptual channel design such that an alternative placement of the bridge would not adversely impact the hydraulics or sediment conveyance capacity of the conceptual channel.

As part of the design of the downstream channel, Northwest Hydraulic Consultants prepared a Channel Stability Assessment that evaluated erosion and the sediment conveyance capacity of the downstream channel. This report established toe down requirements for the channel side slope lining, the location of grade stabilizers, and the areas where aggradation and degradation are probable. We reviewed the hydraulics of the

conceptual channel design versus the results of the original Channel Stability Assessment. Based upon this review, we have included one grade control structure in the conceptual channel design to protect against excessive erosion of the channel bed.

A review of the relative sediment transport capacities indicates that the conceptual channel will have slightly more sediment conveyance capacity than pre-project conditions. This will tend to reduce the erosion potential in the downstream channel and downstream of the freeway crossing. The downstream facilities will continue to provide a similar functionality as they have prior to the construction of the upstream improvements. The upstream improvement will not adversely place the downstream channel outside of the limits of its original design intent.

The results from the preliminary hydraulic analysis are included as part of this technical memorandum for reference, including updated sediment/scour analysis and an overall hydraulic analysis of the entire channel system. During final design an updated and more detailed analysis will be performed based on the refined design.

Bedford Wash Extension

N

15

Downstream Channel

Original Debris Basin

Upstream Channel Extension

Relocated Debris Basin

Legend

McMillan Property

Feet

0 250 500 1,000

Bedford Wash Work Map



1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000 3100 3200 3300 3400 3500 3600 3700 3800 3900 4000 4100 4200 4300 4400 4500 4600 4700 4800 4900 5000 5100 5200 5300 5400 5500 5600 5700 5800 5900 6000 6100 6200 6300 6400 6500 6600 6700 6800 6900 7000 7100 7200 7300 7400 7500 7600 7700 7800 7900 8000 8100 8140 8200 8300 8400 8457

Legend

- Conceptual Bridge Alignment
- Bank Stations
- Cross Sections
- River Reaches
- Post Project Flood Limits

0 100 200 400 600 800 Feet

HEC-RAS Plan: Default Scenario River: Bedford Wash Reach: 1 Profile: 100 Year Bulked

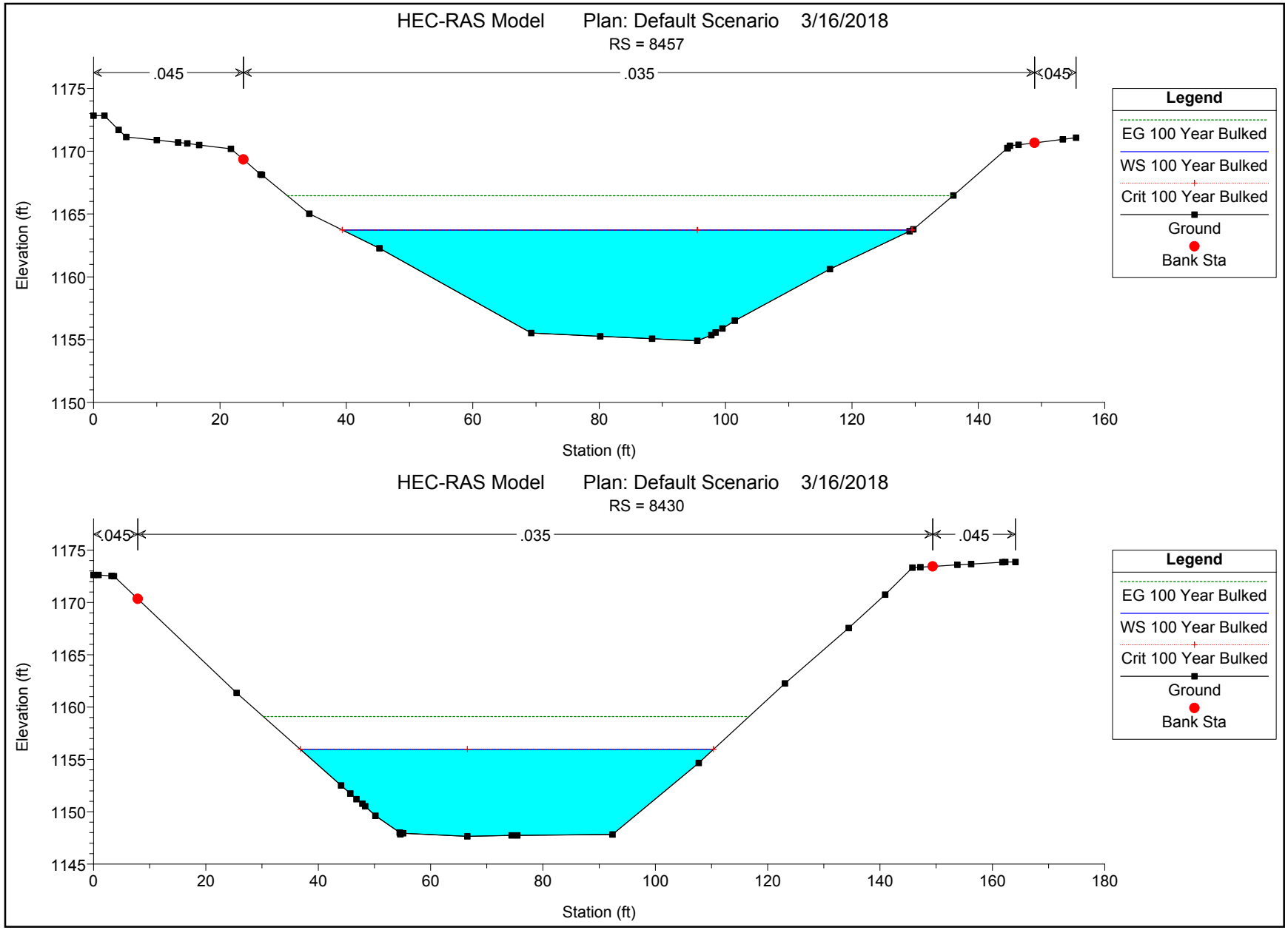
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	8457	100 Year Bulked	6500.00	1154.91	1163.73	1163.73	1166.46	0.010519	13.25	490.54	90.15	1.00
1	8430	100 Year Bulked	6500.00	1147.65	1155.97	1155.97	1159.09	0.010366	14.18	458.43	73.57	1.00
1	8400	100 Year Bulked	6500.00	1146.68	1153.63	1153.63	1156.56	0.010609	13.73	473.47	81.78	1.01
1	8300	100 Year Bulked	6500.00	1145.77	1150.38	1150.38	1152.49	0.011407	11.65	558.09	133.75	1.00
1	8200	100 Year Bulked	6500.00	1144.78	1149.65		1150.33	0.003370	6.57	988.83	225.65	0.55
1	8140	100 Year Bulked	6500.00	1144.22	1149.81		1150.10	0.001161	4.29	1515.16	294.89	0.33
1	8100	100 Year Bulked	6500.00	1143.92	1148.00	1148.00	1149.84	0.011880	10.87	597.77	164.78	1.01
1	8000	100 Year Bulked	6500.00	1140.92	1145.25	1145.25	1147.25	0.011631	11.36	572.42	144.57	1.01
1	7900	100 Year Bulked	6500.00	1137.47	1141.80	1141.80	1143.85	0.011550	11.47	566.48	140.01	1.01
1	7800	100 Year Bulked	6500.00	1134.14	1138.47	1138.47	1140.52	0.011528	11.48	565.99	139.49	1.00
1	7700	100 Year Bulked	6500.00	1130.76	1135.19	1135.19	1137.26	0.011481	11.56	562.50	136.86	1.00
1	7600	100 Year Bulked	6500.00	1127.25	1131.76	1131.76	1133.79	0.011560	11.44	568.06	141.09	1.00
1	7500	100 Year Bulked	6500.00	1124.14	1128.24	1128.24	1130.19	0.011719	11.20	580.55	150.79	1.01
1	7400	100 Year Bulked	6500.00	1120.61	1124.89	1124.89	1126.66	0.012044	10.69	608.09	173.32	1.01
1	7300	100 Year Bulked	6500.00	1117.35	1123.75	1121.57	1124.51	0.002701	6.96	933.46	163.55	0.51
1	7247		Bridge									
1	7200	100 Year Bulked	6500.00	1113.93	1118.32	1118.32	1120.31	0.011502	11.30	575.04	145.02	1.00
1	7100	100 Year Bulked	6500.00	1110.73	1114.87	1114.87	1116.83	0.011677	11.24	578.34	148.87	1.00
1	7000	100 Year Bulked	6500.00	1107.31	1111.44	1111.44	1113.38	0.011672	11.16	582.49	151.57	1.00
1	6900	100 Year Bulked	6500.00	1103.94	1108.12	1108.12	1110.07	0.011674	11.21	579.87	149.87	1.00
1	6800	100 Year Bulked	6500.00	1100.51	1104.67	1104.67	1106.61	0.011724	11.16	582.22	151.93	1.01
1	6700	100 Year Bulked	6500.00	1097.06	1101.21	1101.21	1103.13	0.011745	11.11	585.12	154.08	1.00
1	6600	100 Year Bulked	6500.00	1093.63	1097.75	1097.75	1099.65	0.011765	11.06	587.71	156.04	1.00
1	6500	100 Year Bulked	6500.00	1089.28	1093.73	1093.73	1095.71	0.011498	11.30	575.40	145.20	1.00
1	6400	100 Year Bulked	6500.00	1081.69	1087.14	1087.14	1089.49	0.011069	12.30	528.47	113.44	1.00
1	6300	100 Year Bulked	6500.00	1074.77	1081.02	1081.02	1083.70	0.010662	13.14	494.75	92.39	1.00
1	6200	100 Year Bulked	6500.00	1069.60	1074.47	1074.47	1076.65	0.011200	11.85	548.49	125.93	1.00
1	6100	100 Year Bulked	6500.00	1065.54	1070.25	1070.25	1072.38	0.011260	11.70	555.49	130.68	1.00
1	6000	100 Year Bulked	6500.00	1061.42	1065.91	1065.91	1067.95	0.011522	11.46	567.35	140.29	1.00
1	5900	100 Year Bulked	6500.00	1057.58	1061.62	1061.62	1063.48	0.011885	10.95	593.81	161.55	1.01
1	5800	100 Year Bulked	6500.00	1053.74	1057.51	1057.51	1059.29	0.012046	10.69	607.86	173.18	1.01
1	5700	100 Year Bulked	6500.00	1049.83	1053.48	1053.48	1055.20	0.012150	10.52	617.88	181.76	1.01
1	5600	100 Year Bulked	6500.00	1045.75	1049.26	1049.26	1050.92	0.012278	10.35	627.86	190.71	1.01
1	5500	100 Year Bulked	6500.00	1041.10	1045.33	1045.33	1047.01	0.012072	10.41	624.69	185.88	1.00
1	5400	100 Year Bulked	6500.00	1037.73	1041.74	1041.74	1043.61	0.011843	10.96	593.06	160.56	1.00
1	5300	100 Year Bulked	6500.00	1033.73	1037.82	1037.82	1039.60	0.011818	10.73	605.65	169.33	1.00
1	5200	100 Year Bulked	6500.00	1026.27	1031.86	1031.86	1033.80	0.011796	11.18	581.16	151.86	1.01
1	5100	100 Year Bulked	6500.00	1022.47	1026.72	1026.72	1028.50	0.012039	10.72	606.58	172.19	1.01
1	5000	100 Year Bulked	6500.00	1018.95	1022.72	1022.72	1024.45	0.012135	10.55	616.05	180.09	1.01

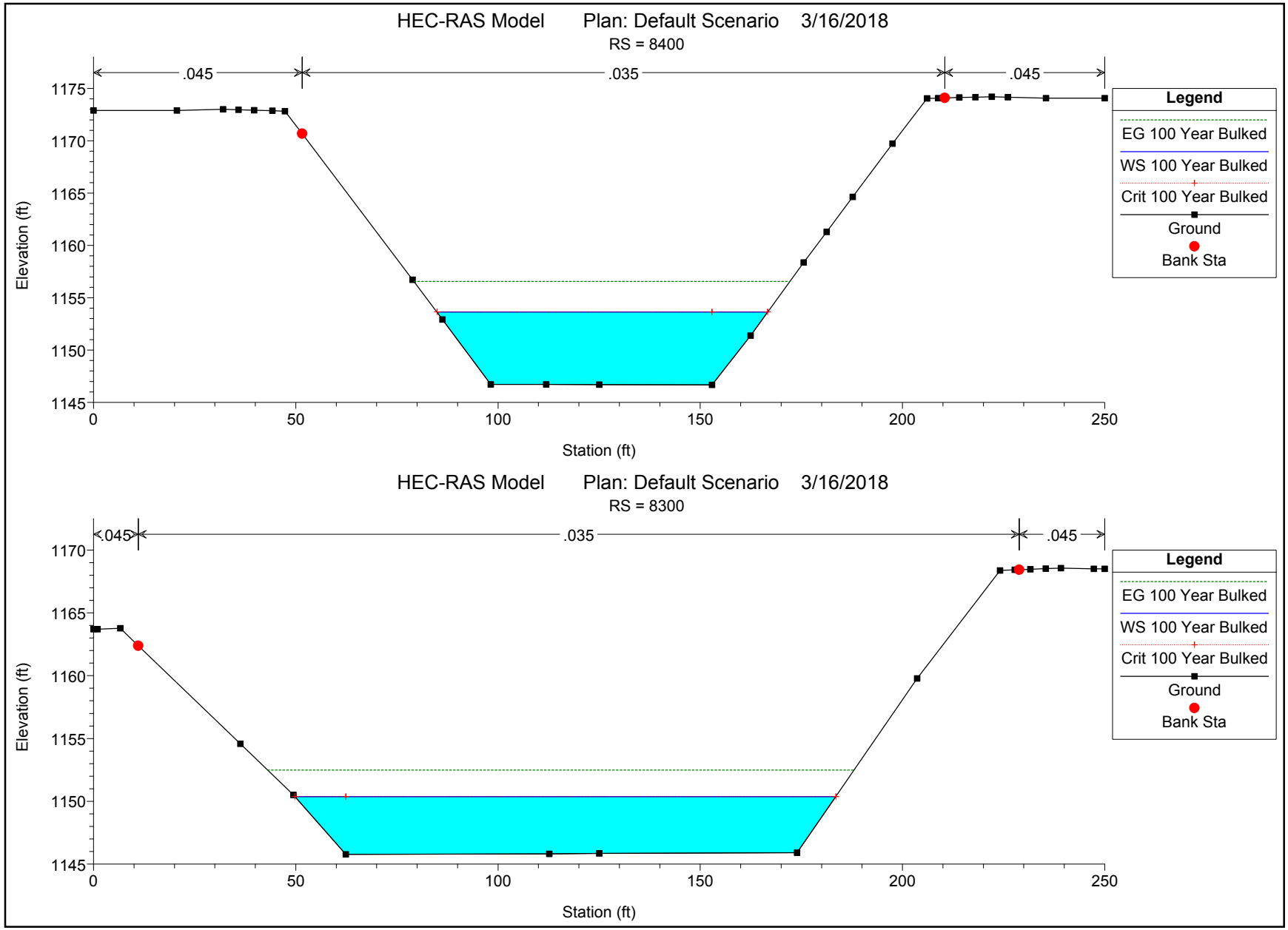
HEC-RAS Plan: Default Scenario River: Bedford Wash Reach: 1 Profile: 100 Year Bulked (Continued)

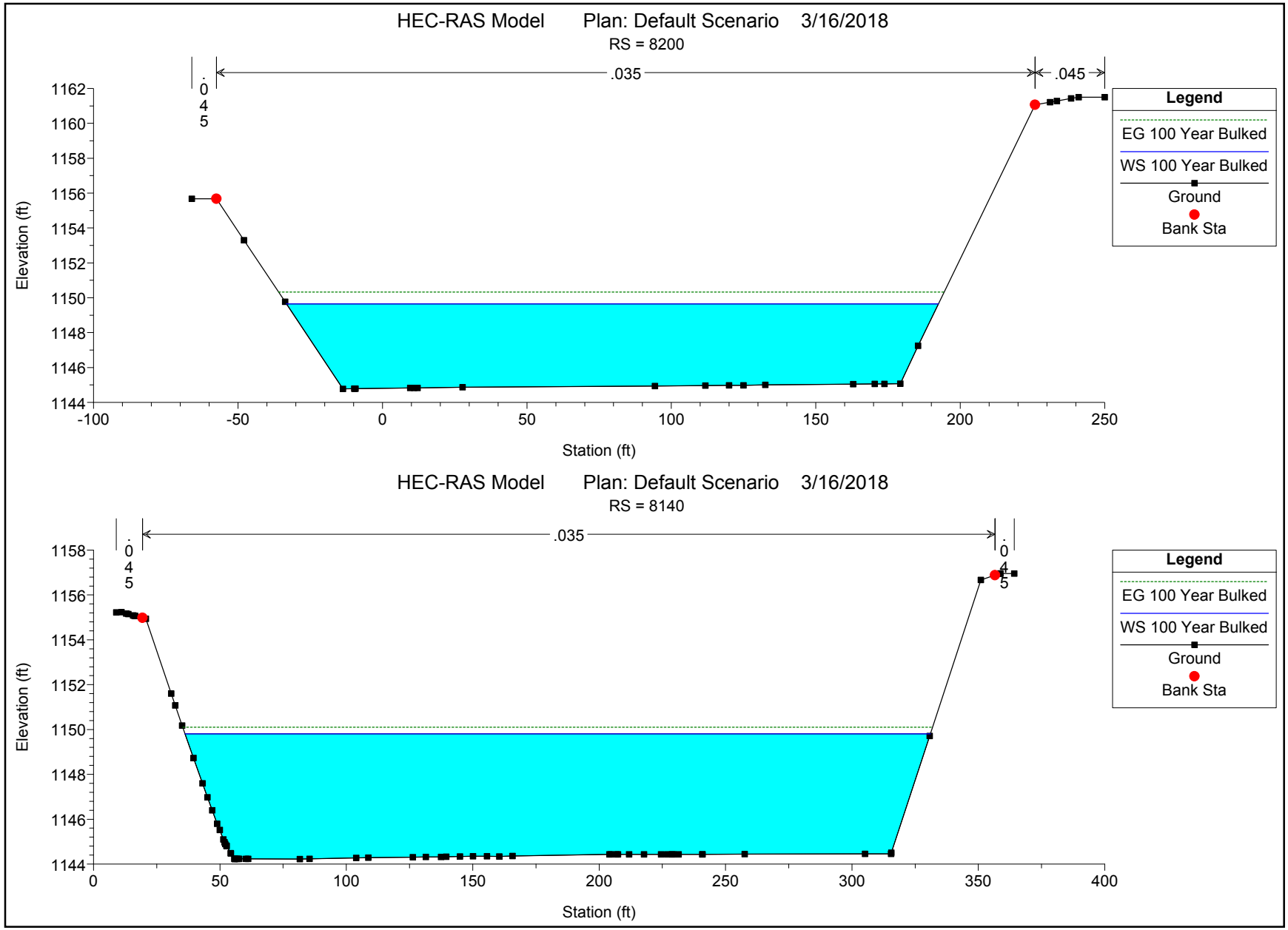
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	4900	100 Year Bulked	6500.00	1014.96	1018.90	1018.90	1020.65	0.012112	10.60	612.99	177.64	1.01
1	4800	100 Year Bulked	6500.00	1010.64	1014.73	1014.73	1016.44	0.012208	10.49	619.47	183.56	1.01
1	4700	100 Year Bulked	6500.00	1006.49	1010.52	1010.52	1012.16	0.012352	10.26	633.44	195.99	1.01
1	4600	100 Year Bulked	6500.00	1002.68	1006.35	1006.35	1007.90	0.012550	10.00	650.25	212.08	1.01
1	4500	100 Year Bulked	6500.00	998.90	1002.17	1002.17	1003.67	0.012712	9.82	661.59	223.62	1.01
1	4400	100 Year Bulked	6500.00	995.03	998.18	998.18	999.70	0.012568	9.88	657.73	218.39	1.00
1	4300	100 Year Bulked	6500.00	990.80	994.44	994.44	996.06	0.012188	10.23	635.11	195.32	1.00
1	4200	100 Year Bulked	6500.00	986.90	990.83	990.83	992.60	0.011899	10.65	610.18	173.20	1.00
1	4100	100 Year Bulked	6500.00	983.05	987.31	987.31	989.24	0.011749	11.16	582.25	152.21	1.01
1	4000	100 Year Bulked	6500.00	979.10	983.59	983.59	985.65	0.011542	11.51	564.89	138.93	1.01
1	3900	100 Year Bulked	6500.00	975.74	979.94	979.94	981.87	0.011721	11.16	582.60	152.23	1.01
1	3800	100 Year Bulked	6500.00	972.67	976.39	976.39	978.14	0.012107	10.61	612.87	177.50	1.01
1	3700	100 Year Bulked	6500.00	969.52	973.14	973.14	974.86	0.012087	10.51	618.22	181.26	1.00
1	3600	100 Year Bulked	6500.00	966.32	969.97	969.97	971.68	0.012166	10.47	620.63	183.99	1.00
1	3500	100 Year Bulked	6500.00	963.18	966.89	966.89	968.59	0.012183	10.48	620.05	183.74	1.01
1	3400	100 Year Bulked	6500.00	960.23	964.08	964.08	965.84	0.012071	10.65	610.19	175.17	1.01
1	3300	100 Year Bulked	6500.00	957.43	961.47	961.47	963.32	0.011711	10.92	595.28	160.79	1.00
1	3200	100 Year Bulked	6500.00	954.45	958.49	958.49	960.32	0.011713	10.87	598.01	163.56	1.00
1	3100	100 Year Bulked	6500.00	951.62	955.29	955.29	957.04	0.012077	10.63	611.43	176.17	1.01
1	3000	100 Year Bulked	6500.00	948.70	952.11	952.11	953.73	0.012379	10.21	636.63	198.86	1.01
1	2900	100 Year Bulked	6500.00	945.93	949.24	949.24	950.84	0.012429	10.14	641.13	202.97	1.01
1	2800	100 Year Bulked	6500.00	943.08	946.58	946.58	948.19	0.012404	10.21	636.53	199.03	1.01
1	2700	100 Year Bulked	6500.00	940.26	943.56	943.56	945.15	0.012373	10.14	641.02	202.18	1.00
1	2600	100 Year Bulked	6500.00	937.41	940.75	940.75	942.32	0.012481	10.06	646.26	207.87	1.01
1	2500	100 Year Bulked	6500.00	934.56	937.84	937.84	939.34	0.012619	9.82	661.67	222.49	1.00
1	2400	100 Year Bulked	6500.00	931.50	935.14	935.14	936.75	0.012217	10.20	637.55	197.52	1.00
1	2300	100 Year Bulked	6500.00	928.73	932.66	932.66	934.43	0.011885	10.68	608.71	171.97	1.00
1	2200	100 Year Bulked	6500.00	925.95	930.25	930.25	932.26	0.011599	11.36	571.96	143.98	1.00
1	2100	100 Year Bulked	6500.00	923.14	928.52		929.79	0.005507	9.05	718.07	145.11	0.72
1	2000	100 Year Bulked	6500.00	920.32	926.41	926.41	928.92	0.010805	12.72	510.98	101.70	1.00
1	1900	100 Year Bulked	6500.00	917.50	924.12	924.12	926.58	0.010904	12.60	515.77	104.62	1.00
1	1800	100 Year Bulked	6500.00	914.62	920.94	920.94	923.68	0.010737	13.28	489.38	90.30	1.01
1	1700	100 Year Bulked	6500.00	911.72	918.28	918.28	921.02	0.010654	13.28	489.40	89.72	1.00
1	1600	100 Year Bulked	6500.00	908.87	916.24	916.24	919.23	0.010481	13.89	467.80	78.41	1.00
1	1500	100 Year Bulked	6500.00	905.92	913.56	913.56	916.60	0.010440	14.01	464.01	76.38	1.00
1	1400	100 Year Bulked	6500.00	903.09	910.55	910.55	913.59	0.010540	13.98	464.95	77.44	1.01
1	1300	100 Year Bulked	6500.00	900.26	907.67	907.67	910.68	0.010483	13.92	466.85	77.94	1.00
1	1200	100 Year Bulked	6500.00	897.36	904.66	904.66	907.63	0.010462	13.84	469.63	79.13	1.00
1	1100	100 Year Bulked	6500.00	894.66	903.26	903.26	905.73	0.008246	12.69	540.59	135.54	0.89

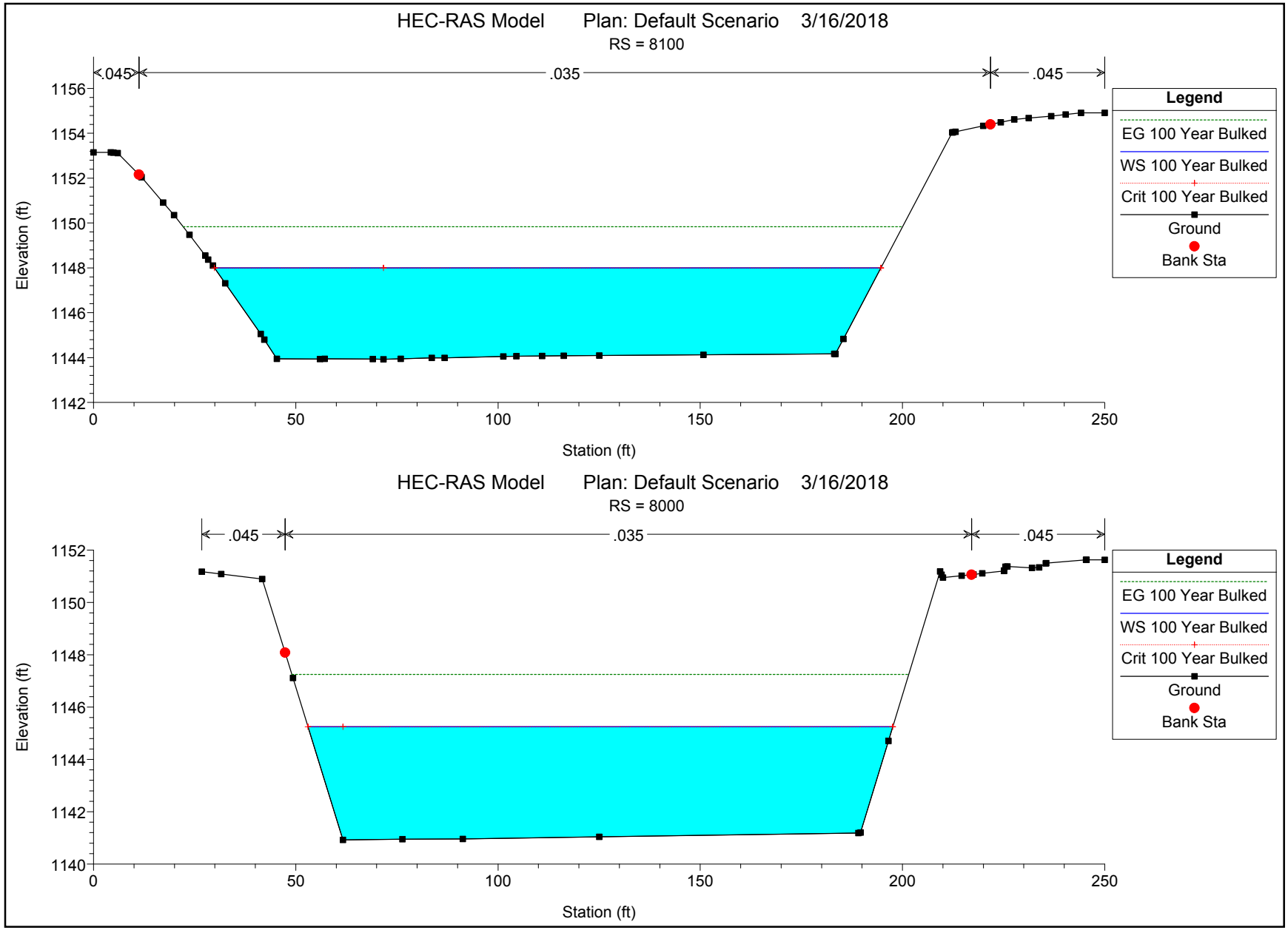
HEC-RAS Plan: Default Scenario River: Bedford Wash Reach: 1 Profile: 100 Year Bulked (Continued)

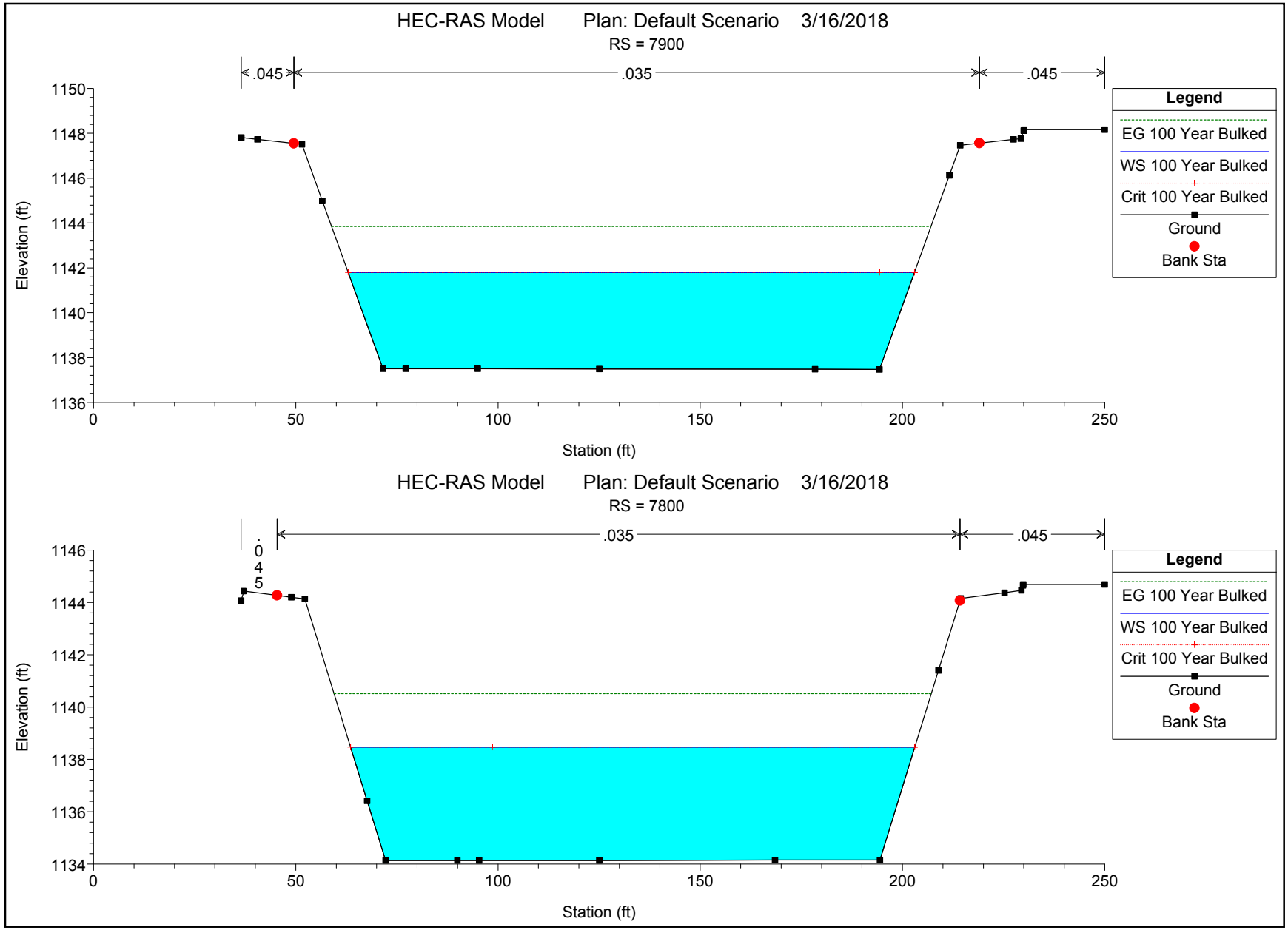
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	1000	100 Year Bulked	6500.00	891.96	898.05	898.05	899.64	0.008952	11.13	719.47	250.00	0.91

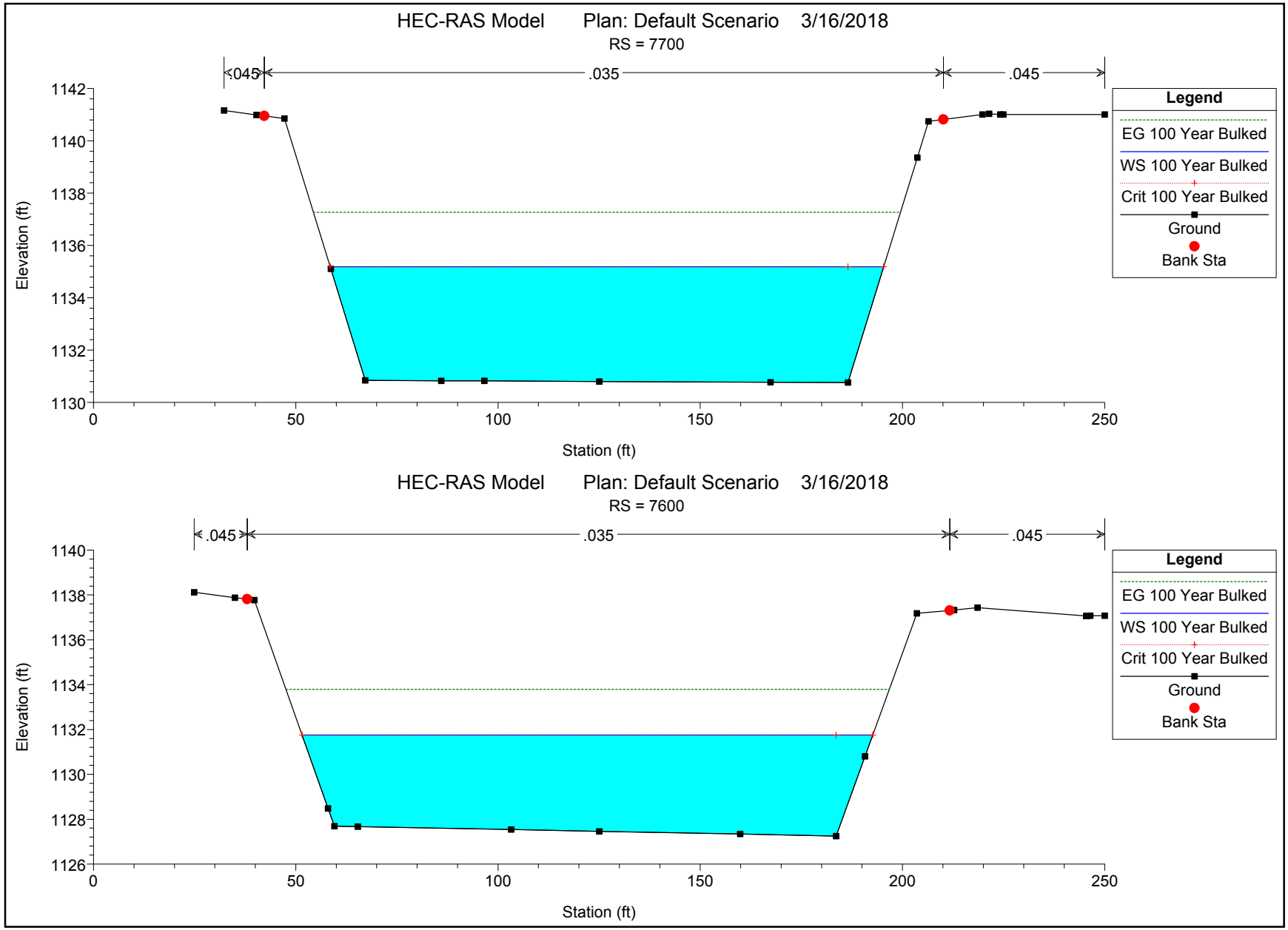

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 8457
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 8430
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

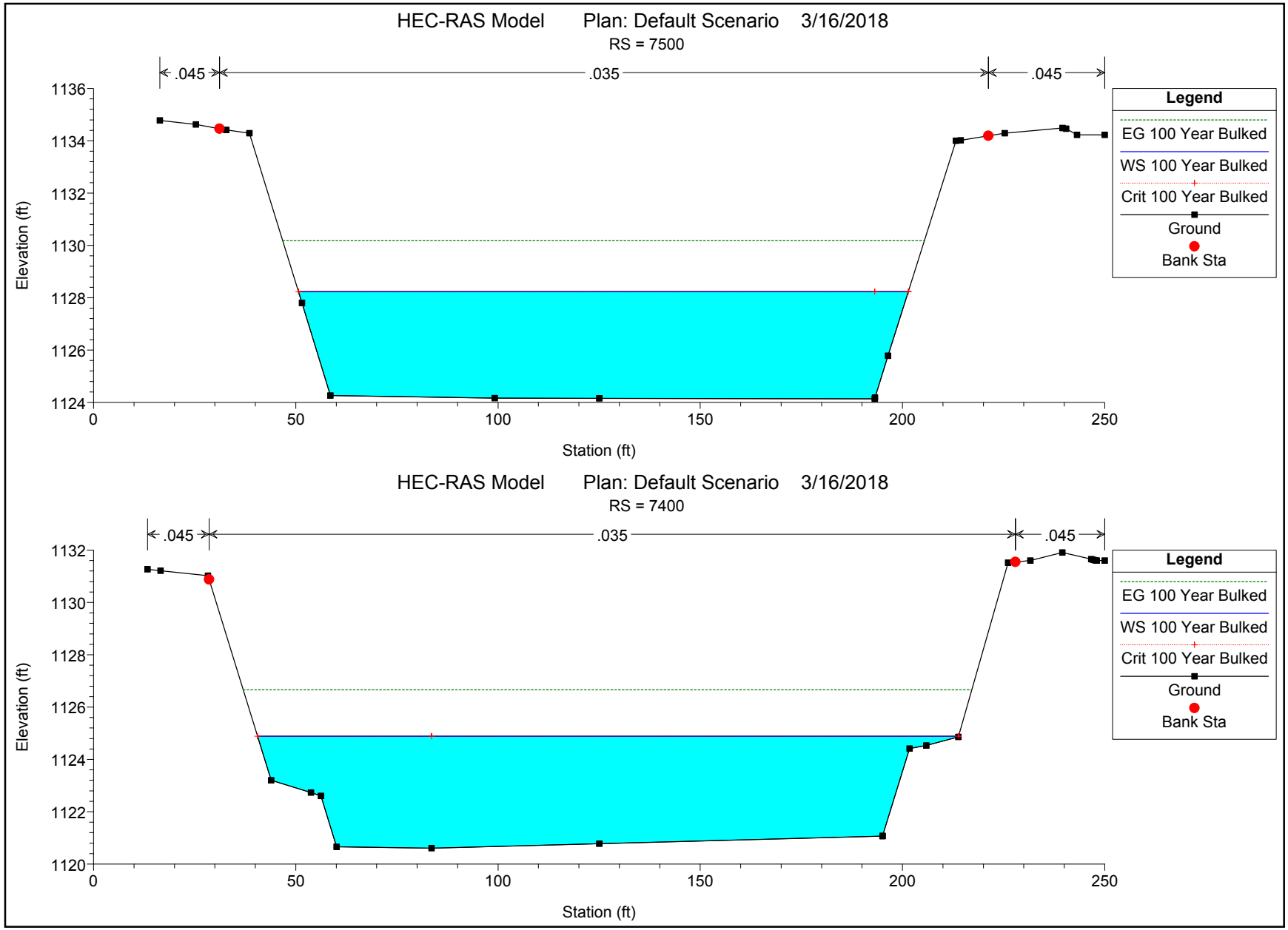

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 8400
.045
.035
.045
Elevation (ft)
1175
1170
1165
1160
1155
1150
1145
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 8300
.045
.035
.045
Elevation (ft)
1170
1165
1160
1155
1150
1145
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

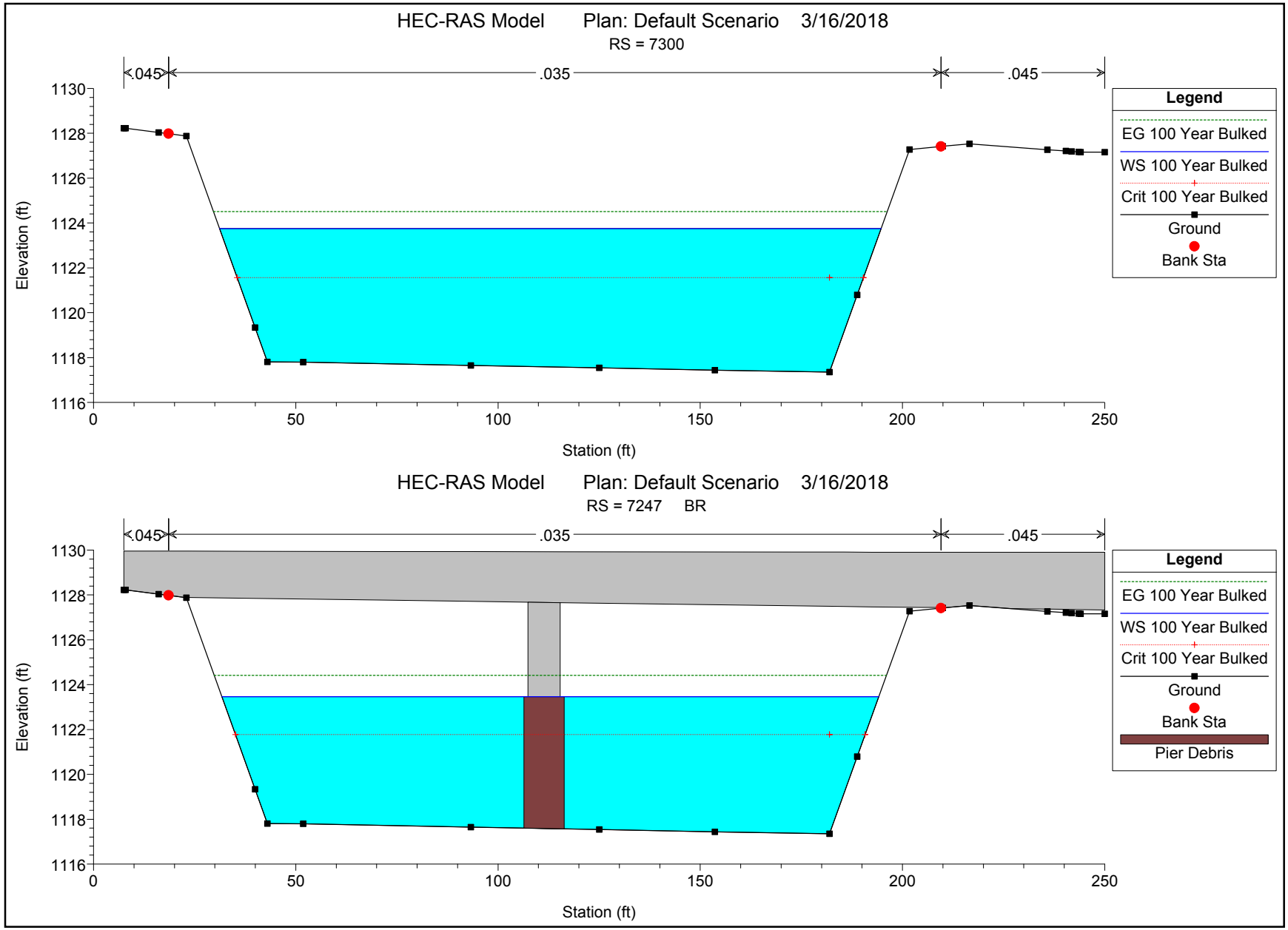

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 8200
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 8140
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Ground
Bank Sta

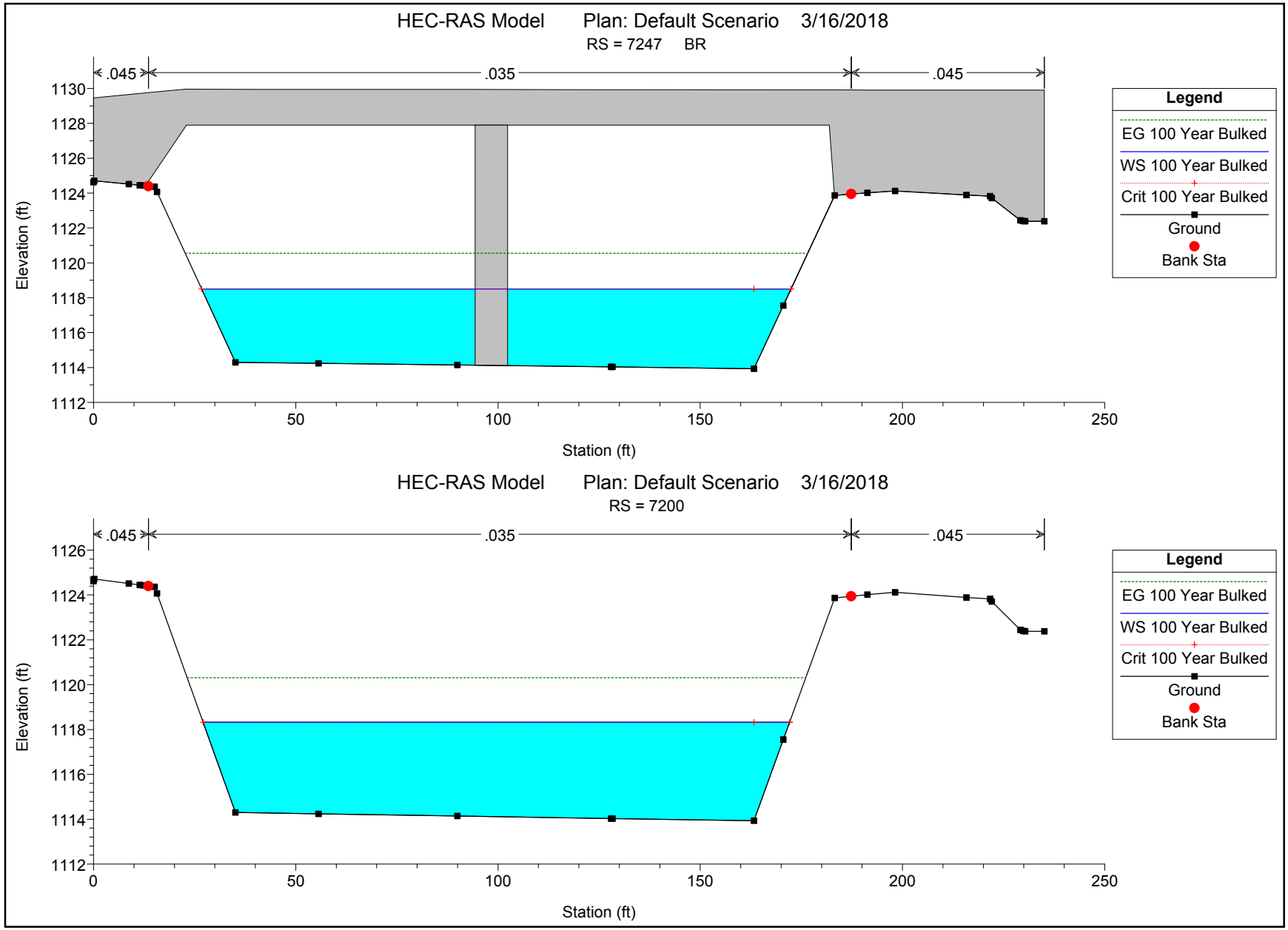

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 8100
.045
.035
.045
Elevation (ft)
1156
1154
1152
1150
1148
1146
1144
1142
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 8000
.045
.035
.045
Elevation (ft)
1152
1150
1148
1146
1144
1142
1140
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

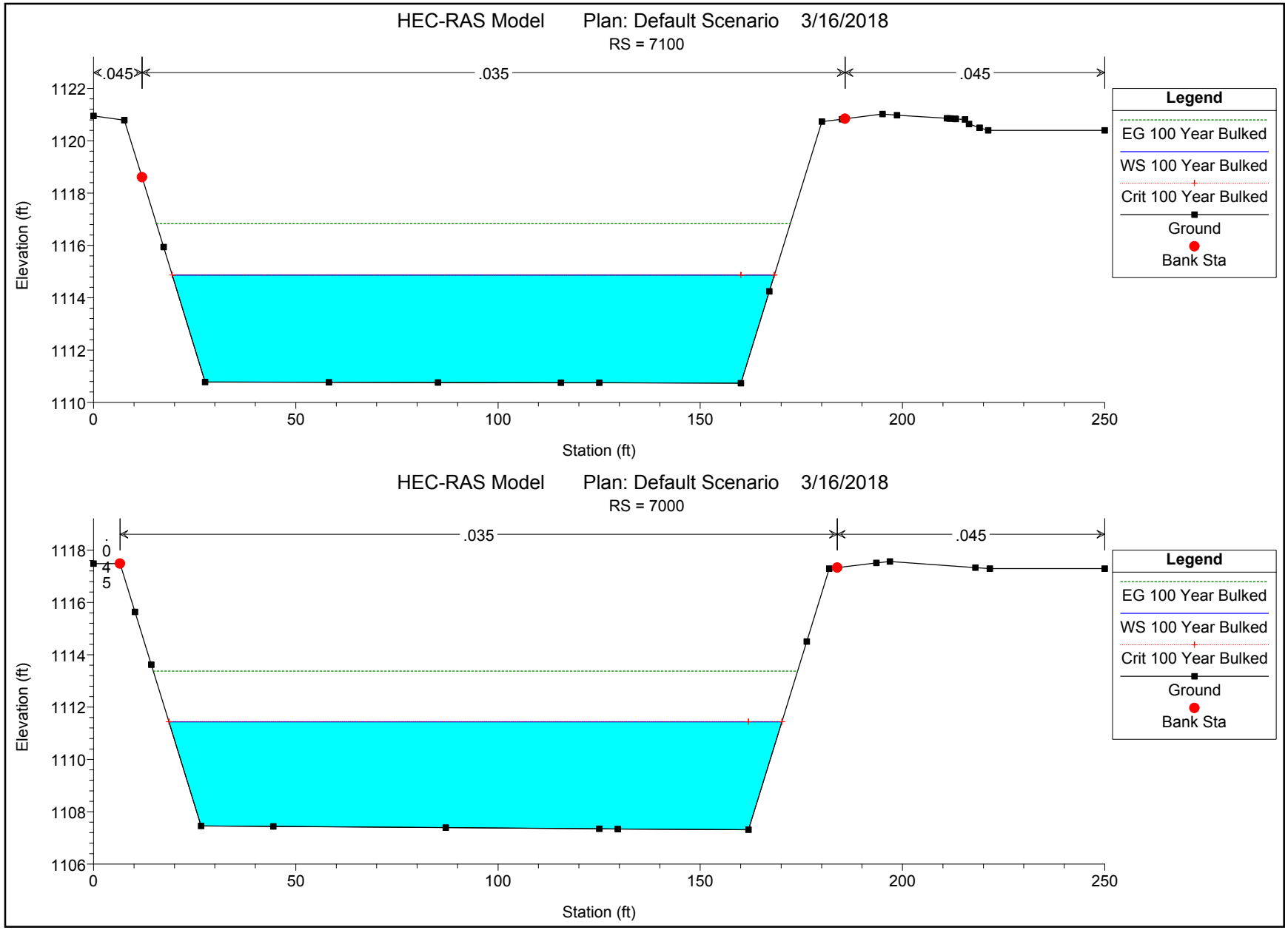

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 7900
.045
.035
.045
Elevation (ft)
1150
1148
1146
1144
1142
1140
1138
1136
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 7800
.045
.035
.045
Elevation (ft)
1146
1144
1142
1140
1138
1136
1134
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

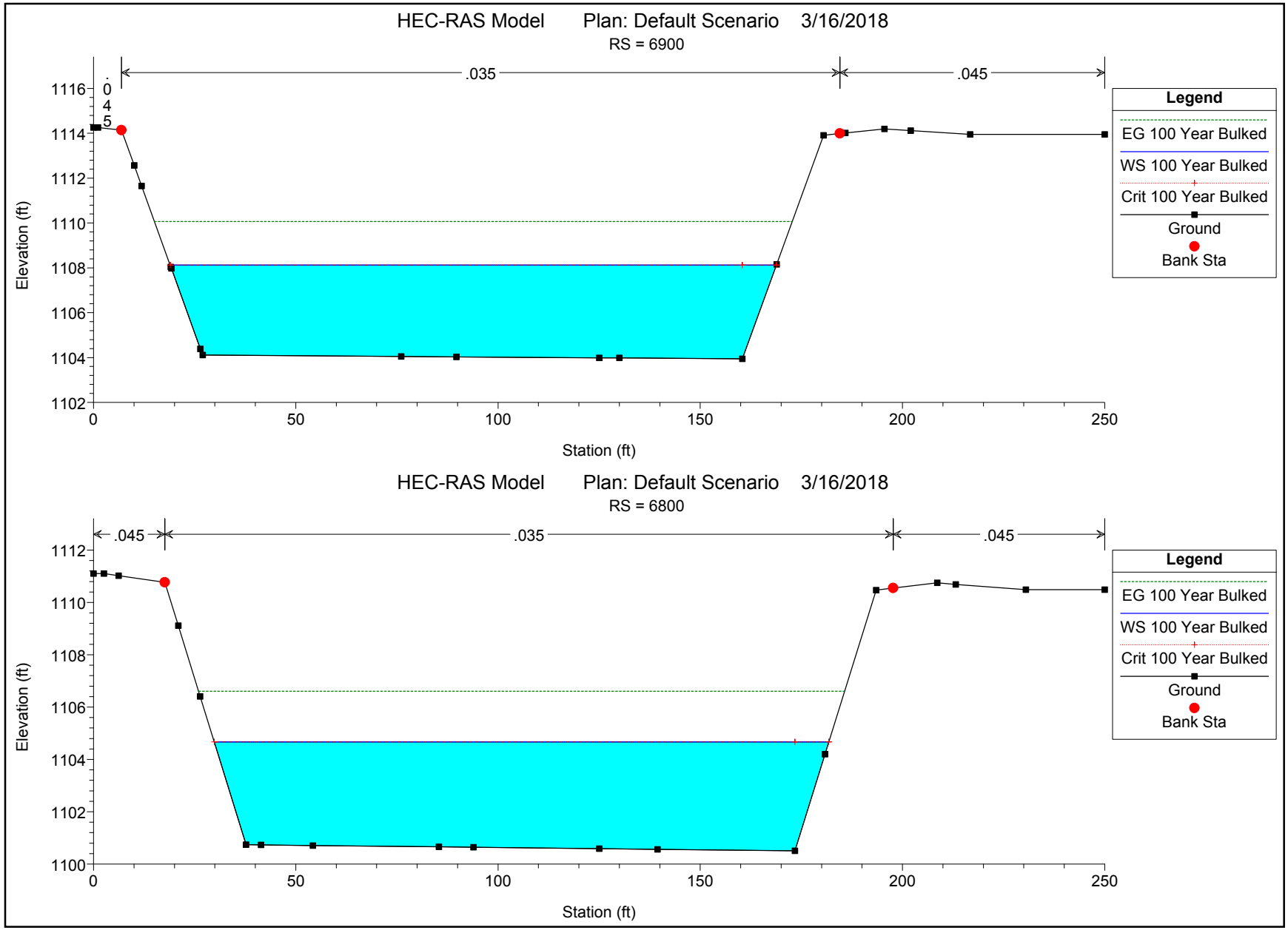

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 7700
.045
.035
.045
Elevation (ft)
1142
1140
1138
1136
1134
1132
1130
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 7600
.045
.035
.045
Elevation (ft)
1140
1138
1136
1134
1132
1130
1128
1126
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

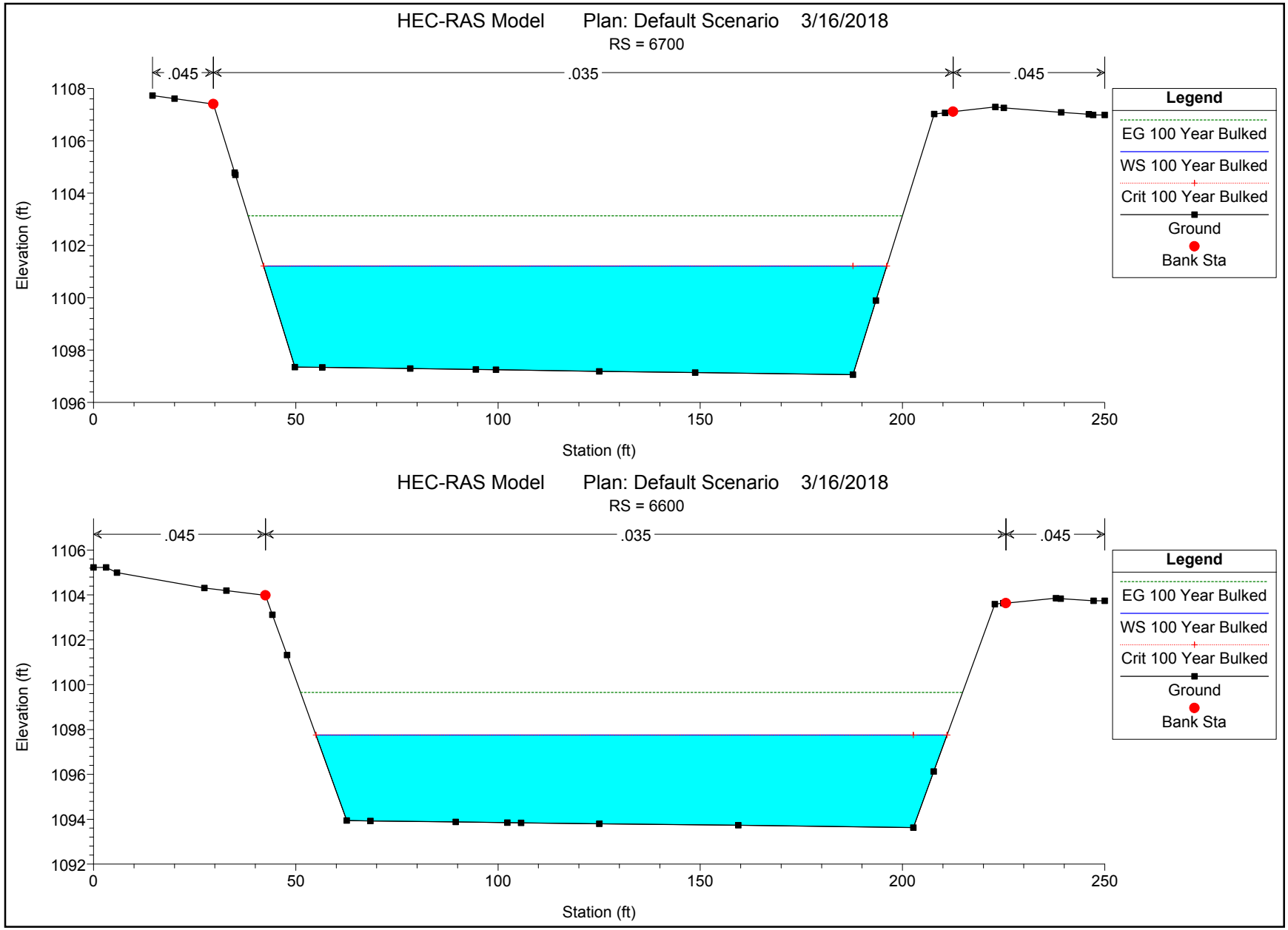

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 7500
.045
.035
.045
Elevation (ft)
1136
1134
1132
1130
1128
1126
1124
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 7400
.045
.035
.045
Elevation (ft)
1132
1130
1128
1126
1124
1122
1120
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

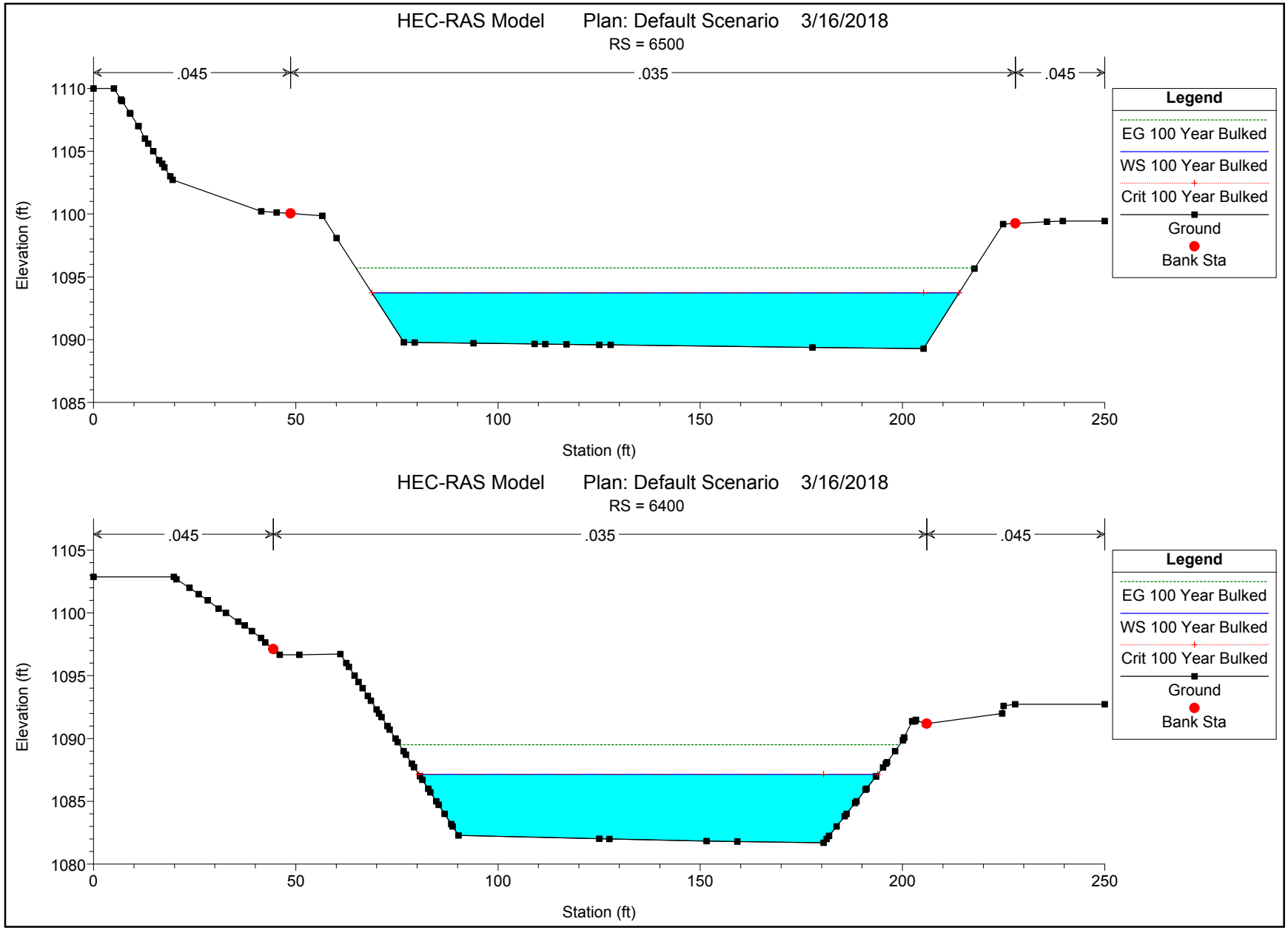

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 7300
.045
.035
.045
Elevation (ft)
1130
1128
1126
1124
1122
1120
1118
1116
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 7247 BR
.045
.035
.045
Elevation (ft)
1130
1128
1126
1124
1122
1120
1118
1116
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
Pier Debris

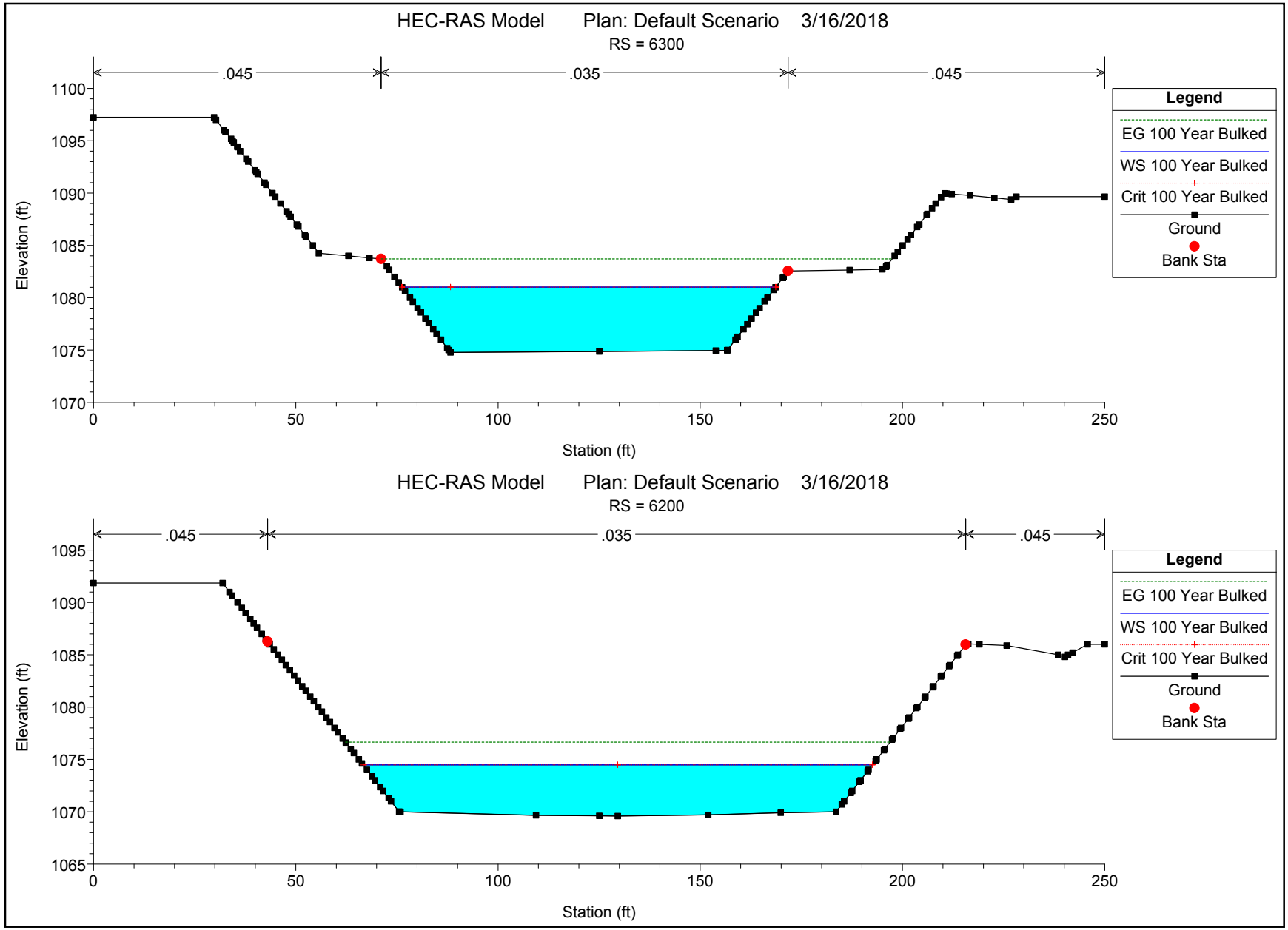

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 7247 BR
.045
.035
.045
Elevation (ft)
1130
1128
1126
1124
1122
1120
1118
1116
1114
1112
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 7200
.045
.035
.045
Elevation (ft)
1126
1124
1122
1120
1118
1116
1114
1112
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

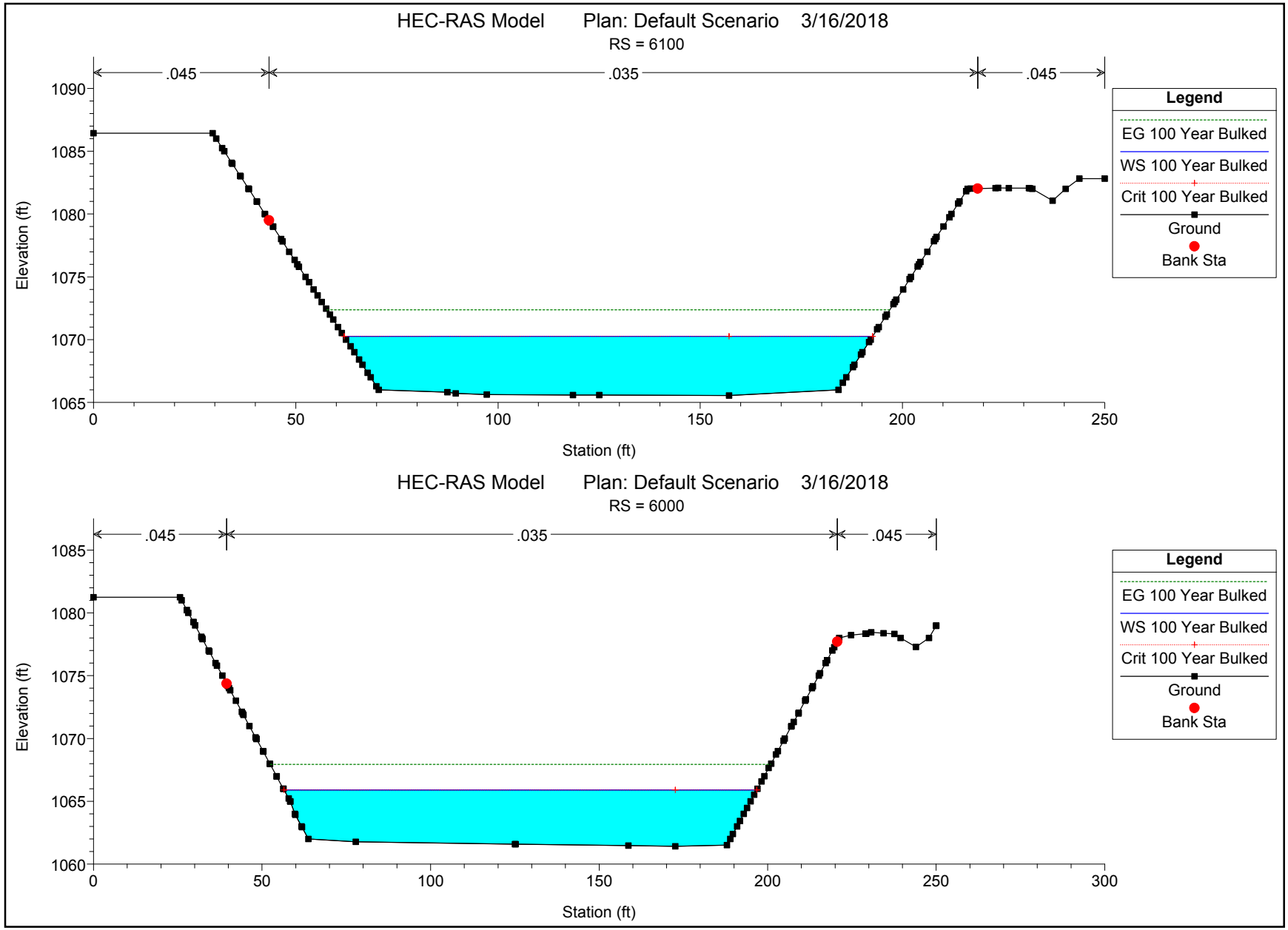

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 7100
.045
.035
.045
Elevation (ft)
1122
1120
1118
1116
1114
1112
1110
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 7000
.045
.035
.045
Elevation (ft)
1118
1116
1114
1112
1110
1108
1106
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

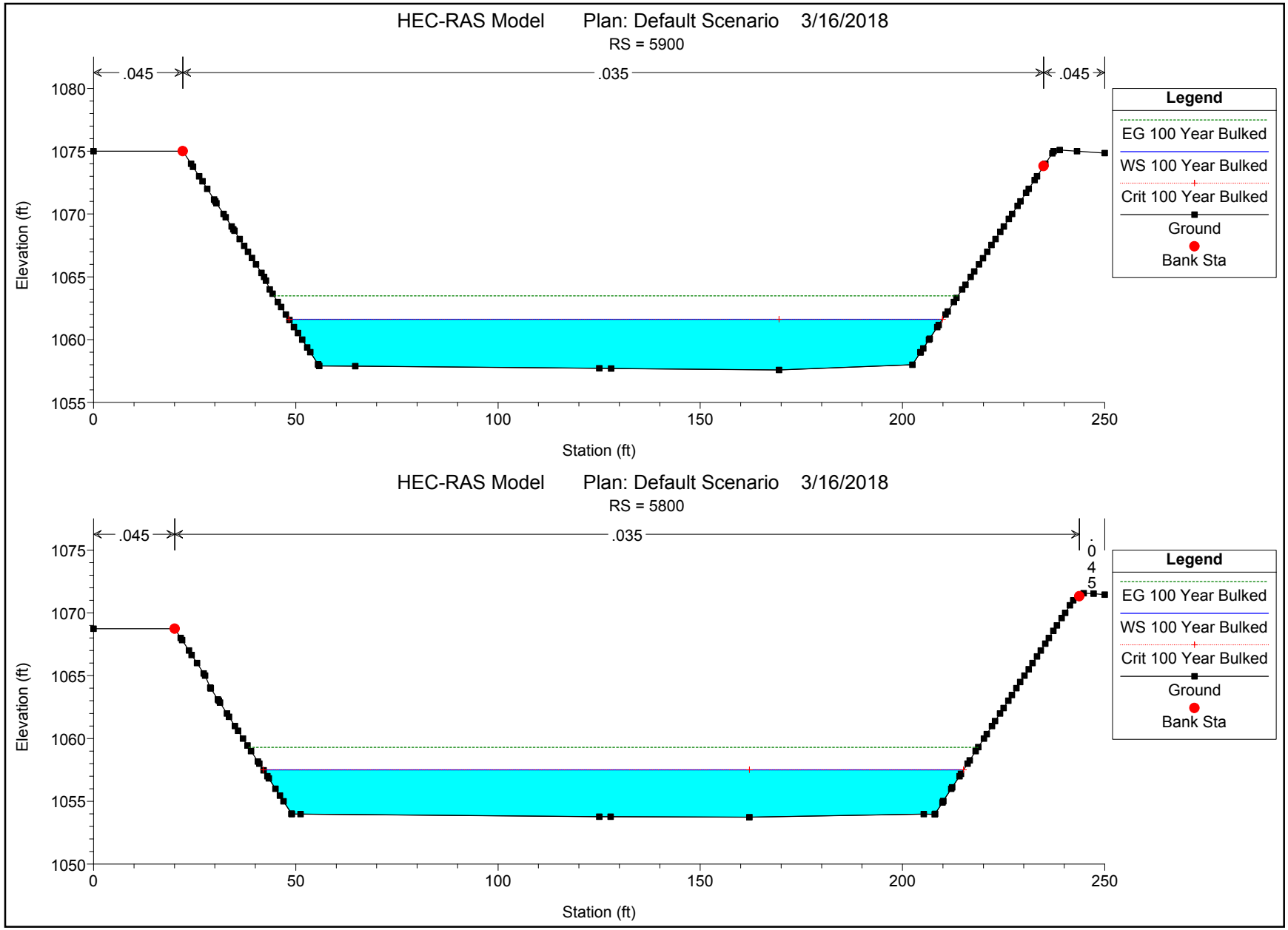

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 6900
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 6800
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

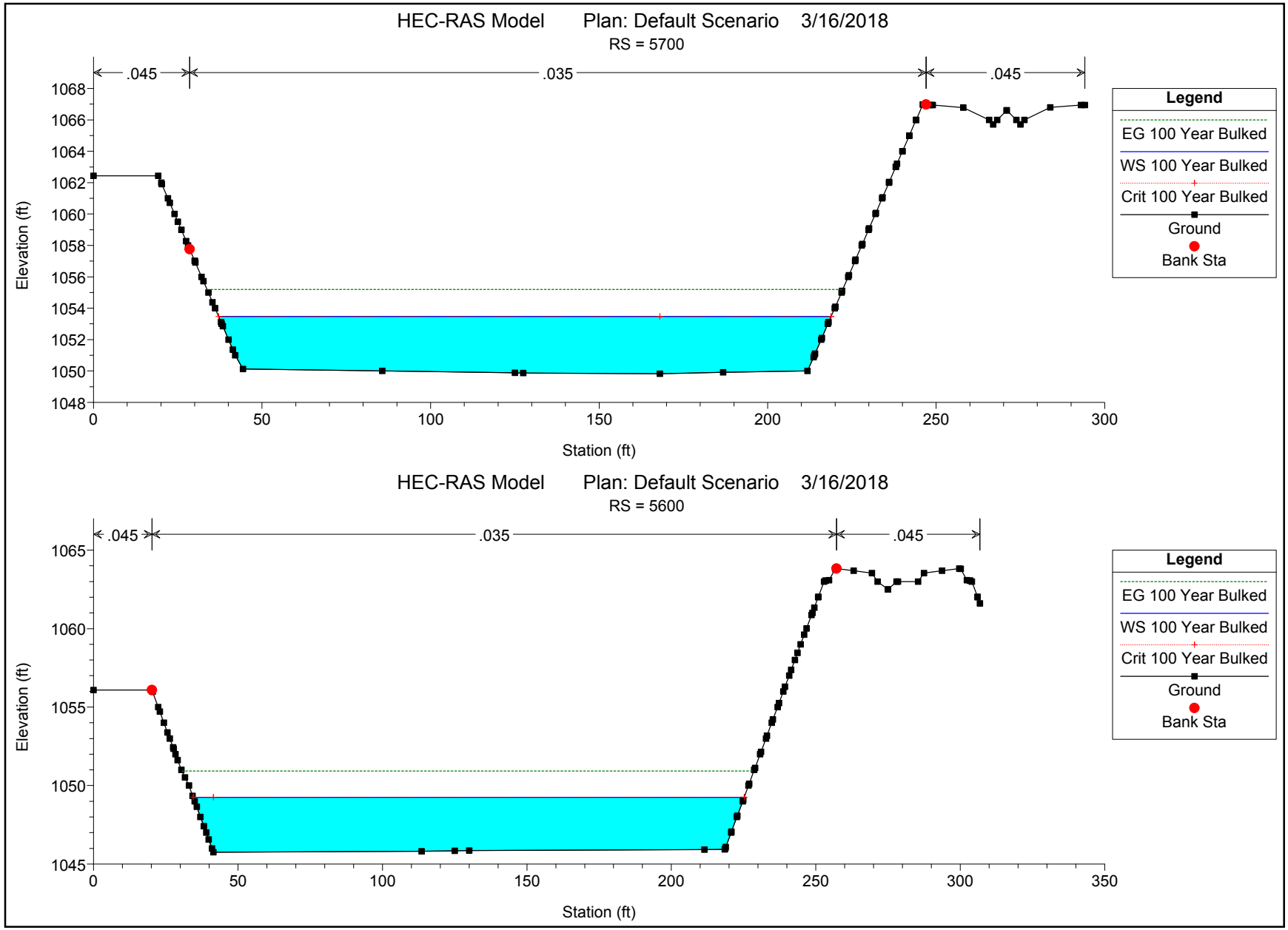

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 6700
.045
.035
.045
Elevation (ft)
1108
1106
1104
1102
1100
1098
1096
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 6600
.045
.035
.045
Elevation (ft)
1106
1104
1102
1100
1098
1096
1094
1092
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

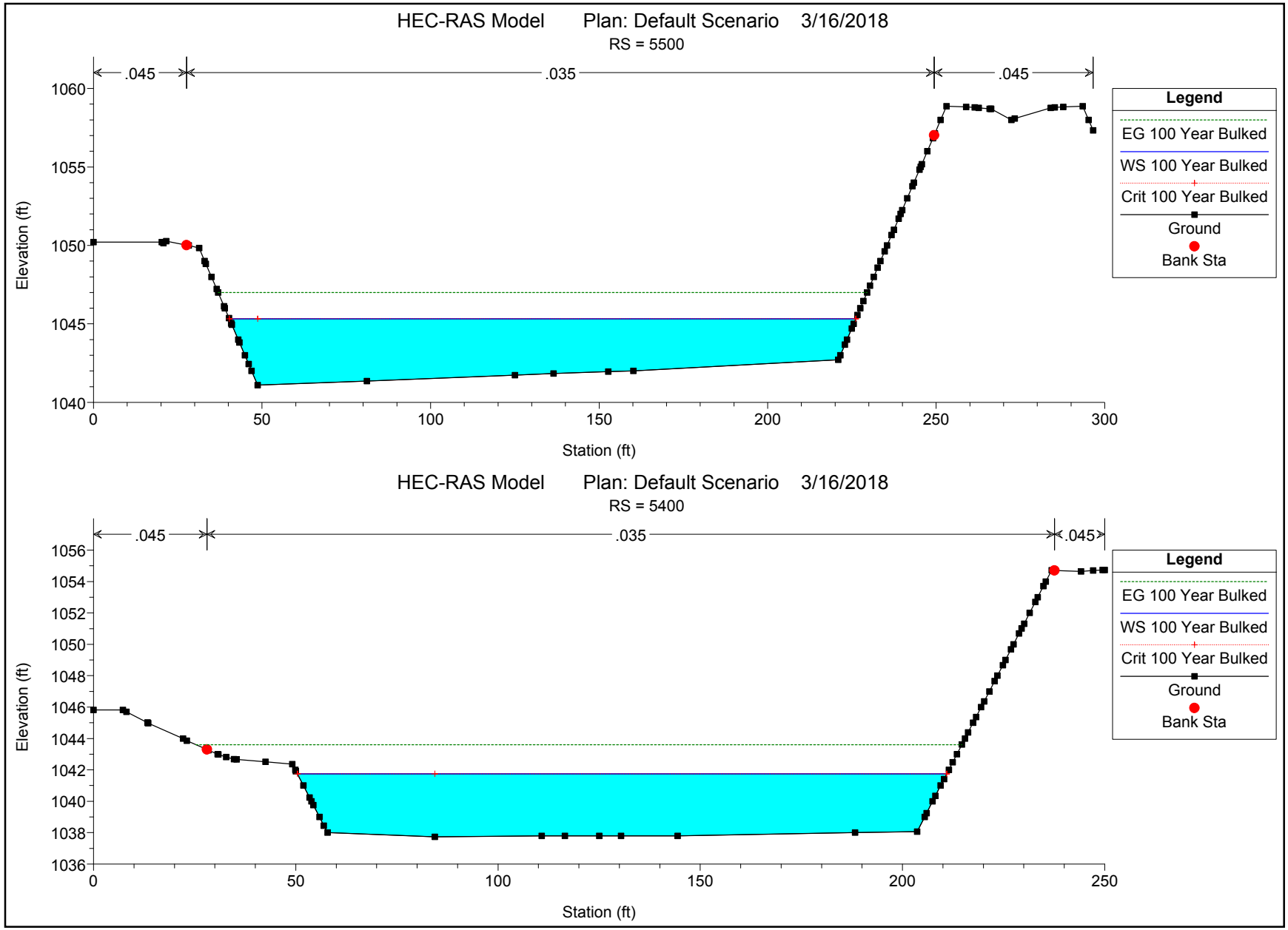

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 6500
.045
.035
.045
Elevation (ft)
1110
1105
1100
1095
1090
1085
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 6400
.045
.035
.045
Elevation (ft)
1105
1100
1095
1090
1085
1080
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

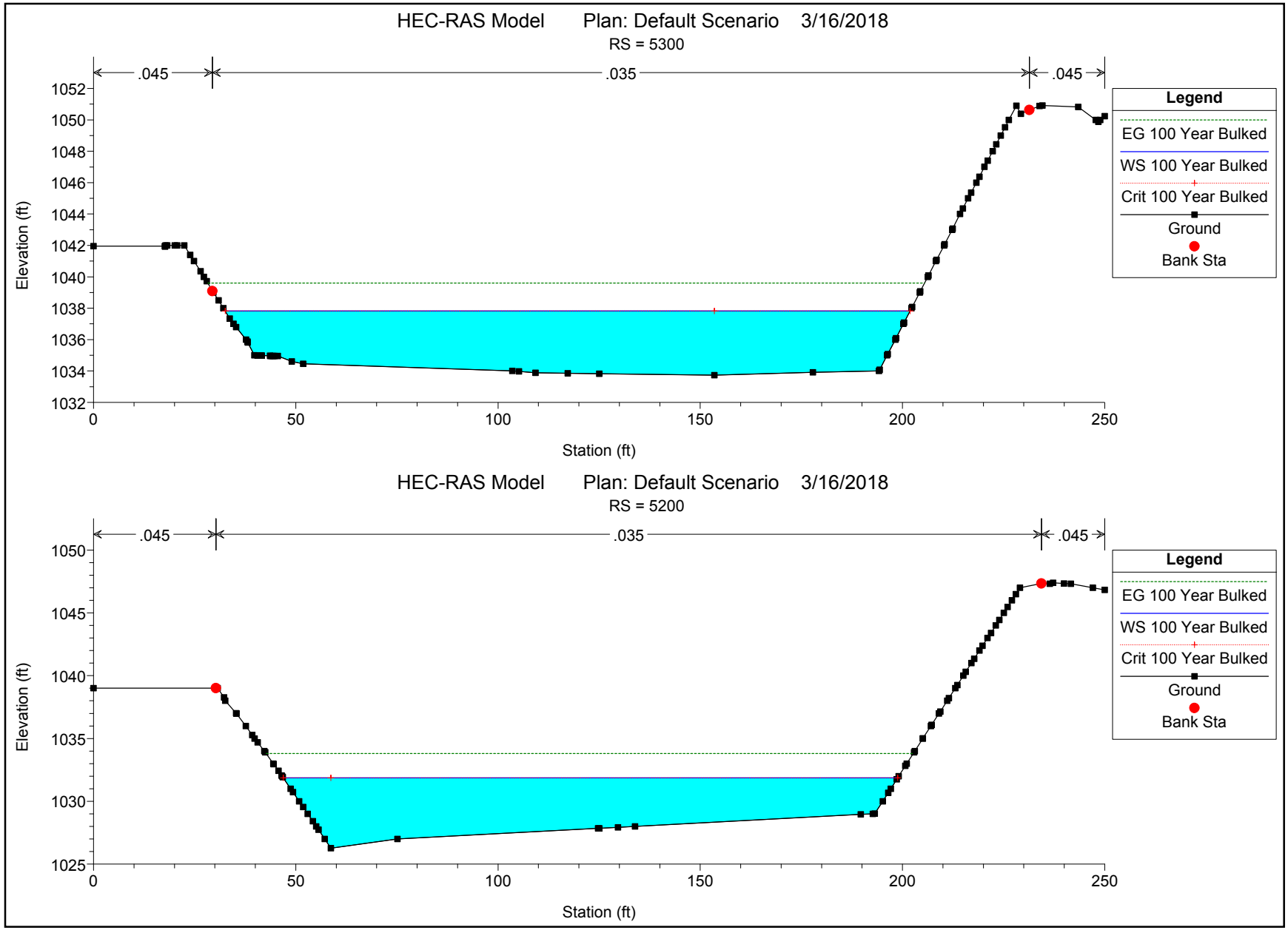

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 6300
.045
.035
.045
Elevation (ft)
1100
1095
1090
1085
1080
1075
1070
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 6200
.045
.035
.045
Elevation (ft)
1095
1090
1085
1080
1075
1070
1065
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

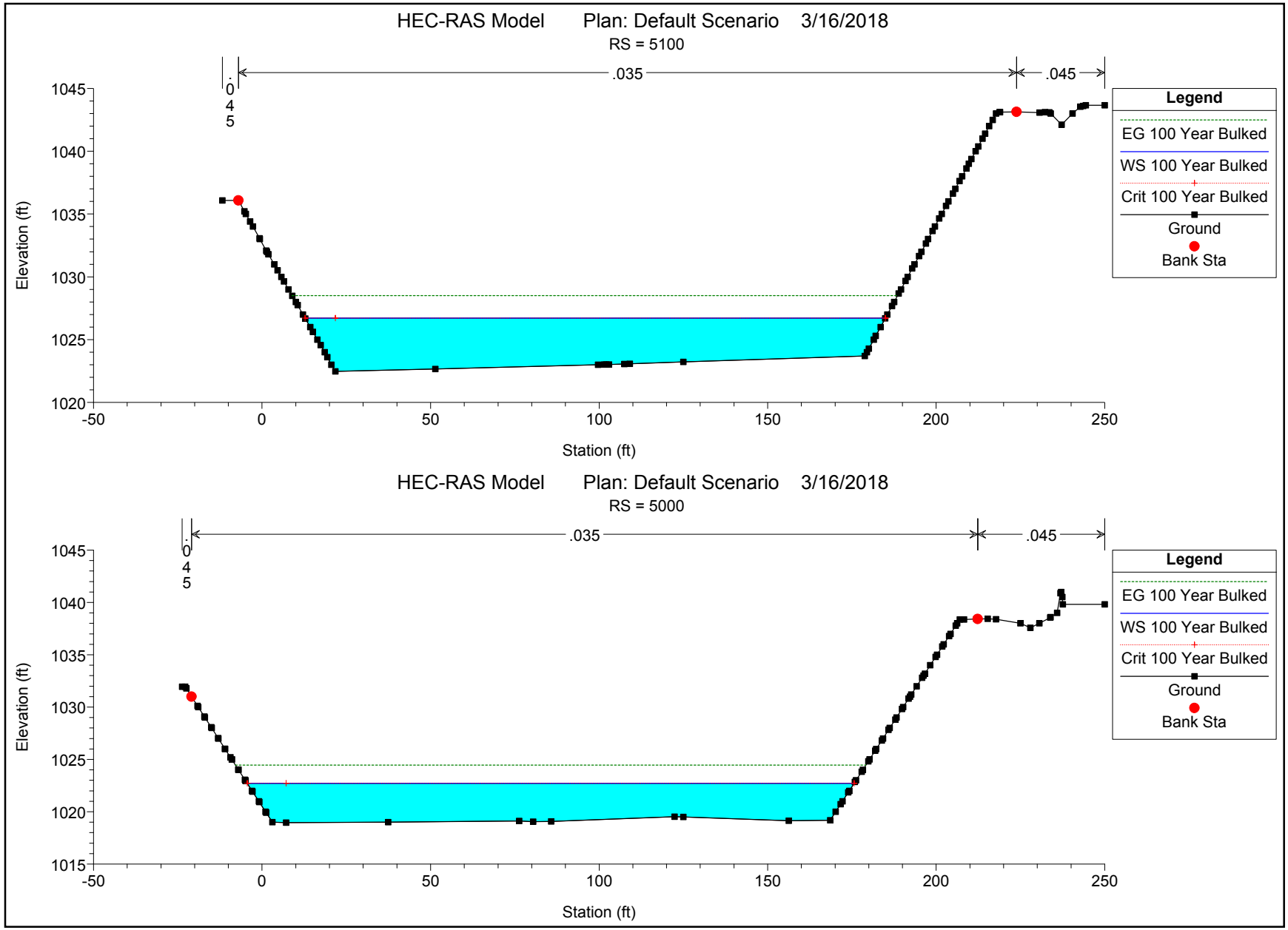

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 6100
.045
.035
.045
Elevation (ft)
1090
1085
1080
1075
1070
1065
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 6000
.045
.035
.045
Elevation (ft)
1085
1080
1075
1070
1065
1060
0
50
100
150
200
250
300
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

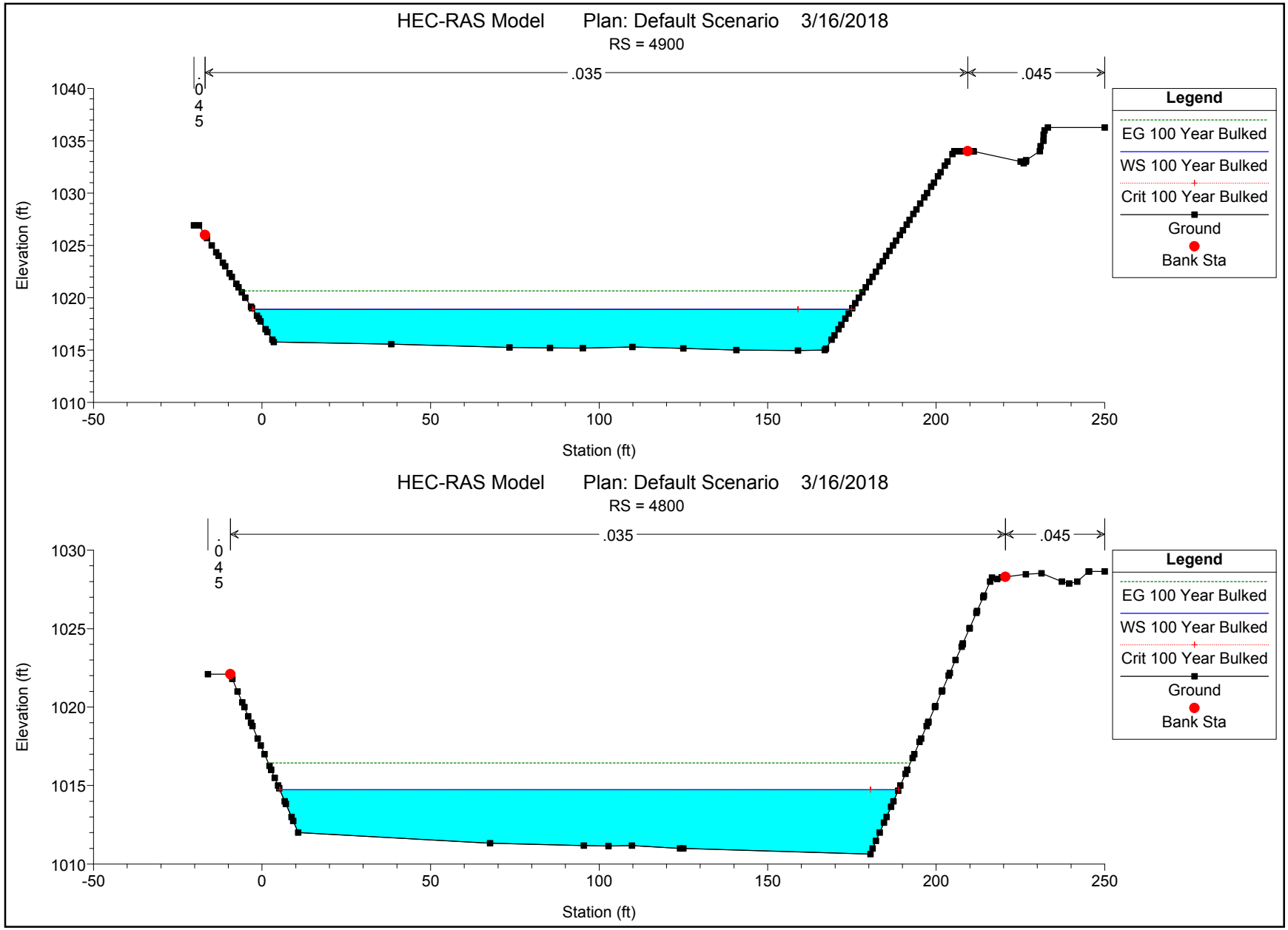

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 5900
.045
.035
.045
1080
1075
1070
1065
1060
1055
Elevation (ft)
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 5800
.045
.035
.045
1075
1070
1065
1060
1055
1050
Elevation (ft)
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

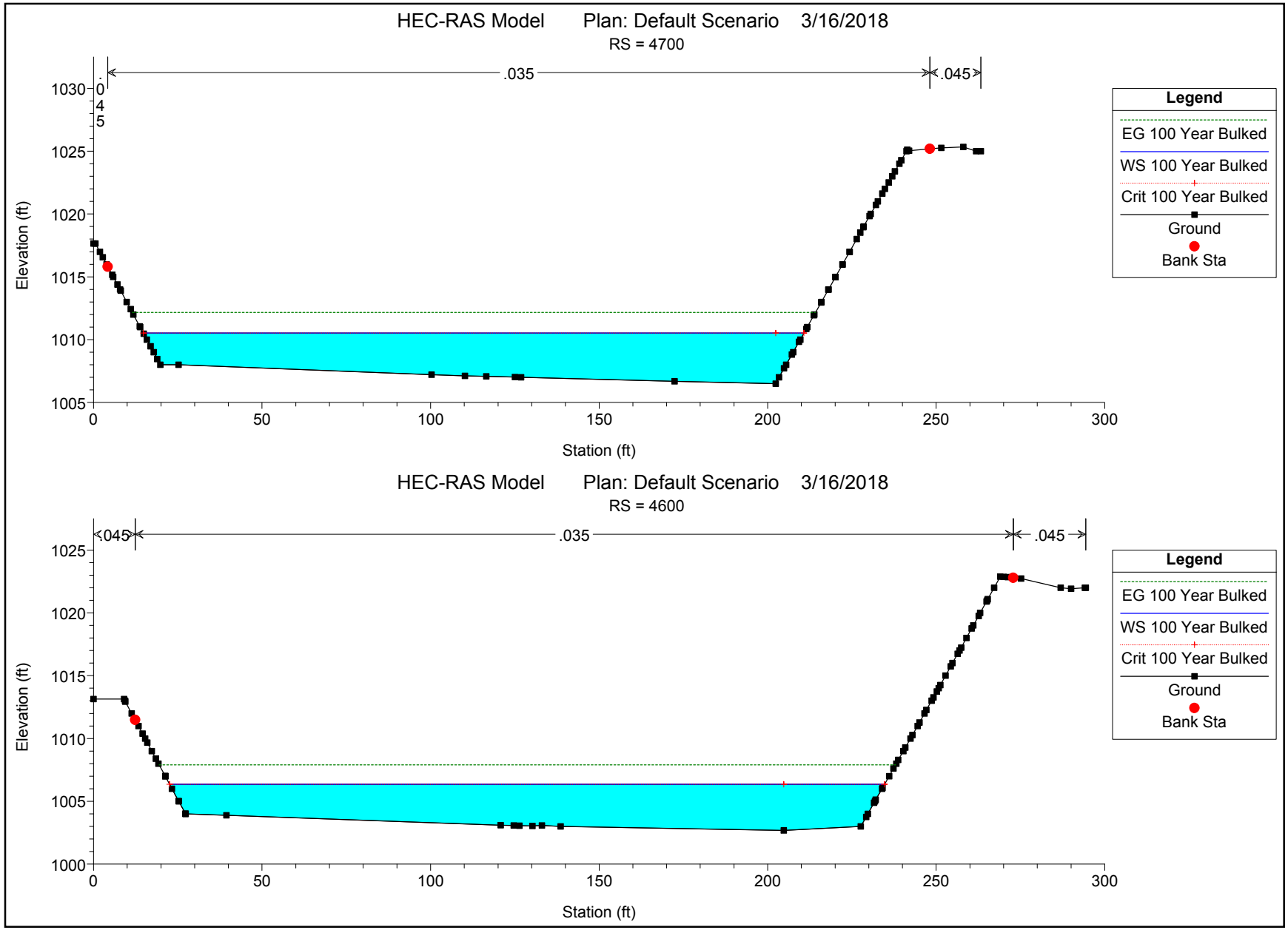

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 5700
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 5600
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

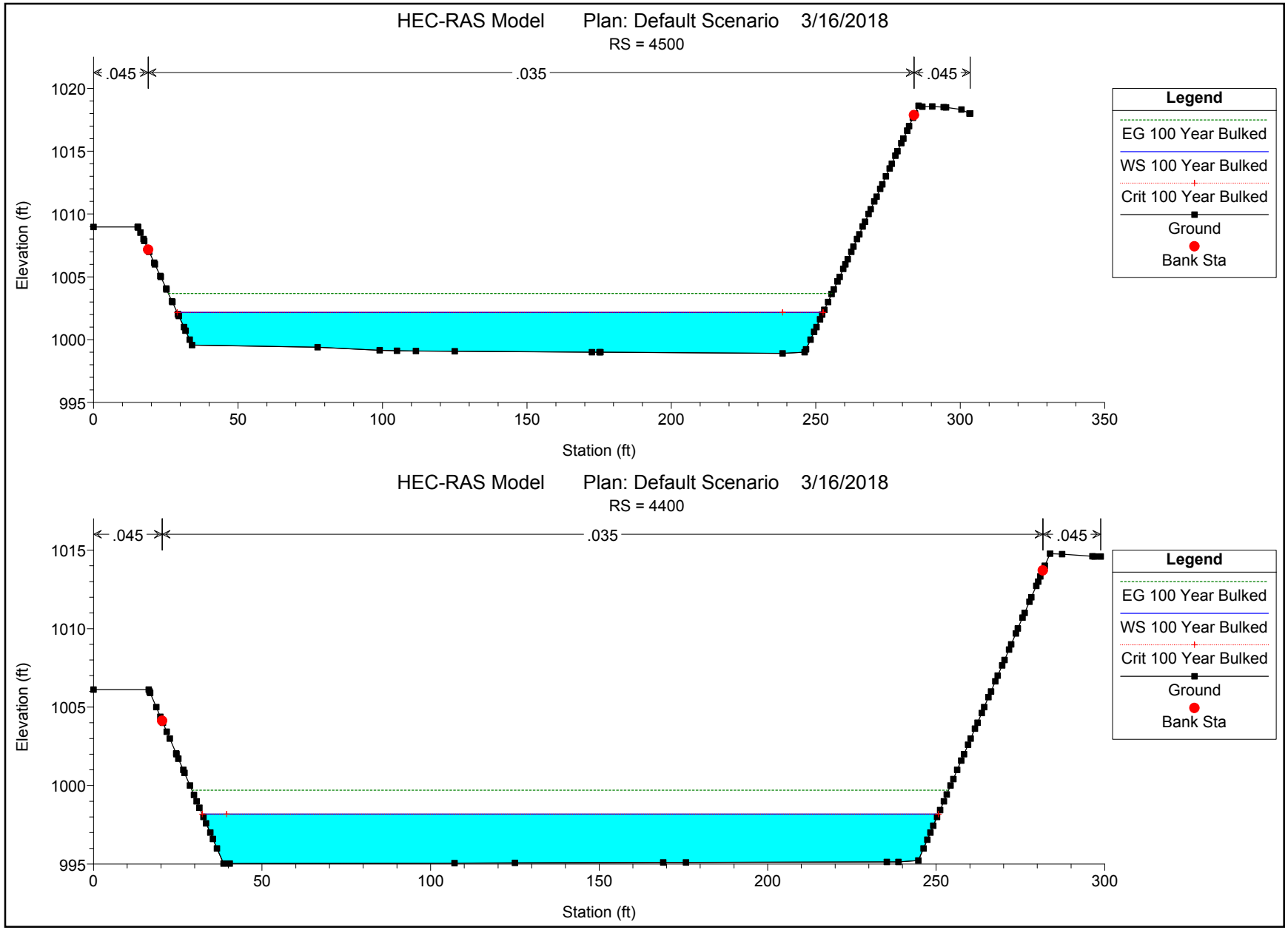

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 5500
.045
.035
.045
Elevation (ft)
1060
1055
1050
1045
1040
0
50
100
150
200
250
300
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 5400
.045
.035
.045
Elevation (ft)
1056
1054
1052
1050
1048
1046
1044
1042
1040
1038
1036
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

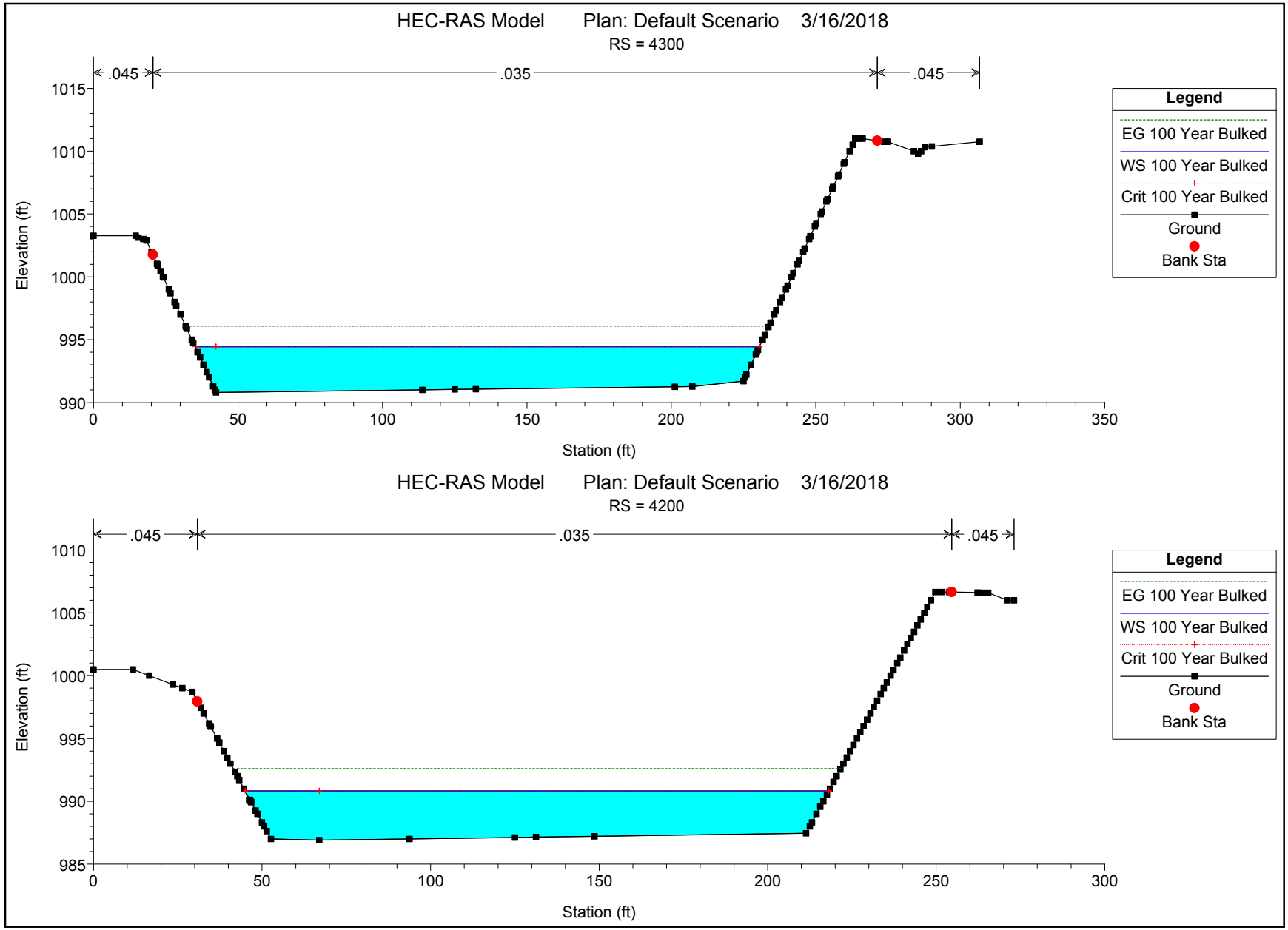

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 5300
.045
.035
.045
Elevation (ft)
1052
1050
1048
1046
1044
1042
1040
1038
1036
1034
1032
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 5200
.045
.035
.045
Elevation (ft)
1050
1045
1040
1035
1030
1025
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

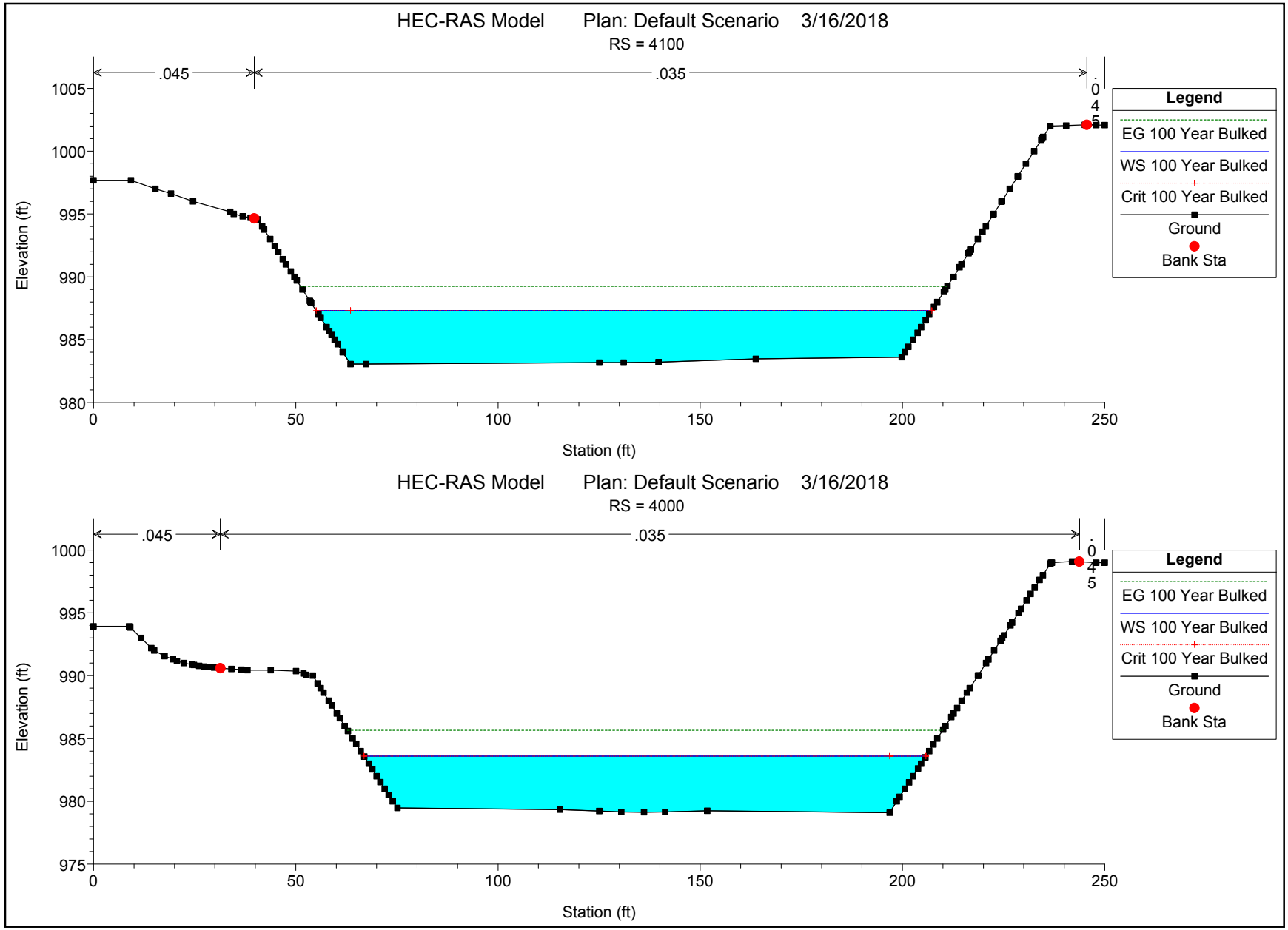

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 5100
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 5000
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

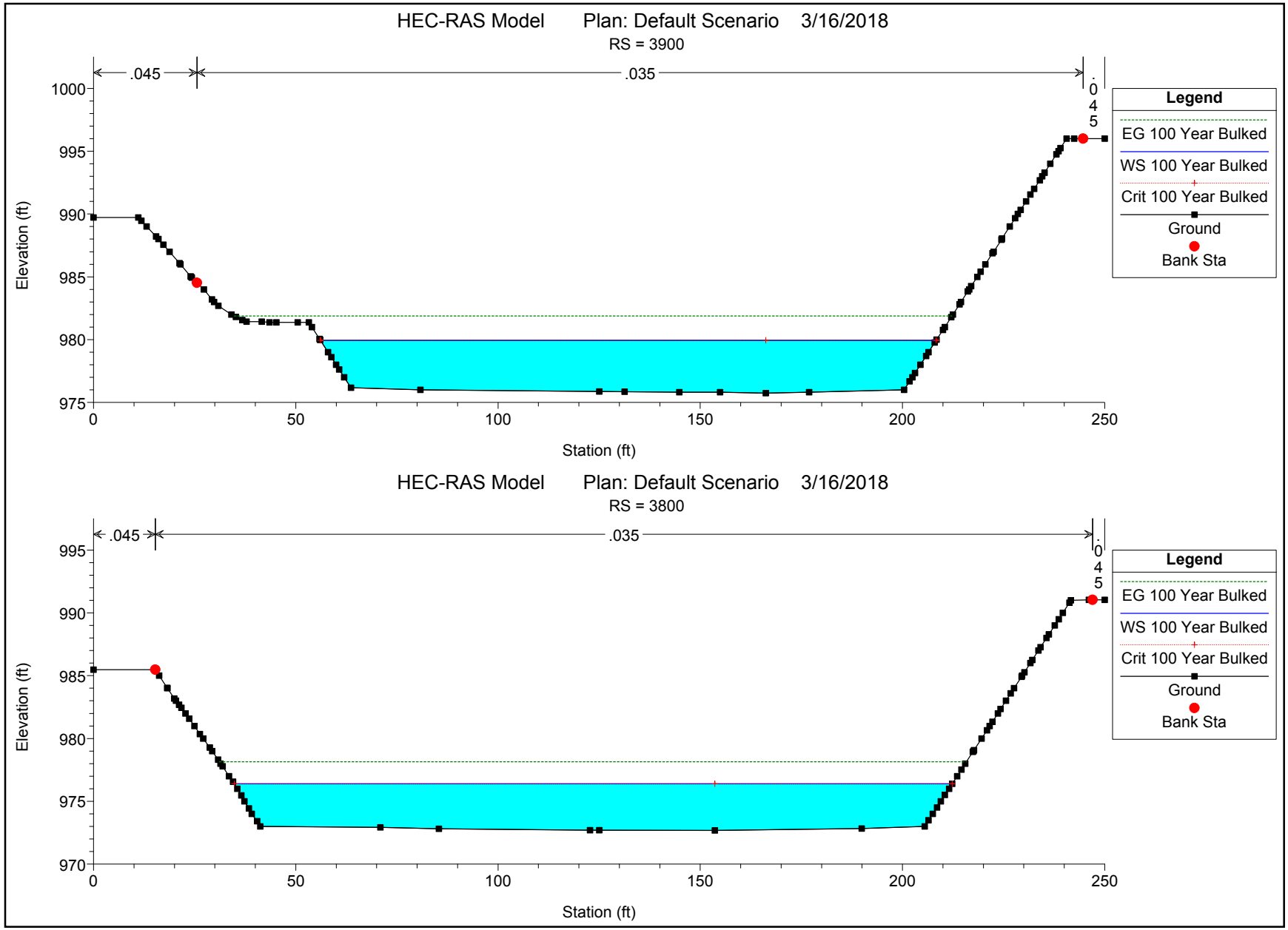

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 4900
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 4800
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

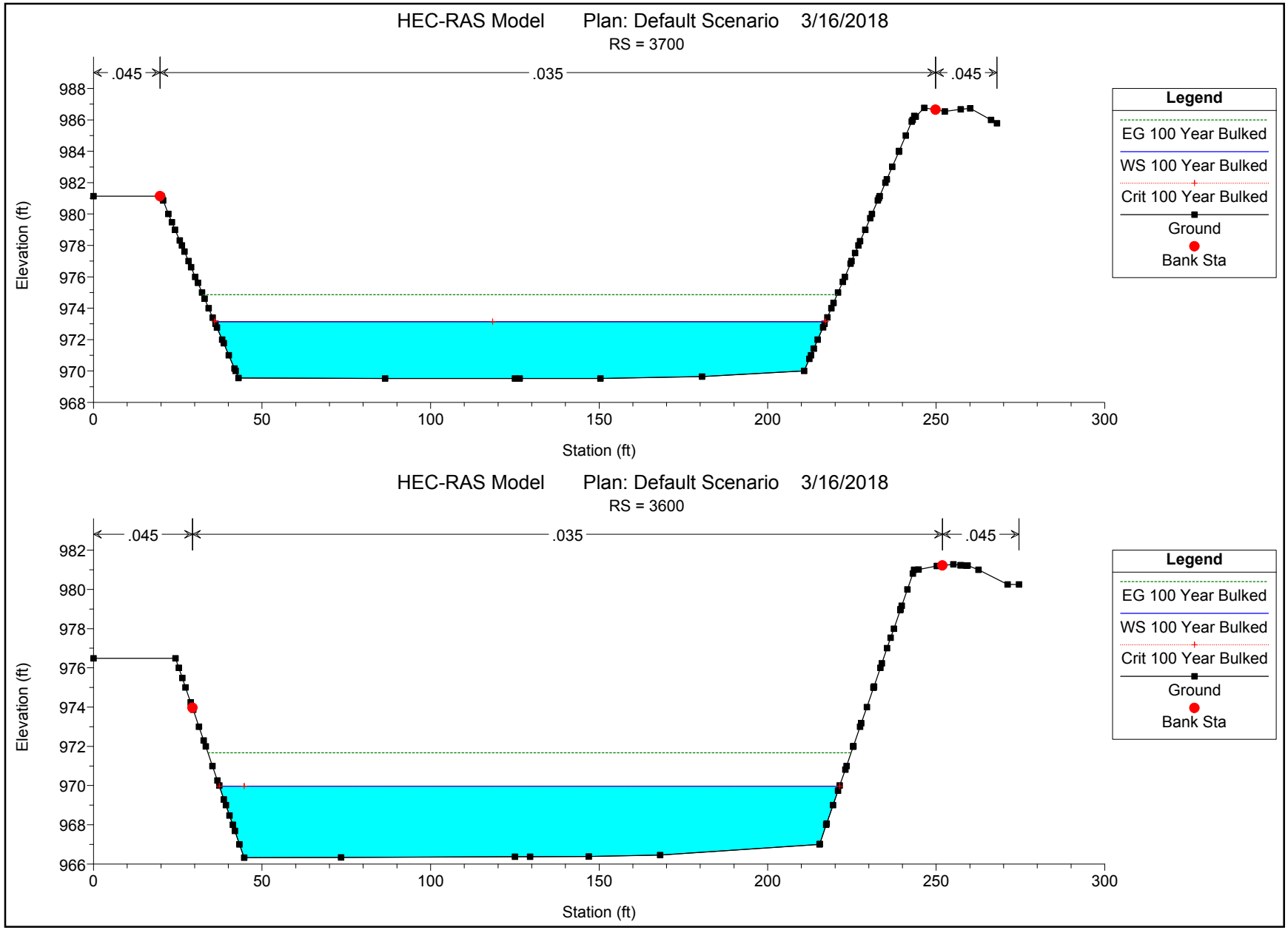

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 4700
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 4600
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

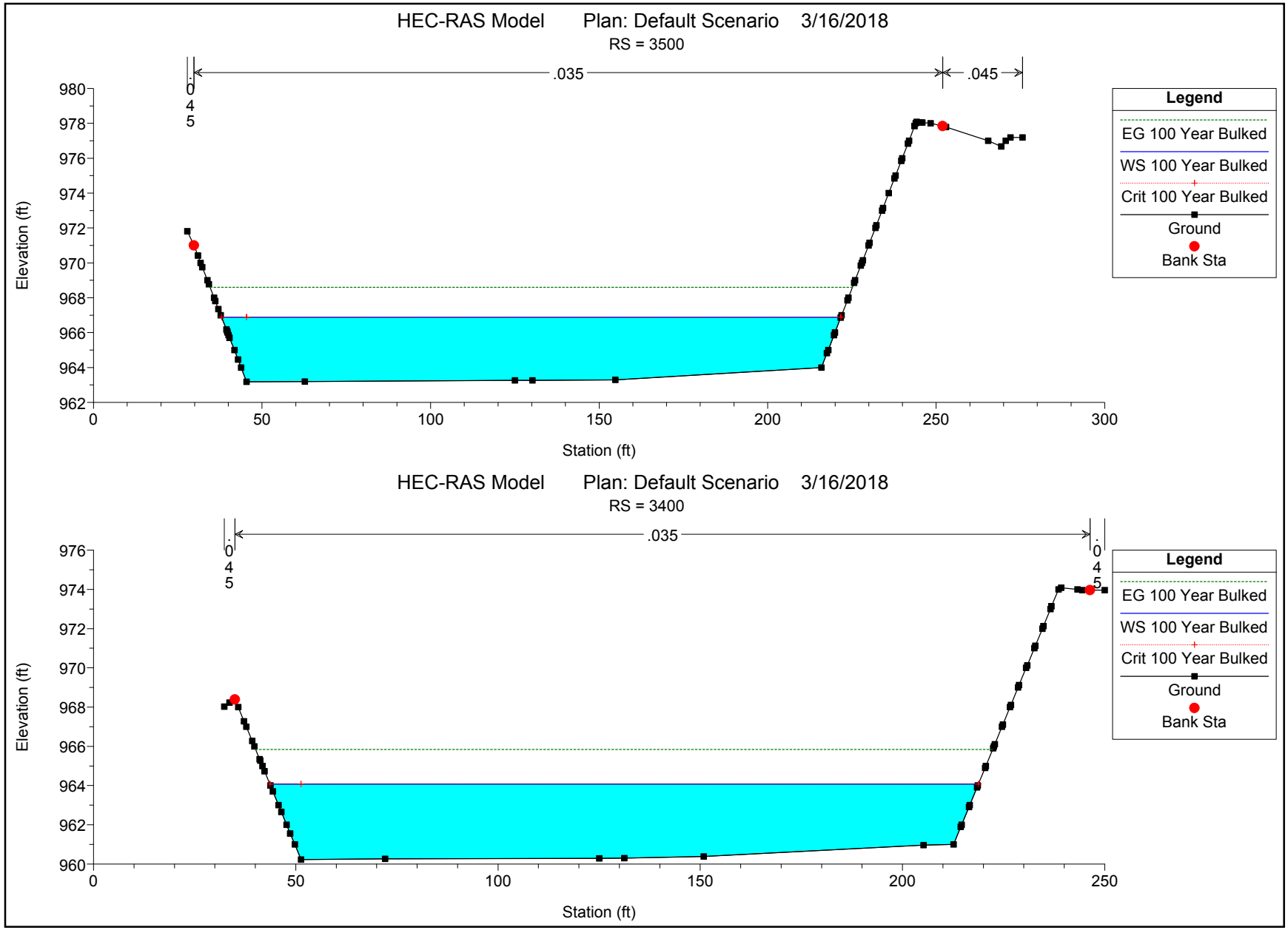

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 4500
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 4400
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

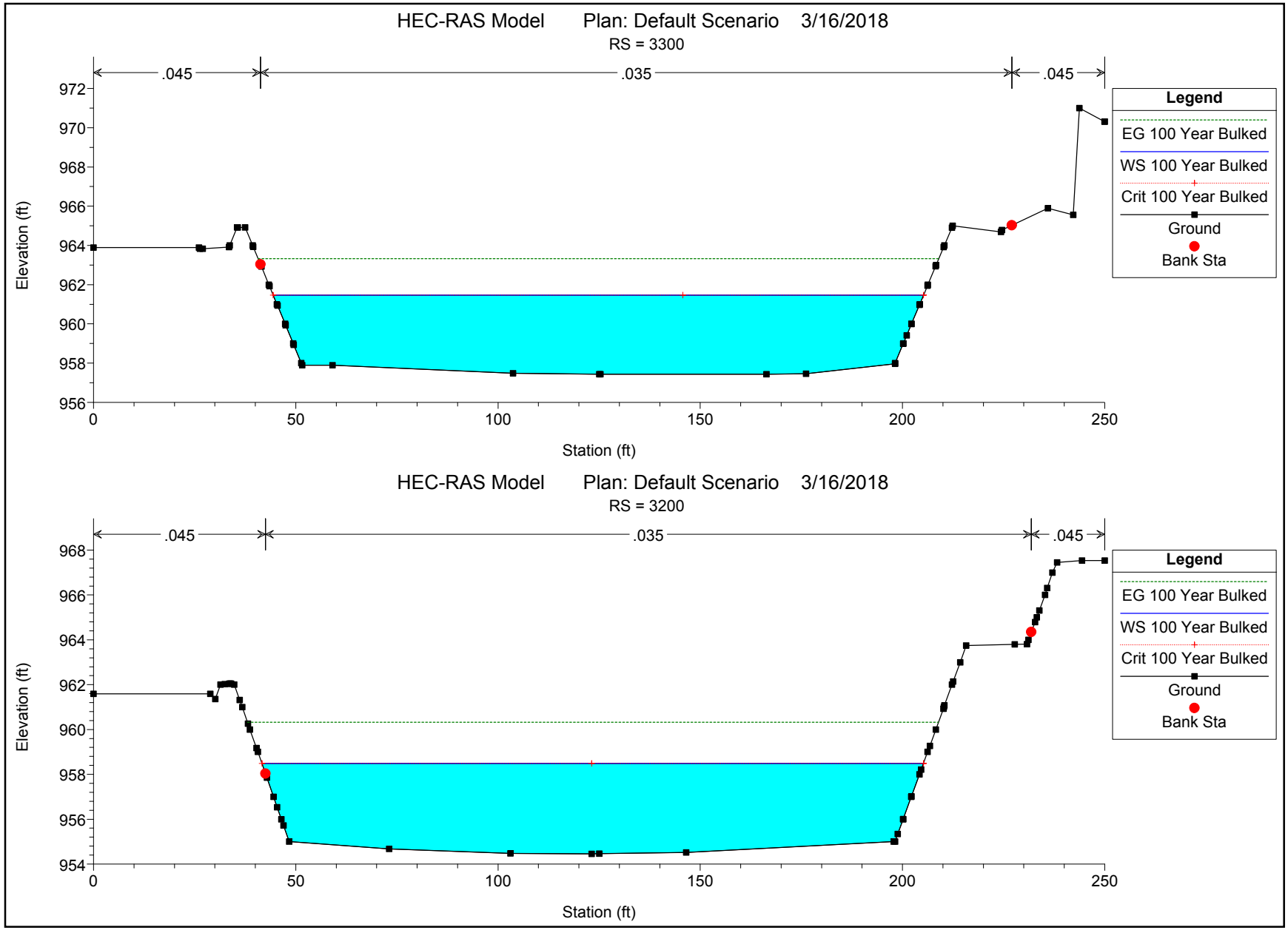

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 4300
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 4200
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

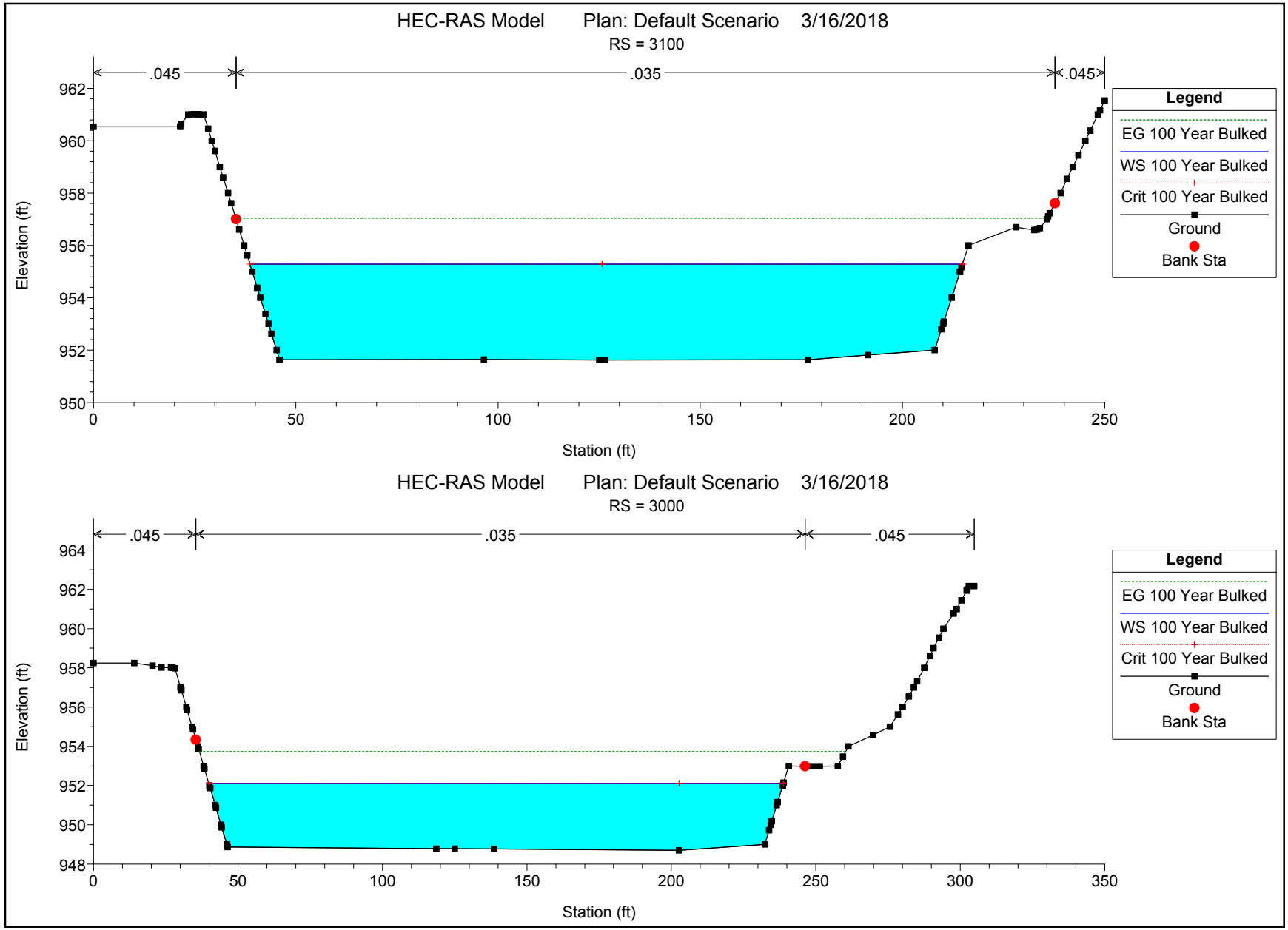

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 4100
.045
.035
.045
Elevation (ft)
1005
1000
995
990
985
980
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 4000
.045
.035
.045
Elevation (ft)
1000
995
990
985
980
975
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

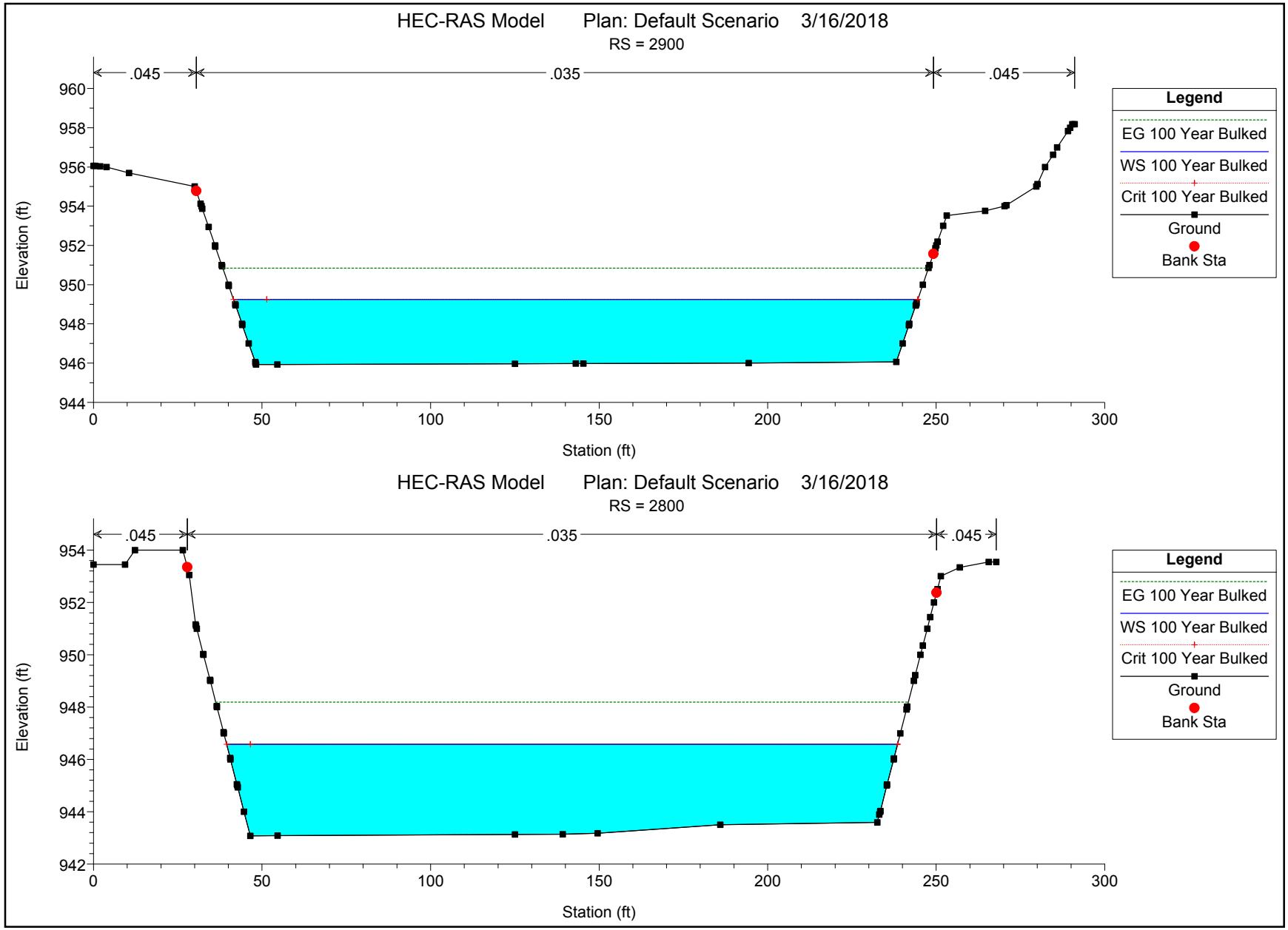

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 3900
.045
.035
.045
1000
995
990
985
980
975
Elevation (ft)
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 3800
.045
.035
.045
995
990
985
980
975
970
Elevation (ft)
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

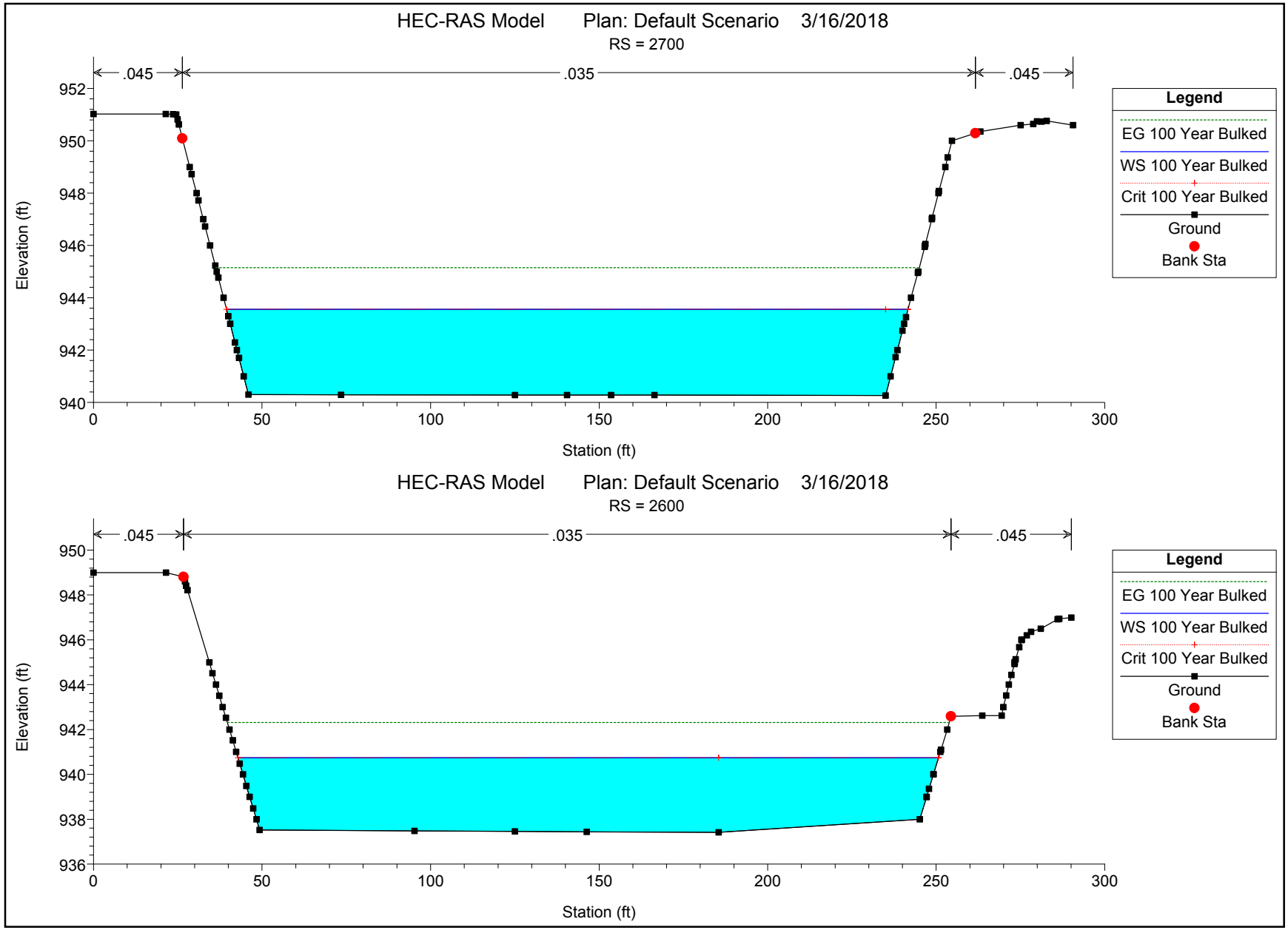

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 3700
.045
.035
.045
Elevation (ft)
988
986
984
982
980
978
976
974
972
970
968
0
50
100
150
200
250
300
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 3600
.045
.035
.045
Elevation (ft)
982
980
978
976
974
972
970
968
966
0
50
100
150
200
250
300
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

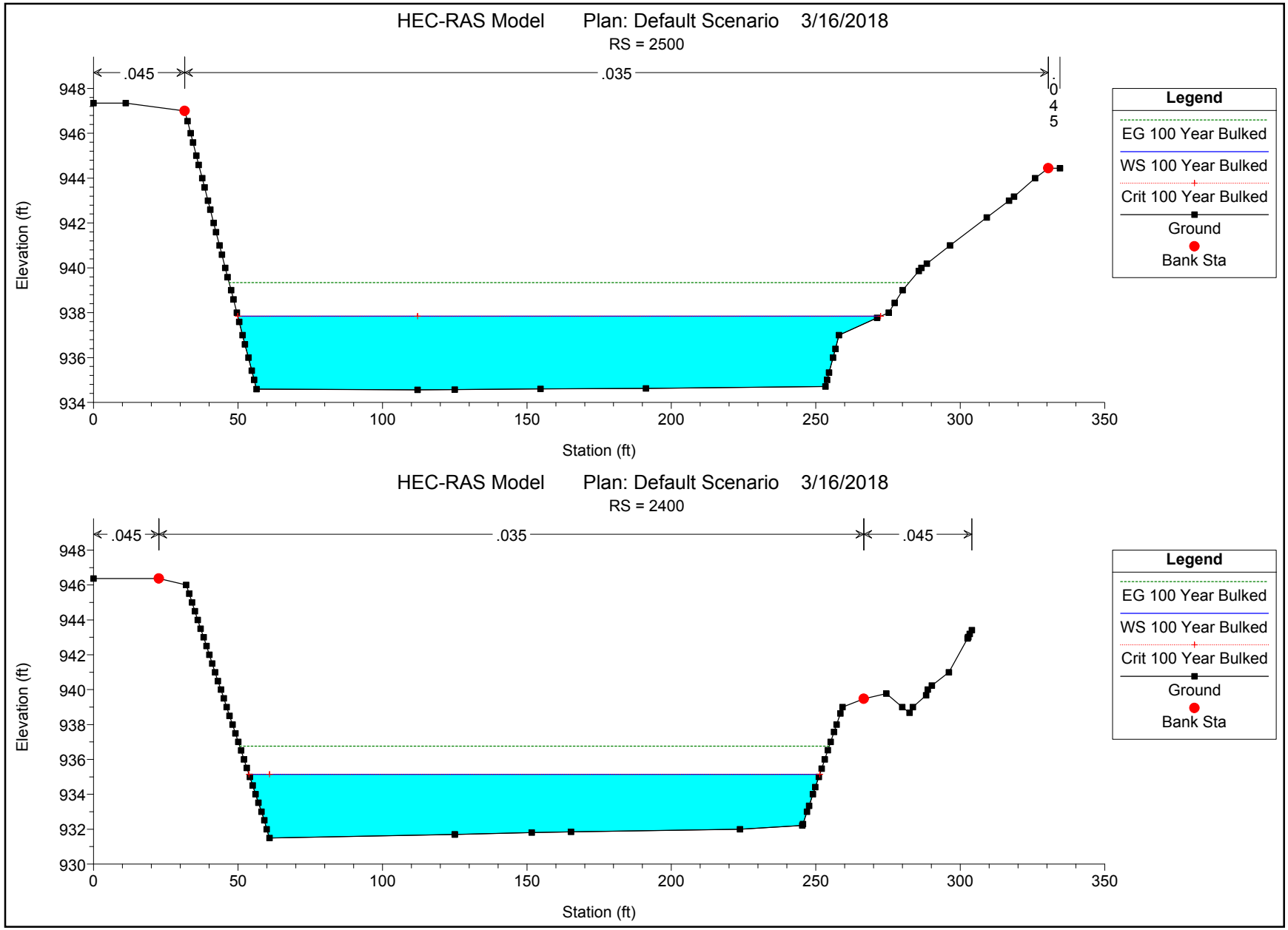

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 3500
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 3400
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

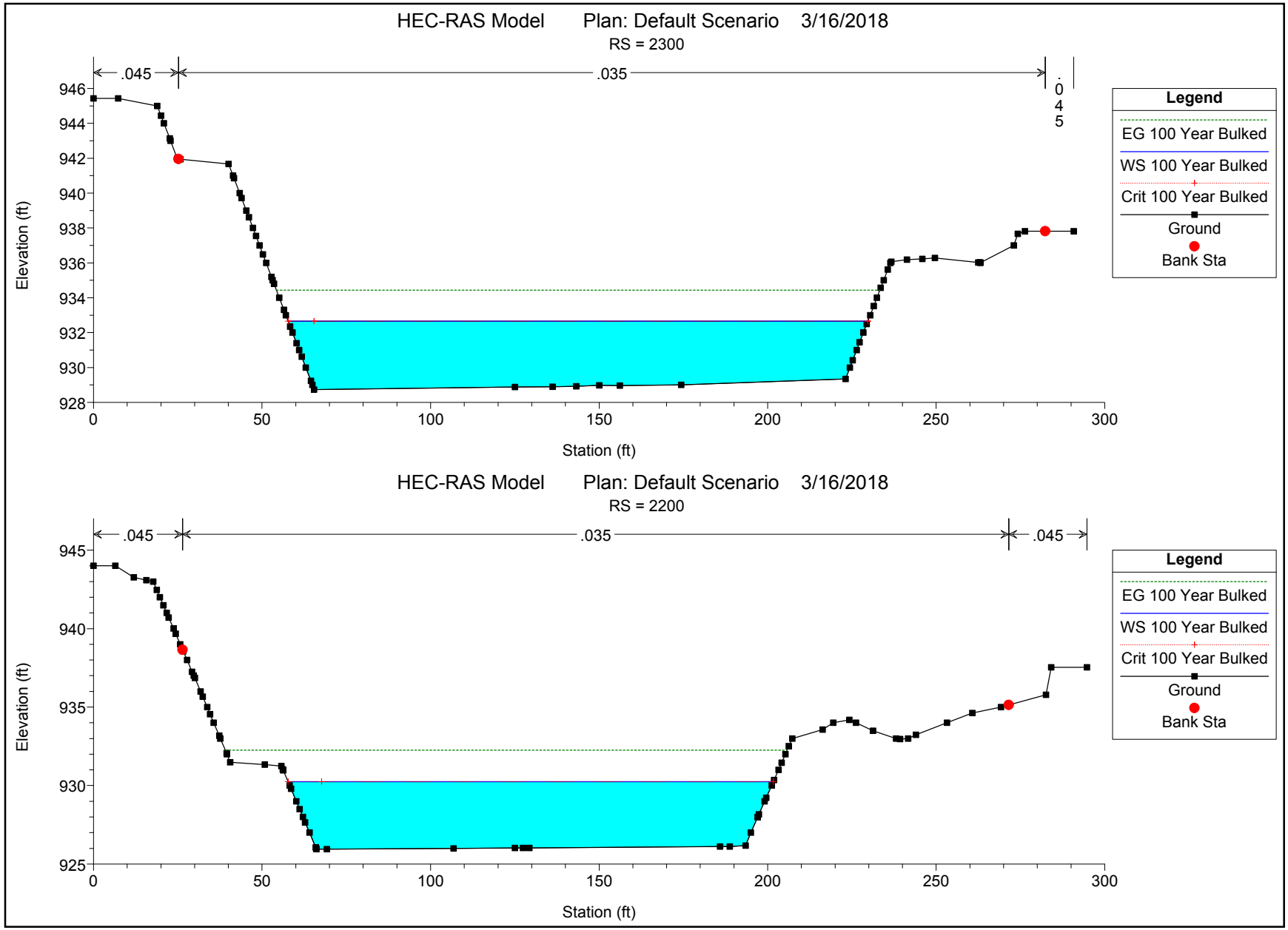

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 3300
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 3200
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

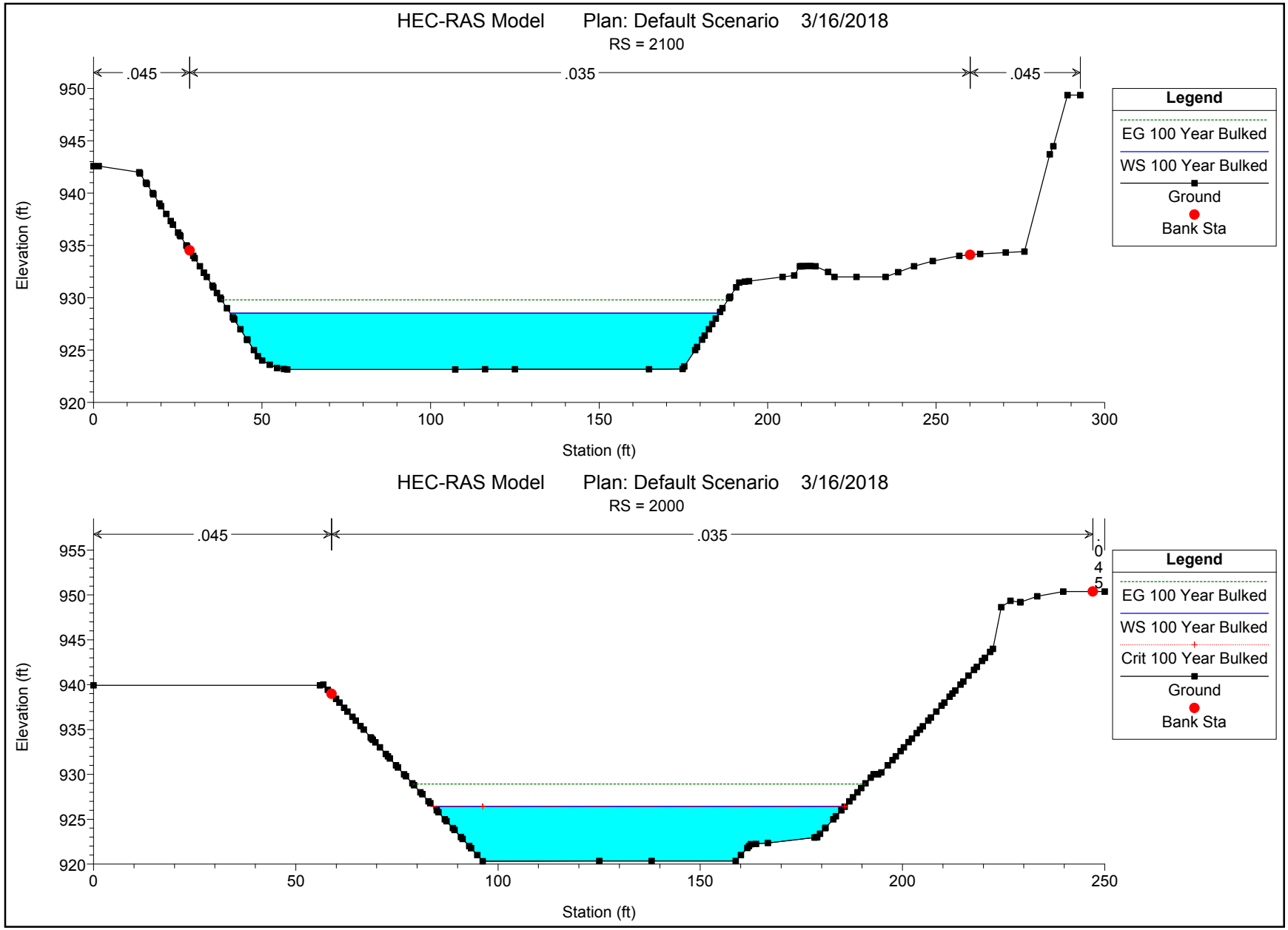

HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 3100
.045
.035
.045
Elevation (ft)
962
960
958
956
954
952
950
0
50
100
150
200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 3000
.045
.035
.045
Elevation (ft)
964
962
960
958
956
954
952
950
948
0
50
100
150
200
250
300
350
Station (ft)
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Crit 100 Year Bulked
Ground
Bank Sta

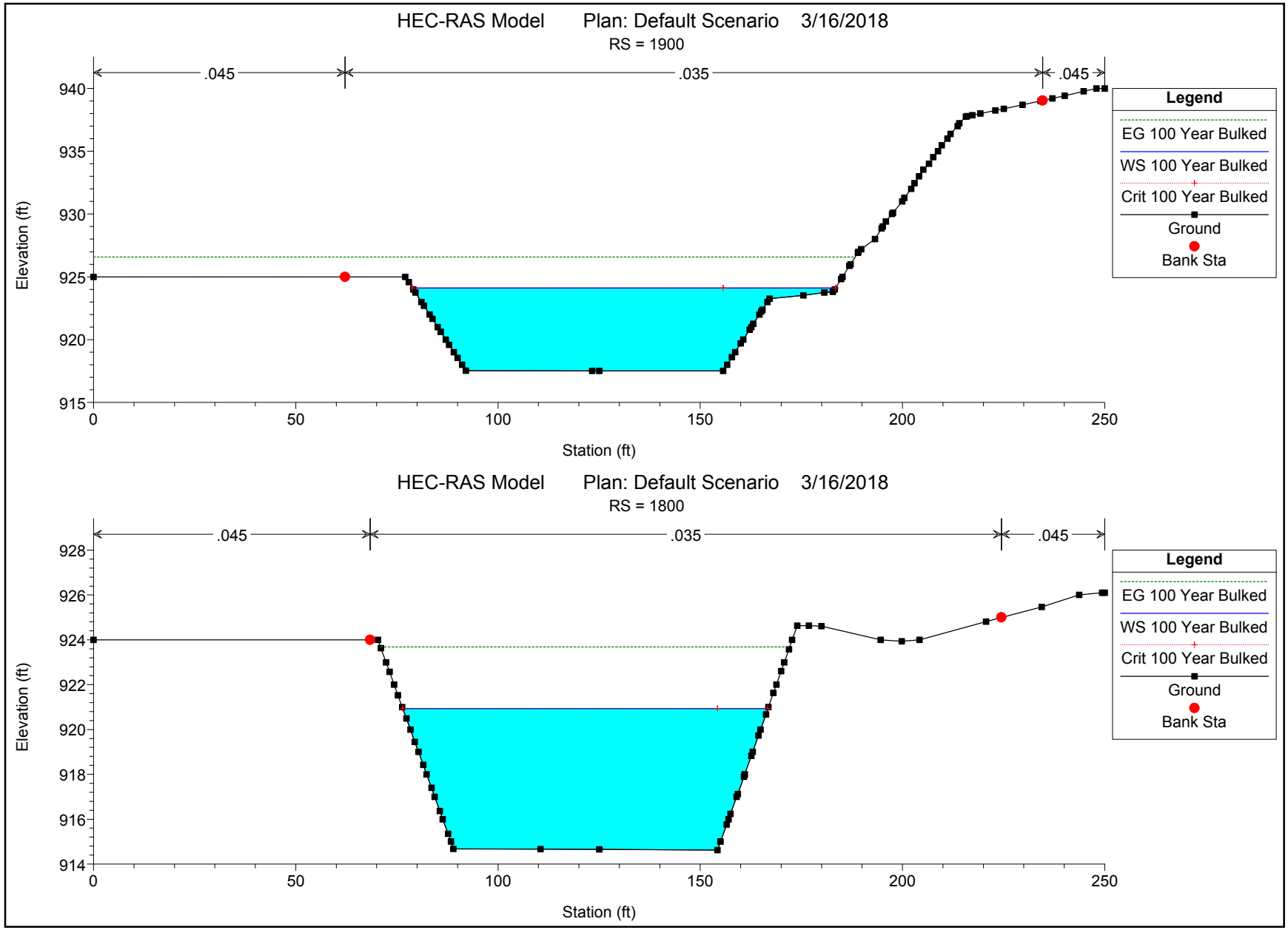

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.035
.045
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956
954
952
950
948
946
944
0
50
100
150
200
250
300
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
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.035
.045
Elevation (ft)
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952
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948
946
944
942
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Station (ft)
Legend
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Crit 100 Year Bulked
Ground
Bank Sta

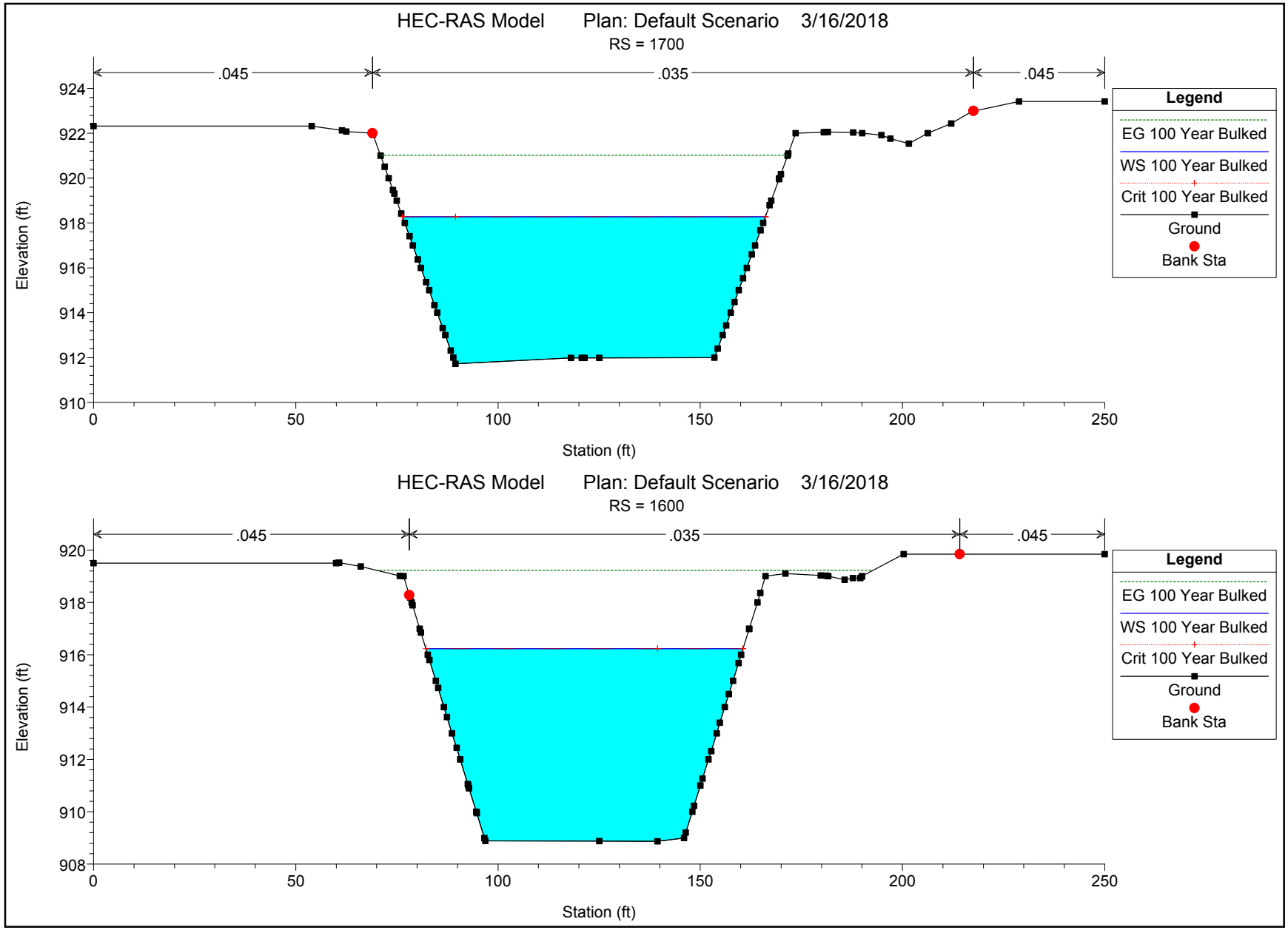

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942
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200
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300
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
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Legend
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Ground
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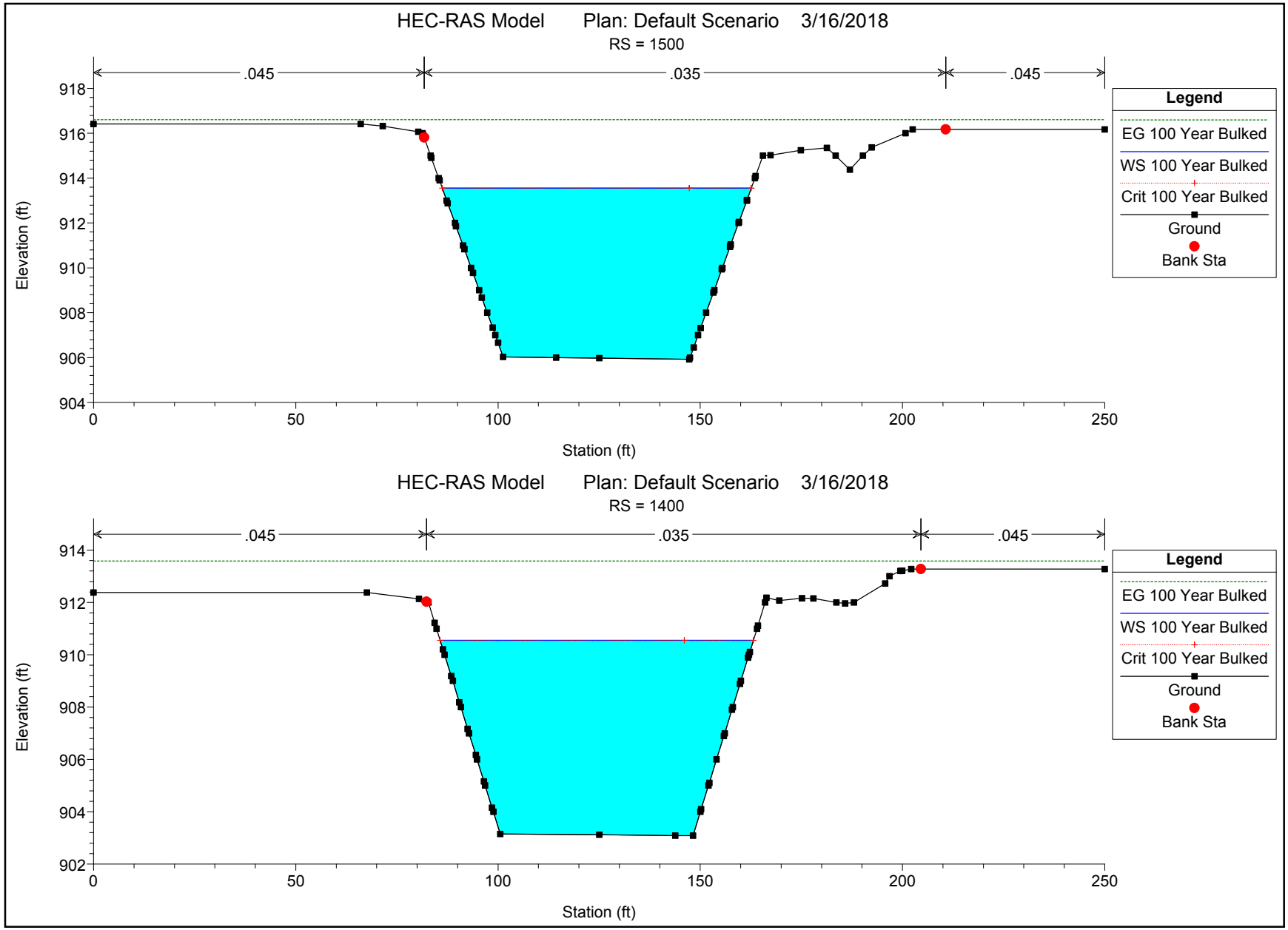

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Crit 100 Year Bulked
Ground
Bank Sta
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Station (ft)
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Crit 100 Year Bulked
Ground
Bank Sta

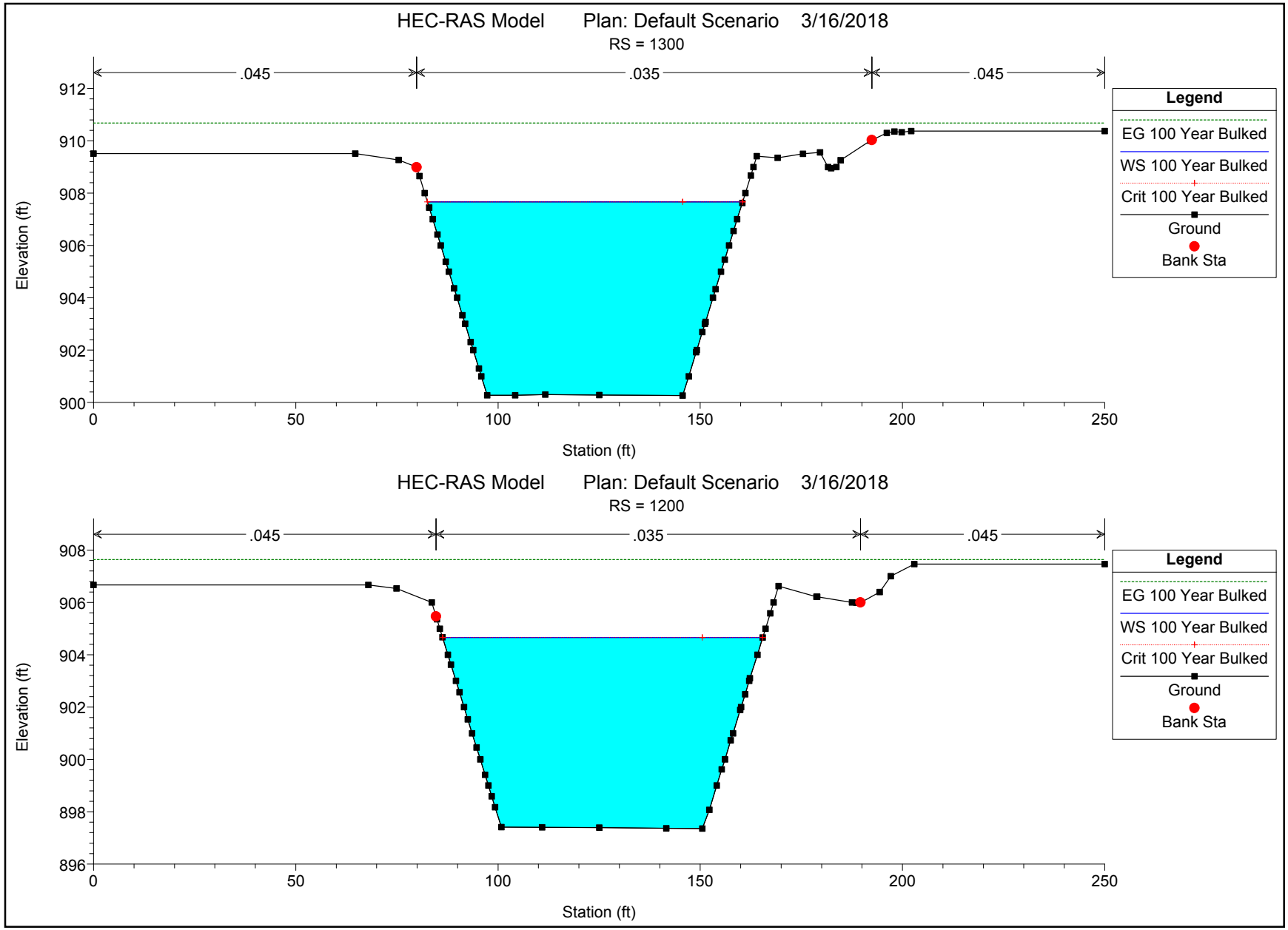

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Station (ft)
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WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
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.045
Elevation (ft)
Station (ft)
Legend
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WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

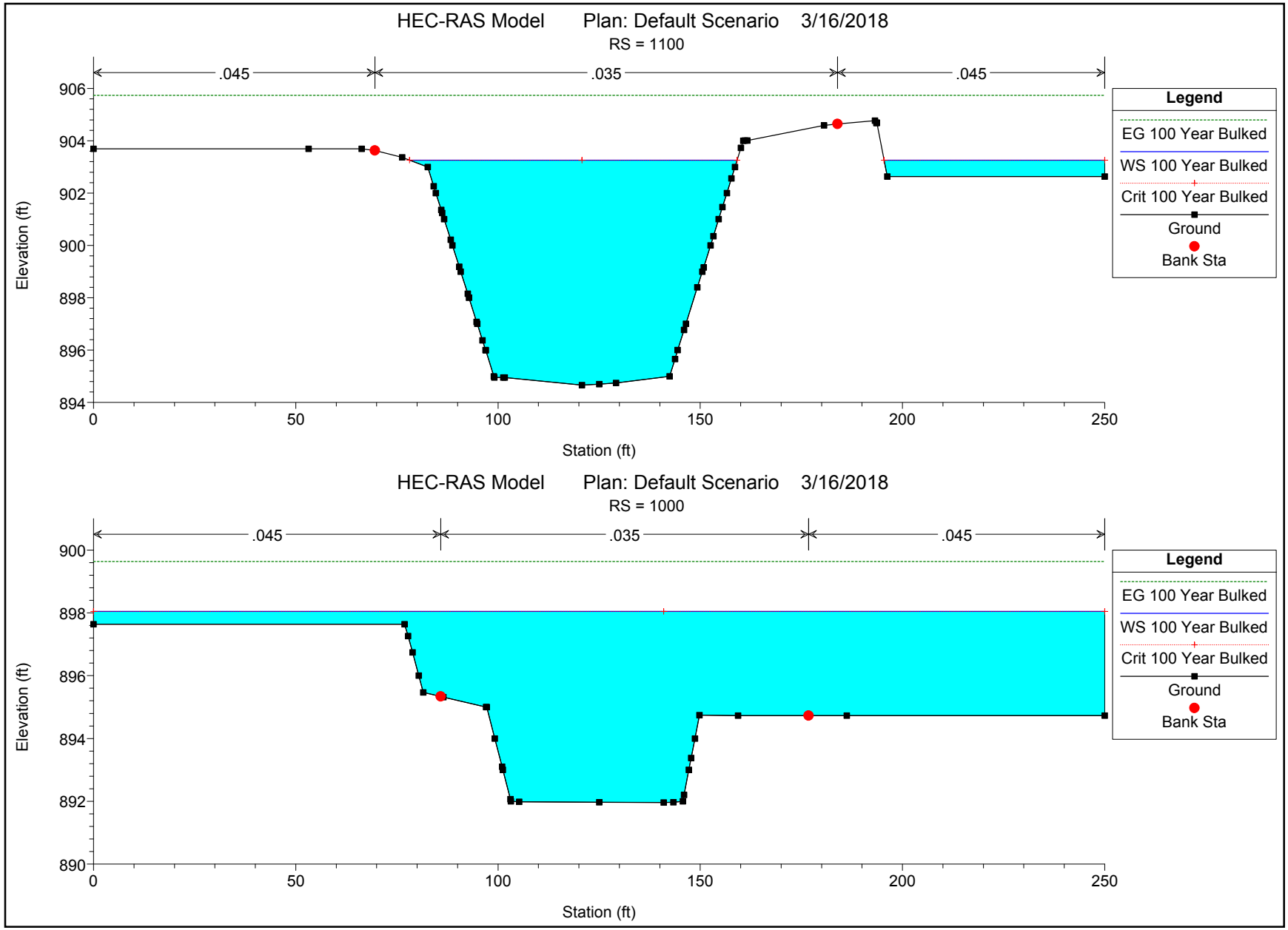

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.035
.045
Elevation (ft)
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935
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925
920
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50
100
150
200
250
300
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
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.045
.035
.045
Elevation (ft)
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950
945
940
935
930
925
920
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50
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200
250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta


HEC-RAS Model Plan: Default Scenario 3/16/2018
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.045
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.045
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Elevation (ft)
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Station (ft)
Legend
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WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
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.045
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916
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Station (ft)
Legend
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WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta


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Station (ft)
Legend
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WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
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250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta


HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 1500
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.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
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Elevation (ft)
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta


HEC-RAS Model Plan: Default Scenario 3/16/2018
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.035
.045
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902
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Station (ft)
Legend
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WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
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.035
.045
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904
902
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898
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Elevation (ft)
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200
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Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta


HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 1100
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.035
.045
Elevation (ft)
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902
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898
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894
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Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta
HEC-RAS Model Plan: Default Scenario 3/16/2018
RS = 1000
.045
.035
.045
Elevation (ft)
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896
894
892
890
0
50
100
150
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250
Station (ft)
Legend
EG 100 Year Bulked
WS 100 Year Bulked
Crit 100 Year Bulked
Ground
Bank Sta

Channel Stability Assessment Update III

Bedford Wash
at the Arantine Hills Development

Prepared for:

Albert A. Webb Associates
Riverside, California

Prepared by:

Northwest Hydraulic Consultants
Pasadena, California

July 31, 2017

nhc

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DISCLAIMER
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1 INTRODUCTION

This report summarizes hydraulic and sediment transport analyses conducted for an updated flood control alternative (the July 2017 plan) proposed for conveyance of Bedford Wash flows through the proposed Arantine Hills Development in Corona, California. The report updates three previous studies of Bedford Wash within the same development.[1] Those previous studies included analysis of the unimproved channel condition and several earlier proposals for flood control through the Arantine Hills Development.

As an update to the prior study reports, this document is results oriented, with minimal description of project location, data base, methodologies, etc. Baseline information regarding the characteristics of the Bedford Wash watershed , including hydrologic quantities, sediment yield potential and sediment size distributions of the Bedford Wash channel are presented in the previous reports. The hydrologic quantities, sediment characterization and methodologies applied for this updated hydraulic and sediment transport analysis are identical to those used in the prior studies.

[1] *Sediment Yield and Transport Study for Arantine Hills, Baseline and With-Project Conditions, Bedford Wash*, prepared for AEI-CASC by Fehlman Consulting Services, August 20, 2010, *Channel Stability Assessment Update, Bedford Wash at the Arantine Hills Development*, prepared for Albert A Webb Associates by Northwest Hydraulic Consultants, June 29, 2016, and *Channel Stability Assessment Update II, Bedford Wash at the Arantine Hills Development*, prepared for Albert A Webb Associates by Northwest Hydraulic Consultants, March 31, 2017.

2 STEADY STATE ANALYSIS OF PROPOSED CONDITIONS

Hydraulic and sediment transport analysis were conducted for the July 2017 flood control plan[2] following the same procedures applied in the evaluations detailed in the previous studies referenced above. The analyses included numeric simulation using the HEC-RAS hydraulic model and reach-wise sediment transport capacity assessment using the SAM computational package, both developed by the US Army Corps of Engineers.

Elevation contours for the July 2017 plan were provided by Albert A Webb Associates. Plan and profile views of this alternative are presented in Figures 1 through 4. The July 2017 plan replaces the existing leveed wash through the project reach with a soft-bottom channel that is set back from the existing right bank bluff. The proposed channel is to be excavated well below the invert level of the existing channel, particularly at the upstream end. Riprap bank protection is proposed for the channel banks. The July 2017 plan include a debris basin at the upstream end. A clear span bridge is proposed near the downstream end of the project reach. The proposed plan is wider than the existing channel through the majority of the project reach (see Figure 2). The slope of the proposed channel is flatter than that of the existing channel along the lower project reach to allow the excavated channel to 'daylight' to the existing channel invert at the downstream end of the project reach (see Figure 3).

[2] Several alternatives were evaluated in the course of this study, involving incremental variations on the original wide channel concept described in the June 29, 2016 report. This report focuses on the July 2017 plan, which was the final variation examined.

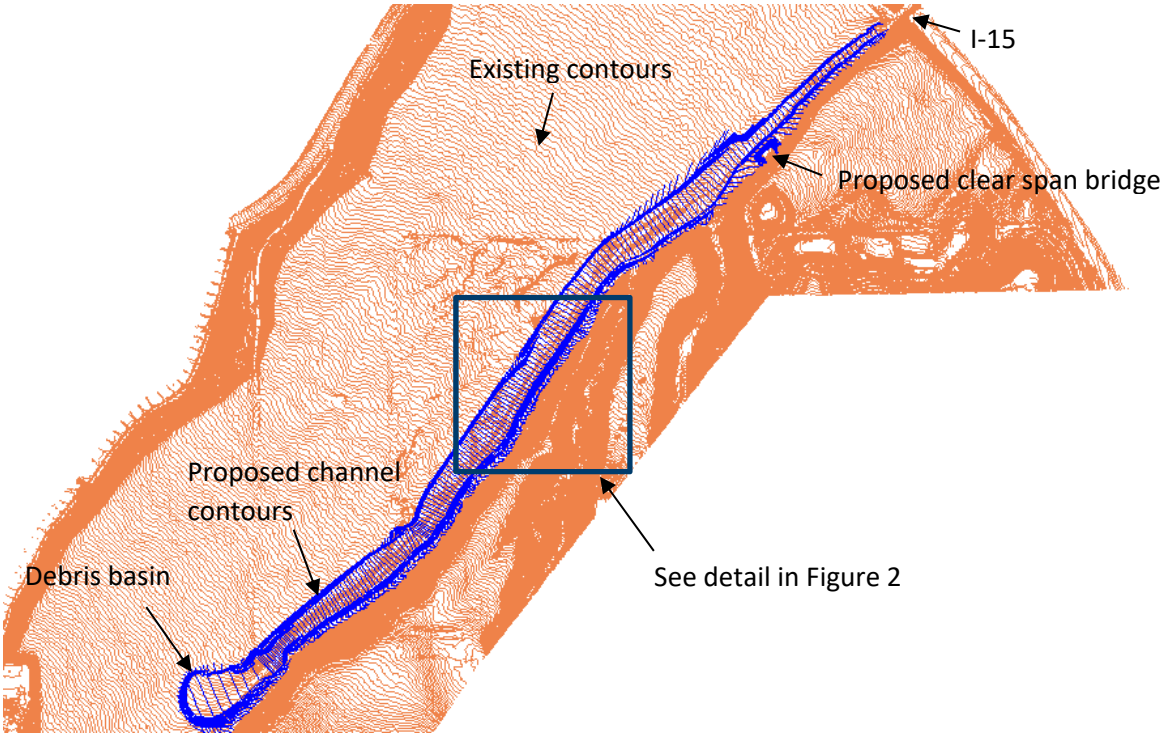


Figure 1. Plan view of the July 2017 plan

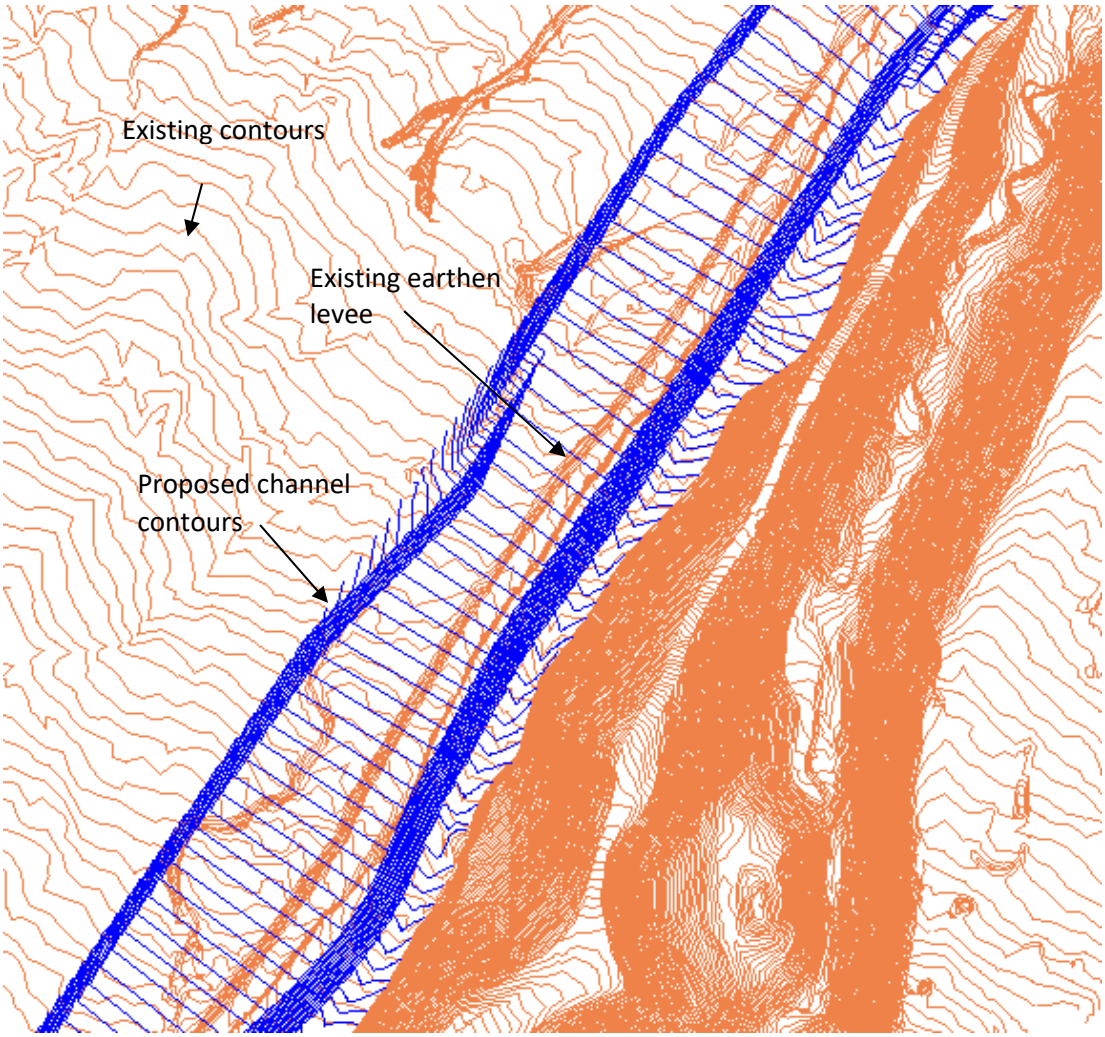


Figure 2. Detail view of the July 2017 plan

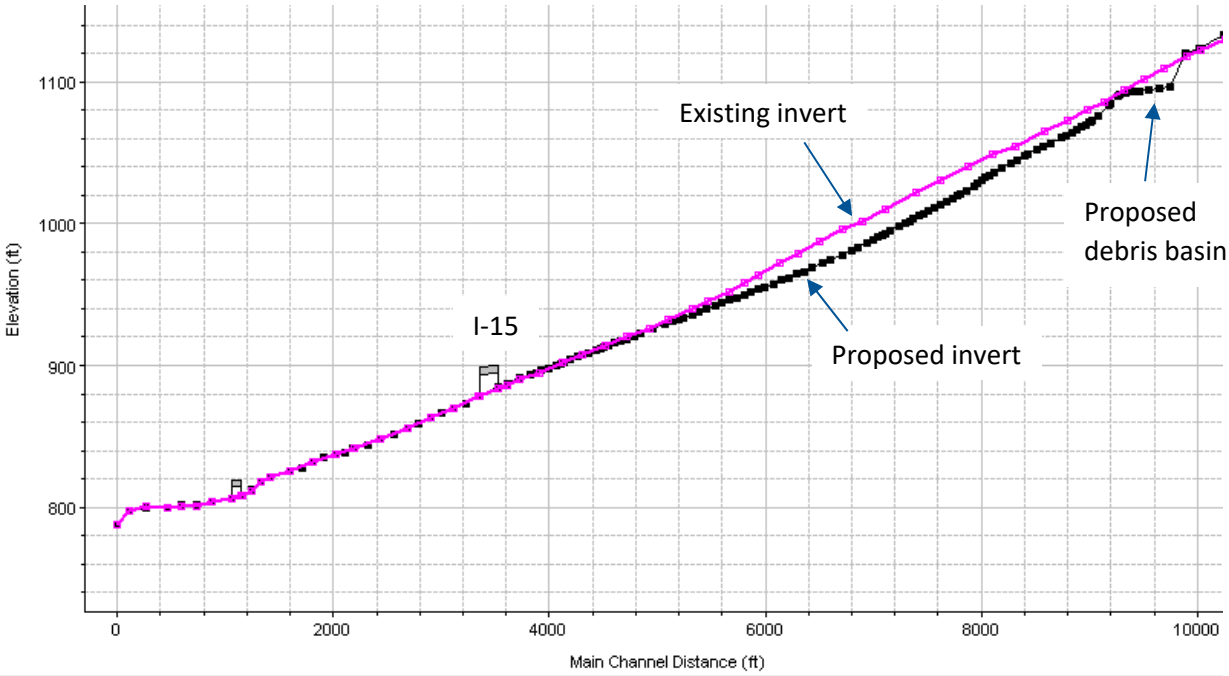


Figure 3. Profile view of the July 2017 plan, compared to the existing channel profile

The previously prepared HEC-RAS model for the Bedford Wash was modified to reflect the geometry associated with the July 2017 plan. Manning n values of 0.030 and 0.035 were applied to the channel bed and banks, respectively. Cross-section location maps for the hydraulic models used in this study are included in Appendix 1.

Flow velocities computed through the project reach under peak 100-year flood conditions for the July 2017 plan are compared to existing conditions velocities in Figure 4. With-project velocities are lower than those computed under existing channel conditions through the majority of the length of the project reach. With-project velocities are locally high at the inlet and outlet of the proposed debris basin, and increase to match existing conditions near the downstream end of the project where the proposed channel is narrowed to the width of the existing channel.

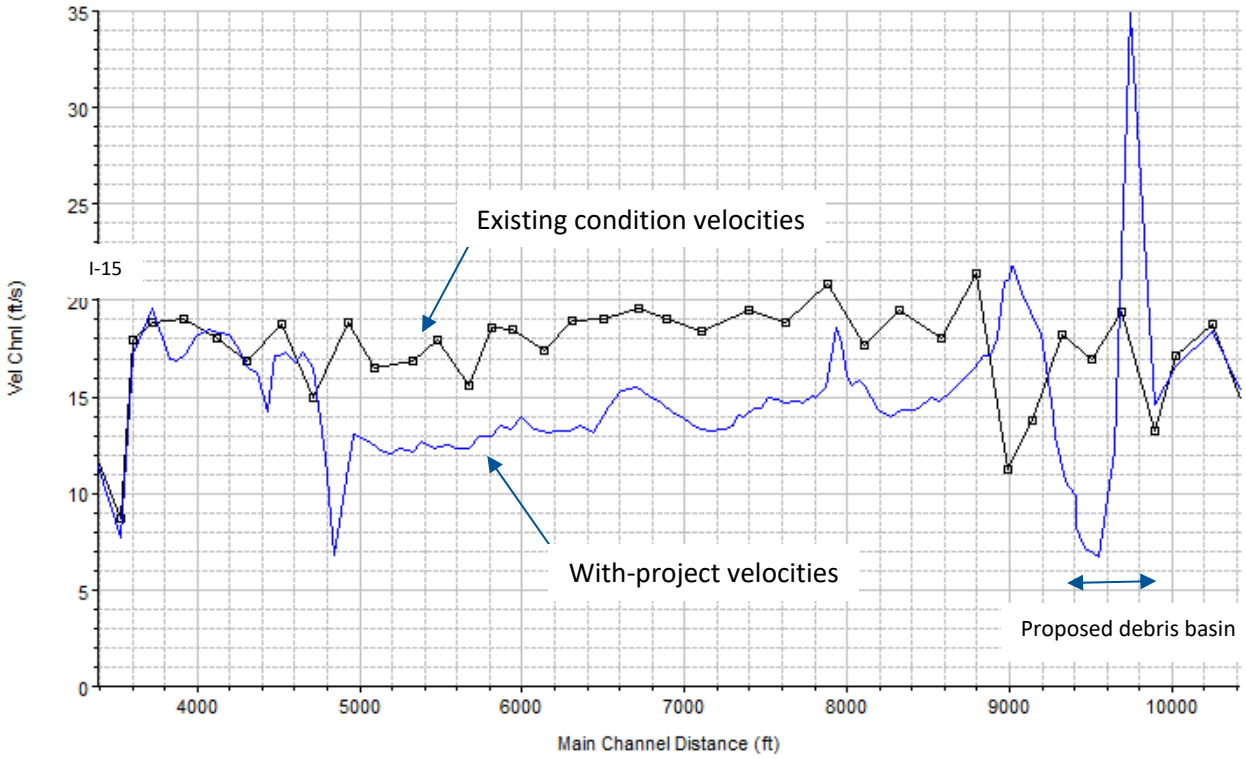


Figure 4. Channel velocity variation, peak 100-year flood, July 2017 plan versus existing

Consistent with the previous studies referenced above, the study channel was divided into the reaches shown in Figure 5 for comparison of sediment transport capacity trends. Steady state sediment transport capacity versus discharge relationships were developed for each of these reaches under each improvement alternative condition. These results were integrated over the n-year flood hydrographs to provide estimates of bed material quantities capable of being transported through each reach during the 2-year through 100-year flood events.

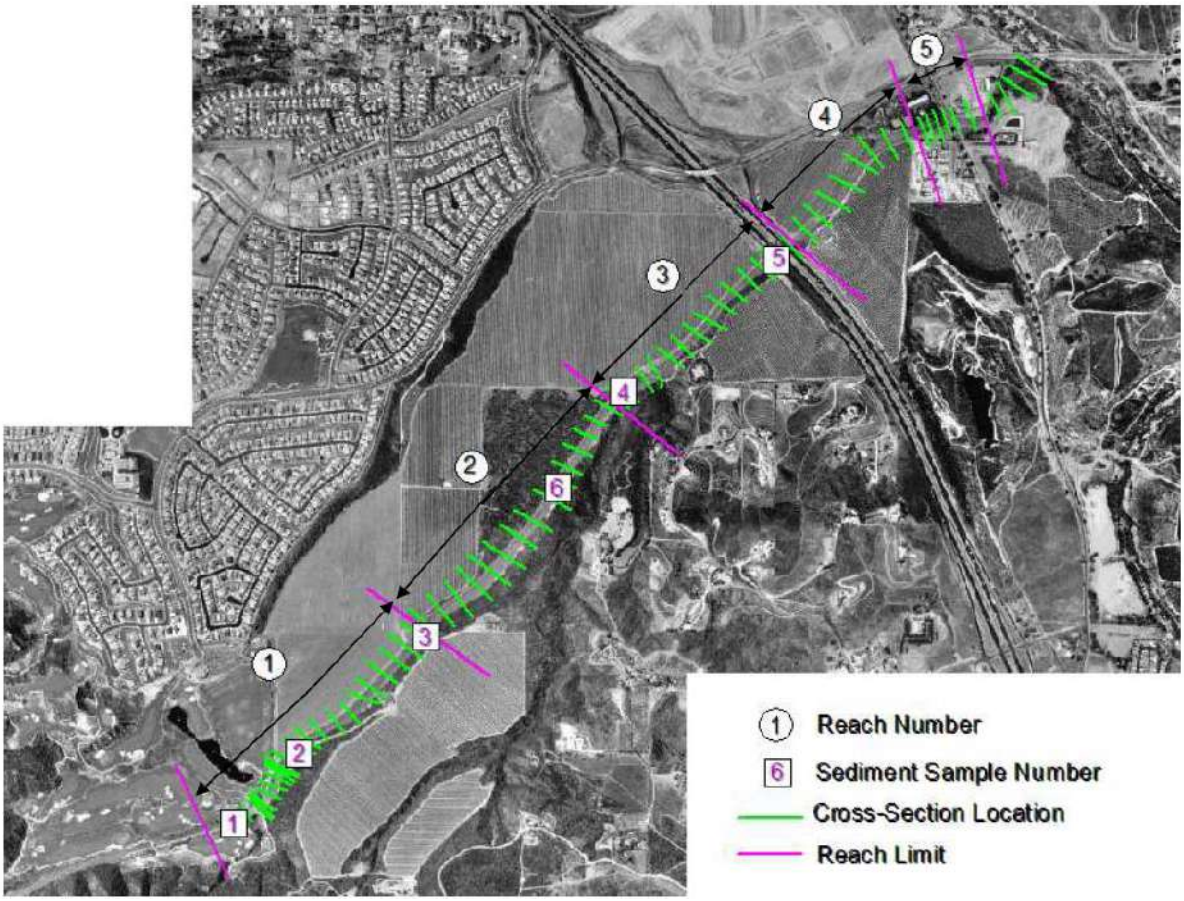


Figure 5. Reach definition along the modeled portion of Bedford Wash

A comparison of reach-by-reach transport capacities under existing conditions, computed in the 2010 study referenced above, is presented in Figure 6. The computed transport capacities through the existing Bedford Wash were very comparable in Reaches 1, 3 and 4, with a locally higher transport capacities evident in Reach 2. The steady-state computations indicated that there was a tendency for scour at the upstream end of the project area under existing conditions (Reach 2), with deposition likely in the lower end of the project reach (Reach 3), and balanced conditions downstream of the project area (Reach 4).

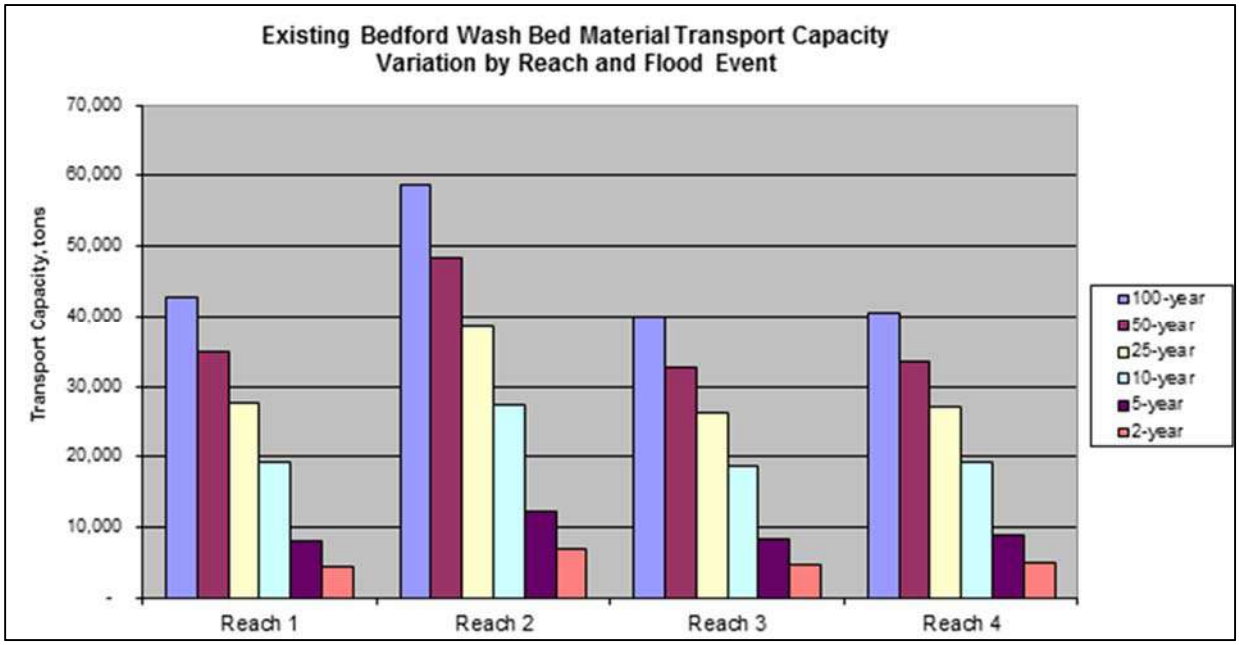


Figure 6. Transport capacity tonnages by reach, existing conditions

A similar chart of transport capacities was developed for the July 2017 plan, as illustrated in Figure 7. In this with-project chart, Reach 1 has been broken into three sub-reaches: the portion of Reach 1 upstream of the proposed debris basin; the debris basin itself; and the outlet of the debris basin. These reaches have been designated Reach 1a, Reach 1b, and Reach 1c, respectively, in Figure 7.

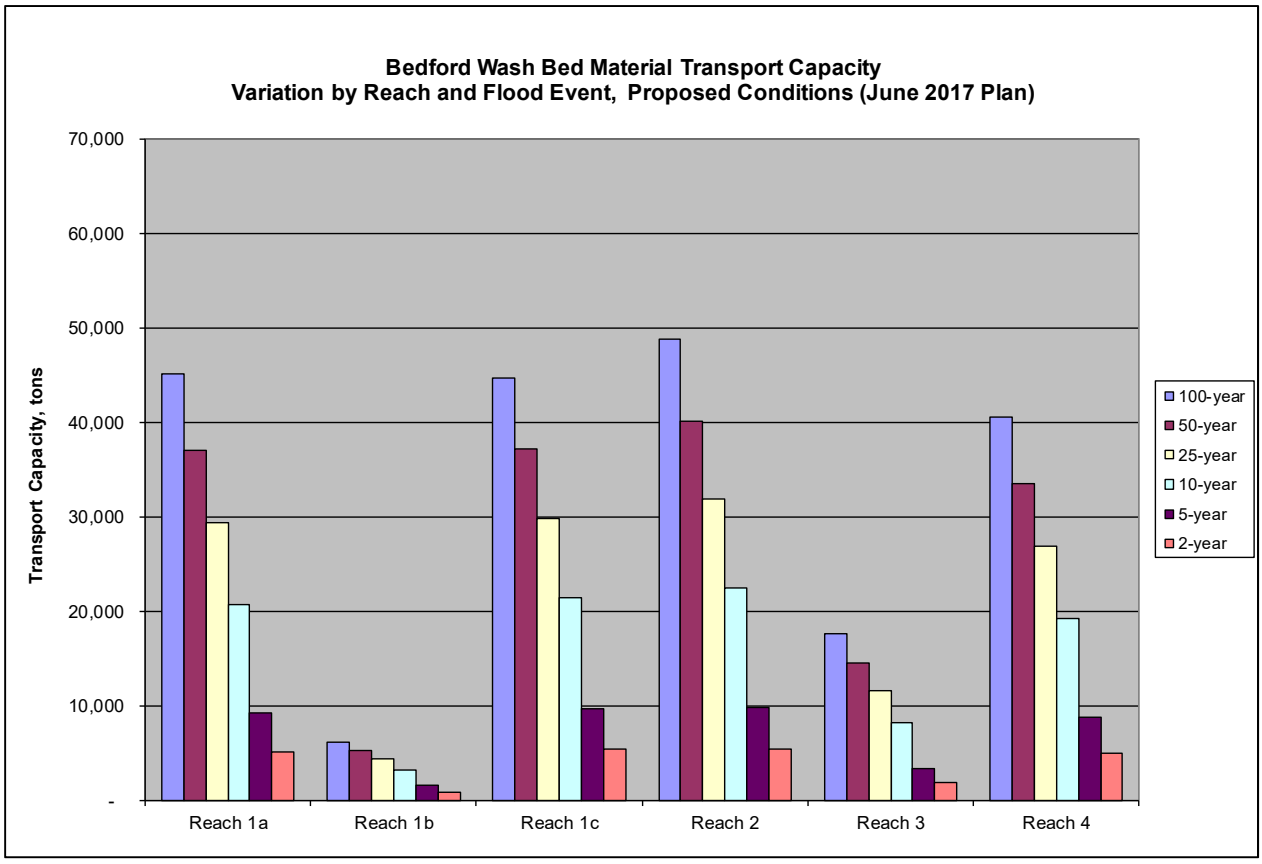


Figure 7. Transport capacity tonnages by reach, July 2017 plan

As shown in Figures 7, the computed transport capacities for Reach 1a and Reach 1c are similar to those computed for Reach 1 under existing conditions (Figure 6). However the transport capacity of the debris basin (Reach 1b) is very low, which indicates that this reach will be capable of trapping a significant fraction of the incoming sediment load. Note that the steady state computations do not take into account the dynamic changes in the basin geometry that occur as the basin traps sediment, which may allow for some additional passage of sediment downstream.

Figure 7 also indicates that, while the computed transport capacities remain unchanged in Reach 4 (compared to the existing capacity shown in Figure 6), the transport capacities of Reaches 2 and 3 have decreased. This is most notable in Reach 3. The reduced channel slope and channel width alterations reduces the capacity for transport through this lower reach, to capacities that are significantly less than that of Reach 4. With this reduced inflowing capacity, Reach 4, downstream of the project reaches, will likely scour under these with-project conditions. The higher transport capacities in Reaches 1C and 2 (relative to Reach 1b) indicates that scour is likely in these reaches, whereas the relatively low transport capacity of Reach 3 (compared to Reach 2) indicates that deposition is likely in the lower project reach.

Probability weighting of the n-year flood event volumes indicates that approximately 8,000 tons of sediment will be delivered to the upstream end of the project during the average annual event, which is

similar to the annual event transport capacity of 7,500 tons for Reach 4, downstream of the project . Annual event transport capacity through the proposed debris basin is quite low under with-project conditions. Any transport through the project reach will be derived from excess that is able to pass through the debris basin as it fills during flood events and from scour of the project reach itself. Annual event transport capacities through Reach 3 are 3,000 tons under the proposed channel condition, which implies an annual event deficit of 4,500 tons in Reach 4.

3 DYNAMIC DESIGN FLOOD SIMULATION

Quasi-unsteady movable-boundary simulation of the July 2017 plan was conducted to document the expected functioning of the proposed channel during passage of the 100-year flood event. The GSTARS model prepared for the previous studies was revised to represent proposed geometry, and the flood and sediment transport simulation was re-computed.

Simulated post-flood profiles of the July 2017 plan are compared to the proposed channel invert in Figure 8. The quasi-unsteady sediment routing simulation confirms the results of the steady-state analysis: the debris basin is a significant sediment trap, scour is evident along the upper (steeper) portion of the project reach (Reach 2), and deposition is evident along the lower (flatter) portion of the project reach (Reach 3).

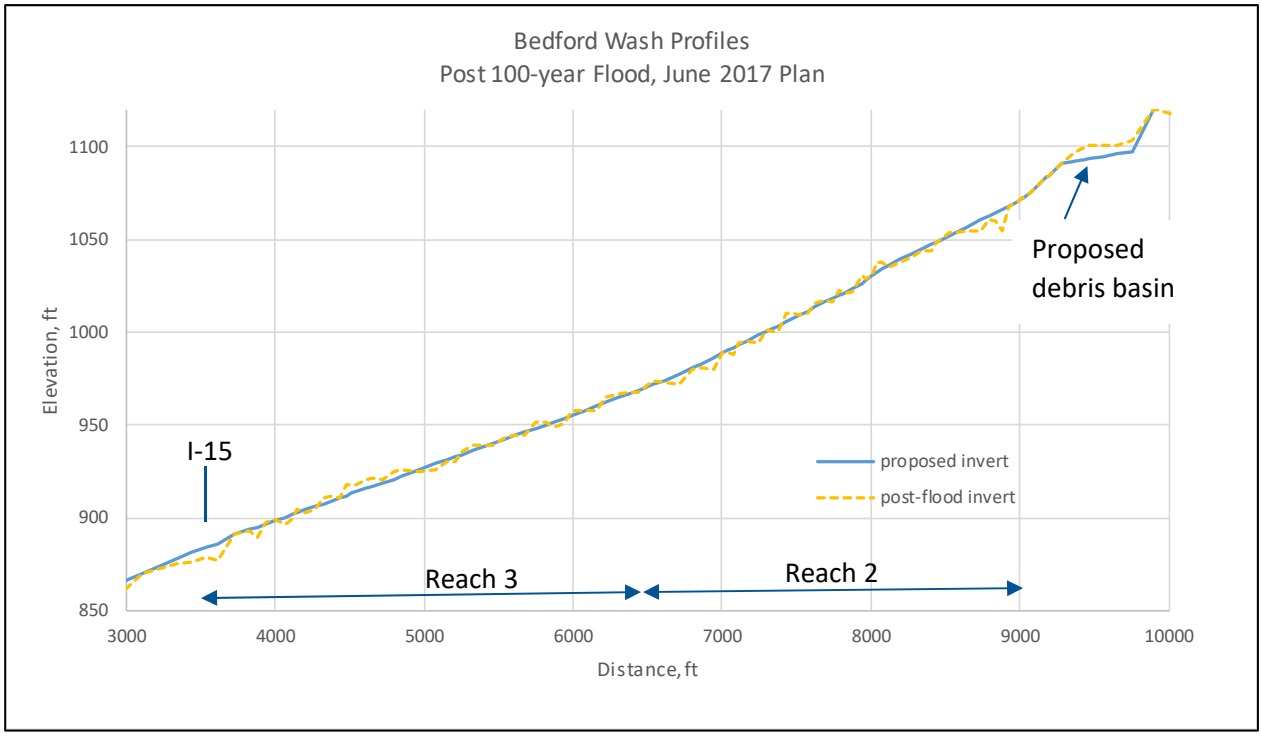


Figure 8. Post flood invert compared to design invert, July 2017 plan, 100-year flood

A detailed profile view of the quasi-unsteady results in reach in the vicinity of the I-15 crossing is shown in Figure 9. The model of the July 2017 plan includes four grade controls (GC) within this portion of the channel, including one at the downstream end of the project reach and three downstream of the I-15 crossing. These grade controls are proposed to moderate the scour induced along this downstream reach due to the anticipated sediment trapping expected in Reach 3. The simulation results indicate that the proposed grade control do provide local channel stability, though the general trend along this downstream reach will be degradational.

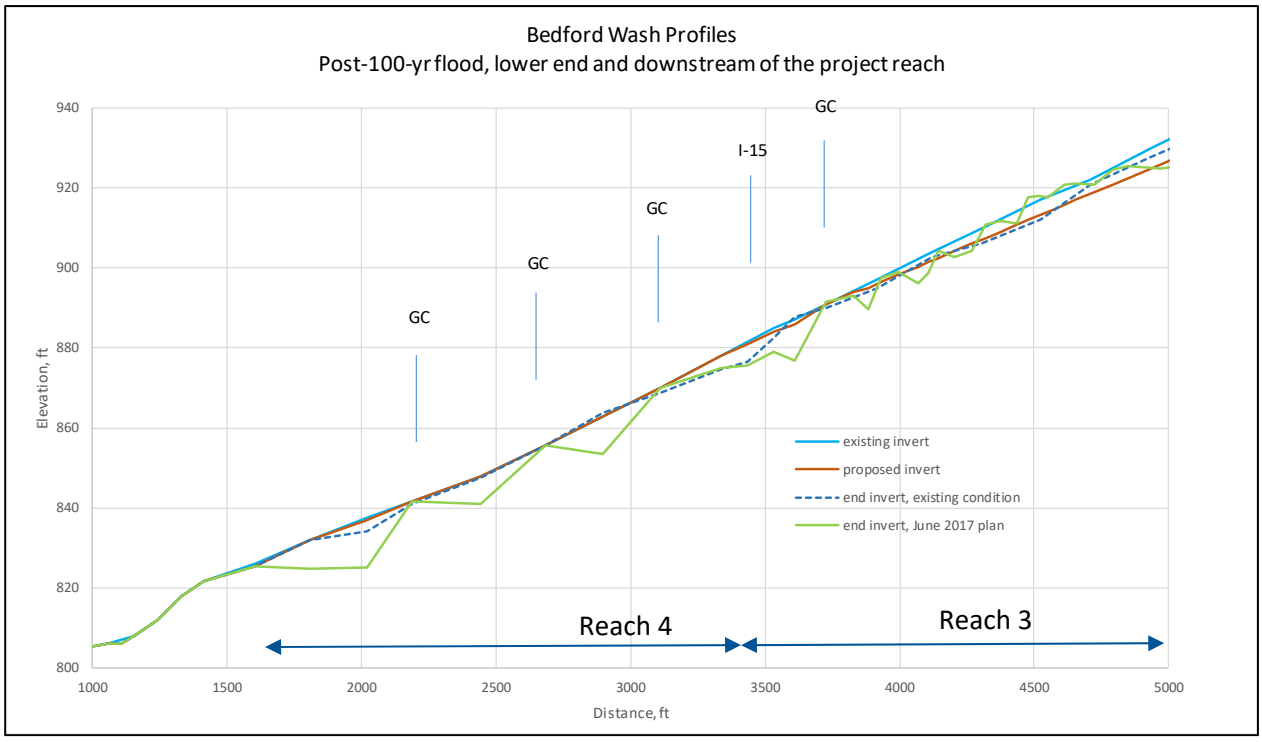


Figure 9. Comparison of post-flood inverts along the lower end and downstream of the July 2017 project, 100-year simulation

4 BANK HEIGHT AND TOE-DOWN ALLOWANCES

Bank height and toe-down allowances along the length of the project were developed based on the results of the above analyses and supplemental components discussed below. Pertinent 100-year flood hydraulic variables for the with-project condition (flow depth and average channel flow velocity), are summarized for the sections along the project reach in Appendix 3. Both the supercritical (using unbulked discharges) and the critical (using bulked discharges) results are presented in this Appendix. Highest depths were computed in the subcritical regime run. Highest velocities were computed in the mixed regime run.

Channel Invert and Water Surface Levels Variability

Bedford Wash under with-project conditions will not consist of a single, prismatic section of constant slope, hydraulics and sediment transport capacity. General scour and deposition processes are expected to occur along the project during design flood passage, as demonstrated in the dynamic modeling section of this report. Additional potential channel change components within a soft bottom channel include long-term invert change, and deformation due to local features, such as bedforms, bends, interior structures, etc. Design water surface levels and bed deformation can be affected by these additional components, as well as other hydraulic factors.

No reservoirs or other sediment retention facilities are anticipated in the watershed upstream of the project that would limit sediment loads to the project. Therefore, no long-term invert change is expected to occur along the project due to reduction in sediment supply from upstream.

There may be some long term accumulation of sediment along the length of the proposed project, due to gradient change near the downstream end, and due to potential yield directly from the eastern bluff. It is assumed that maintenance will occur on an as-needed basis (particularly after major flood events) to keep the channel capacity at or near that provided under proposed channel conditions.

Bank Height Computations

Minimum bank height computations were made using the results of the hydraulic simulations with the addition of allowances for general aggradation, bedform development and superelevation. The procedures used to compute bedform development and superelevation are presented in Appendix 2. Several potential water surface and freeboard allowance computations were made based on the results of the three sets of hydraulic modeling results: (1) the GSTARS modeling considering flood hydrograph simulation and dynamic channel geometry changes; (2) the HEC-RAS steady-state modeling considering unbulked peak discharges and mixed flow regime conditions; and, (3) the HEC-RAS steady-state modeling considering bulked discharges and subcritical flow regime conditions. In scenario (1), the minimum bank height was computed as the peak water surface computed during the flood simulation, with added components for bedform development and superelevation. In scenario (2), the minimum bank height was computed as the unbulked peak Q100 water surface with added components for

general aggradation[3], bedform development and superelevation. In scenario (3), the minimum bank height was computed as the bulked peak Q100 water surface with an allowance for superelevation and 3 feet of freeboard. The minimum levee heights computed following these three scenarios are compared Figure 10, with tabled results presented in Appendix 4.

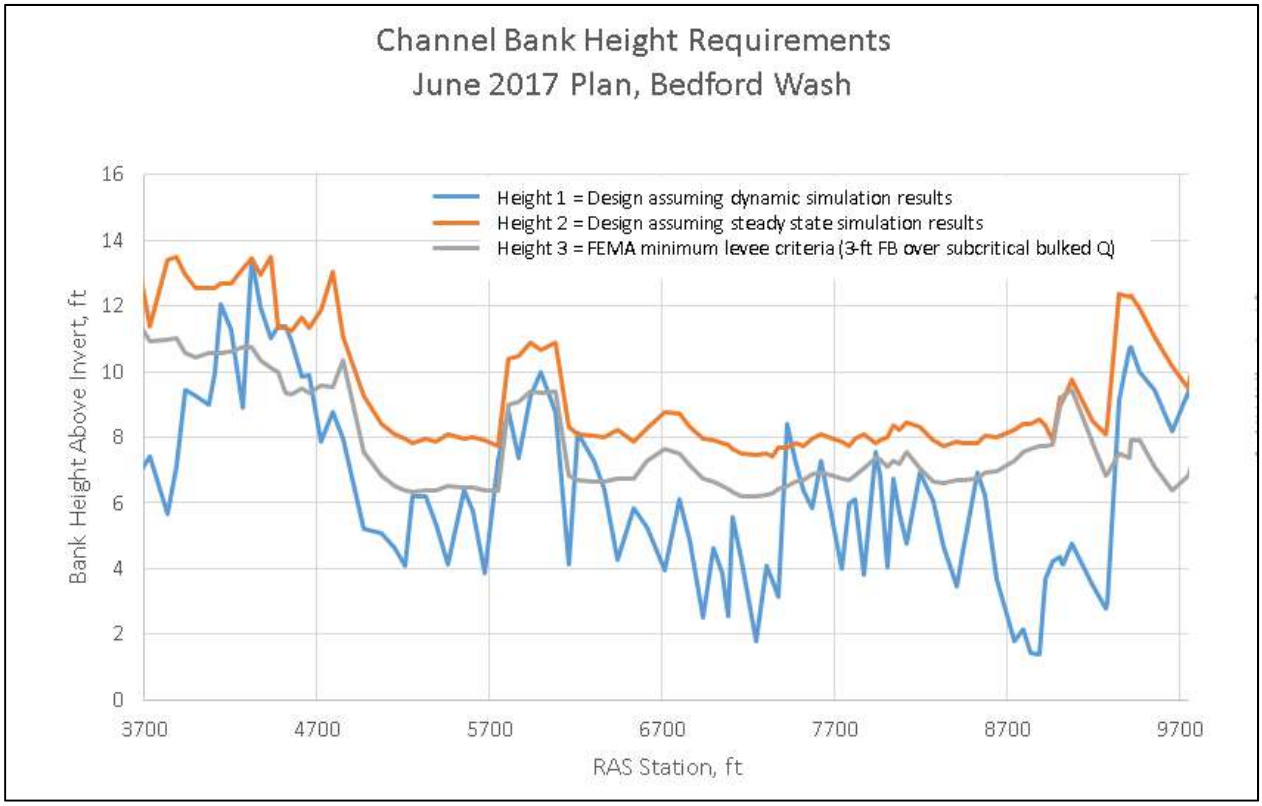


Figure 10. Channel bank height requirements for the July 2017 plan, various design criteria

Bank Toedown Computations

Minimum toedown computations were made considering the channel invert change components discussed above. The total minimum toedown allowance was computed as the sum of: (1) the maximum general scour depth computed using GSTARS; (2) one-half the computed antidune height; (3) low flow incisement; and, (4) local scour due to bend, drop or abutment. The procedures used to compute components (2) through (4) are included in Appendix 2. The bank toedown computations are summarized in Figure 11, with tabled values presented in Appendix 4. The computations are compared to those derived using two different LA County requirements: a tabled set of allowances determined by

[3] In scenario (2), the general aggradation component applied was the maximum deposition depth computed at any section within the representative reach (i.e. debris basin, Reach 3 and Reach 2) in the GSTARS simulation.

flow velocity (reproduced in Figure 12), and a toe-down depth chart for use in bends, which is flow-depth based[4] (reproduced in Figure 13).

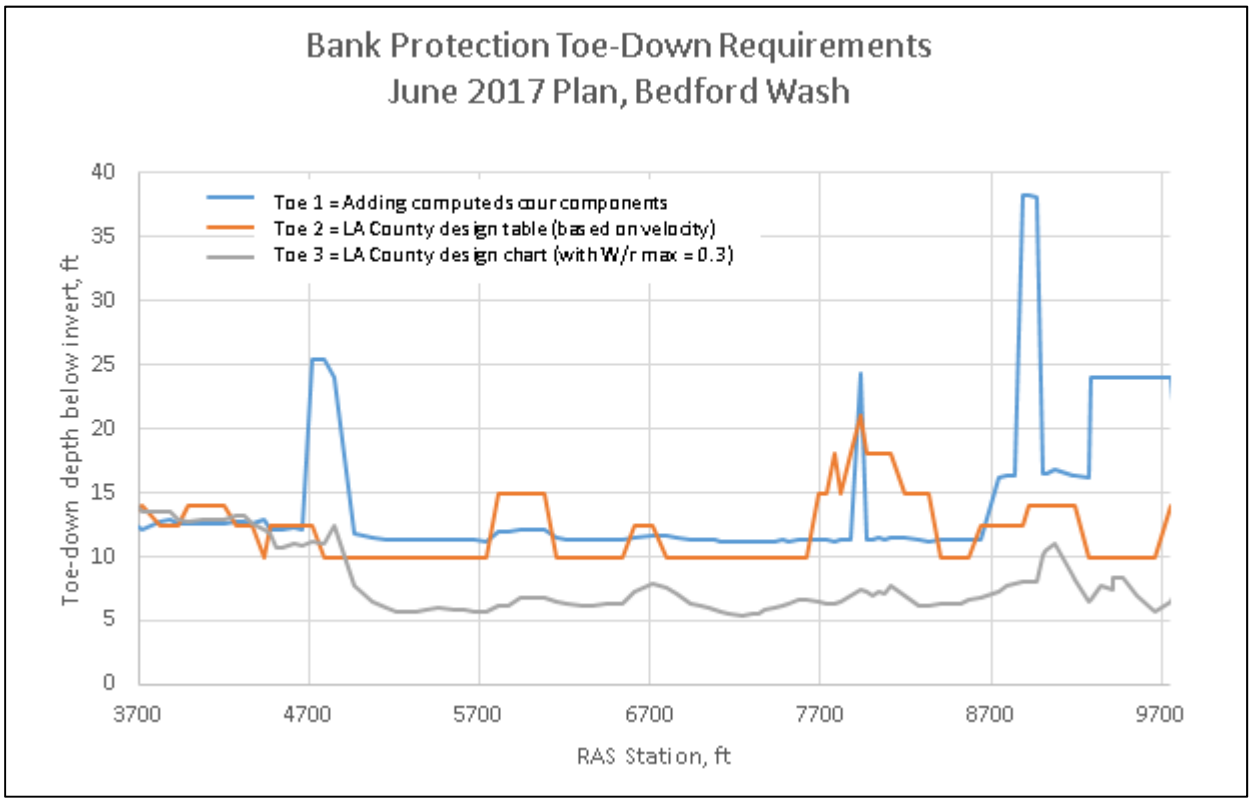


Figure 11. Channel bank toe-down requirements for the July 2017 plan, various design criteria

[4] The LA County depth-based methodology was applied using the maximum flow topwith-to-bend radius ratio that exists along the project reach – a value of 0.3, and was computed for comparison purposes only. As stated in the LA County Hydraulic Design Manual, this cutoff depth only applies if it is larger than that derived using the velocity based approach.

Velocities	Straight Reaches	*Curved Reach
0 - 6 f.p.s.	6-ft.	9-ft.
6 - 10 f.p.s.	8-ft.	12-ft.
10 - 15 f.p.s.	10-ft.	15-ft.
15 - 18 f.p.s.	12.5 ft.	18-ft.
18 - 20 f.p.s.	14 ft.	21-ft.

*Check the cut off depth for curved reach on Chart F-06 on Page F-38
Use that depth if greater than given hereon.

Figure 12. LA County velocity-based table for toe-down (cutoff) depths

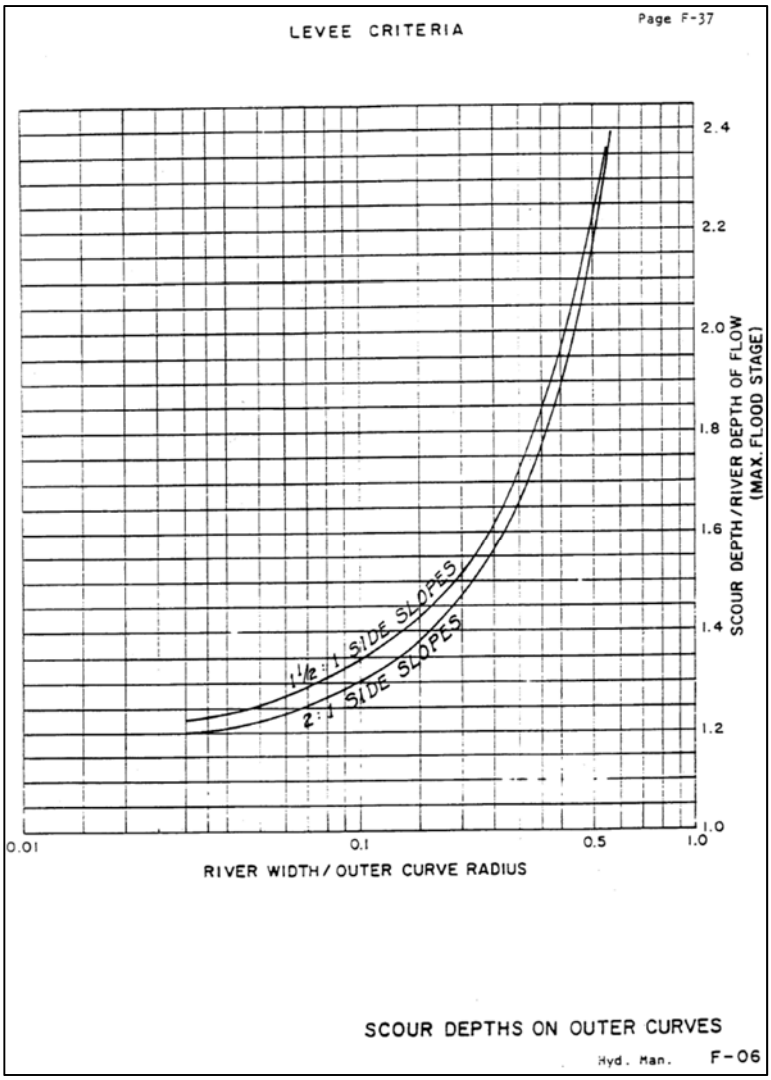


Figure 13. LA County scour design chart for curves

5 DISCUSSION

The July 2017 plan for modification of Bedford Wash is expected to alter the sediment movement through the project reach under flood conditions. The proposed debris basin is a significant sediment trap and will limit sediment delivery to the main project channel, particularly during the early part of the flood hydrograph. Scour potential will be high in the reach immediately downstream of the debris basin outlet, but will decrease as the basin fills and begins to pass more of the inflowing load. Scour that is expected downstream of the debris basin (in Reach 2) under the proposed plan can be designed for with adequate toe-down of the proposed bank and outlet protection structures and with at-grade stabilizers to limit down-cutting. The expected deposition along the lower part of the project (Reach 3) will require maintenance to ensure design conveyance capacity over the long term. The proposed plan is expected to cause a net reduction in average annual sediment delivery to the existing channel downstream of the project, which will likely result in increased scour along this reach (Reach 4). This increased scour is expected to be moderated somewhat with the three grade control structures proposed for this reach.

A collection berm is proposed at the upstream end of the project, to guide overflows from the existing main channel, should they occur, into the proposed debris basin[5]. The alignment of this proposed collection berm is shown in Figure 14. A cross-section view of the topography between this proposed berm alignment and the existing hillside to the southeast of the existing Bedford Wash is shown in Figure 15. As indicated in Figure 15, the existing Bedford Wash is perched above the adjacent terrain to the northwest at this location. The Wash has been artificially confined against the southwest hillside by a graded earthen berm. Note that channel flow that overflows this existing berm (due to overtopping or failure) would tend to collect and be guided to the proposed debris basin via the natural swale that parallels the existing channel, just northwest of the existing berm. The proposed collection berm would serve as a secondary barrier, should the capacity of the existing swale also be exceeded.

Assuming the existing berm confining Bedford Wash upstream of the proposed debris basin were to fail, the existing swale were to be somehow bypassed, and a new flow path were to self-form following the alignment of proposed collection berm, the flows would remain relatively unconfined to the south. An estimate of the hydraulics that would be generated along this new flow path can be developed using the FEMA's single channel geometry for flows down alluvial fans). Flow widths and depths in the single channel region are estimated with the following equations (see Appendix A in Reference 11):

$$W = 9.4 \times Q^{0.4}$$

$$Y = 0.07 \times Q^{0.4}$$

with W = flow width in feet, Y = flow depth in feet, and Q = discharge in cfs. Using the 100-year bulked discharge as the flow rate, the predicted self-forming single channel width would be 315 ft, and the flow

[5] Albert A Webb Associates representatives report that both the guidance berm and the debris basin are temporary until the McMillan property is developed.

depth would be 2.35 feet. The implied average flow velocity would be 8.8 ft/s. The 5-ft height proposed for the collection berm appears reasonable given these estimates and the conservative assumptions applied. LA County criteria would require 8-ft toe down depth with these computed flow velocities.

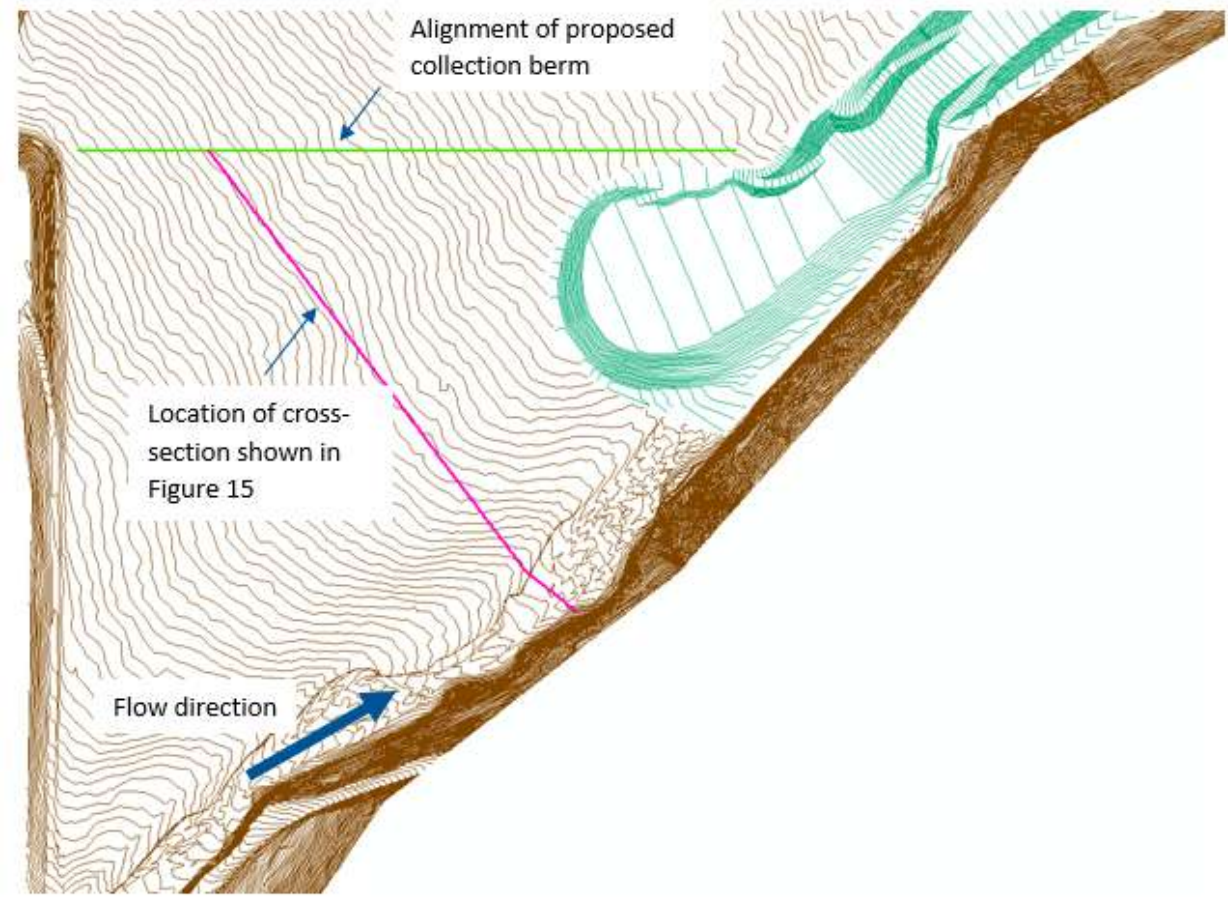


Figure 14. Elevation contours upstream of the proposed debris basin

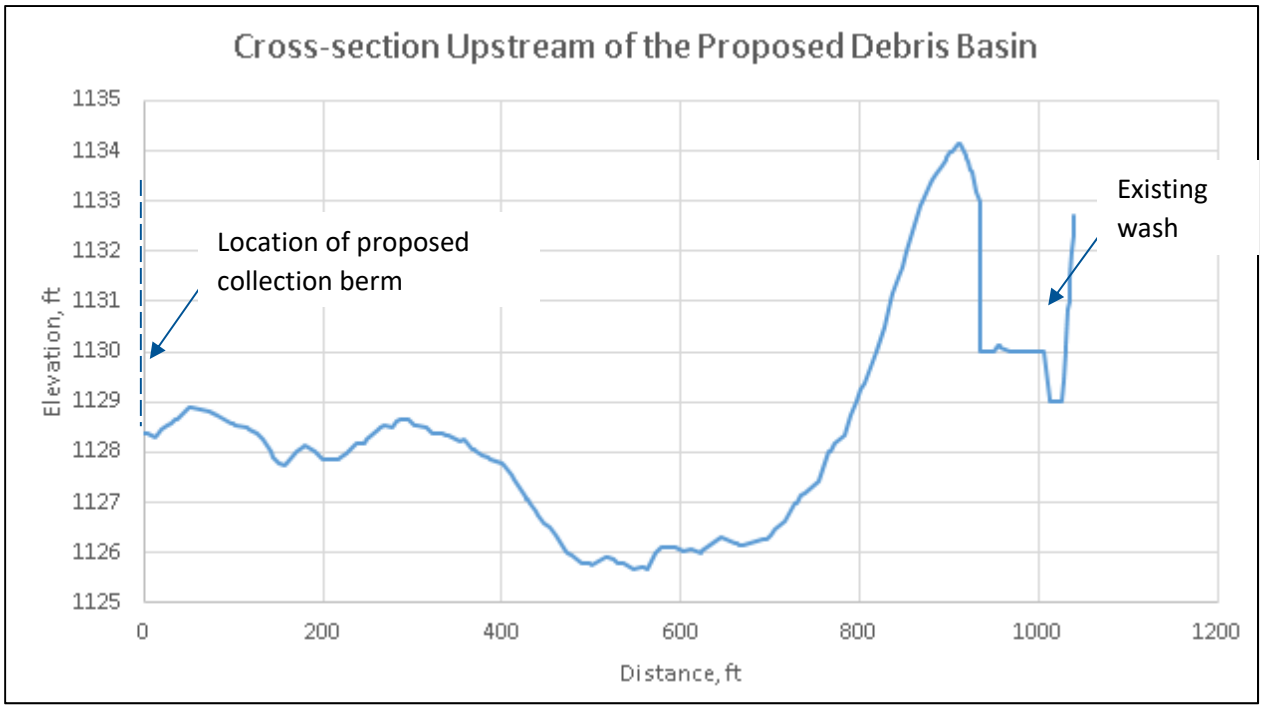


Figure 15. Cross-section upstream of the proposed project, looking downstream (see Figure 14 for location)

The proposed debris basin is significantly lower than the existing channel at its upstream end. Flows entering the debris basin will cascade down a very steep slope and impinge on the basin bottom. Flows will decelerate within the debris basin itself, and then will re-accelerate as they are conveyed through the steep chute proposed immediately downstream (see Figure 16).

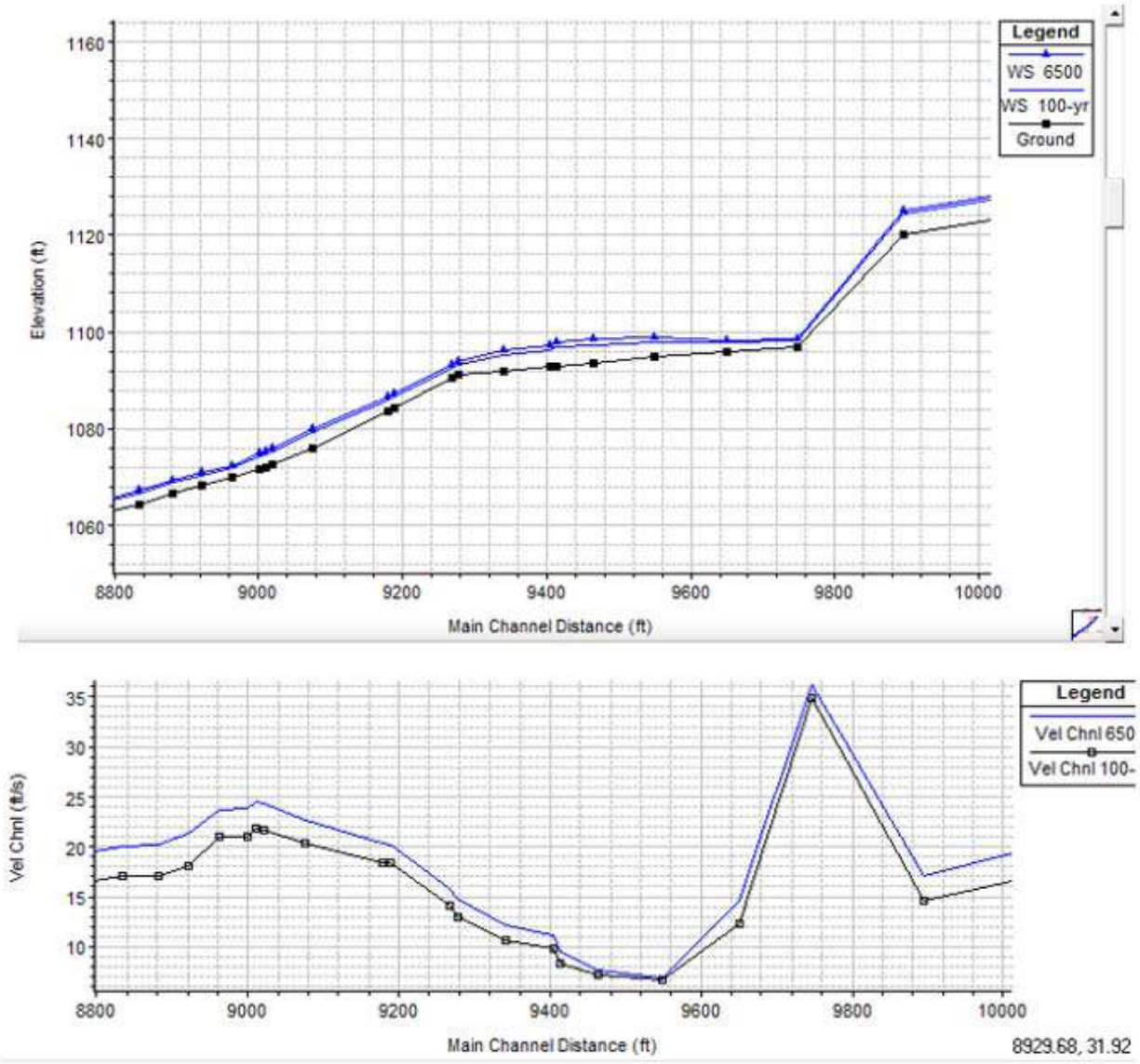


Figure 16. Invert and water surface profiles (above) and computed velocity variation (below) along the upstream end of the project

Toe-down for the drops proposed along the project (including the plunge into the debris basin, the steep chute downstream of the debris basin, and the constriction/drop mid-way down the project near RAS Station 8000) were computed using the procedures presented in Appendix 2. Each of these drop reaches were treated as a free overfall for drop scour estimation, given the steepness of the slopes involved and the uncertainties involved in estimation of this scour component. Note that the deeper toe-down allowance designated for each of these drop locations was computed assuming that countermeasure are not employed in the channel bed at the toe of each structure. The deeper toe

allowance would be required for a distance on the order of 10 times the drop height downstream of the toe of each structure located along the proposed channel. Should bed armoring (i.e. riprap) be employed to maintain a fixed bed elevation, the extent of this armoring layer should extend over a comparable distance. In the case of the steep overfall into the debris basin, the computed toe allowance is recommended to extend along the entire extent of the perimeter over which inflows could reasonably be expected to occur. Alternatively, energy dissipation measures could be incorporated into the debris basin inlet design to reduce the toe-down requirement.

The hydraulic computations indicate the potential for supercritical flow conditions along Bedford Wash under both existing and with-project conditions. Sediment transport under supercritical flow conditions is not well understood, and there is some debate whether supercritical conditions can long be sustained in a soft-bottom channel, due to bedform development that increases flow resistance. Due to the uncertainties involved, it is recommended that the deepest toe-down and highest bank height of the several methodologies applied in this report be used as minimum design criteria for the proposed plan.

A clear span bridge is proposed to cross Bedford Wash along the lower portion of the project reach. The proposed structure will locally narrow the flood channel in the vicinity of the crossing, and scour at the encroaching abutment is likely. The scour allowance computed in this study assumes a sloping abutment support would be incorporated into the design. Should vertical support be used, increased scour potential is likely (see the abutment scour equation in Appendix 2). Scour potential at this location can be reduced with a milder transition design. Due to the high velocities expected to be generated along the project reach under design flood conditions, it is recommended that abrupt variations in channel width be minimized to avoid disruption in sediment throughput.

The proposed channel terminates some distance upstream of the I-15 bridge. Ideally, transition structures would be incorporated into the design to ensure containment of the design flood to and through the existing bridge structures, to minimize the potential for a hydraulic jump and sediment accumulation at the downstream end of the project. The existing channel downstream of the project and through the I-15 bridge does have significant capacity, however, and overflows to the northwest upstream of the I-15 bridge are likely to act as an ineffective zone 'wall', with the main flow and sediment transport passing unimpeded downstream, as illustrated in Figure 17 (computed using a local HEC-RAS 2D model of the channel). The computations indicate that the effect of the overflow is insignificant on peak flow reduction and main channel hydraulics.

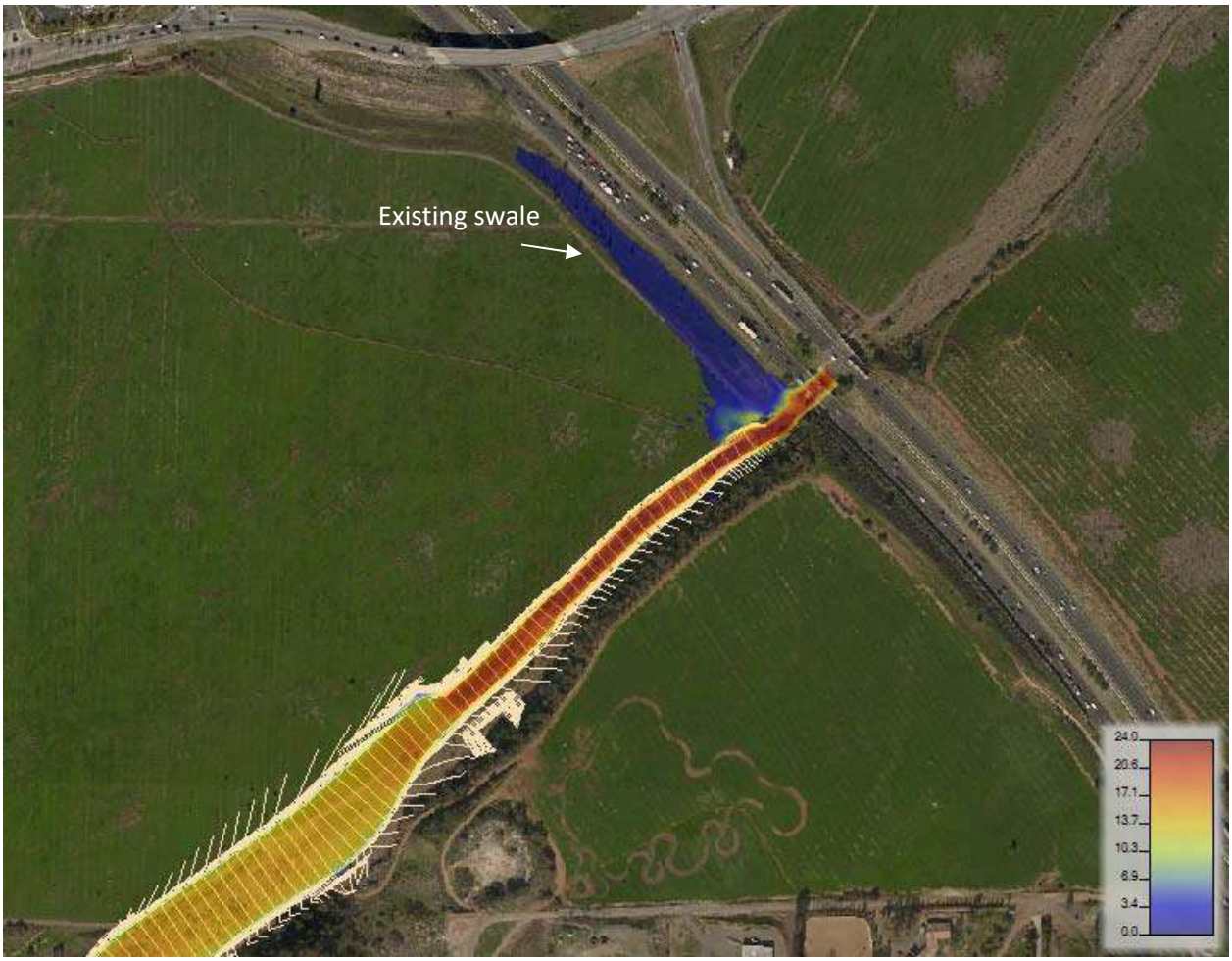


Figure 17. Computed flow extents and velocities along the lower reach, peak 100-year flood (bulked flow) conditions.

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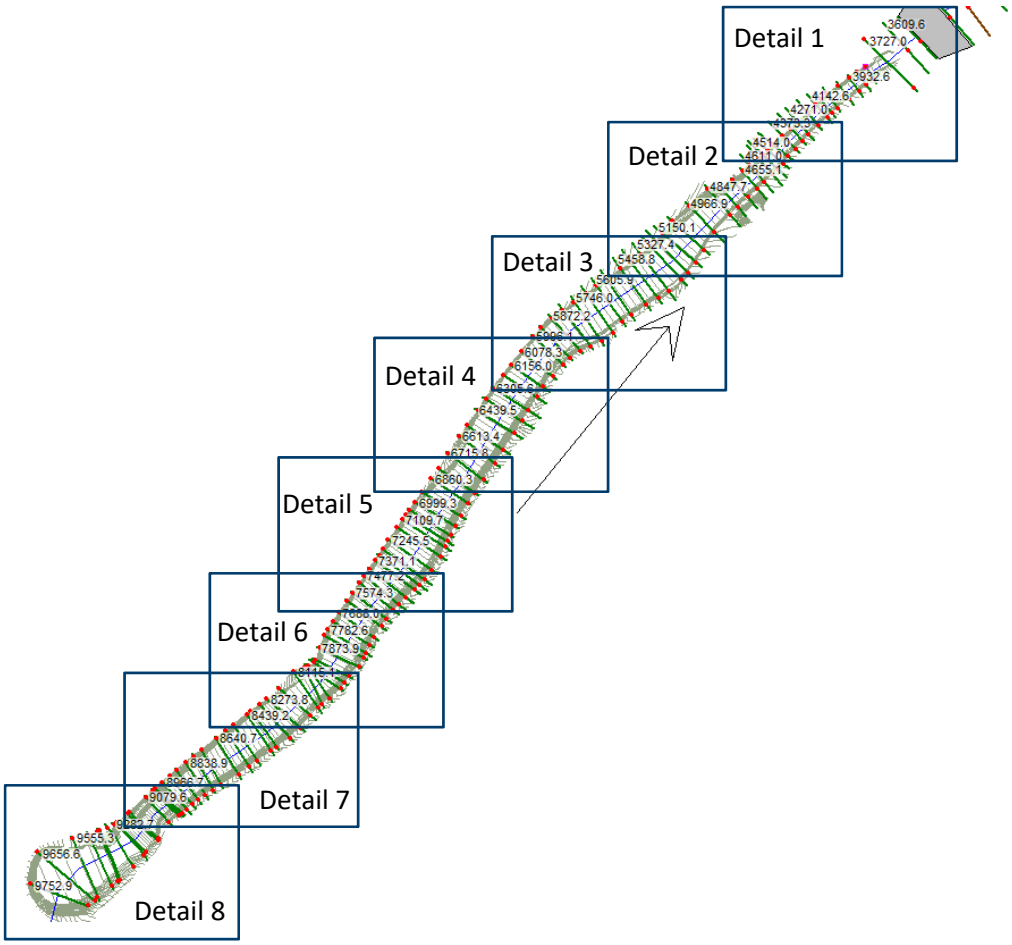
(9) U.S. Army Corps of Engineers, "Hydraulic Design of Flood Control Channels, Engineering Manual EM 1110-2-1601, July 1970.

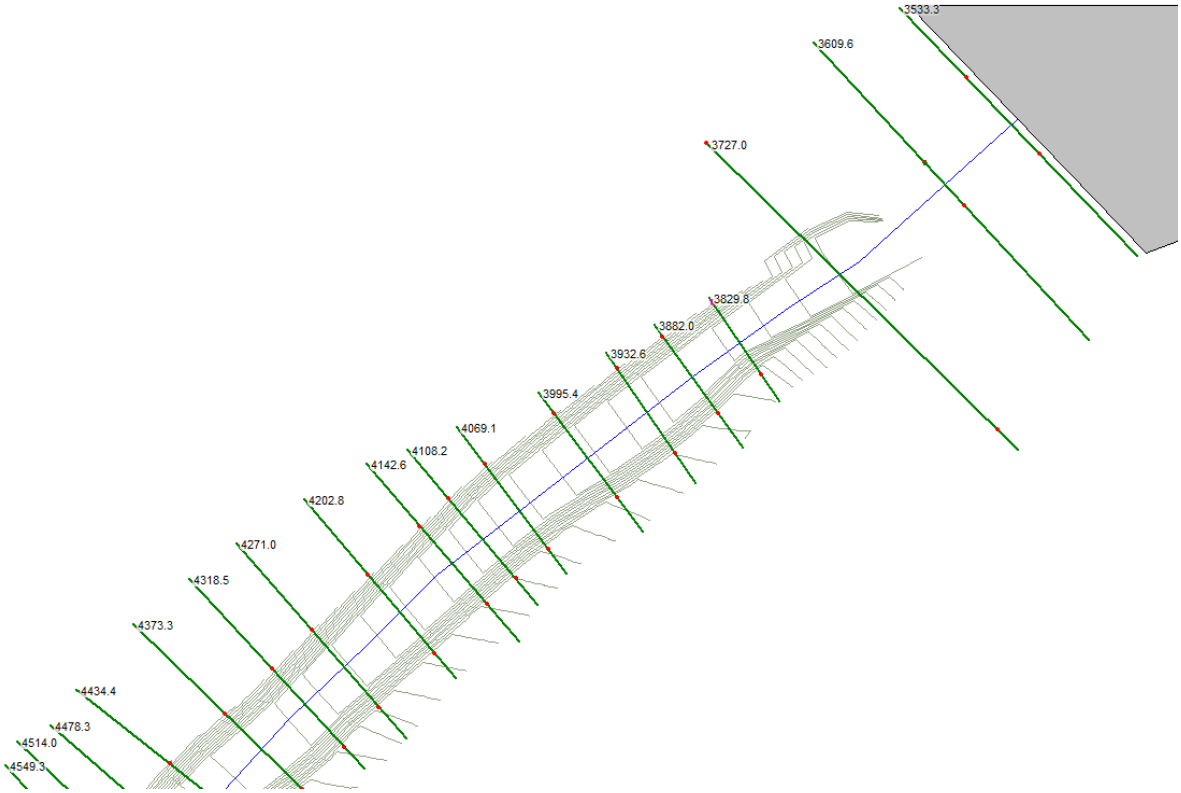
(10) Zeller, M. E., "Scour Depth Formula for Estimation of Toe Protection Against General Scour," prepared for Pima County Department of Transportation and Flood Control District, Tucson, Arizona, 1981.

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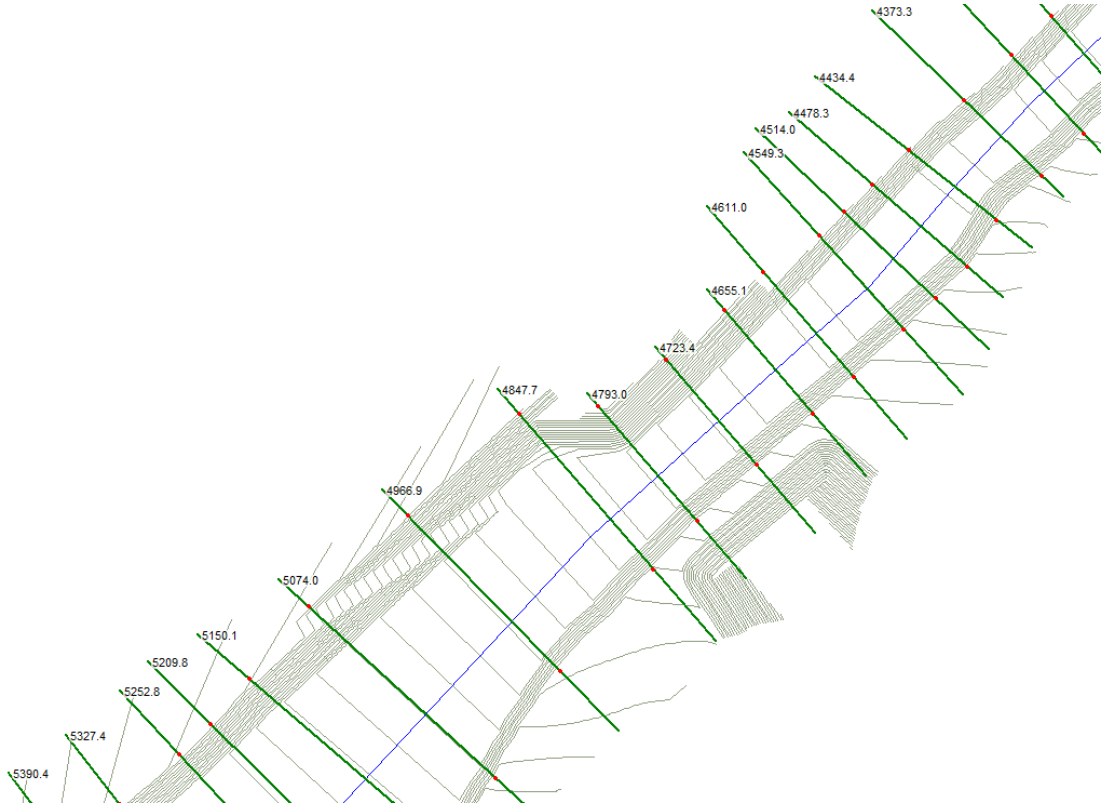
Appendix 1

Cross-Section Location Maps

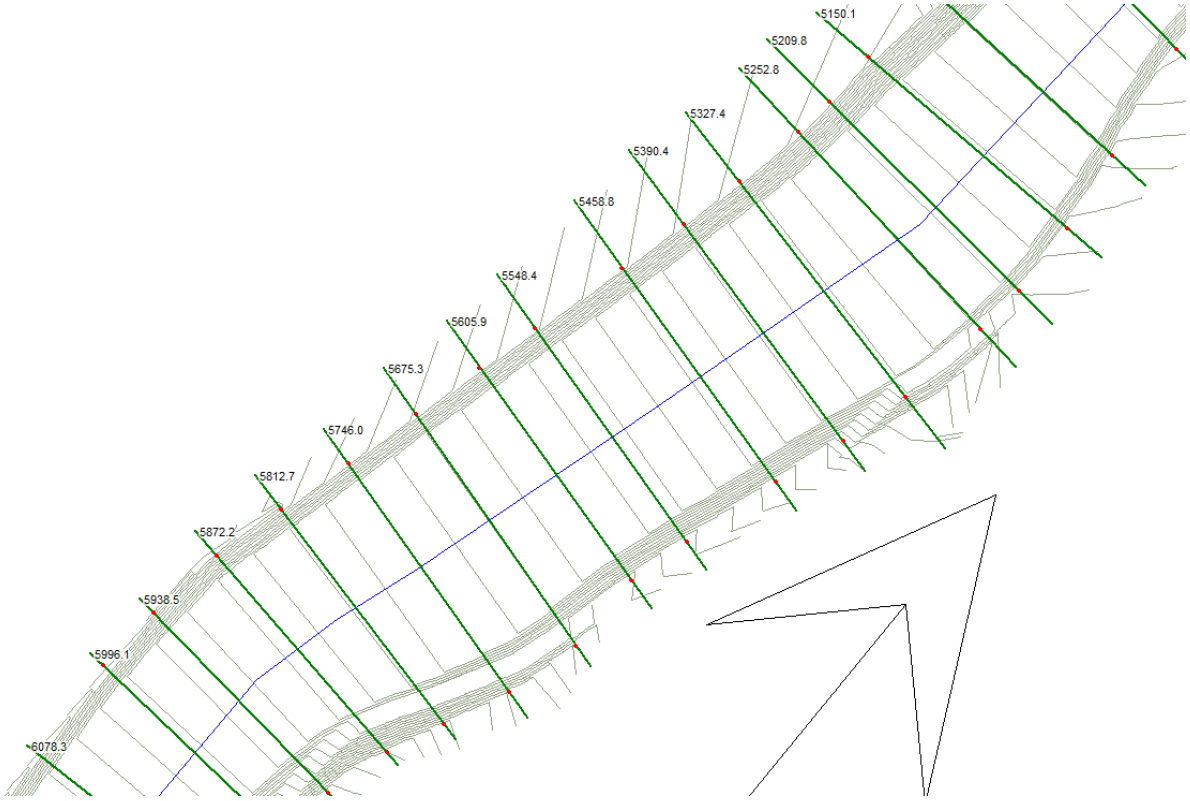

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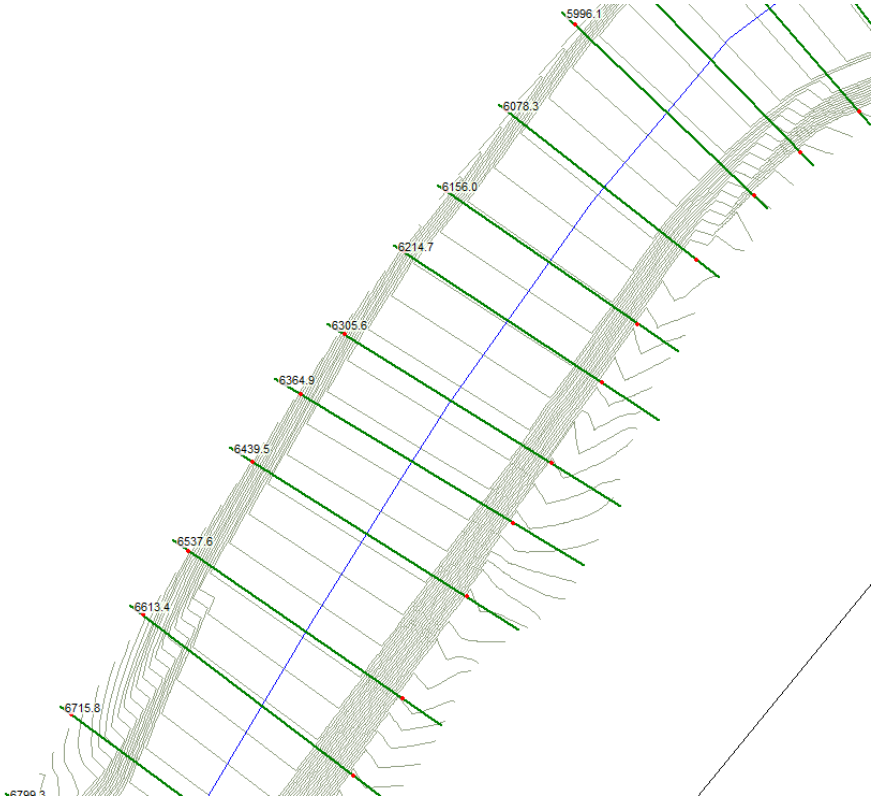
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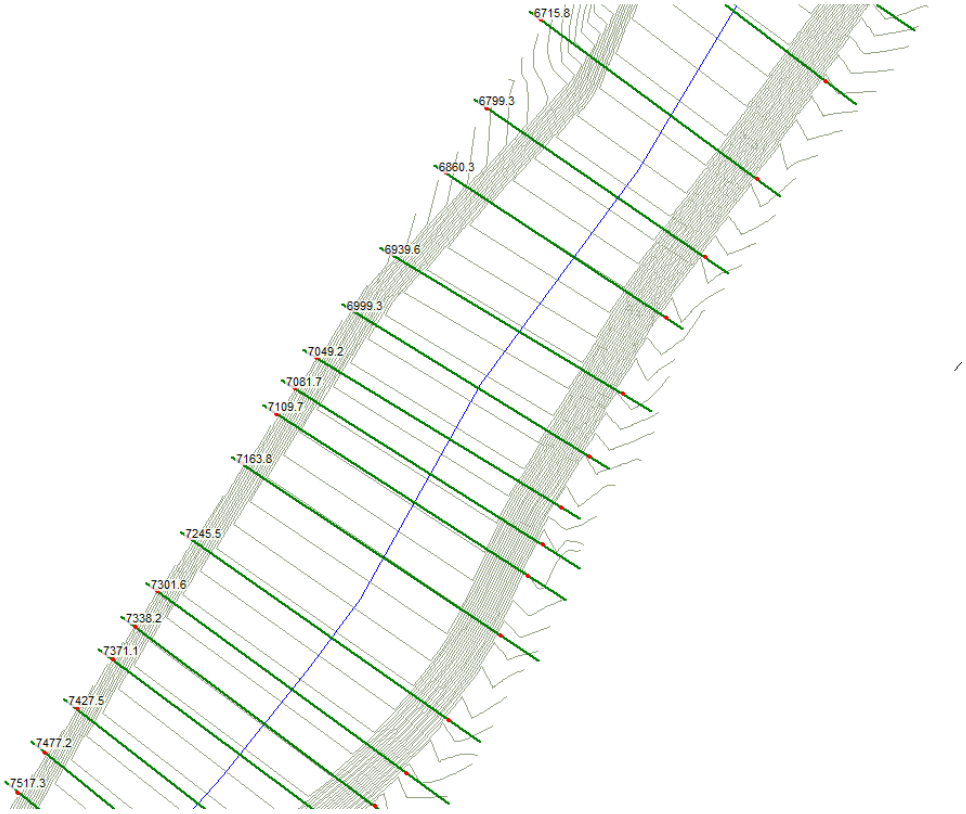
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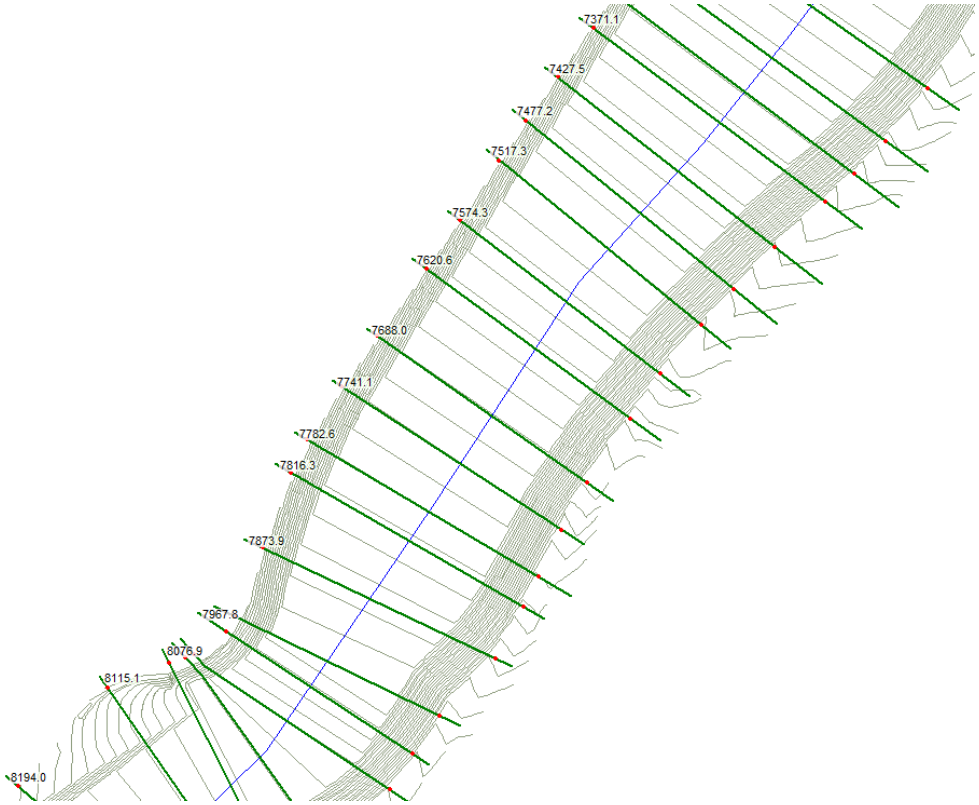
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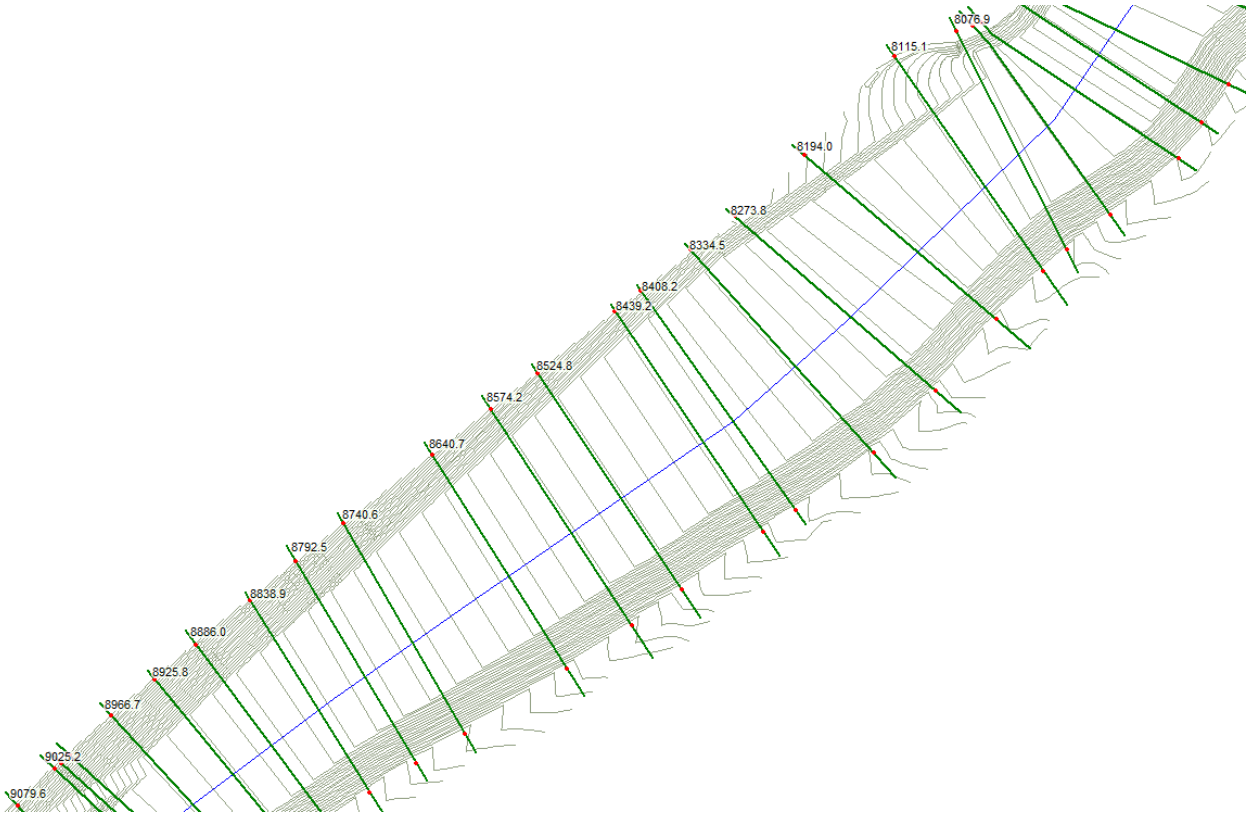
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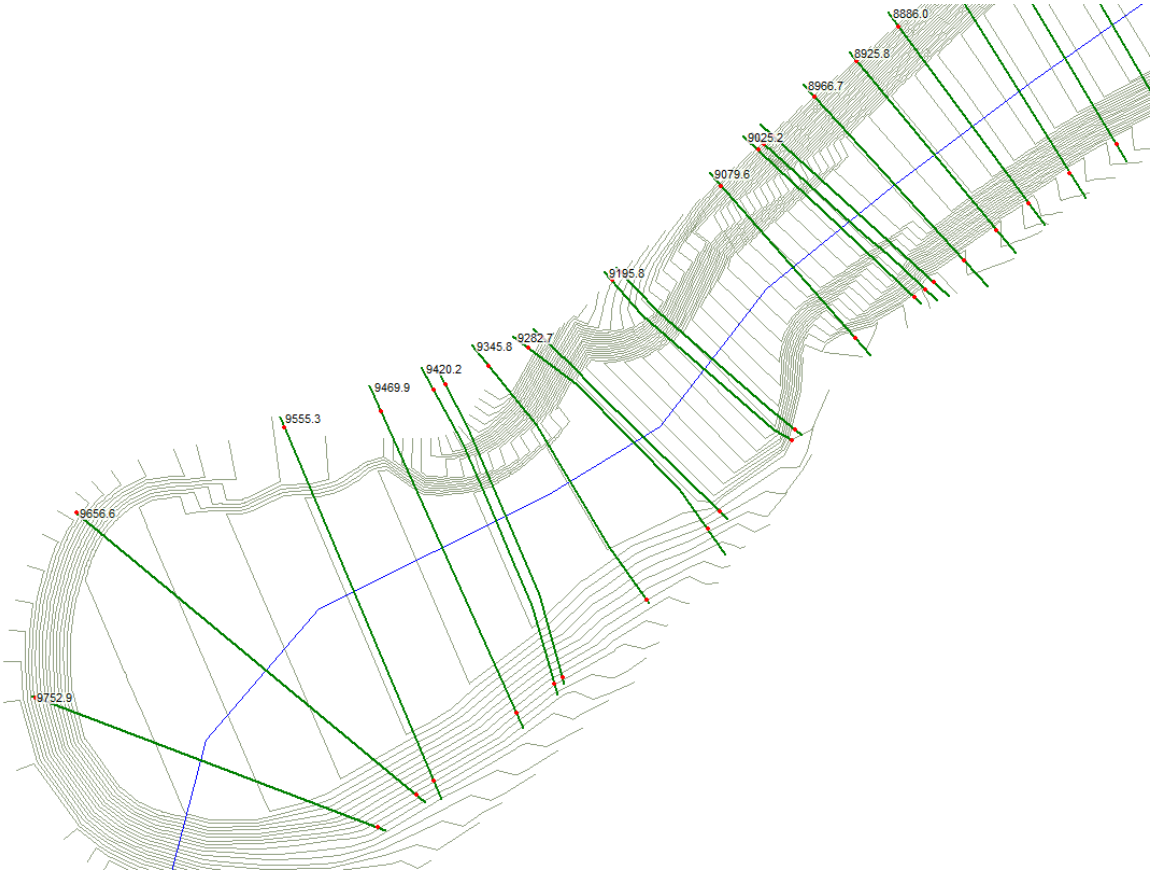
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Detail 8

Appendix 2

Channel Invert and Water Level Variability Components Discussion

Channel Invert and Water Level Variability Components

Bedforms, bend scour, abutment scour, drop scour and low flow incisement are additional potential scour components that can affect channel invert levels in soft-bottom facilities. Bedforms and bends also affect water surface elevations of flood flows. The procedures used to estimate each of these components is presented below.

Bedforms

Bedforms are natural alluvial features that can form in soft bottom channels. Antidunes are the type of bedform that can form in flows in transition or upper regime flow conditions. Antidunes are roughly sinusoidal features, with crests and troughs above and below the average bed level. Potential antidune height was estimated using procedures developed by Kennedy (1963) as summarized in Ref. 7:

$$H_a = 0.027 \times V^2$$

with:

H_a = the antidune height from crest to trough

V = the channel flow velocity

One-half of the potential antidune height extends above the average channel bed level, adding to the height of the water surface elevation. One-half of the potential antidune height extends below the average channel bed level, adding to the potential scour depth.

Bends

Increased scour is typically experienced along the outside of channel bends in soft bottom channels. The Zeller (1981) Equation, as summarized in Ref. 7, was used to approximate the amount of bend scour expected the channel bend proposed near the middle of the proposed project:

$$\Delta Z_b = \frac{0.0685 Y V^{0.8}}{Y_h^{0.4} S^{0.3}} \left[2.1 \left[\frac{w}{4r} \right]^{0.2} - 1 \right]$$

with:

ΔZ_b = potential scour at bend (feet)

Y = maximum upstream flow depth (feet)

V = velocity of upstream flow (ft/s)

Y_h = hydraulic depth of upstream flow (feet)

S = slope of upstream energy grade line

w = channel topwidth

r = radius of curvature at channel centerline

Superelevation of the water surface also occurs at channel bends. Superelevation was computed using and equation developed by the Corps of Engineers, as summarized in Ref. 7:

$$\Delta Y_b = C \frac{V^2 w}{gr}$$

with:

ΔY_b = superelevation allowance

C = a coefficient, equal to 1.3 for trapezoidal channels with supercritical flow

g = acceleration of gravity

Drop Scour

The potential depth of scour below drop structures was computed using the Veronese Equation (Ref. 1). The equation is as follows:

$$\Delta Z_d = 1.32\ H_t^{0.225}\ q^{0.54} - TW$$

with:

ΔZ_d = potential scour below stream bed (feet)

H_t = change in energy head over the drop

q = unit discharge at the crest of the drop (cfs/ft)

TW = tailwater depth (feet)

Abutment Scour

Abutments that project into the general flow path can induce scour. The magnitude of the potential scour was computed using the Liu Equation summarized in Reference 7. For abutments with widths of projection into the flow less than 25 times the upstream flow depth, the equation is as follows:

$$\Delta Z_a = K\left(\frac{a}{Y}\right)^{0.4} Fr^{0.33}$$

with:

ΔZ_a = potential scour at abutment

K = coefficient, equal to 1.1 for sloping abutments, 2.15 for vertical abutments

a = width of projection of the abutment into the flow

Y = upstream flow depth (feet)

Fr = the Froude Number of the upstream flow

Low flow incisement

A low flow channel commonly forms within a soft bottom facility, regardless of the as-built section and grade. A field inspection of the study area is the best method for determination of the likelihood and magnitude of the low flow incisement component of potential channel adjustment. For the project reach, a low flow incisement allowance of 2 feet is judged reasonable.

Appendix 3

July 2017 Plan Hydraulics

	Unbulked Q100 HEC-RAS Results mixed regime run		Bulked Q100 HEC-RAS Results subcritical regime run	
HEC-RAS Sta.	Channel Velocity (ft/s)	Maximum Flow Depth (ft)	Channel Velocity (ft/s)	Maximum Flow Depth (ft)
9752.9	34.9	1.3	9.5	3.8
9656.6	12.3	1.8	7.6	3.4
9555.3	6.7	2.9	6.9	4.1
9469.9	7.2	3.7	7.6	4.9
9420.2	8.3	3.9	9.4	4.9
9409.5	9.9	3.4	11.1	4.4
9345.8	10.6	3.3	11.0	4.5
9282.7	13.0	2.3	10.6	3.9
9273.1	14.0	2.1	10.6	3.8
9195.8	18.3	2.3	11.6	4.8
9184.5	18.4	2.4	11.8	5.0
9079.6	20.4	3.2	13.2	6.5
9025.2	21.7	2.8	12.2	6.3
9015.2	21.8	2.7	11.8	6.1
9005.0	21.1	2.8	11.8	5.9
8966.7	21.0	2.0	11.9	4.8
8925.8	18.1	2.2	11.9	4.8
8886.0	17.1	2.4	11.8	4.7
8838.9	17.1	2.3	11.7	4.6
8792.5	16.5	2.3	11.5	4.5
8740.6	16.2	2.2	11.3	4.3
8640.7	15.2	2.0	11.0	4.0
8574.2	14.8	2.0	10.8	3.9
8524.8	15.0	1.9	10.8	3.8
8439.2	14.4	1.9	10.6	3.7
8408.2	14.3	1.9	10.6	3.7
8334.5	14.4	1.8	10.5	3.6
8273.8	14.0	1.9	10.6	3.7
8194.0	14.4	2.2	11.1	4.1
8115.1	15.6	2.3	10.9	4.6
8076.9	15.8	2.1	11.0	4.2
8039.9	15.6	2.2	11.1	4.3
8004.9	16.1	2.0	11.1	4.1
7967.8	17.8	2.0	11.4	4.3
7940.6	18.6	1.9	11.5	4.3
7873.9	15.5	2.1	11.0	4.0
7816.3	15.0	2.0	10.7	3.8
7782.6	15.0	1.8	10.7	3.7
7741.1	14.7	1.9	10.8	3.8
7688.0	14.7	2.0	10.8	3.8
7620.6	14.7	2.1	10.8	3.9
7574.3	14.9	2.0	10.7	3.9
7517.3	15.0	1.8	10.7	3.7
7477.2	14.4	1.9	10.6	3.6
7427.5	14.4	1.8	10.4	3.5
7371.1	13.9	1.8	10.2	3.4
7338.2	14.1	1.6	10.1	3.3

	Unbulked Q100 HEC-RAS Results mixed regime run		Bulked Q100 HEC-RAS Results subcritical regime run	
HEC-RAS Sta.	Channel Velocity (ft/s)	Maximum Flow Depth (ft)	Channel Velocity (ft/s)	Maximum Flow Depth (ft)
7301.6	13.5	1.7	10.0	3.2
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7109.7	13.4	1.8	10.2	3.3
7081.7	13.4	1.8	10.3	3.4
7049.2	13.6	1.9	10.4	3.5
6999.3	13.8	1.9	10.5	3.6
6939.6	14.2	2.0	10.8	3.8
6860.3	14.7	2.2	11.2	4.1
6799.3	15.0	2.5	11.5	4.5
6715.8	15.5	2.5	11.7	4.6
6613.4	15.3	2.2	10.9	4.3
6537.6	14.5	1.9	10.7	3.7
6439.5	13.2	2.1	10.7	3.8
6364.9	13.5	2.0	10.6	3.7
6305.6	13.3	2.0	10.6	3.7
6214.7	13.2	2.1	10.6	3.7
6156.0	13.1	2.2	10.8	3.8
6078.3	13.3	2.3	11.0	4.0
5996.1	14.0	2.2	10.9	4.0
5938.5	13.3	2.3	10.9	4.0
5872.2	13.5	2.0	10.4	3.7
5812.7	13.0	2.0	10.3	3.6
5746.0	13.0	1.8	10.3	3.4
5675.3	12.3	1.9	10.3	3.4
5605.9	12.4	2.0	10.3	3.5
5548.4	12.5	2.0	10.3	3.5
5458.8	12.4	2.1	10.3	3.5
5390.4	12.7	1.9	10.2	3.4
5327.4	12.1	2.0	10.0	3.4
5252.8	12.3	1.9	10.2	3.3
5209.8	12.1	2.0	10.3	3.4
5150.1	12.2	2.1	10.4	3.5
5074.0	12.6	2.3	10.9	3.8
4966.9	13.1	2.8	11.6	4.5
4847.7	6.8	5.4	7.2	7.3
4793.0	11.9	5.1	13.3	6.5
4723.4	16.5	3.9	13.3	6.6
4655.1	17.4	3.5	13.3	6.4
4611.0	16.8	3.8	13.2	6.5
4549.3	17.3	3.5	13.2	6.3
4514.0	17.2	3.6	13.3	6.3
4478.3	17.2	3.5	11.9	7.0
4434.4	14.2	5.0	13.7	7.1
4373.3	16.2	4.6	13.9	7.4
4318.5	16.5	5.0	14.0	7.8
4271.0	17.4	4.7	14.0	7.8

	Unbulked Q100 HEC-RAS Results mixed regime run		Bulked Q100 HEC-RAS Results subcritical regime run	
HEC-RAS Sta.	Channel Velocity (ft/s)	Maximum Flow Depth (ft)	Channel Velocity (ft/s)	Maximum Flow Depth (ft)
4202.8	18.2	4.4	13.9	7.6
4142.6	18.3	4.5	14.0	7.6
4108.2	18.4	4.4	13.9	7.5
4069.1	18.5	4.4	13.9	7.6
3995.4	18.1	4.4	13.9	7.4
3932.6	17.2	4.6	13.9	7.6
3882.0	16.9	5.0	14.0	8.0
3829.8	16.9	4.9	13.9	8.0
3727.0	19.6	3.6	10.5	7.9
3609.6	17.3	6.9	15.8	8.9
3533.3	7.7	9.4	11.3	9.5

Appendix 4

July 2017 Plan Bank Height and Toe-Down Components

RAS Station (ft)	GSTARS Peak WS + 1/2 antidune + superelevation Height 1 (ft)	Unbulked Q100 RAS Peak WS +gen agg + 1/2 antidune + superelevation Height 2 (ft)	Bulked Q100 RAS (critical) + superelevation + 3 ft FB Height 3 (ft)
9752.9	9.4	9.5	6.8
9656.6	8.2	10.2	6.4
9555.3	9.4	11.0	7.1
9469.9	10.0	11.9	7.9
9420.2	10.7	12.3	7.9
9409.5	10.7	12.3	7.4
9345.8	9.1	12.4	7.5
9282.7	2.9	8.4	6.9
9273.1	2.8	8.1	6.8
9195.8	3.5	8.5	7.8
9184.5	3.6	8.6	8.0
9079.6	4.8	9.8	9.5
9025.2	4.1	9.1	9.3
9015.2	4.2	9.0	9.1
9005.0	4.4	9.2	8.9
8966.7	4.2	7.9	7.8
8925.8	3.7	8.3	7.8
8886.0	1.4	8.5	7.7
8838.9	1.4	8.4	7.6
8792.5	2.1	8.4	7.5
8740.6	1.8	8.2	7.3
8640.7	3.7	8.0	7.0
8574.2	6.2	8.1	6.9
8524.8	6.9	7.8	6.8
8439.2	4.5	7.8	6.7
8408.2	3.5	7.9	6.7
8334.5	4.7	7.7	6.6
8273.8	6.1	7.9	6.7
8194.0	6.9	8.3	7.1
8115.1	4.8	8.4	7.6
8076.9	5.7	8.2	7.2
8039.9	6.7	8.3	7.3
8004.9	4.0	8.0	7.1
7967.8	6.8	7.9	7.3
7940.6	7.5	7.8	7.3
7873.9	3.8	8.1	7.0
7816.3	6.1	7.9	6.8
7782.6	6.0	7.7	6.7

RAS Station (ft)	GSTARS Peak WS + 1/2 antidune + superelevation Height 1 (ft)	Unbulked Q100 RAS Peak WS +gen agg + 1/2 antidune + superelevation Height 2 (ft)	Bulked Q100 RAS (critical) + superelevation + 3 ft FB Height 3 (ft)
7741.1	4.0	7.8	6.8
7688.0	5.4	8.0	6.8
7620.6	7.3	8.1	6.9
7574.3	5.9	8.0	6.9
7517.3	6.4	7.7	6.7
7477.2	7.2	7.8	6.6
7427.5	8.4	7.7	6.5
7371.1	3.1	7.7	6.4
7338.2	3.6	7.4	6.3
7301.6	4.1	7.5	6.2
7245.5	1.8	7.5	6.2
7163.8	4.3	7.5	6.2
7109.7	5.6	7.6	6.3
7081.7	2.6	7.8	6.4
7049.2	3.9	7.8	6.5
6999.3	4.6	7.9	6.6
6939.6	2.5	8.0	6.8
6860.3	4.9	8.3	7.1
6799.3	6.1	8.7	7.5
6715.8	4.0	8.8	7.6
6613.4	5.3	8.3	7.3
6537.6	5.8	7.9	6.7
6439.5	4.3	8.2	6.8
6364.9	6.4	8.0	6.7
6305.6	7.3	8.1	6.7
6214.7	8.1	8.1	6.7
6156.0	4.1	8.3	6.8
6078.3	8.7	10.9	9.4
5996.1	10.0	10.7	9.4
5938.5	9.2	10.9	9.4
5872.2	7.4	10.5	9.1
5812.7	8.8	10.4	9.0
5746.0	7.3	7.7	6.4
5675.3	3.8	7.9	6.4
5605.9	5.8	8.0	6.5
5548.4	6.4	8.0	6.5
5458.8	4.1	8.1	6.5
5390.4	5.3	7.8	6.4

RAS Station	GSTARS Peak WS + 1/2 antidune + superelevation Height 1	Unbulked Q100 RAS Peak WS +gen agg + 1/2 antidune + superelevation Height 2	Bulked Q100 RAS (critical) + superelevation + 3 ft FB Height 3
(ft)	(ft)	(ft)	(ft)
5327.4	6.2	8.0	6.4
5252.8	6.2	7.8	6.3
5209.8	4.1	8.0	6.4
5150.1	4.6	8.1	6.5
5074.0	5.1	8.4	6.8
4966.9	5.2	9.3	7.5
4847.7	7.9	11.1	10.3
4793.0	8.8	13.1	9.5
4723.4	7.9	11.9	9.6
4655.1	9.9	11.3	9.4
4611.0	9.8	11.6	9.5
4549.3	10.9	11.3	9.3
4514.0	11.4	11.3	9.3
4478.3	11.4	11.3	10.0
4434.4	11.0	13.5	10.1
4373.3	12.0	13.0	10.4
4318.5	13.5	13.4	10.8
4271.0	8.9	13.1	10.8
4202.8	11.3	12.7	10.6
4142.6	12.1	12.7	10.6
4108.2	9.9	12.6	10.6
4069.1	9.0	12.5	10.6
3995.4	9.3	12.5	10.4
3932.6	9.4	12.9	10.6
3882.0	7.1	13.5	11.0
3829.8	5.6	13.4	11.0
3727.0	7.4	11.4	10.9
3609.6	6.4	14.8	11.9
3533.3	5.8	16.2	12.5

RAS Station	General Scour Allowance	1/2 Antidune Height	Low Flow Incisement	Drop, Abutment or Bend Scour	Sum of Scour Components Toe 1	LA County Velocity-Based Toe Allowance Toe 2	LA County Depth-Based Toe Allowance Toe 3
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
9752.9	0.0	0.0	0.0	24.0	24.0	14.0	6.5
9656.6	0.0	0.0	0.0	24.0	24.0	10.0	5.7
9555.3	0.0	0.0	0.0	24.0	24.0	10.0	7.0
9469.9	0.0	0.0	0.0	24.0	24.0	10.0	8.4
9420.2	0.0	0.0	0.0	24.0	24.0	10.0	8.4
9409.5	0.0	0.0	0.0	24.0	24.0	10.0	7.5
9345.8	0.0	0.0	0.0	24.0	24.0	10.0	7.7
9282.7	0.0	0.0	0.0	24.0	24.0	10.0	6.6
9273.1	13.2	1.0	2.0	0.0	16.2	10.0	6.5
9195.8	13.2	1.2	2.0	0.0	16.3	14.0	8.2
9184.5	13.2	1.2	2.0	0.0	16.4	14.0	8.4
9079.6	13.2	1.6	2.0	0.0	16.7	14.0	11.0
9025.2	13.2	1.4	2.0	0.0	16.5	14.0	10.6
9015.2	13.2	1.3	2.0	0.0	16.5	14.0	10.4
9005.0	13.2	1.4	2.0	0.0	16.6	14.0	10.1
8966.7	13.2	1.0	2.0	22.0	38.1	14.0	8.1
8925.8	13.2	1.1	2.0	22.0	38.3	14.0	8.1
8886.0	13.2	1.2	2.0	22.0	38.3	12.5	8.0
8838.9	13.2	1.1	2.0	0.0	16.3	12.5	7.9
8792.5	13.2	1.1	2.0	0.0	16.3	12.5	7.7
8740.6	13.2	1.1	2.0	0.0	16.2	12.5	7.3
8640.7	8.3	1.0	2.0	0.0	11.3	12.5	6.7
8574.2	8.3	1.0	2.0	0.0	11.4	10.0	6.7
8524.8	8.3	0.9	2.0	0.0	11.3	10.0	6.4
8439.2	8.3	0.9	2.0	0.0	11.3	10.0	6.3
8408.2	8.3	1.0	2.0	0.0	11.3	10.0	6.3
8334.5	8.3	0.9	2.0	0.0	11.3	15.0	6.1
8273.8	8.3	1.0	2.0	0.0	11.3	15.0	6.2
8194.0	8.3	1.1	2.0	0.0	11.4	15.0	6.9
8115.1	8.3	1.1	2.0	0.0	11.5	18.0	7.8
8076.9	8.3	1.1	2.0	0.0	11.4	18.0	7.1
8039.9	8.3	1.1	2.0	0.0	11.5	18.0	7.3
8004.9	8.3	1.0	2.0	0.0	11.3	18.0	7.0
7967.8	8.3	1.0	2.0	0.0	11.3	18.0	7.3
7940.6	8.3	0.9	2.0	13.0	24.3	21.0	7.4
7873.9	8.3	1.0	2.0	0.0	11.4	18.0	6.9
7816.3	8.3	1.0	2.0	0.0	11.3	15.0	6.5
7782.6	8.3	0.9	2.0	0.0	11.3	18.0	6.3
7741.1	8.3	0.9	2.0	0.0	11.3	15.0	6.4
7688.0	8.3	1.0	2.0	0.0	11.3	15.0	6.5
7620.6	8.3	1.0	2.0	0.0	11.4	10.0	6.7
7574.3	8.3	1.0	2.0	0.0	11.3	10.0	6.6
7517.3	8.3	0.9	2.0	0.0	11.3	10.0	6.3
7477.2	8.3	0.9	2.0	0.0	11.3	10.0	6.2
7427.5	8.3	0.9	2.0	0.0	11.2	10.0	6.0

RAS Station	General Scour Allowance	1/2 Antidune Height	Low Flow Incisement	Drop, Abutment or Bend Scour	Sum of Scour Components Toe 1	LA County Velocity-Based Toe Allowance Toe 2	LA County Depth-Based Toe Allowance Toe 3
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
7371.1	8.3	0.9	2.0	0.0	11.2	10.0	5.8
7338.2	8.3	0.8	2.0	0.0	11.1	10.0	5.6
7301.6	8.3	0.8	2.0	0.0	11.2	10.0	5.5
7245.5	8.3	0.8	2.0	0.0	11.2	10.0	5.4
7163.8	8.3	0.8	2.0	0.0	11.2	10.0	5.5
7109.7	8.3	0.9	2.0	0.0	11.2	10.0	5.7
7081.7	8.3	0.9	2.0	0.0	11.3	10.0	5.8
7049.2	8.3	0.9	2.0	0.0	11.3	10.0	6.0
6999.3	8.3	1.0	2.0	0.0	11.3	10.0	6.2
6939.6	8.3	1.0	2.0	0.0	11.3	10.0	6.4
6860.3	8.3	1.1	2.0	0.0	11.4	10.0	7.0
6799.3	8.3	1.2	2.0	0.0	11.6	10.0	7.7
6715.8	8.3	1.3	2.0	0.0	11.6	12.5	7.9
6613.4	8.3	1.1	2.0	0.0	11.4	12.5	7.2
6537.6	8.3	1.0	2.0	0.0	11.3	10.0	6.3
6439.5	8.3	1.1	2.0	0.0	11.4	10.0	6.4
6364.9	8.3	1.0	2.0	0.0	11.3	10.0	6.2
6305.6	8.3	1.0	2.0	0.0	11.4	10.0	6.2
6214.7	8.3	1.0	2.0	0.0	11.4	10.0	6.3
6156.0	8.3	1.1	2.0	0.0	11.4	10.0	6.5
6078.3	8.3	1.2	2.0	0.7	12.2	15.0	6.8
5996.1	8.3	1.1	2.0	0.7	12.1	15.0	6.7
5938.5	8.3	1.2	2.0	0.7	12.2	15.0	6.8
5872.2	8.3	1.0	2.0	0.7	12.0	15.0	6.2
5812.7	8.3	1.0	2.0	0.7	12.0	15.0	6.1
5746.0	8.3	0.9	2.0	0.0	11.2	10.0	5.7
5675.3	8.3	1.0	2.0	0.0	11.3	10.0	5.7
5605.9	8.3	1.0	2.0	0.0	11.3	10.0	5.9
5548.4	8.3	1.0	2.0	0.0	11.3	10.0	5.9
5458.8	8.3	1.0	2.0	0.0	11.4	10.0	6.0
5390.4	8.3	0.9	2.0	0.0	11.3	10.0	5.8
5327.4	8.3	1.0	2.0	0.0	11.3	10.0	5.7
5252.8	8.3	0.9	2.0	0.0	11.3	10.0	5.6
5209.8	8.3	1.0	2.0	0.0	11.3	10.0	5.7
5150.1	8.3	1.0	2.0	0.0	11.4	10.0	6.0
5074.0	8.3	1.1	2.0	0.0	11.5	10.0	6.5
4966.9	8.3	1.4	2.0	0.0	11.8	10.0	7.7
4847.7	8.3	0.6	2.0	13.1	24.1	10.0	12.4
4793.0	8.3	1.9	2.0	13.1	25.4	10.0	11.1
4723.4	8.3	1.9	2.0	13.1	25.4	12.5	11.2
4655.1	8.3	1.8	2.0	0.0	12.1	12.5	10.8
4611.0	8.3	1.9	2.0	0.0	12.2	12.5	11.0
4549.3	8.3	1.8	2.0	0.0	12.1	12.5	10.7
4514.0	8.3	1.8	2.0	0.0	12.1	12.5	10.8
4478.3	8.3	1.8	2.0	0.0	12.1	12.5	11.8

RAS Station	General Scour Allowance	1/2 Antidune Height	Low Flow Incisement	Drop, Abutment or Bend Scour	Sum of Scour Components Toe 1	LA County Velocity-Based Toe Allowance Toe 2	LA County Depth-Based Toe Allowance Toe 3
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
4434.4	8.3	2.5	2.0	0.0	12.8	10.0	12.1
4373.3	8.3	2.3	2.0	0.0	12.7	12.5	12.5
4318.5	8.3	2.5	2.0	0.0	12.8	12.5	13.2
4271.0	8.3	2.4	2.0	0.0	12.7	12.5	13.2
4202.8	8.3	2.2	2.0	0.0	12.6	14.0	12.9
4142.6	8.3	2.2	2.0	0.0	12.6	14.0	12.9
4108.2	8.3	2.2	2.0	0.0	12.5	14.0	12.8
4069.1	8.3	2.2	2.0	0.0	12.5	14.0	12.9
3995.4	8.3	2.2	2.0	0.0	12.5	14.0	12.7
3932.6	8.3	2.3	2.0	0.0	12.7	12.5	12.9
3882.0	8.3	2.5	2.0	0.0	12.8	12.5	13.6
3829.8	8.3	2.5	2.0	0.0	12.8	12.5	13.5
3727.0	8.3	1.8	2.0	0.0	12.1	14.0	13.5
3609.6	8.3	2.9	2.0	0.0	13.3	12.5	15.2
3533.3	8.3	0.8	2.0	0.0	11.2	10.0	16.2

April 2018

PRELIMINARY HYDROLOGY STUDY

For

Tract 37036

Parcel 1

City of Corona

County of Riverside, California

Prepared For:

Arantine Hills Holdings, LP

85 Enterprise
Suite 450
Aliso Viejo, CA 92656
Phone: (949) 382-2766

Prepared By:

HUNSAKER & ASSOCIATES IRVINE, INC.
Three Hughes, Irvine, CA 92618 | 949.583.1010

WO#: 2749-18-PHydrlgyStdy-TPM37036

PRELIMINARY HYDROLOGY STUDY

For

TRACT 37036

PARCEL 1

City of Corona
County of Riverside
California

April 2018



PREPARED BY: *Joanna Swiatkowska*

PREPARED UNDER THE SUPERVISION OF:

Doug Staley, R.C.E. 38796 *Date Exp.: 3/31/19*

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4. BASIN ROUTING CALCULATIONS AND OUTLET STRUCTURE DESIGN

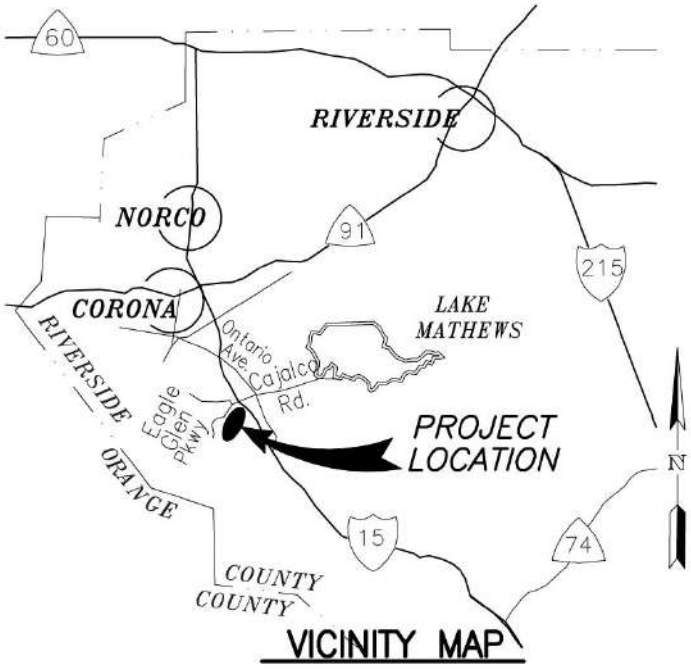
5. REFERENCES

- § TENTATIVE TRACT MAP
- § WATER QUALITY CALCULATION
- § INFILTRATION REPORT
- § HYDROLOGIC DATA

SECTION 1
DISCUSSION

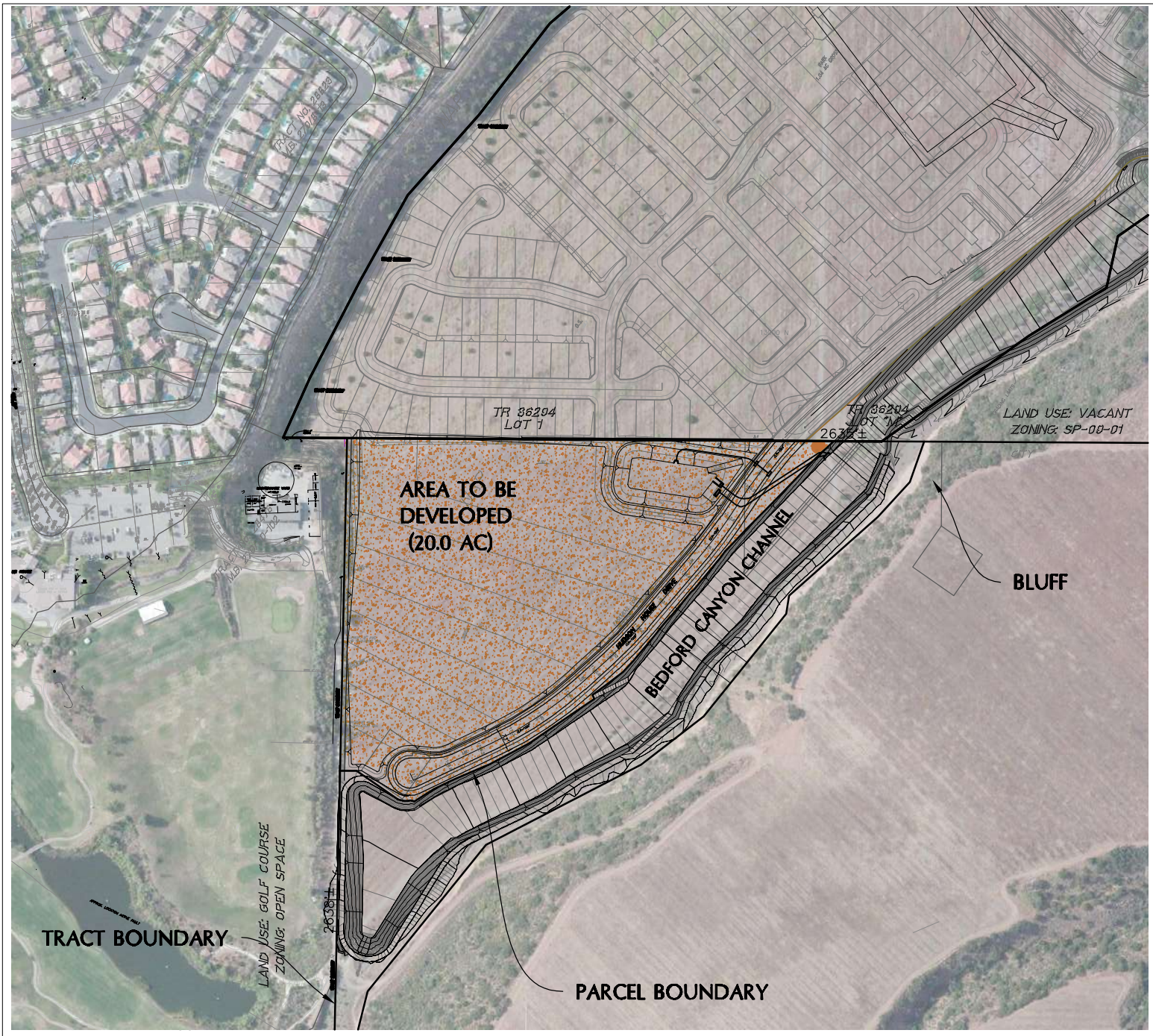
A. PROJECT SITE

The Project is a portion (Parcel 1 and proposed Hudson House Drive) of Tentative Tract 37036, and is located in the southeasterly portion of the City of Corona. The Project property is comprised of approximately 20 acres of undeveloped land, and is roughly bounded by the Glen Eagle Golf Club to the west, Tract 36294 to the north, and Bedford Canyon Wash to the south and east. The Project lies near the Eagle Glen/Cajalco Road off-ramp of the I-15 and shown in the Vicinity Map below.



The Bedford Canyon Wash is a major regional watercourse, conveying runoff from an approximately 7.5 square mile watershed lying to the south, adjacent to the Project site. The wash flows next to a bluff that extends along the easterly portion of the Project in a south to north direction.

Along with channelizing Bedford Canyon Wash flows in the proposed Bedford Canyon Channel the Project proposes to develop approximately 20 acres of the property into high density residential.



LEGEND

PROJECT BOUNDARY

AREA TO BE DEVELOPED

PREPARED BY:

HUNSAKER & ASSOCIATES
IRVINE, INC.

FEET
0 200 400 800
0 1/2 1 2
INCHES

Exhibit 1

PROJECT SITE

F:\0853\Engineering\Hydrology\McMILLAN-H&H STUDY\EXH1-PROJECT SITE-1.dwg

B. PURPOSE AND SCOPE

The purpose of this study is to investigate and evaluate the storm runoffs for post-project conditions and compare with pre-project conditions of the Project, and to develop preliminary sizing of a drainage system that will provide flood protection from up to 100-year frequency storm events.

The scope of this study includes the following:

- Prepare drainage area map and determine the points of discharge for pre-, and post-project condition.
- Evaluated the storm runoffs for 2-, 5-, 10-, and 100-year storm events for 1, 3, 6, and 24-hour durations storm based on pre- and post- project condition.
- Determine preliminary sizing of BMPs and detention needed to mitigate water quality impact and increased runoff for 2-, 5-, 10-year storm events for 1, 3, 6, and 24-hour durations.
- Preliminary storm drain system pipe layout (sizing storm drain conduits and catch basins will be determined during final design phase of the project).
- **Evaluation of the proposed Bedford Canyon Channel and related improvements is not a part of this study.**

C. LAND USE

The Project proposed land use is a high density residential with approximately 10 Units per Acre.

D. **METHODOLOGY**

The methodology used to for this hydrology study is based on Riverside County Hydrology Manual dated 1978. The hydrology and hydraulic software utilized are accepted by Riverside County Flood Control and Water Conservation District (District) which include the following:

Rational Method: Riverside County Rational Hydrology Program - CIVILCADD/ CIVILDESIGN Engineering Software by Bonadiman and Associates – Version 8.0.

Unit Hydrograph: Riverside County Synthetic Unit Hydrology Method - CIVILCADD/ CIVILDESIGN Engineering Software by Bonadiman and Associates – Version 8.2.

Basin Routing: Hydrograph Routing - CIVILCADD/ CIVILDESIGN Engineering Software by Bonadiman and Associates – Version 7.0.

Soils Types were based on soils map for Corona South, Plate C-1.27

The methodology used to design the treatment control BMP's and the project's drainage characteristic is based on the requirements set in the Riverside County Design Handbook for Low Impact Development Best Management Practices.

Proposed land use is based on 65 percent imperviousness for developed residential areas. Proposed land use for hillside areas was selected as open brush, poor cover.

Unit hydrographs were used to compare peak flows for the 2-year, 5-year, and 10-year storm events, for 1-, 3-, 6-, and 24-hour durations.

- Antecedent Moisture Condition (AMC) II was used to determine the peak storms and flood volumes for the 100-year and 10-year storm events.

E. PRE-PROJECT CONDITION

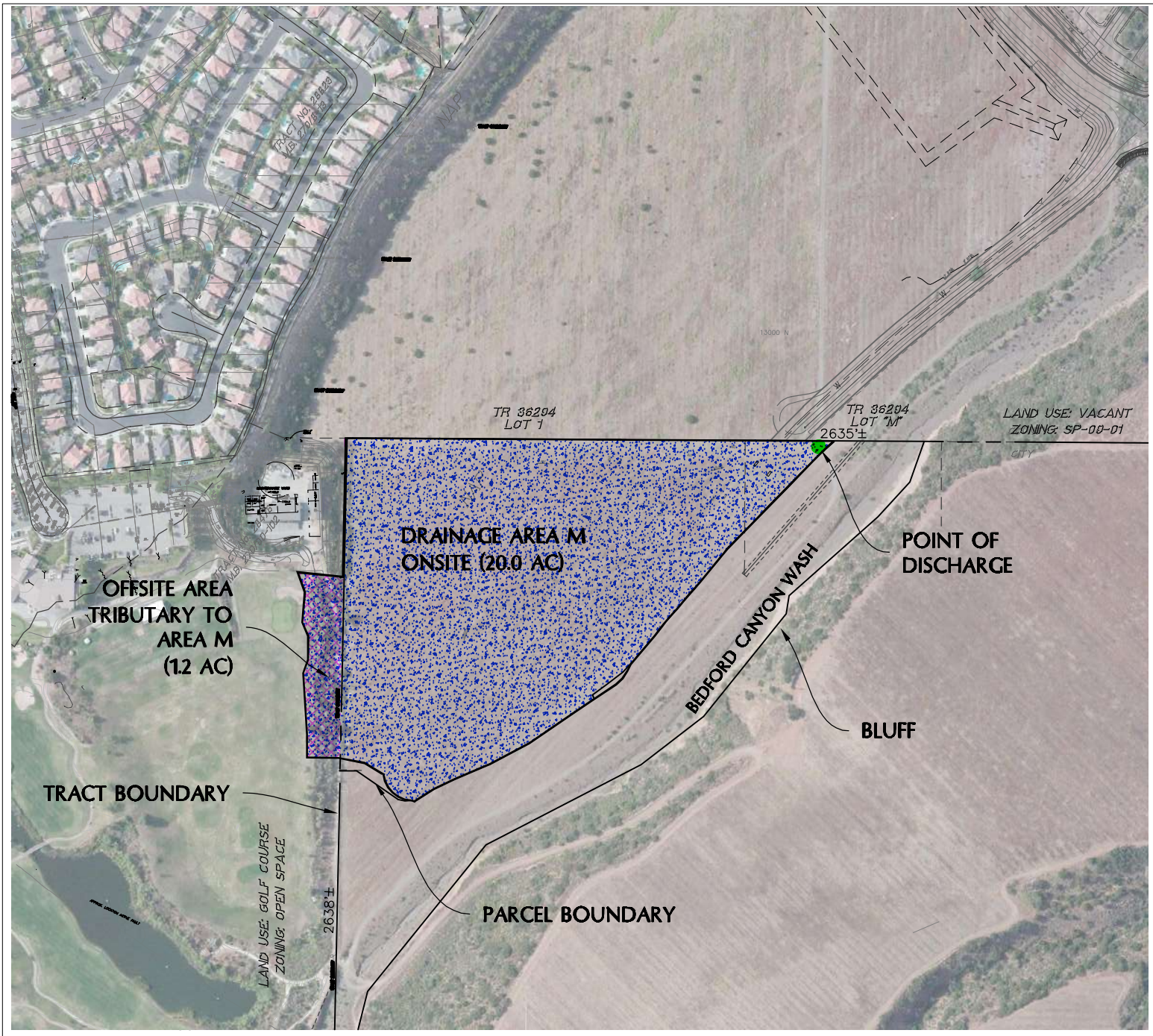
The Project site currently sheet flows in a northerly direction towards the northeast corner of this Parcel and ultimately discharge to the Bedford Canyon Wash. The flow tributary to this wash is conveyed in a northerly direction via natural channel and ultimately into Temescal Canyon Creek.

The tributary area currently undeveloped open space (natural grass and open brush) approximately 21 acres in area, and includes a small, sloped off-site area from the adjacent golf course to the west. There are two existing 8" pipes from the golf course which conveys runoff from the driving range. Flows are then conveyed by a existing pipe along the westerly Project boundary to an existing v-ditch.

F. POST-PROJECT CONDITION

Under post-project condition the discharge points for the Parcel 1 will remain similar to that under pre-project condition. In the post-project condition, the site Project will be graded such that site still sheet flows to the northeast, and into a proposed infiltration/detention Basin M located at the northeast corner of the Parcel 1. Discharges from the proposed Hudson House Drive will be intercepted by catch basin inlets and conveyed via conduit to the same basin. Mitigated flows will be discharged to Bedford Canyon Channel located along east site of the Project. As shown in Exhibit 3

Basin M has been sized to mitigate both flood control and water quality impacts caused by proposed development within this drainage area. Basin M will function as an extended detention/infiltration basin for low flows and urban nuisance runoff, and will retard peak flow generated in Area M to less than the flow rates for pre-project conditions for 2, 5, 10 and 100-year storm events.



LEGEND

- PROJECT BOUNDARY
- MAJOR DRAINAGE BOUNDARY
- AREA M TRIBUTARY TO POINT OF DISCHARGE
- OFFSITE AREA TRIBUTARY TO THE PROJECT SITE

PREPARED BY:

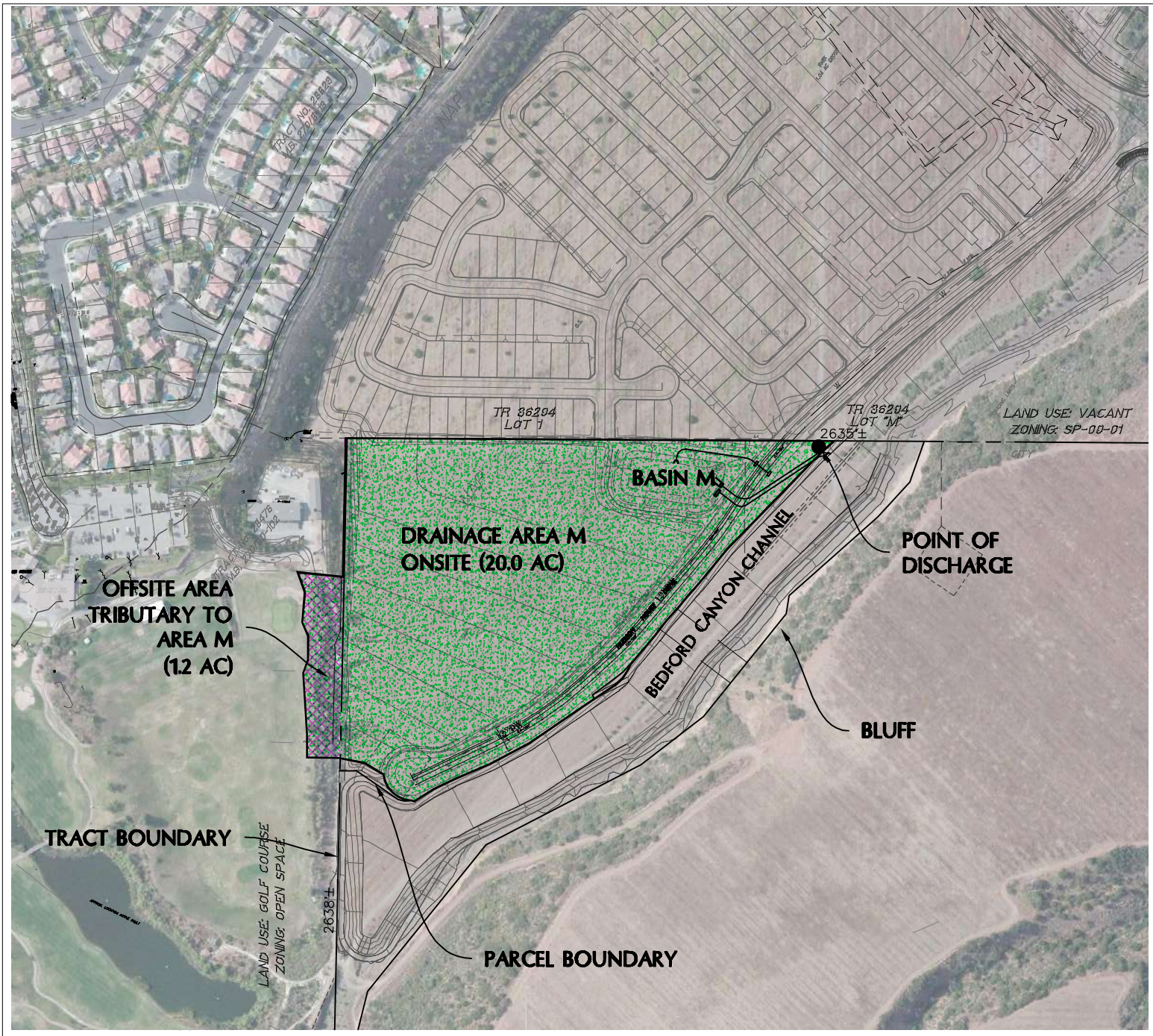
H&A
HUNSAKER & ASSOCIATES
IRVINE, INC.

FEET
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INCHES

Exhibit 2

PRE-PROJECT CONDITION

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LEGEND

- PROJECT BOUNDARY
- MAJOR DRAINAGE BOUNDARY
- AREA M TRIBUTARY TO BASIN M
- OFFSITE AREA TRIBUTARY TO THE PROJECT SITE

PREPARED BY:

HUNSAKER & ASSOCIATES IRVINE, INC.

FEET
0 200 400 800
0 1/2 1 2
INCHES

Exhibit 3

POST-PROJECT CONDITION

F:\0853\Engineering\Hydrology\McMILLAN-H&H STUDY\EXH3-proposed DRAINAGE.dwg

G. **CONCLUSION**

Tables 1 summarize pre-project and post-project flows exiting the Project. Hydrologic conditions summarized include 2, 5, 10 and 100-year return frequency storms, with 1, 3, 6 and 24-hour durations.

As shown in Tables 1, development impacts will be mitigated by proposed on-site detention, resulting in reducing post-project flow rates to less than pre-project flows under all the hydrological conditions evaluated, including the County's Hydromodification criteria by limiting post-project flows discharged from the Project to no greater than 110 percent of the pre-project flows for 2-year, 24-hour storm event.

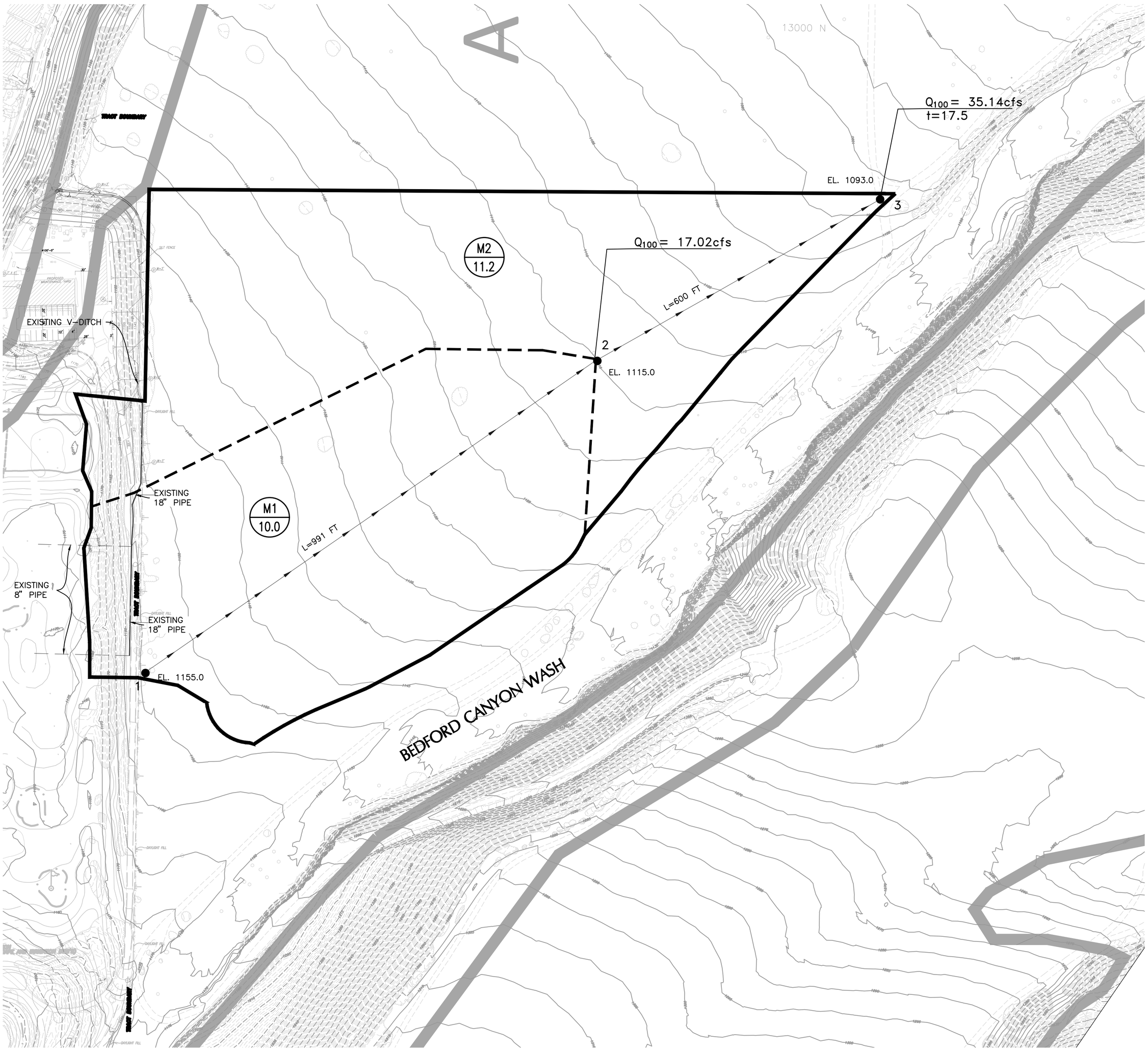
Table 1 - SUMMARY OF AREA "M" FLOWS

DATE: 4/5/2018

STORM FREQUENCIES	DURATION	PEAK FLOW RATE (CFS)				
		PRE-PROJECT CONDITION AREA "M"		POST-PROJECT CONDITION AREA "M"		
		RATIONAL METHOD	UNIT HYDROGRAPH	RATIONAL METHOD	UNIT HYDROGRAPH	DETENTION BASIN OUTFLOW
2-YR	1-HR	7.00		14.6		0
	3-HR		5.8		11.53	0.26
	6-HR		4.6		10.73	0.38
	24-HR		0.7		4.36	0.67
5-YR	1-HR	11.22		20.4		0.15
	3-HR		11.5		17.27	0.37
	6-HR		8.5		14.53	0.51
	24-HR		1.1		6.61	1.1
10-YR	1-HR	20.34		27.4		0.29
	3-HR		20.2		23.35	0.49
	6-HR		15.5		19.47	0.69
	24-HR		6.5		8.31	5.44
100-YR	1-HR	35.14		44.5		0.53
	3-HR		35.1		39.06	1.02
	6-HR		26.4		31.51	1.19
	24-HR		15.8		17.40	15.5
DRAINAGE AREA (ACRES)		21.2		21.2		

SECTION 2

EXISTING CONDITION
RATIONAL HYDROLOGY



LEGEND

———	MAJOR DRAINAGE BOUNDARY
– – – –	MINOR DRAINAGE BOUNDARY
←———	FLOW LINE
100 ●	NODE NUMBER
A24 / 2.51	AREA DESIGNATION AREA ACREAGE (IN ACRES)
Q_{100}=8.0cfs t=5.0	PEAK FLOW RATE TIME OF CONCENTRATION
A	SOIL GROUP
EL. 1045.0	PROPOSED GROUND ELEVATION

100 50 0 100 200

GRAPHIC SCALE: 1"=100'

PREPARED BY:

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FX: (949) 583-0759 ▪ PH: (949) 583-1010

(EXHIBIT 1)
HYDROLOGY MAP FOR TTM 37036 - PARCEL 1 EXISTING CONDITION (RATIONAL METHOD)

PLOTTED BY: joanna DATE: Apr. 06, 2018 TIME: 09:04 AM F:\0853\Engineering\Hydrology\McMILLAN-H&H STUDY\HYDROLOGY MAP-EXISTING.dwg

RATIONAL METHOD

2-YEAR STORM EVENT

EXISTING CONDITION

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/03/18 File:MCM.out

TR 37036, PARCEL 1
EXISTING CONDITION
2 YEAR STORM

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6406

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

2 year, 1 hour precipitation = 0.550(In.)
100 year, 1 hour precipitation = 1.360(In.)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.550(In/Hr)
Slope of intensity duration curve = 0.4300

++

Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 991.000(Ft.)
Top (of initial area) elevation = 1155.000(Ft.)
Bottom (of initial area) elevation = 1115.000(Ft.)
Difference in elevation = 40.000(Ft.)
Slope = 0.04036 s(percent)= 4.04
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.904 min.
Rainfall intensity = 0.973(In/Hr) for a 2.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.357
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 47.40
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 3.477(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****
_____________________________________________________________________________
Top of natural channel elevation =   1115.000(Ft.)
End of natural channel elevation =   1093.000(Ft.)
Length of natural channel  =   600.000(Ft.)
Estimated mean flow rate at midpoint of channel =      5.424(CFS)

Natural valley channel type used
L.A. County flood control district formula for channel velocity:
 Velocity(ft/s) = (7 + 8(q(English Units)^.352)(slope^0.5)
Velocity using mean channel flow =   4.12(Ft/s)

Correction to map slope used on extremely rugged channels with
drops and waterfalls (Plate D-6.2)
       Normal channel slope =  0.0367
Corrected/adjusted channel slope =  0.0367
Travel time =    2.43 min.     TC =   18.33  min.


 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.344
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  47.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      0.916(In/Hr) for a     2.0 year storm
Subarea runoff =      3.529(CFS) for     11.200(Ac.)
Total runoff =      7.006(CFS)   Total area =      21.200(Ac.)
End of computations, total study area =           21.20 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  67.0
```

RATIONAL METHOD

5-YEAR STORM EVENT

EXISTING CONDITION

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/03/18 File:MCM.out

TR 37036, PARCEL 1
EXISTING CONDITION
5 YEAR STORM

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6406

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 5.00 Antecedent Moisture Condition = 1

2 year, 1 hour precipitation = 0.550(In.)
100 year, 1 hour precipitation = 1.360(In.)

Storm event year = 5.0
Calculated rainfall intensity data:
1 hour intensity = 0.740(In/Hr)
Slope of intensity duration curve = 0.4300

++
Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 991.000(Ft.)
Top (of initial area) elevation = 1155.000(Ft.)
Bottom (of initial area) elevation = 1115.000(Ft.)
Difference in elevation = 40.000(Ft.)
Slope = 0.04036 s(percent)= 4.04
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.904 min.
Rainfall intensity = 1.309(In/Hr) for a 5.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.423
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 47.40
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 5.532(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****
_____________________________________________________________________________
Top of natural channel elevation =   1115.000(Ft.)
End of natural channel elevation =   1093.000(Ft.)
Length of natural channel  =   600.000(Ft.)
Estimated mean flow rate at midpoint of channel =      8.630(CFS)

Natural valley channel type used
L.A. County flood control district formula for channel velocity:
 Velocity(ft/s) = (7 + 8(q(English Units)^.352)(slope^0.5)
Velocity using mean channel flow =   4.61(Ft/s)

Correction to map slope used on extremely rugged channels with
drops and waterfalls (Plate D-6.2)
       Normal channel slope =  0.0367
Corrected/adjusted channel slope =  0.0367
Travel time =    2.17 min.     TC =   18.07  min.


 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.410
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  47.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.239(In/Hr) for a     5.0 year storm
Subarea runoff =      5.694(CFS) for     11.200(Ac.)
Total runoff =     11.225(CFS)   Total area =      21.200(Ac.)
End of computations, total study area =           21.20 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  67.0
```

RATIONAL METHOD

10-YEAR STORM EVENT

EXISTING CONDITION

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 03/30/18 File:MCM.out

TR 37036, PARCEL 1
EXISTING CONDITION
10 YEAR STORM

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6406

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.550(In.)
100 year, 1 hour precipitation = 1.360(In.)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.883(In/Hr)
Slope of intensity duration curve = 0.4300

++

Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 991.000(Ft.)
Top (of initial area) elevation = 1155.000(Ft.)
Bottom (of initial area) elevation = 1115.000(Ft.)
Difference in elevation = 40.000(Ft.)
Slope = 0.04036 s(percent)= 4.04
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.904 min.
Rainfall intensity = 1.563(In/Hr) for a 10.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.634
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 67.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 9.907(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****
______________________________________________________________________________
Top of natural channel elevation =   1115.000(Ft.)
End of natural channel elevation =   1093.000(Ft.)
Length of natural channel  =   600.000(Ft.)
Estimated mean flow rate at midpoint of channel =     15.456(CFS)

Natural valley channel type used
L.A. County flood control district formula for channel velocity:
 Velocity(ft/s) = (7 + 8(q(English Units)^.352)(slope^0.5)
Velocity using mean channel flow =   5.36(Ft/s)

Correction to map slope used on extremely rugged channels with
drops and waterfalls (Plate D-6.2)
       Normal channel slope =  0.0367
Corrected/adjusted channel slope =  0.0367
Travel time =    1.87 min.     TC =   17.77  min.


 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.625
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.490(In/Hr) for a    10.0 year storm
Subarea runoff =     10.428(CFS) for     11.200(Ac.)
Total runoff =     20.336(CFS)   Total area =      21.200(Ac.)
End of computations, total study area =           21.20 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  67.0
```

RATIONAL METHOD

100-YEAR STORM EVENT

EXISTING CONDITION

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/03/18 File:MCM.out

TR 37036, PARCEL 1
EXISTING CONDITION
100 YEAR STORM

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6406

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.550(In.)
100 year, 1 hour precipitation = 1.360(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.360(In/Hr)
Slope of intensity duration curve = 0.4300

++

Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 991.000(Ft.)
Top (of initial area) elevation = 1155.000(Ft.)
Bottom (of initial area) elevation = 1115.000(Ft.)
Difference in elevation = 40.000(Ft.)
Slope = 0.04036 s(percent)= 4.04
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.904 min.
Rainfall intensity = 2.407(In/Hr) for a 100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.707
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 67.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 17.020(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****
_____________________________________________________________________________
Top of natural channel elevation =   1115.000(Ft.)
End of natural channel elevation =   1093.000(Ft.)
Length of natural channel  =   600.000(Ft.)
Estimated mean flow rate at midpoint of channel =     26.552(CFS)

Natural valley channel type used
L.A. County flood control district formula for channel velocity:
 Velocity(ft/s) = (7 + 8(q(English Units)^.352)(slope^0.5)
Velocity using mean channel flow =   6.20(Ft/s)

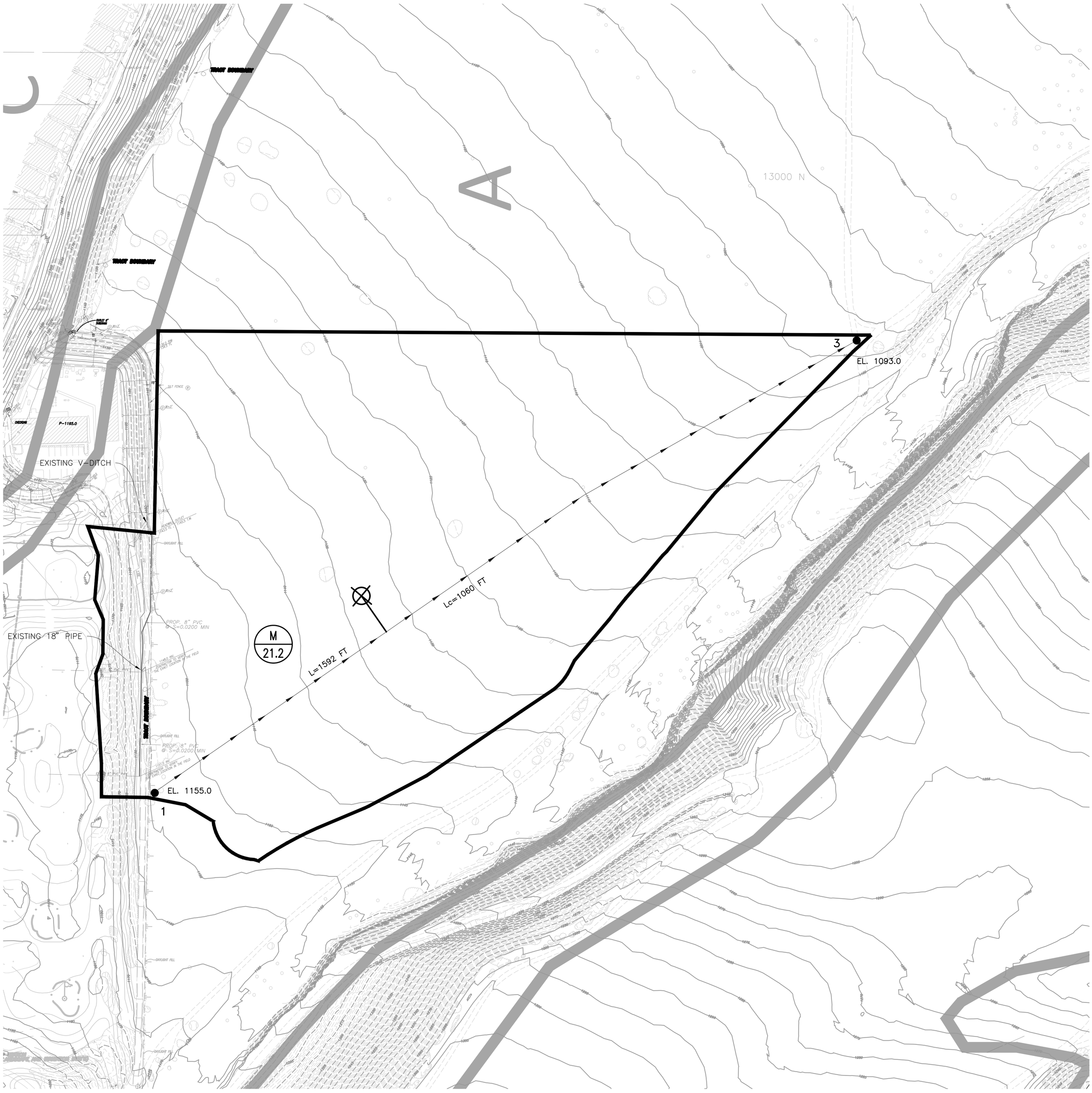
Correction to map slope used on extremely rugged channels with
drops and waterfalls (Plate D-6.2)
       Normal channel slope =  0.0367
Corrected/adjusted channel slope =  0.0367
Travel time =    1.61 min.     TC =   17.52  min.


 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.701
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      2.309(In/Hr) for a   100.0 year storm
Subarea runoff =     18.122(CFS) for     11.200(Ac.)
Total runoff =     35.143(CFS)   Total area =      21.200(Ac.)
End of computations, total study area =           21.20 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  67.0
```

EXISTING CONDITION

UNIT HYDROGRAPH



AREA M		
EVENT FREQ./DURATION		PEAK FLOW RATE (CFS)
		NODE 3
2-YR	3-HR	5.80
	6-HR	4.60
	24-HR	0.70
5-YR	3-HR	11.50
	6-HR	8.50
	24-HR	1.10
10-YR	3-HR	20.20
	6-HR	15.50
	24-HR	6.50
100-YR	3-HR	35.10
	6-HR	26.40
	24-HR	15.80

LEGEND

- MAJOR DRAINAGE BOUNDARY
- MINOR DRAINAGE BOUNDARY
- FLOW LINE
- 100 — NODE NUMBER
- A24 / 2.51 — AREA DESIGNATION / AREA ACREAGE (IN ACRES)
- A — SOIL GROUP
- EL. 1045.0 — GROUND ELEVATION

PREPARED BY:

H&A
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Three Hughes ▪ Irvine, CA 92618
FX: (949) 583-0759 ▪ PH: (949) 583-1010

100 50 0 100 200
GRAPHIC SCALE: 1"=100'

(EXHIBIT 2)
HYDROLOGY MAP FOR TTM 37036 - PARCEL 1 EXISTING CONDITION (UNIT HYDROGRAPH METOD)

PLOTTED BY: joanna DATE: Apr. 06, 2018 TIME: 09:06 AM F:\0853\Engineering\Hydrology\McMILLAN-H&H STUDY\HYDROLOGY MAP-UH-EXIST.dwg

UNIT HYDROGRAPH

2-YEAR,
1, 3, 6, 24 HOURS
STORM EVENTS

EXISTING CONDITION

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 04/03/18 File: MCMHYDEX12.out

++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
2 YEAR, 1 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	0.55	11.66

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.36	28.83

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.550(In)
Area Averaged 100-Year Rainfall = 1.360(In)

Point rain (area averaged) = 0.550(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 0.550(In)

Sub-Area Data:

```
      Area(Ac.)         Runoff Index   Impervious %
          21.200           67.00         0.000
       Total Area Entered =     21.20(Ac.)


      RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
      AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
      67.0  47.4      0.597     0.000        0.597       1.000      0.597
                                                        Sum (F) =   0.597
      Area averaged mean soil loss (F) (In/Hr) =  0.597
      Minimum soil loss rate ((In/Hr)) =  0.299
      (for 24 hour storm duration)
      Soil low loss rate (decimal) =   0.900
      ------------------------------------------------------------------
      Slope of intensity-duration curve for a 1 hour storm =0.4800
      ------------------------------------------------------------------

                  U n i t  H y d r o g r a p h
                         VALLEY S-Curve
      ------------------------------------------------------------------
                  Unit Hydrograph Data
      ------------------------------------------------------------------
      Unit time period   Time % of lag   Distribution   Unit Hydrograph
          (hrs)                          Graph %           (CFS)
      ------------------------------------------------------------------
          1   0.083         92.431         16.901             3.611
          2   0.167        184.863         47.518            10.152
          3   0.250        277.294         16.931             3.617
          4   0.333        369.725          7.493             1.601
          5   0.417        462.157          4.306             0.920
          6   0.500        554.588          2.773             0.592
          7   0.583        647.019          1.845             0.394
          8   0.667        739.451          1.166             0.249
          9   0.750        831.882          1.068             0.228
                                   Sum = 100.000   Sum=      21.366
----------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     4.40      0.290       (  0.597)       0.261        0.029
   2   0.17     4.50      0.297       (  0.597)       0.267        0.030
   3   0.25     5.40      0.356       (  0.597)       0.321        0.036
   4   0.33     5.40      0.356       (  0.597)       0.321        0.036
   5   0.42     5.70      0.376       (  0.597)       0.339        0.038
   6   0.50     6.40      0.422       (  0.597)       0.380        0.042
   7   0.58     7.90      0.521       (  0.597)       0.469        0.052
   8   0.67     9.10      0.600       (  0.597)       0.540        0.060
   9   0.75    12.80      0.845          0.597    (  0.760)        0.247
  10   0.83    25.60      1.689          0.597    (  1.520)        1.092
  11   0.92     7.90      0.521       (  0.597)       0.469        0.052
  12   1.00     4.90      0.323       (  0.597)       0.291        0.032
             (Loss Rate Not Used)
     Sum =     100.0                                    Sum =     1.7
       Flood volume = Effective rainfall      0.15(In)
        times area      21.2(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
       Total soil loss =      0.40(In)
       Total soil loss =     0.715(Ac.Ft)
       Total rainfall =      0.55(In)
       Flood volume =       11193.5 Cubic Feet
       Total soil loss =       31124.2 Cubic Feet
       ------------------------------------------------------------------
        Peak flow rate of this hydrograph =     12.374(CFS)
       ------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
```

1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0007	0.10	Q				
0+10	0.0035	0.40	Q				
0+15	0.0072	0.54	Q				
0+20	0.0116	0.64	Q				
0+25	0.0164	0.70	QV				
0+30	0.0217	0.77	Q V				
0+35	0.0277	0.87	Q V				
0+40	0.0348	1.03	Q V				
0+45	0.0475	1.84	Q V				
0+50	0.0947	6.85		QV			
0+55	0.1799	12.37			Q V		
1+ 0	0.2151	5.11		Q		V	
1+ 5	0.2328	2.57	Q			V	
1+10	0.2424	1.40	Q			V	
1+15	0.2484	0.87	Q			V	
1+20	0.2523	0.57	Q			V	
1+25	0.2549	0.37	Q			V	
1+30	0.2568	0.27	Q			V	
1+35	0.2569	0.02	Q			V	
1+40	0.2570	0.01	Q			V	

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDEX32.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
2 YEAR, 3 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.00	21.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.40	50.88

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.400(In)

Point rain (area averaged) = 1.000(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	67.00	0.000

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
67.0	47.4	0.597	0.000	0.597	1.000	0.597
					Sum (F) =	0.597

Area averaged mean soil loss (F) (In/Hr) = 0.597
Minimum soil loss rate ((In/Hr)) = 0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	92.431	16.901	3.611
2	0.167	184.863	47.518	10.152
3	0.250	277.294	16.931	3.617
4	0.333	369.725	7.493	1.601
5	0.417	462.157	4.306	0.920
6	0.500	554.588	2.773	0.592
7	0.583	647.019	1.845	0.394
8	0.667	739.451	1.166	0.249
9	0.750	831.882	1.068	0.228
		Sum = 100.000	Sum=	21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.156	(0.597)		0.140	0.016
2	0.17	1.30	0.156	(0.597)		0.140	0.016
3	0.25	1.10	0.132	(0.597)		0.119	0.013
4	0.33	1.50	0.180	(0.597)		0.162	0.018
5	0.42	1.50	0.180	(0.597)		0.162	0.018
6	0.50	1.80	0.216	(0.597)		0.194	0.022
7	0.58	1.50	0.180	(0.597)		0.162	0.018
8	0.67	1.80	0.216	(0.597)		0.194	0.022
9	0.75	1.80	0.216	(0.597)		0.194	0.022
10	0.83	1.50	0.180	(0.597)		0.162	0.018
11	0.92	1.60	0.192	(0.597)		0.173	0.019
12	1.00	1.80	0.216	(0.597)		0.194	0.022
13	1.08	2.20	0.264	(0.597)		0.238	0.026
14	1.17	2.20	0.264	(0.597)		0.238	0.026
15	1.25	2.20	0.264	(0.597)		0.238	0.026
16	1.33	2.00	0.240	(0.597)		0.216	0.024
17	1.42	2.60	0.312	(0.597)		0.281	0.031
18	1.50	2.70	0.324	(0.597)		0.292	0.032
19	1.58	2.40	0.288	(0.597)		0.259	0.029
20	1.67	2.70	0.324	(0.597)		0.292	0.032
21	1.75	3.30	0.396	(0.597)		0.356	0.040
22	1.83	3.10	0.372	(0.597)		0.335	0.037
23	1.92	2.90	0.348	(0.597)		0.313	0.035
24	2.00	3.00	0.360	(0.597)		0.324	0.036
25	2.08	3.10	0.372	(0.597)		0.335	0.037
26	2.17	4.20	0.504	(0.597)		0.454	0.050
27	2.25	5.00	0.600	(0.597)		0.540	0.060

```
28   2.33     3.50      0.420       (  0.597)       0.378        0.042
29   2.42     6.80      0.816          0.597    (  0.734)        0.218
30   2.50     7.30      0.876          0.597    (  0.788)        0.278
31   2.58     8.20      0.984          0.597    (  0.886)        0.386
32   2.67     5.90      0.708          0.597    (  0.637)        0.110
33   2.75     2.00      0.240       (  0.597)       0.216        0.024
34   2.83     1.80      0.216       (  0.597)       0.194        0.022
35   2.92     1.80      0.216       (  0.597)       0.194        0.022
36   3.00     0.60      0.072       (  0.597)       0.065        0.007
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     1.9
    Flood volume = Effective rainfall      0.15(In)
     times area      21.2(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
    Total soil loss =      0.85(In)
    Total soil loss =     1.493(Ac.Ft)
    Total rainfall =      1.00(In)
    Flood volume =       11898.0 Cubic Feet
    Total soil loss =       65050.9 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      5.794(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        3 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0004      0.06  Q         |         |         |         |
  0+10       0.0019      0.21  Q         |         |         |         |
  0+15       0.0037      0.26  VQ        |         |         |         |
  0+20       0.0056      0.28  VQ        |         |         |         |
  0+25       0.0079      0.33  |Q        |         |         |         |
  0+30       0.0105      0.37  |Q        |         |         |         |
  0+35       0.0133      0.41  |Q        |         |         |         |
  0+40       0.0160      0.40  |QV       |         |         |         |
  0+45       0.0190      0.44  |QV       |         |         |         |
  0+50       0.0220      0.44  |Q V      |         |         |         |
  0+55       0.0249      0.41  |Q V      |         |         |         |
  1+ 0       0.0278      0.42  |Q  V     |         |         |         |
  1+ 5       0.0309      0.46  |Q  V     |         |         |         |
  1+10       0.0345      0.52  | Q  V    |         |         |         |
  1+15       0.0382      0.54  | Q  V    |         |         |         |
  1+20       0.0420      0.54  | Q   V   |         |         |         |
  1+25       0.0457      0.55  | Q   V   |         |         |         |
  1+30       0.0500      0.62  | Q    V  |         |         |         |
  1+35       0.0545      0.64  | Q    V  |         |         |         |
  1+40       0.0588      0.64  | Q     V |         |         |         |
  1+45       0.0636      0.69  | Q      V|         |         |         |
  1+50       0.0689      0.77  |  Q      V         |         |         |
  1+55       0.0742      0.77  |  Q      V         |         |         |
  2+ 0       0.0794      0.75  |  Q      |V        |         |         |
  2+ 5       0.0847      0.77  |  Q      | V       |         |         |
  2+10       0.0904      0.83  |  Q      |  V      |         |         |
  2+15       0.0974      1.01  |   Q     |   V     |         |         |
  2+20       0.1049      1.09  |   Q     |    V    |         |         |
  2+25       0.1159      1.60  |     Q   |     V   |         |         |
  2+30       0.1405      3.57  |         |   Q     V         |         |
  2+35       0.1763      5.20  |         |         Q    V    |         |
  2+40       0.2162      5.79  |         |         |  Q      |V        |
  2+45       0.2391      3.32  |         |  Q      |         |    V    |
  2+50       0.2513      1.77  |      Q  |         |         |     V   |
  2+55       0.2595      1.19  |   Q     |         |         |      V  |
  3+ 0       0.2654      0.87  |  Q      |         |         |       V |
  3+ 5       0.2692      0.55  | Q       |         |         |        V|
  3+10       0.2713      0.30  |Q        |         |         |        V|
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    3+15       0.2724      0.17  Q         |         |         |        V|
    3+20       0.2728      0.06  Q         |         |         |        V|
    3+25       0.2730      0.02  Q         |         |         |        V|
    3+30       0.2731      0.01  Q         |         |         |        V|
    3+35       0.2731      0.01  Q         |         |         |        V|
    3+40       0.2731      0.00  Q         |         |         |        V|
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDEX62.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
2 YEAR, 6 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.40	29.68

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	3.00	63.60

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.400(In)
Area Averaged 100-Year Rainfall = 3.000(In)

Point rain (area averaged) = 1.400(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.400(In)

Sub-Area Data:

```
Area(Ac.)         Runoff Index   Impervious %
    21.200           67.00         0.000
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  47.4      0.597     0.000        0.597       1.000      0.597
                                                  Sum (F) =   0.597
Area averaged mean soil loss (F) (In/Hr) =  0.597
Minimum soil loss rate ((In/Hr)) =  0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                   VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083         92.431         16.901             3.611
    2   0.167        184.863         47.518            10.152
    3   0.250        277.294         16.931             3.617
    4   0.333        369.725          7.493             1.601
    5   0.417        462.157          4.306             0.920
    6   0.500        554.588          2.773             0.592
    7   0.583        647.019          1.845             0.394
    8   0.667        739.451          1.166             0.249
    9   0.750        831.882          1.068             0.228
                              Sum = 100.000   Sum=      21.366
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

 Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
      (Hr.)  Percent   (In/Hr)          Max   |   Low         (In/Hr)
  1   0.08     0.50      0.084       (  0.597)       0.076        0.008
  2   0.17     0.60      0.101       (  0.597)       0.091        0.010
  3   0.25     0.60      0.101       (  0.597)       0.091        0.010
  4   0.33     0.60      0.101       (  0.597)       0.091        0.010
  5   0.42     0.60      0.101       (  0.597)       0.091        0.010
  6   0.50     0.70      0.118       (  0.597)       0.106        0.012
  7   0.58     0.70      0.118       (  0.597)       0.106        0.012
  8   0.67     0.70      0.118       (  0.597)       0.106        0.012
  9   0.75     0.70      0.118       (  0.597)       0.106        0.012
 10   0.83     0.70      0.118       (  0.597)       0.106        0.012
 11   0.92     0.70      0.118       (  0.597)       0.106        0.012
 12   1.00     0.80      0.134       (  0.597)       0.121        0.013
 13   1.08     0.80      0.134       (  0.597)       0.121        0.013
 14   1.17     0.80      0.134       (  0.597)       0.121        0.013
 15   1.25     0.80      0.134       (  0.597)       0.121        0.013
 16   1.33     0.80      0.134       (  0.597)       0.121        0.013
 17   1.42     0.80      0.134       (  0.597)       0.121        0.013
 18   1.50     0.80      0.134       (  0.597)       0.121        0.013
 19   1.58     0.80      0.134       (  0.597)       0.121        0.013
 20   1.67     0.80      0.134       (  0.597)       0.121        0.013
 21   1.75     0.80      0.134       (  0.597)       0.121        0.013
 22   1.83     0.80      0.134       (  0.597)       0.121        0.013
 23   1.92     0.80      0.134       (  0.597)       0.121        0.013
 24   2.00     0.90      0.151       (  0.597)       0.136        0.015
 25   2.08     0.80      0.134       (  0.597)       0.121        0.013
 26   2.17     0.90      0.151       (  0.597)       0.136        0.015
 27   2.25     0.90      0.151       (  0.597)       0.136        0.015
```

```
28   2.33     0.90      0.151       (  0.597)       0.136        0.015
29   2.42     0.90      0.151       (  0.597)       0.136        0.015
30   2.50     0.90      0.151       (  0.597)       0.136        0.015
31   2.58     0.90      0.151       (  0.597)       0.136        0.015
32   2.67     0.90      0.151       (  0.597)       0.136        0.015
33   2.75     1.00      0.168       (  0.597)       0.151        0.017
34   2.83     1.00      0.168       (  0.597)       0.151        0.017
35   2.92     1.00      0.168       (  0.597)       0.151        0.017
36   3.00     1.00      0.168       (  0.597)       0.151        0.017
37   3.08     1.00      0.168       (  0.597)       0.151        0.017
38   3.17     1.10      0.185       (  0.597)       0.166        0.018
39   3.25     1.10      0.185       (  0.597)       0.166        0.018
40   3.33     1.10      0.185       (  0.597)       0.166        0.018
41   3.42     1.20      0.202       (  0.597)       0.181        0.020
42   3.50     1.30      0.218       (  0.597)       0.197        0.022
43   3.58     1.40      0.235       (  0.597)       0.212        0.024
44   3.67     1.40      0.235       (  0.597)       0.212        0.024
45   3.75     1.50      0.252       (  0.597)       0.227        0.025
46   3.83     1.50      0.252       (  0.597)       0.227        0.025
47   3.92     1.60      0.269       (  0.597)       0.242        0.027
48   4.00     1.60      0.269       (  0.597)       0.242        0.027
49   4.08     1.70      0.286       (  0.597)       0.257        0.029
50   4.17     1.80      0.302       (  0.597)       0.272        0.030
51   4.25     1.90      0.319       (  0.597)       0.287        0.032
52   4.33     2.00      0.336       (  0.597)       0.302        0.034
53   4.42     2.10      0.353       (  0.597)       0.317        0.035
54   4.50     2.10      0.353       (  0.597)       0.317        0.035
55   4.58     2.20      0.370       (  0.597)       0.333        0.037
56   4.67     2.30      0.386       (  0.597)       0.348        0.039
57   4.75     2.40      0.403       (  0.597)       0.363        0.040
58   4.83     2.40      0.403       (  0.597)       0.363        0.040
59   4.92     2.50      0.420       (  0.597)       0.378        0.042
60   5.00     2.60      0.437       (  0.597)       0.393        0.044
61   5.08     3.10      0.521       (  0.597)       0.469        0.052
62   5.17     3.60      0.605       (  0.597)       0.544        0.060
63   5.25     3.90      0.655       (  0.597)       0.590        0.066
64   5.33     4.20      0.706          0.597    (  0.635)       0.108
65   5.42     4.70      0.790          0.597    (  0.711)       0.192
66   5.50     5.60      0.941          0.597    (  0.847)       0.343
67   5.58     1.90      0.319       (  0.597)       0.287        0.032
68   5.67     0.90      0.151       (  0.597)       0.136        0.015
69   5.75     0.60      0.101       (  0.597)       0.091        0.010
70   5.83     0.50      0.084       (  0.597)       0.076        0.008
71   5.92     0.30      0.050       (  0.597)       0.045        0.005
72   6.00     0.20      0.034       (  0.597)       0.030        0.003
           (Loss Rate Not Used)
   Sum =     100.0                                  Sum =     2.1
    Flood volume = Effective rainfall      0.17(In)
     times area      21.2(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
    Total soil loss =      1.23(In)
    Total soil loss =     2.167(Ac.Ft)
    Total rainfall =      1.40(In)
    Flood volume =       13337.0 Cubic Feet
    Total soil loss =       94393.6 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      4.607(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.03  Q         |         |         |         |
  0+10       0.0010      0.12  Q         |         |         |         |
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0+15      0.0022     0.17  Q         |         |         |         |
0+20      0.0035     0.19  Q         |         |         |         |
0+25      0.0049     0.20  Q         |         |         |         |
0+30      0.0063     0.21  Q         |         |         |         |
0+35      0.0079     0.23  QV        |         |         |         |
0+40      0.0096     0.24  QV        |         |         |         |
0+45      0.0113     0.25  QV        |         |         |         |
0+50      0.0130     0.25  QV        |         |         |         |
0+55      0.0148     0.25  QV        |         |         |         |
1+ 0      0.0165     0.26  |QV       |         |         |         |
1+ 5      0.0184     0.27  |QV       |         |         |         |
1+10      0.0203     0.28  |QV       |         |         |         |
1+15      0.0223     0.28  |QV       |         |         |         |
1+20      0.0243     0.28  |Q V      |         |         |         |
1+25      0.0262     0.29  |Q V      |         |         |         |
1+30      0.0282     0.29  |Q V      |         |         |         |
1+35      0.0302     0.29  |Q V      |         |         |         |
1+40      0.0321     0.29  |Q  V     |         |         |         |
1+45      0.0341     0.29  |Q  V     |         |         |         |
1+50      0.0361     0.29  |Q  V     |         |         |         |
1+55      0.0381     0.29  |Q  V     |         |         |         |
2+ 0      0.0401     0.29  |Q   V    |         |         |         |
2+ 5      0.0422     0.30  |Q   V    |         |         |         |
2+10      0.0443     0.30  |Q   V    |         |         |         |
2+15      0.0464     0.31  |Q    V   |         |         |         |
2+20      0.0486     0.32  |Q    V   |         |         |         |
2+25      0.0508     0.32  |Q    V   |         |         |         |
2+30      0.0530     0.32  |Q    V   |         |         |         |
2+35      0.0552     0.32  |Q     V  |         |         |         |
2+40      0.0575     0.32  |Q     V  |         |         |         |
2+45      0.0597     0.33  |Q     V  |         |         |         |
2+50      0.0621     0.35  |Q      V |         |         |         |
2+55      0.0645     0.35  |Q      V |         |         |         |
3+ 0      0.0670     0.36  |Q      V |         |         |         |
3+ 5      0.0694     0.36  |Q       V|         |         |         |
3+10      0.0720     0.36  |Q       V|         |         |         |
3+15      0.0746     0.38  |Q       V|         |         |         |
3+20      0.0773     0.39  |Q        V         |         |         |
3+25      0.0800     0.40  |Q        V         |         |         |
3+30      0.0829     0.42  |Q        V         |         |         |
3+35      0.0860     0.45  |Q        |V        |         |         |
3+40      0.0893     0.48  |Q        |V        |         |         |
3+45      0.0927     0.50  |Q        | V       |         |         |
3+50      0.0963     0.52  | Q       | V       |         |         |
3+55      0.0999     0.53  | Q       |  V      |         |         |
4+ 0      0.1038     0.56  | Q       |  V      |         |         |
4+ 5      0.1077     0.57  | Q       |   V     |         |         |
4+10      0.1118     0.60  | Q       |   V     |         |         |
4+15      0.1162     0.63  | Q       |    V    |         |         |
4+20      0.1207     0.66  | Q       |    V    |         |         |
4+25      0.1255     0.70  | Q       |     V   |         |         |
4+30      0.1305     0.73  | Q       |      V  |         |         |
4+35      0.1357     0.74  | Q       |      V  |         |         |
4+40      0.1410     0.77  |  Q      |       V |         |         |
4+45      0.1465     0.81  |  Q      |        V|         |         |
4+50      0.1523     0.84  |  Q      |        V|         |         |
4+55      0.1582     0.85  |  Q      |         V         |         |
5+ 0      0.1643     0.88  |  Q      |         |V        |         |
5+ 5      0.1707     0.94  |  Q      |         | V       |         |
5+10      0.1781     1.07  |   Q     |         |  V      |         |
5+15      0.1864     1.21  |   Q     |         |   V     |         |
5+20      0.1964     1.46  |    Q    |         |    V    |         |
5+25      0.2118     2.24  |       Q |         |      V  |         |
5+30      0.2381     3.81  |         |    Q    |         |V        |
5+35      0.2698     4.61  |         |       Q |         |    V    |
5+40      0.2844     2.11  |       Q |         |         |      V  |
5+45      0.2923     1.15  |   Q     |         |         |       V |
5+50      0.2974     0.74  | Q       |         |         |       V |
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    5+55       0.3009      0.51  | Q       |         |         |        V|
    6+ 0       0.3033      0.35  |Q        |         |         |        V|
    6+ 5       0.3049      0.23  Q         |         |         |        V|
    6+10       0.3058      0.13  Q         |         |         |        V|
    6+15       0.3060      0.03  Q         |         |         |        V|
    6+20       0.3061      0.02  Q         |         |         |        V|
    6+25       0.3061      0.01  Q         |         |         |        V|
    6+30       0.3062      0.00  Q         |         |         |        V|
    6+35       0.3062      0.00  Q         |         |         |        V|
    6+40       0.3062      0.00  Q         |         |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDEX242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
2 YEAR, 24 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.50	53.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	8.00	169.60

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 8.000(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	67.00	0.000

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
67.0	47.4	0.597	0.000	0.597	1.000	0.597
					Sum (F) =	0.597

Area averaged mean soil loss (F) (In/Hr) = 0.597
Minimum soil loss rate ((In/Hr)) = 0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	92.431	16.901	3.611
2	0.167	184.863	47.518	10.152
3	0.250	277.294	16.931	3.617
4	0.333	369.725	7.493	1.601
5	0.417	462.157	4.306	0.920
6	0.500	554.588	2.773	0.592
7	0.583	647.019	1.845	0.394
8	0.667	739.451	1.166	0.249
9	0.750	831.882	1.068	0.228
		Sum = 100.000	Sum=	21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.020	(1.059)	0.018	0.002
2	0.17	0.07	0.020	(1.055)	0.018	0.002
3	0.25	0.07	0.020	(1.051)	0.018	0.002
4	0.33	0.10	0.030	(1.047)	0.027	0.003
5	0.42	0.10	0.030	(1.043)	0.027	0.003
6	0.50	0.10	0.030	(1.039)	0.027	0.003
7	0.58	0.10	0.030	(1.035)	0.027	0.003
8	0.67	0.10	0.030	(1.031)	0.027	0.003
9	0.75	0.10	0.030	(1.027)	0.027	0.003
10	0.83	0.13	0.040	(1.023)	0.036	0.004
11	0.92	0.13	0.040	(1.019)	0.036	0.004
12	1.00	0.13	0.040	(1.015)	0.036	0.004
13	1.08	0.10	0.030	(1.011)	0.027	0.003
14	1.17	0.10	0.030	(1.007)	0.027	0.003
15	1.25	0.10	0.030	(1.003)	0.027	0.003
16	1.33	0.10	0.030	(0.999)	0.027	0.003
17	1.42	0.10	0.030	(0.995)	0.027	0.003
18	1.50	0.10	0.030	(0.991)	0.027	0.003
19	1.58	0.10	0.030	(0.987)	0.027	0.003
20	1.67	0.10	0.030	(0.983)	0.027	0.003
21	1.75	0.10	0.030	(0.979)	0.027	0.003
22	1.83	0.13	0.040	(0.975)	0.036	0.004
23	1.92	0.13	0.040	(0.971)	0.036	0.004
24	2.00	0.13	0.040	(0.967)	0.036	0.004
25	2.08	0.13	0.040	(0.963)	0.036	0.004
26	2.17	0.13	0.040	(0.959)	0.036	0.004
27	2.25	0.13	0.040	(0.955)	0.036	0.004

28	2.33	0.13	0.040	(0.951)	0.036	0.004
29	2.42	0.13	0.040	(0.947)	0.036	0.004
30	2.50	0.13	0.040	(0.944)	0.036	0.004
31	2.58	0.17	0.050	(0.940)	0.045	0.005
32	2.67	0.17	0.050	(0.936)	0.045	0.005
33	2.75	0.17	0.050	(0.932)	0.045	0.005
34	2.83	0.17	0.050	(0.928)	0.045	0.005
35	2.92	0.17	0.050	(0.924)	0.045	0.005
36	3.00	0.17	0.050	(0.921)	0.045	0.005
37	3.08	0.17	0.050	(0.917)	0.045	0.005
38	3.17	0.17	0.050	(0.913)	0.045	0.005
39	3.25	0.17	0.050	(0.909)	0.045	0.005
40	3.33	0.17	0.050	(0.905)	0.045	0.005
41	3.42	0.17	0.050	(0.902)	0.045	0.005
42	3.50	0.17	0.050	(0.898)	0.045	0.005
43	3.58	0.17	0.050	(0.894)	0.045	0.005
44	3.67	0.17	0.050	(0.890)	0.045	0.005
45	3.75	0.17	0.050	(0.887)	0.045	0.005
46	3.83	0.20	0.060	(0.883)	0.054	0.006
47	3.92	0.20	0.060	(0.879)	0.054	0.006
48	4.00	0.20	0.060	(0.875)	0.054	0.006
49	4.08	0.20	0.060	(0.872)	0.054	0.006
50	4.17	0.20	0.060	(0.868)	0.054	0.006
51	4.25	0.20	0.060	(0.864)	0.054	0.006
52	4.33	0.23	0.070	(0.861)	0.063	0.007
53	4.42	0.23	0.070	(0.857)	0.063	0.007
54	4.50	0.23	0.070	(0.853)	0.063	0.007
55	4.58	0.23	0.070	(0.850)	0.063	0.007
56	4.67	0.23	0.070	(0.846)	0.063	0.007
57	4.75	0.23	0.070	(0.842)	0.063	0.007
58	4.83	0.27	0.080	(0.839)	0.072	0.008
59	4.92	0.27	0.080	(0.835)	0.072	0.008
60	5.00	0.27	0.080	(0.831)	0.072	0.008
61	5.08	0.20	0.060	(0.828)	0.054	0.006
62	5.17	0.20	0.060	(0.824)	0.054	0.006
63	5.25	0.20	0.060	(0.821)	0.054	0.006
64	5.33	0.23	0.070	(0.817)	0.063	0.007
65	5.42	0.23	0.070	(0.813)	0.063	0.007
66	5.50	0.23	0.070	(0.810)	0.063	0.007
67	5.58	0.27	0.080	(0.806)	0.072	0.008
68	5.67	0.27	0.080	(0.803)	0.072	0.008
69	5.75	0.27	0.080	(0.799)	0.072	0.008
70	5.83	0.27	0.080	(0.796)	0.072	0.008
71	5.92	0.27	0.080	(0.792)	0.072	0.008
72	6.00	0.27	0.080	(0.789)	0.072	0.008
73	6.08	0.30	0.090	(0.785)	0.081	0.009
74	6.17	0.30	0.090	(0.782)	0.081	0.009
75	6.25	0.30	0.090	(0.778)	0.081	0.009
76	6.33	0.30	0.090	(0.775)	0.081	0.009
77	6.42	0.30	0.090	(0.771)	0.081	0.009
78	6.50	0.30	0.090	(0.768)	0.081	0.009
79	6.58	0.33	0.100	(0.764)	0.090	0.010
80	6.67	0.33	0.100	(0.761)	0.090	0.010
81	6.75	0.33	0.100	(0.757)	0.090	0.010
82	6.83	0.33	0.100	(0.754)	0.090	0.010
83	6.92	0.33	0.100	(0.751)	0.090	0.010
84	7.00	0.33	0.100	(0.747)	0.090	0.010
85	7.08	0.33	0.100	(0.744)	0.090	0.010
86	7.17	0.33	0.100	(0.740)	0.090	0.010
87	7.25	0.33	0.100	(0.737)	0.090	0.010
88	7.33	0.37	0.110	(0.734)	0.099	0.011
89	7.42	0.37	0.110	(0.730)	0.099	0.011
90	7.50	0.37	0.110	(0.727)	0.099	0.011
91	7.58	0.40	0.120	(0.724)	0.108	0.012
92	7.67	0.40	0.120	(0.720)	0.108	0.012
93	7.75	0.40	0.120	(0.717)	0.108	0.012
94	7.83	0.43	0.130	(0.714)	0.117	0.013
95	7.92	0.43	0.130	(0.710)	0.117	0.013

96	8.00	0.43	0.130	(0.707)	0.117	0.013
97	8.08	0.50	0.150	(0.704)	0.135	0.015
98	8.17	0.50	0.150	(0.701)	0.135	0.015
99	8.25	0.50	0.150	(0.697)	0.135	0.015
100	8.33	0.50	0.150	(0.694)	0.135	0.015
101	8.42	0.50	0.150	(0.691)	0.135	0.015
102	8.50	0.50	0.150	(0.688)	0.135	0.015
103	8.58	0.53	0.160	(0.684)	0.144	0.016
104	8.67	0.53	0.160	(0.681)	0.144	0.016
105	8.75	0.53	0.160	(0.678)	0.144	0.016
106	8.83	0.57	0.170	(0.675)	0.153	0.017
107	8.92	0.57	0.170	(0.671)	0.153	0.017
108	9.00	0.57	0.170	(0.668)	0.153	0.017
109	9.08	0.63	0.190	(0.665)	0.171	0.019
110	9.17	0.63	0.190	(0.662)	0.171	0.019
111	9.25	0.63	0.190	(0.659)	0.171	0.019
112	9.33	0.67	0.200	(0.656)	0.180	0.020
113	9.42	0.67	0.200	(0.653)	0.180	0.020
114	9.50	0.67	0.200	(0.649)	0.180	0.020
115	9.58	0.70	0.210	(0.646)	0.189	0.021
116	9.67	0.70	0.210	(0.643)	0.189	0.021
117	9.75	0.70	0.210	(0.640)	0.189	0.021
118	9.83	0.73	0.220	(0.637)	0.198	0.022
119	9.92	0.73	0.220	(0.634)	0.198	0.022
120	10.00	0.73	0.220	(0.631)	0.198	0.022
121	10.08	0.50	0.150	(0.628)	0.135	0.015
122	10.17	0.50	0.150	(0.625)	0.135	0.015
123	10.25	0.50	0.150	(0.622)	0.135	0.015
124	10.33	0.50	0.150	(0.619)	0.135	0.015
125	10.42	0.50	0.150	(0.616)	0.135	0.015
126	10.50	0.50	0.150	(0.613)	0.135	0.015
127	10.58	0.67	0.200	(0.610)	0.180	0.020
128	10.67	0.67	0.200	(0.607)	0.180	0.020
129	10.75	0.67	0.200	(0.604)	0.180	0.020
130	10.83	0.67	0.200	(0.601)	0.180	0.020
131	10.92	0.67	0.200	(0.598)	0.180	0.020
132	11.00	0.67	0.200	(0.595)	0.180	0.020
133	11.08	0.63	0.190	(0.592)	0.171	0.019
134	11.17	0.63	0.190	(0.589)	0.171	0.019
135	11.25	0.63	0.190	(0.586)	0.171	0.019
136	11.33	0.63	0.190	(0.583)	0.171	0.019
137	11.42	0.63	0.190	(0.580)	0.171	0.019
138	11.50	0.63	0.190	(0.578)	0.171	0.019
139	11.58	0.57	0.170	(0.575)	0.153	0.017
140	11.67	0.57	0.170	(0.572)	0.153	0.017
141	11.75	0.57	0.170	(0.569)	0.153	0.017
142	11.83	0.60	0.180	(0.566)	0.162	0.018
143	11.92	0.60	0.180	(0.563)	0.162	0.018
144	12.00	0.60	0.180	(0.561)	0.162	0.018
145	12.08	0.83	0.250	(0.558)	0.225	0.025
146	12.17	0.83	0.250	(0.555)	0.225	0.025
147	12.25	0.83	0.250	(0.552)	0.225	0.025
148	12.33	0.87	0.260	(0.549)	0.234	0.026
149	12.42	0.87	0.260	(0.547)	0.234	0.026
150	12.50	0.87	0.260	(0.544)	0.234	0.026
151	12.58	0.93	0.280	(0.541)	0.252	0.028
152	12.67	0.93	0.280	(0.538)	0.252	0.028
153	12.75	0.93	0.280	(0.536)	0.252	0.028
154	12.83	0.97	0.290	(0.533)	0.261	0.029
155	12.92	0.97	0.290	(0.530)	0.261	0.029
156	13.00	0.97	0.290	(0.528)	0.261	0.029
157	13.08	1.13	0.340	(0.525)	0.306	0.034
158	13.17	1.13	0.340	(0.522)	0.306	0.034
159	13.25	1.13	0.340	(0.520)	0.306	0.034
160	13.33	1.13	0.340	(0.517)	0.306	0.034
161	13.42	1.13	0.340	(0.514)	0.306	0.034
162	13.50	1.13	0.340	(0.512)	0.306	0.034
163	13.58	0.77	0.230	(0.509)	0.207	0.023

164	13.67	0.77	0.230	(0.507)	0.207	0.023
165	13.75	0.77	0.230	(0.504)	0.207	0.023
166	13.83	0.77	0.230	(0.501)	0.207	0.023
167	13.92	0.77	0.230	(0.499)	0.207	0.023
168	14.00	0.77	0.230	(0.496)	0.207	0.023
169	14.08	0.90	0.270	(0.494)	0.243	0.027
170	14.17	0.90	0.270	(0.491)	0.243	0.027
171	14.25	0.90	0.270	(0.489)	0.243	0.027
172	14.33	0.87	0.260	(0.486)	0.234	0.026
173	14.42	0.87	0.260	(0.484)	0.234	0.026
174	14.50	0.87	0.260	(0.481)	0.234	0.026
175	14.58	0.87	0.260	(0.479)	0.234	0.026
176	14.67	0.87	0.260	(0.476)	0.234	0.026
177	14.75	0.87	0.260	(0.474)	0.234	0.026
178	14.83	0.83	0.250	(0.471)	0.225	0.025
179	14.92	0.83	0.250	(0.469)	0.225	0.025
180	15.00	0.83	0.250	(0.467)	0.225	0.025
181	15.08	0.80	0.240	(0.464)	0.216	0.024
182	15.17	0.80	0.240	(0.462)	0.216	0.024
183	15.25	0.80	0.240	(0.460)	0.216	0.024
184	15.33	0.77	0.230	(0.457)	0.207	0.023
185	15.42	0.77	0.230	(0.455)	0.207	0.023
186	15.50	0.77	0.230	(0.452)	0.207	0.023
187	15.58	0.63	0.190	(0.450)	0.171	0.019
188	15.67	0.63	0.190	(0.448)	0.171	0.019
189	15.75	0.63	0.190	(0.446)	0.171	0.019
190	15.83	0.63	0.190	(0.443)	0.171	0.019
191	15.92	0.63	0.190	(0.441)	0.171	0.019
192	16.00	0.63	0.190	(0.439)	0.171	0.019
193	16.08	0.13	0.040	(0.437)	0.036	0.004
194	16.17	0.13	0.040	(0.434)	0.036	0.004
195	16.25	0.13	0.040	(0.432)	0.036	0.004
196	16.33	0.13	0.040	(0.430)	0.036	0.004
197	16.42	0.13	0.040	(0.428)	0.036	0.004
198	16.50	0.13	0.040	(0.425)	0.036	0.004
199	16.58	0.10	0.030	(0.423)	0.027	0.003
200	16.67	0.10	0.030	(0.421)	0.027	0.003
201	16.75	0.10	0.030	(0.419)	0.027	0.003
202	16.83	0.10	0.030	(0.417)	0.027	0.003
203	16.92	0.10	0.030	(0.415)	0.027	0.003
204	17.00	0.10	0.030	(0.413)	0.027	0.003
205	17.08	0.17	0.050	(0.411)	0.045	0.005
206	17.17	0.17	0.050	(0.409)	0.045	0.005
207	17.25	0.17	0.050	(0.407)	0.045	0.005
208	17.33	0.17	0.050	(0.404)	0.045	0.005
209	17.42	0.17	0.050	(0.402)	0.045	0.005
210	17.50	0.17	0.050	(0.400)	0.045	0.005
211	17.58	0.17	0.050	(0.398)	0.045	0.005
212	17.67	0.17	0.050	(0.396)	0.045	0.005
213	17.75	0.17	0.050	(0.394)	0.045	0.005
214	17.83	0.13	0.040	(0.392)	0.036	0.004
215	17.92	0.13	0.040	(0.391)	0.036	0.004
216	18.00	0.13	0.040	(0.389)	0.036	0.004
217	18.08	0.13	0.040	(0.387)	0.036	0.004
218	18.17	0.13	0.040	(0.385)	0.036	0.004
219	18.25	0.13	0.040	(0.383)	0.036	0.004
220	18.33	0.13	0.040	(0.381)	0.036	0.004
221	18.42	0.13	0.040	(0.379)	0.036	0.004
222	18.50	0.13	0.040	(0.377)	0.036	0.004
223	18.58	0.10	0.030	(0.376)	0.027	0.003
224	18.67	0.10	0.030	(0.374)	0.027	0.003
225	18.75	0.10	0.030	(0.372)	0.027	0.003
226	18.83	0.07	0.020	(0.370)	0.018	0.002
227	18.92	0.07	0.020	(0.368)	0.018	0.002
228	19.00	0.07	0.020	(0.367)	0.018	0.002
229	19.08	0.10	0.030	(0.365)	0.027	0.003
230	19.17	0.10	0.030	(0.363)	0.027	0.003
231	19.25	0.10	0.030	(0.361)	0.027	0.003

232	19.33	0.13	0.040	(0.360)	0.036	0.004
233	19.42	0.13	0.040	(0.358)	0.036	0.004
234	19.50	0.13	0.040	(0.356)	0.036	0.004
235	19.58	0.10	0.030	(0.355)	0.027	0.003
236	19.67	0.10	0.030	(0.353)	0.027	0.003
237	19.75	0.10	0.030	(0.352)	0.027	0.003
238	19.83	0.07	0.020	(0.350)	0.018	0.002
239	19.92	0.07	0.020	(0.348)	0.018	0.002
240	20.00	0.07	0.020	(0.347)	0.018	0.002
241	20.08	0.10	0.030	(0.345)	0.027	0.003
242	20.17	0.10	0.030	(0.344)	0.027	0.003
243	20.25	0.10	0.030	(0.342)	0.027	0.003
244	20.33	0.10	0.030	(0.341)	0.027	0.003
245	20.42	0.10	0.030	(0.339)	0.027	0.003
246	20.50	0.10	0.030	(0.338)	0.027	0.003
247	20.58	0.10	0.030	(0.337)	0.027	0.003
248	20.67	0.10	0.030	(0.335)	0.027	0.003
249	20.75	0.10	0.030	(0.334)	0.027	0.003
250	20.83	0.07	0.020	(0.332)	0.018	0.002
251	20.92	0.07	0.020	(0.331)	0.018	0.002
252	21.00	0.07	0.020	(0.330)	0.018	0.002
253	21.08	0.10	0.030	(0.328)	0.027	0.003
254	21.17	0.10	0.030	(0.327)	0.027	0.003
255	21.25	0.10	0.030	(0.326)	0.027	0.003
256	21.33	0.07	0.020	(0.325)	0.018	0.002
257	21.42	0.07	0.020	(0.323)	0.018	0.002
258	21.50	0.07	0.020	(0.322)	0.018	0.002
259	21.58	0.10	0.030	(0.321)	0.027	0.003
260	21.67	0.10	0.030	(0.320)	0.027	0.003
261	21.75	0.10	0.030	(0.319)	0.027	0.003
262	21.83	0.07	0.020	(0.318)	0.018	0.002
263	21.92	0.07	0.020	(0.317)	0.018	0.002
264	22.00	0.07	0.020	(0.315)	0.018	0.002
265	22.08	0.10	0.030	(0.314)	0.027	0.003
266	22.17	0.10	0.030	(0.313)	0.027	0.003
267	22.25	0.10	0.030	(0.312)	0.027	0.003
268	22.33	0.07	0.020	(0.311)	0.018	0.002
269	22.42	0.07	0.020	(0.310)	0.018	0.002
270	22.50	0.07	0.020	(0.310)	0.018	0.002
271	22.58	0.07	0.020	(0.309)	0.018	0.002
272	22.67	0.07	0.020	(0.308)	0.018	0.002
273	22.75	0.07	0.020	(0.307)	0.018	0.002
274	22.83	0.07	0.020	(0.306)	0.018	0.002
275	22.92	0.07	0.020	(0.305)	0.018	0.002
276	23.00	0.07	0.020	(0.305)	0.018	0.002
277	23.08	0.07	0.020	(0.304)	0.018	0.002
278	23.17	0.07	0.020	(0.303)	0.018	0.002
279	23.25	0.07	0.020	(0.303)	0.018	0.002
280	23.33	0.07	0.020	(0.302)	0.018	0.002
281	23.42	0.07	0.020	(0.301)	0.018	0.002
282	23.50	0.07	0.020	(0.301)	0.018	0.002
283	23.58	0.07	0.020	(0.300)	0.018	0.002
284	23.67	0.07	0.020	(0.300)	0.018	0.002
285	23.75	0.07	0.020	(0.300)	0.018	0.002
286	23.83	0.07	0.020	(0.299)	0.018	0.002
287	23.92	0.07	0.020	(0.299)	0.018	0.002
288	24.00	0.07	0.020	(0.299)	0.018	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.0

Flood volume = Effective rainfall 0.25(In)
times area 21.2(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 2.25(In)
Total soil loss = 3.975(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 19238.2 Cubic Feet
Total soil loss = 173143.8 Cubic Feet

Peak flow rate of this hydrograph = 0.722(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0002	0.03	Q				
0+15	0.0005	0.03	Q				
0+20	0.0008	0.04	Q				
0+25	0.0011	0.05	Q				
0+30	0.0015	0.06	Q				
0+35	0.0020	0.06	Q				
0+40	0.0024	0.06	Q				
0+45	0.0028	0.06	Q				
0+50	0.0033	0.07	Q				
0+55	0.0038	0.08	Q				
1+ 0	0.0044	0.08	Q				
1+ 5	0.0049	0.08	Q				
1+10	0.0054	0.07	Q				
1+15	0.0059	0.07	Q				
1+20	0.0063	0.07	Q				
1+25	0.0068	0.07	Q				
1+30	0.0072	0.06	Q				
1+35	0.0077	0.06	Q				
1+40	0.0081	0.06	Q				
1+45	0.0086	0.06	Q				
1+50	0.0090	0.07	Q				
1+55	0.0096	0.08	Q				
2+ 0	0.0101	0.08	Q				
2+ 5	0.0107	0.08	Q				
2+10	0.0113	0.08	QV				
2+15	0.0119	0.08	QV				
2+20	0.0124	0.09	QV				
2+25	0.0130	0.09	QV				
2+30	0.0136	0.09	QV				
2+35	0.0142	0.09	QV				
2+40	0.0149	0.10	QV				
2+45	0.0156	0.10	QV				
2+50	0.0163	0.10	QV				
2+55	0.0171	0.11	QV				
3+ 0	0.0178	0.11	QV				
3+ 5	0.0185	0.11	QV				
3+10	0.0193	0.11	QV				
3+15	0.0200	0.11	QV				
3+20	0.0207	0.11	QV				
3+25	0.0215	0.11	QV				
3+30	0.0222	0.11	Q V				
3+35	0.0229	0.11	Q V				
3+40	0.0237	0.11	Q V				
3+45	0.0244	0.11	Q V				
3+50	0.0252	0.11	Q V				
3+55	0.0260	0.12	Q V				
4+ 0	0.0269	0.12	Q V				
4+ 5	0.0277	0.13	Q V				
4+10	0.0286	0.13	Q V				
4+15	0.0295	0.13	Q V				
4+20	0.0304	0.13	Q V				
4+25	0.0314	0.14	Q V				
4+30	0.0324	0.15	Q V				
4+35	0.0334	0.15	Q V				
4+40	0.0344	0.15	Q V				
4+45	0.0354	0.15	Q V				
4+50	0.0365	0.15	Q V				

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 4+55      0.0376      0.16  Q  V      |          |          |          |
 5+ 0      0.0388      0.17  Q  V      |          |          |          |
 5+ 5      0.0399      0.16  Q  V      |          |          |          |
 5+10      0.0408      0.14  Q  V      |          |          |          |
 5+15      0.0418      0.14  Q  V      |          |          |          |
 5+20      0.0427      0.14  Q  V      |          |          |          |
 5+25      0.0437      0.14  Q  V      |          |          |          |
 5+30      0.0447      0.15  Q   V     |          |          |          |
 5+35      0.0458      0.15  Q   V     |          |          |          |
 5+40      0.0469      0.16  Q   V     |          |          |          |
 5+45      0.0480      0.17  Q   V     |          |          |          |
 5+50      0.0492      0.17  Q   V     |          |          |          |
 5+55      0.0504      0.17  Q   V     |          |          |          |
 6+ 0      0.0515      0.17  Q   V     |          |          |          |
 6+ 5      0.0527      0.17  Q   V     |          |          |          |
 6+10      0.0540      0.18  Q   V     |          |          |          |
 6+15      0.0553      0.19  Q    V    |          |          |          |
 6+20      0.0566      0.19  Q    V    |          |          |          |
 6+25      0.0579      0.19  Q    V    |          |          |          |
 6+30      0.0592      0.19  Q    V    |          |          |          |
 6+35      0.0606      0.20  Q    V    |          |          |          |
 6+40      0.0620      0.21  Q    V    |          |          |          |
 6+45      0.0634      0.21  Q    V    |          |          |          |
 6+50      0.0649      0.21  Q    V    |          |          |          |
 6+55      0.0664      0.21  Q     V   |          |          |          |
 7+ 0      0.0678      0.21  Q     V   |          |          |          |
 7+ 5      0.0693      0.21  Q     V   |          |          |          |
 7+10      0.0708      0.21  Q     V   |          |          |          |
 7+15      0.0722      0.21  Q     V   |          |          |          |
 7+20      0.0737      0.22  Q     V   |          |          |          |
 7+25      0.0753      0.23  Q     V   |          |          |          |
 7+30      0.0769      0.23  Q     V   |          |          |          |
 7+35      0.0785      0.24  Q      V  |          |          |          |
 7+40      0.0802      0.25  Q      V  |          |          |          |
 7+45      0.0820      0.25  |Q     V  |          |          |          |
 7+50      0.0837      0.26  |Q     V  |          |          |          |
 7+55      0.0856      0.27  |Q     V  |          |          |          |
 8+ 0      0.0875      0.27  |Q     V  |          |          |          |
 8+ 5      0.0894      0.28  |Q      V |          |          |          |
 8+10      0.0915      0.30  |Q      V |          |          |          |
 8+15      0.0936      0.31  |Q      V |          |          |          |
 8+20      0.0958      0.32  |Q      V |          |          |          |
 8+25      0.0980      0.32  |Q      V |          |          |          |
 8+30      0.1002      0.32  |Q       V|          |          |          |
 8+35      0.1024      0.32  |Q       V|          |          |          |
 8+40      0.1047      0.33  |Q       V|          |          |          |
 8+45      0.1071      0.34  |Q       V|          |          |          |
 8+50      0.1094      0.34  |Q       V|          |          |          |
 8+55      0.1119      0.35  |Q        V          |          |          |
 9+ 0      0.1143      0.36  |Q        V          |          |          |
 9+ 5      0.1169      0.37  |Q        V          |          |          |
 9+10      0.1195      0.39  |Q        V          |          |          |
 9+15      0.1223      0.40  |Q        |V         |          |          |
 9+20      0.1251      0.40  |Q        |V         |          |          |
 9+25      0.1279      0.42  |Q        |V         |          |          |
 9+30      0.1308      0.42  |Q        |V         |          |          |
 9+35      0.1338      0.43  |Q        | V        |          |          |
 9+40      0.1368      0.44  |Q        | V        |          |          |
 9+45      0.1399      0.44  |Q        | V        |          |          |
 9+50      0.1430      0.45  |Q        | V        |          |          |
 9+55      0.1461      0.46  |Q        |  V       |          |          |
10+ 0      0.1493      0.47  |Q        |  V       |          |          |
10+ 5      0.1524      0.44  |Q        |  V       |          |          |
10+10      0.1550      0.37  |Q        |   V      |          |          |
10+15      0.1574      0.35  |Q        |   V      |          |          |
10+20      0.1597      0.34  |Q        |   V      |          |          |
10+25      0.1619      0.33  |Q        |   V      |          |          |
10+30      0.1642      0.33  |Q        |   V      |          |          |
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10+35       0.1666      0.34  |Q        |    V    |         |         |
10+40       0.1692      0.39  |Q        |    V    |         |         |
10+45       0.1721      0.41  |Q        |    V    |         |         |
10+50       0.1749      0.42  |Q        |    V    |         |         |
10+55       0.1778      0.42  |Q        |     V   |         |         |
11+ 0       0.1807      0.42  |Q        |     V   |         |         |
11+ 5       0.1836      0.42  |Q        |     V   |         |         |
11+10       0.1865      0.41  |Q        |     V   |         |         |
11+15       0.1893      0.41  |Q        |      V  |         |         |
11+20       0.1921      0.41  |Q        |      V  |         |         |
11+25       0.1949      0.41  |Q        |      V  |         |         |
11+30       0.1977      0.41  |Q        |      V  |         |         |
11+35       0.2005      0.40  |Q        |       V |         |         |
11+40       0.2031      0.38  |Q        |       V |         |         |
11+45       0.2056      0.37  |Q        |       V |         |         |
11+50       0.2082      0.37  |Q        |       V |         |         |
11+55       0.2108      0.38  |Q        |        V|         |         |
12+ 0       0.2134      0.38  |Q        |        V|         |         |
12+ 5       0.2163      0.41  |Q        |        V|         |         |
12+10       0.2196      0.48  |Q        |        V|         |         |
12+15       0.2231      0.51  | Q       |         V         |         |
12+20       0.2266      0.52  | Q       |         V         |         |
12+25       0.2303      0.54  | Q       |         V         |         |
12+30       0.2341      0.55  | Q       |         |V        |         |
12+35       0.2379      0.56  | Q       |         |V        |         |
12+40       0.2419      0.58  | Q       |         |V        |         |
12+45       0.2460      0.59  | Q       |         | V       |         |
12+50       0.2501      0.60  | Q       |         | V       |         |
12+55       0.2543      0.61  | Q       |         |  V      |         |
13+ 0       0.2585      0.61  | Q       |         |  V      |         |
13+ 5       0.2629      0.63  | Q       |         |  V      |         |
13+10       0.2676      0.69  | Q       |         |   V     |         |
13+15       0.2725      0.71  | Q       |         |   V     |         |
13+20       0.2774      0.71  | Q       |         |    V    |         |
13+25       0.2824      0.72  | Q       |         |    V    |         |
13+30       0.2873      0.72  | Q       |         |     V   |         |
13+35       0.2921      0.68  | Q       |         |     V   |         |
13+40       0.2960      0.57  | Q       |         |     V   |         |
13+45       0.2997      0.54  | Q       |         |      V  |         |
13+50       0.3033      0.52  | Q       |         |      V  |         |
13+55       0.3068      0.51  | Q       |         |      V  |         |
14+ 0       0.3102      0.50  | Q       |         |       V |         |
14+ 5       0.3137      0.51  | Q       |         |       V |         |
14+10       0.3175      0.55  | Q       |         |       V |         |
14+15       0.3214      0.56  | Q       |         |        V|         |
14+20       0.3253      0.56  | Q       |         |        V|         |
14+25       0.3291      0.56  | Q       |         |        V|         |
14+30       0.3329      0.56  | Q       |         |         V         |
14+35       0.3368      0.56  | Q       |         |         V         |
14+40       0.3406      0.56  | Q       |         |         V         |
14+45       0.3444      0.56  | Q       |         |         |V        |
14+50       0.3482      0.55  | Q       |         |         |V        |
14+55       0.3520      0.54  | Q       |         |         |V        |
15+ 0       0.3557      0.54  | Q       |         |         | V       |
15+ 5       0.3594      0.53  | Q       |         |         | V       |
15+10       0.3630      0.52  | Q       |         |         | V       |
15+15       0.3665      0.52  | Q       |         |         |  V      |
15+20       0.3700      0.51  | Q       |         |         |  V      |
15+25       0.3735      0.50  | Q       |         |         |  V      |
15+30       0.3769      0.50  |Q        |         |         |   V     |
15+35       0.3802      0.48  |Q        |         |         |   V     |
15+40       0.3832      0.44  |Q        |         |         |   V     |
15+45       0.3862      0.42  |Q        |         |         |   V     |
15+50       0.3890      0.42  |Q        |         |         |    V    |
15+55       0.3919      0.41  |Q        |         |         |    V    |
16+ 0       0.3947      0.41  |Q        |         |         |    V    |
16+ 5       0.3971      0.35  |Q        |         |         |    V    |
16+10       0.3985      0.20  Q         |         |         |     V   |
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16+15       0.3995      0.15  Q         |           |           |     V   |
16+20       0.4003      0.12  Q         |           |           |     V   |
16+25       0.4011      0.11  Q         |           |           |     V   |
16+30       0.4018      0.10  Q         |           |           |     V   |
16+35       0.4024      0.09  Q         |           |           |     V   |
16+40       0.4029      0.08  Q         |           |           |     V   |
16+45       0.4034      0.07  Q         |           |           |     V   |
16+50       0.4038      0.07  Q         |           |           |     V   |
16+55       0.4043      0.07  Q         |           |           |     V   |
17+ 0       0.4047      0.06  Q         |           |           |     V   |
17+ 5       0.4052      0.07  Q         |           |           |     V   |
17+10       0.4058      0.09  Q         |           |           |     V   |
17+15       0.4065      0.10  Q         |           |           |     V   |
17+20       0.4072      0.10  Q         |           |           |     V   |
17+25       0.4079      0.10  Q         |           |           |     V   |
17+30       0.4087      0.11  Q         |           |           |      V  |
17+35       0.4094      0.11  Q         |           |           |      V  |
17+40       0.4101      0.11  Q         |           |           |      V  |
17+45       0.4109      0.11  Q         |           |           |      V  |
17+50       0.4116      0.10  Q         |           |           |      V  |
17+55       0.4122      0.09  Q         |           |           |      V  |
18+ 0       0.4128      0.09  Q         |           |           |      V  |
18+ 5       0.4134      0.09  Q         |           |           |      V  |
18+10       0.4140      0.09  Q         |           |           |      V  |
18+15       0.4146      0.09  Q         |           |           |      V  |
18+20       0.4152      0.09  Q         |           |           |      V  |
18+25       0.4158      0.09  Q         |           |           |      V  |
18+30       0.4164      0.09  Q         |           |           |      V  |
18+35       0.4170      0.08  Q         |           |           |      V  |
18+40       0.4175      0.07  Q         |           |           |      V  |
18+45       0.4179      0.07  Q         |           |           |      V  |
18+50       0.4184      0.06  Q         |           |           |      V  |
18+55       0.4187      0.05  Q         |           |           |      V  |
19+ 0       0.4190      0.05  Q         |           |           |      V  |
19+ 5       0.4194      0.05  Q         |           |           |      V  |
19+10       0.4198      0.06  Q         |           |           |       V |
19+15       0.4202      0.06  Q         |           |           |       V |
19+20       0.4207      0.07  Q         |           |           |       V |
19+25       0.4212      0.08  Q         |           |           |       V |
19+30       0.4217      0.08  Q         |           |           |       V |
19+35       0.4223      0.08  Q         |           |           |       V |
19+40       0.4228      0.07  Q         |           |           |       V |
19+45       0.4232      0.07  Q         |           |           |       V |
19+50       0.4237      0.06  Q         |           |           |       V |
19+55       0.4240      0.05  Q         |           |           |       V |
20+ 0       0.4243      0.05  Q         |           |           |       V |
20+ 5       0.4247      0.05  Q         |           |           |       V |
20+10       0.4251      0.06  Q         |           |           |       V |
20+15       0.4255      0.06  Q         |           |           |       V |
20+20       0.4259      0.06  Q         |           |           |       V |
20+25       0.4264      0.06  Q         |           |           |       V |
20+30       0.4268      0.06  Q         |           |           |       V |
20+35       0.4272      0.06  Q         |           |           |       V |
20+40       0.4277      0.06  Q         |           |           |       V |
20+45       0.4281      0.06  Q         |           |           |       V |
20+50       0.4285      0.06  Q         |           |           |       V |
20+55       0.4289      0.05  Q         |           |           |       V |
21+ 0       0.4292      0.05  Q         |           |           |       V |
21+ 5       0.4295      0.05  Q         |           |           |       V |
21+10       0.4299      0.06  Q         |           |           |       V |
21+15       0.4304      0.06  Q         |           |           |       V |
21+20       0.4308      0.06  Q         |           |           |        V|
21+25       0.4311      0.05  Q         |           |           |        V|
21+30       0.4314      0.05  Q         |           |           |        V|
21+35       0.4318      0.05  Q         |           |           |        V|
21+40       0.4322      0.06  Q         |           |           |        V|
21+45       0.4326      0.06  Q         |           |           |        V|
21+50       0.4330      0.06  Q         |           |           |        V|
```

21+55	0.4333	0.05	Q	|	|	|	V|
22+ 0	0.4336	0.05	Q	|	|	|	V|
22+ 5	0.4340	0.05	Q	|	|	|	V|
22+10	0.4344	0.06	Q	|	|	|	V|
22+15	0.4348	0.06	Q	|	|	|	V|
22+20	0.4352	0.06	Q	|	|	|	V|
22+25	0.4355	0.05	Q	|	|	|	V|
22+30	0.4358	0.05	Q	|	|	|	V|
22+35	0.4361	0.04	Q	|	|	|	V|
22+40	0.4364	0.04	Q	|	|	|	V|
22+45	0.4367	0.04	Q	|	|	|	V|
22+50	0.4370	0.04	Q	|	|	|	V|
22+55	0.4373	0.04	Q	|	|	|	V|
23+ 0	0.4376	0.04	Q	|	|	|	V|
23+ 5	0.4379	0.04	Q	|	|	|	V|
23+10	0.4382	0.04	Q	|	|	|	V|
23+15	0.4385	0.04	Q	|	|	|	V|
23+20	0.4388	0.04	Q	|	|	|	V|
23+25	0.4391	0.04	Q	|	|	|	V|
23+30	0.4394	0.04	Q	|	|	|	V|
23+35	0.4397	0.04	Q	|	|	|	V|
23+40	0.4400	0.04	Q	|	|	|	V|
23+45	0.4403	0.04	Q	|	|	|	V|
23+50	0.4406	0.04	Q	|	|	|	V|
23+55	0.4409	0.04	Q	|	|	|	V|
24+ 0	0.4412	0.04	Q	|	|	|	V|
24+ 5	0.4414	0.04	Q	|	|	|	V|
24+10	0.4415	0.02	Q	|	|	|	V|
24+15	0.4416	0.01	Q	|	|	|	V|
24+20	0.4416	0.00	Q	|	|	|	V|
24+25	0.4416	0.00	Q	|	|	|	V|
24+30	0.4416	0.00	Q	|	|	|	V|
24+35	0.4416	0.00	Q	|	|	|	V|
24+40	0.4416	0.00	Q	|	|	|	V|

UNIT HYDROGRAPH

5-YEAR,
1, 3, 6, 24 HOURS
STORM EVENTS

EXISTING CONDITION

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDEX15.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
5 YEAR, 1 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	0.55	11.66

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.36	28.83

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.550(In)
Area Averaged 100-Year Rainfall = 1.360(In)

Point rain (area averaged) = 0.740(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 0.740(In)

Sub-Area Data:

```
Area(Ac.)         Runoff Index   Impervious %
    21.200           67.00         0.000
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  47.4      0.597     0.000        0.597       1.000      0.597
                                                  Sum (F) =   0.597
Area averaged mean soil loss (F) (In/Hr) =  0.597
Minimum soil loss rate ((In/Hr)) =  0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.4800
------------------------------------------------------------------------

             U n i t  H y d r o g r a p h
                    VALLEY S-Curve
------------------------------------------------------------------------
             Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083         92.431         16.901             3.611
    2   0.167        184.863         47.518            10.152
    3   0.250        277.294         16.931             3.617
    4   0.333        369.725          7.493             1.601
    5   0.417        462.157          4.306             0.920
    6   0.500        554.588          2.773             0.592
    7   0.583        647.019          1.845             0.394
    8   0.667        739.451          1.166             0.249
    9   0.750        831.882          1.068             0.228
                               Sum = 100.000   Sum=      21.366
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.40      0.390       (  0.597)       0.351        0.039
   2   0.17     4.50      0.399       (  0.597)       0.359        0.040
   3   0.25     5.40      0.479       (  0.597)       0.431        0.048
   4   0.33     5.40      0.479       (  0.597)       0.431        0.048
   5   0.42     5.70      0.506       (  0.597)       0.455        0.051
   6   0.50     6.40      0.568       (  0.597)       0.511        0.057
   7   0.58     7.90      0.701          0.597    (  0.631)        0.104
   8   0.67     9.10      0.808          0.597    (  0.727)        0.210
   9   0.75    12.80      1.136          0.597    (  1.022)        0.539
  10   0.83    25.60      2.272          0.597    (  2.045)        1.675
  11   0.92     7.90      0.701          0.597    (  0.631)        0.104
  12   1.00     4.90      0.435       (  0.597)       0.391        0.043
            (Loss Rate Not Used)
     Sum =     100.0                                  Sum =     3.0
      Flood volume = Effective rainfall      0.25(In)
       times area      21.2(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
      Total soil loss =      0.49(In)
      Total soil loss =     0.871(Ac.Ft)
      Total rainfall =      0.74(In)
      Flood volume =       18957.8 Cubic Feet
      Total soil loss =       37957.2 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     19.841(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0010	0.14	Q
0+10	0.0047	0.54	VQ
0+15	0.0097	0.72	VQ
0+20	0.0156	0.87	|Q
0+25	0.0221	0.94	|QV
0+30	0.0292	1.03	| Q
0+35	0.0381	1.29	| QV
0+40	0.0533	2.20	| Q
0+45	0.0853	4.66	| V Q|
0+50	0.1719	12.57	| | V | Q | |
0+55	0.3085	19.84	| | | V | Q|
1+ 0	0.3666	8.43	| | Q | | V |
1+ 5	0.3955	4.19	| Q | | | V |
1+10	0.4113	2.31	| Q | | | V |
1+15	0.4213	1.45	| Q | | | V |
1+20	0.4278	0.94	|Q | | | V|
1+25	0.4320	0.61	|Q | | | V|
1+30	0.4349	0.43	Q | | | V|
1+35	0.4351	0.03	Q | | | V|
1+40	0.4352	0.01	Q | | | V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDEX35.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
5 YEAR, 3 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.00	21.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.40	50.88

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.400(In)

Point rain (area averaged) = 1.328(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.328(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	67.00	0.000

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
67.0	47.4	0.597	0.000	0.597	1.000	0.597
					Sum (F) =	0.597

Area averaged mean soil loss (F) (In/Hr) = 0.597
Minimum soil loss rate ((In/Hr)) = 0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	92.431	16.901	3.611
2	0.167	184.863	47.518	10.152
3	0.250	277.294	16.931	3.617
4	0.333	369.725	7.493	1.601
5	0.417	462.157	4.306	0.920
6	0.500	554.588	2.773	0.592
7	0.583	647.019	1.845	0.394
8	0.667	739.451	1.166	0.249
9	0.750	831.882	1.068	0.228
		Sum = 100.000	Sum=	21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.207	(0.597)		0.186	0.021
2	0.17	1.30	0.207	(0.597)		0.186	0.021
3	0.25	1.10	0.175	(0.597)		0.158	0.018
4	0.33	1.50	0.239	(0.597)		0.215	0.024
5	0.42	1.50	0.239	(0.597)		0.215	0.024
6	0.50	1.80	0.287	(0.597)		0.258	0.029
7	0.58	1.50	0.239	(0.597)		0.215	0.024
8	0.67	1.80	0.287	(0.597)		0.258	0.029
9	0.75	1.80	0.287	(0.597)		0.258	0.029
10	0.83	1.50	0.239	(0.597)		0.215	0.024
11	0.92	1.60	0.255	(0.597)		0.229	0.025
12	1.00	1.80	0.287	(0.597)		0.258	0.029
13	1.08	2.20	0.351	(0.597)		0.315	0.035
14	1.17	2.20	0.351	(0.597)		0.315	0.035
15	1.25	2.20	0.351	(0.597)		0.315	0.035
16	1.33	2.00	0.319	(0.597)		0.287	0.032
17	1.42	2.60	0.414	(0.597)		0.373	0.041
18	1.50	2.70	0.430	(0.597)		0.387	0.043
19	1.58	2.40	0.382	(0.597)		0.344	0.038
20	1.67	2.70	0.430	(0.597)		0.387	0.043
21	1.75	3.30	0.526	(0.597)		0.473	0.053
22	1.83	3.10	0.494	(0.597)		0.445	0.049
23	1.92	2.90	0.462	(0.597)		0.416	0.046
24	2.00	3.00	0.478	(0.597)		0.430	0.048
25	2.08	3.10	0.494	(0.597)		0.445	0.049
26	2.17	4.20	0.669	0.597	(	0.602)	0.072
27	2.25	5.00	0.797	0.597	(	0.717)	0.199

```
28   2.33     3.50      0.558       (  0.597)       0.502        0.056
29   2.42     6.80      1.083          0.597    (  0.975)        0.486
30   2.50     7.30      1.163          0.597    (  1.047)        0.566
31   2.58     8.20      1.307          0.597    (  1.176)        0.709
32   2.67     5.90      0.940          0.597    (  0.846)        0.343
33   2.75     2.00      0.319       (  0.597)       0.287        0.032
34   2.83     1.80      0.287       (  0.597)       0.258        0.029
35   2.92     1.80      0.287       (  0.597)       0.258        0.029
36   3.00     0.60      0.096       (  0.597)       0.086        0.010
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     3.4
    Flood volume = Effective rainfall      0.28(In)
     times area      21.2(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
    Total soil loss =      1.05(In)
    Total soil loss =     1.849(Ac.Ft)
    Total rainfall =      1.33(In)
    Flood volume =       21622.6 Cubic Feet
    Total soil loss =       80558.9 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     11.487(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        3 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0005      0.07  Q         |         |         |         |
  0+10       0.0025      0.29  Q         |         |         |         |
  0+15       0.0049      0.35  Q         |         |         |         |
  0+20       0.0074      0.37  Q         |         |         |         |
  0+25       0.0105      0.44  Q         |         |         |         |
  0+30       0.0139      0.49  QV        |         |         |         |
  0+35       0.0176      0.54  |Q        |         |         |         |
  0+40       0.0213      0.53  |Q        |         |         |         |
  0+45       0.0253      0.58  |QV       |         |         |         |
  0+50       0.0293      0.58  |QV       |         |         |         |
  0+55       0.0330      0.54  |QV       |         |         |         |
  1+ 0       0.0369      0.56  |QV       |         |         |         |
  1+ 5       0.0411      0.61  |Q V      |         |         |         |
  1+10       0.0458      0.69  |Q V      |         |         |         |
  1+15       0.0508      0.72  |Q  V     |         |         |         |
  1+20       0.0557      0.72  |Q  V     |         |         |         |
  1+25       0.0607      0.73  |Q  V     |         |         |         |
  1+30       0.0664      0.82  |Q   V    |         |         |         |
  1+35       0.0723      0.86  |Q   V    |         |         |         |
  1+40       0.0781      0.85  |Q    V   |         |         |         |
  1+45       0.0845      0.92  |Q    V   |         |         |         |
  1+50       0.0915      1.02  | Q    V  |         |         |         |
  1+55       0.0986      1.02  | Q    V  |         |         |         |
  2+ 0       0.1055      1.00  | Q     V |         |         |         |
  2+ 5       0.1125      1.02  | Q      V|         |         |         |
  2+10       0.1202      1.12  | Q      V|         |         |         |
  2+15       0.1327      1.82  |  Q      V         |         |         |
  2+20       0.1511      2.68  |    Q    | V       |         |         |
  2+25       0.1737      3.27  |     Q   |  V      |         |         |
  2+30       0.2263      7.64  |         |    Q  V |         |         |
  2+35       0.2981     10.42  |         |         Q   V     |         |
  2+40       0.3772     11.49  |         |         | Q       V         |
  2+45       0.4299      7.66  |         |    Q    |         |   V     |
  2+50       0.4554      3.70  |      Q  |         |         |     V   |
  2+55       0.4712      2.30  |   Q     |         |         |      V  |
  3+ 0       0.4821      1.57  |  Q      |         |         |       V |
  3+ 5       0.4890      1.01  | Q       |         |         |        V|
  3+10       0.4929      0.57  |Q        |         |         |        V|
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    3+15       0.4951      0.32  Q         |         |         |        V|
    3+20       0.4960      0.12  Q         |         |         |        V|
    3+25       0.4962      0.03  Q         |         |         |        V|
    3+30       0.4963      0.02  Q         |         |         |        V|
    3+35       0.4964      0.01  Q         |         |         |        V|
    3+40       0.4964      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDEX65.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
5 YEAR, 6 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.40	29.68

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	3.00	63.60

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.400(In)
Area Averaged 100-Year Rainfall = 3.000(In)

Point rain (area averaged) = 1.775(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.775(In)

Sub-Area Data:

```
Area(Ac.)         Runoff Index   Impervious %
    21.200           67.00         0.000
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  47.4      0.597     0.000        0.597       1.000      0.597
                                                  Sum (F) =   0.597
Area averaged mean soil loss (F) (In/Hr) =  0.597
Minimum soil loss rate ((In/Hr)) =  0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                   VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083         92.431         16.901             3.611
    2   0.167        184.863         47.518            10.152
    3   0.250        277.294         16.931             3.617
    4   0.333        369.725          7.493             1.601
    5   0.417        462.157          4.306             0.920
    6   0.500        554.588          2.773             0.592
    7   0.583        647.019          1.845             0.394
    8   0.667        739.451          1.166             0.249
    9   0.750        831.882          1.068             0.228
                              Sum = 100.000   Sum=      21.366
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

 Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
      (Hr.)  Percent   (In/Hr)         Max   |   Low         (In/Hr)
  1   0.08     0.50      0.106       (  0.597)       0.096        0.011
  2   0.17     0.60      0.128       (  0.597)       0.115        0.013
  3   0.25     0.60      0.128       (  0.597)       0.115        0.013
  4   0.33     0.60      0.128       (  0.597)       0.115        0.013
  5   0.42     0.60      0.128       (  0.597)       0.115        0.013
  6   0.50     0.70      0.149       (  0.597)       0.134        0.015
  7   0.58     0.70      0.149       (  0.597)       0.134        0.015
  8   0.67     0.70      0.149       (  0.597)       0.134        0.015
  9   0.75     0.70      0.149       (  0.597)       0.134        0.015
 10   0.83     0.70      0.149       (  0.597)       0.134        0.015
 11   0.92     0.70      0.149       (  0.597)       0.134        0.015
 12   1.00     0.80      0.170       (  0.597)       0.153        0.017
 13   1.08     0.80      0.170       (  0.597)       0.153        0.017
 14   1.17     0.80      0.170       (  0.597)       0.153        0.017
 15   1.25     0.80      0.170       (  0.597)       0.153        0.017
 16   1.33     0.80      0.170       (  0.597)       0.153        0.017
 17   1.42     0.80      0.170       (  0.597)       0.153        0.017
 18   1.50     0.80      0.170       (  0.597)       0.153        0.017
 19   1.58     0.80      0.170       (  0.597)       0.153        0.017
 20   1.67     0.80      0.170       (  0.597)       0.153        0.017
 21   1.75     0.80      0.170       (  0.597)       0.153        0.017
 22   1.83     0.80      0.170       (  0.597)       0.153        0.017
 23   1.92     0.80      0.170       (  0.597)       0.153        0.017
 24   2.00     0.90      0.192       (  0.597)       0.172        0.019
 25   2.08     0.80      0.170       (  0.597)       0.153        0.017
 26   2.17     0.90      0.192       (  0.597)       0.172        0.019
 27   2.25     0.90      0.192       (  0.597)       0.172        0.019
```

```
28   2.33     0.90      0.192       (  0.597)       0.172        0.019
29   2.42     0.90      0.192       (  0.597)       0.172        0.019
30   2.50     0.90      0.192       (  0.597)       0.172        0.019
31   2.58     0.90      0.192       (  0.597)       0.172        0.019
32   2.67     0.90      0.192       (  0.597)       0.172        0.019
33   2.75     1.00      0.213       (  0.597)       0.192        0.021
34   2.83     1.00      0.213       (  0.597)       0.192        0.021
35   2.92     1.00      0.213       (  0.597)       0.192        0.021
36   3.00     1.00      0.213       (  0.597)       0.192        0.021
37   3.08     1.00      0.213       (  0.597)       0.192        0.021
38   3.17     1.10      0.234       (  0.597)       0.211        0.023
39   3.25     1.10      0.234       (  0.597)       0.211        0.023
40   3.33     1.10      0.234       (  0.597)       0.211        0.023
41   3.42     1.20      0.256       (  0.597)       0.230        0.026
42   3.50     1.30      0.277       (  0.597)       0.249        0.028
43   3.58     1.40      0.298       (  0.597)       0.268        0.030
44   3.67     1.40      0.298       (  0.597)       0.268        0.030
45   3.75     1.50      0.319       (  0.597)       0.287        0.032
46   3.83     1.50      0.319       (  0.597)       0.287        0.032
47   3.92     1.60      0.341       (  0.597)       0.307        0.034
48   4.00     1.60      0.341       (  0.597)       0.307        0.034
49   4.08     1.70      0.362       (  0.597)       0.326        0.036
50   4.17     1.80      0.383       (  0.597)       0.345        0.038
51   4.25     1.90      0.405       (  0.597)       0.364        0.040
52   4.33     2.00      0.426       (  0.597)       0.383        0.043
53   4.42     2.10      0.447       (  0.597)       0.402        0.045
54   4.50     2.10      0.447       (  0.597)       0.402        0.045
55   4.58     2.20      0.469       (  0.597)       0.422        0.047
56   4.67     2.30      0.490       (  0.597)       0.441        0.049
57   4.75     2.40      0.511       (  0.597)       0.460        0.051
58   4.83     2.40      0.511       (  0.597)       0.460        0.051
59   4.92     2.50      0.532       (  0.597)       0.479        0.053
60   5.00     2.60      0.554       (  0.597)       0.498        0.055
61   5.08     3.10      0.660       (  0.597)       0.594        0.066
62   5.17     3.60      0.767          0.597    (  0.690)        0.169
63   5.25     3.90      0.831          0.597    (  0.747)        0.233
64   5.33     4.20      0.894          0.597    (  0.805)        0.297
65   5.42     4.70      1.001          0.597    (  0.901)        0.403
66   5.50     5.60      1.193          0.597    (  1.073)        0.595
67   5.58     1.90      0.405       (  0.597)       0.364        0.040
68   5.67     0.90      0.192       (  0.597)       0.172        0.019
69   5.75     0.60      0.128       (  0.597)       0.115        0.013
70   5.83     0.50      0.106       (  0.597)       0.096        0.011
71   5.92     0.30      0.064       (  0.597)       0.057        0.006
72   6.00     0.20      0.043       (  0.597)       0.038        0.004
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     3.4
    Flood volume = Effective rainfall      0.28(In)
     times area      21.2(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
    Total soil loss =      1.49(In)
    Total soil loss =     2.641(Ac.Ft)
    Total rainfall =      1.77(In)
    Flood volume =       21539.2 Cubic Feet
    Total soil loss =      115029.2 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =      8.493(CFS)
    ------------------------------------------------------------------------
    ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
    ------------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ------------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
----------------------------------------------------------------------
  0+ 5       0.0003      0.04  Q         |         |         |         |
  0+10       0.0013      0.15  Q         |         |         |         |
```

```
0+15      0.0028      0.21  Q          |          |          |          |
0+20      0.0045      0.24  Q          |          |          |          |
0+25      0.0062      0.25  VQ         |          |          |          |
0+30      0.0080      0.27  VQ         |          |          |          |
0+35      0.0101      0.30  VQ         |          |          |          |
0+40      0.0122      0.31  VQ         |          |          |          |
0+45      0.0143      0.31  |Q         |          |          |          |
0+50      0.0165      0.32  |Q         |          |          |          |
0+55      0.0187      0.32  |Q         |          |          |          |
1+ 0      0.0209      0.33  |Q         |          |          |          |
1+ 5      0.0233      0.35  |Q         |          |          |          |
1+10      0.0258      0.36  |QV        |          |          |          |
1+15      0.0283      0.36  |QV        |          |          |          |
1+20      0.0307      0.36  |QV        |          |          |          |
1+25      0.0332      0.36  |QV        |          |          |          |
1+30      0.0357      0.36  |QV        |          |          |          |
1+35      0.0382      0.36  |Q V       |          |          |          |
1+40      0.0408      0.36  |Q V       |          |          |          |
1+45      0.0433      0.36  |Q V       |          |          |          |
1+50      0.0458      0.36  |Q V       |          |          |          |
1+55      0.0483      0.36  |Q V       |          |          |          |
2+ 0      0.0508      0.37  |Q  V      |          |          |          |
2+ 5      0.0535      0.39  |Q  V      |          |          |          |
2+10      0.0561      0.38  |Q  V      |          |          |          |
2+15      0.0588      0.40  |Q  V      |          |          |          |
2+20      0.0616      0.40  |Q  V      |          |          |          |
2+25      0.0644      0.41  |Q   V     |          |          |          |
2+30      0.0672      0.41  |Q   V     |          |          |          |
2+35      0.0700      0.41  |Q   V     |          |          |          |
2+40      0.0729      0.41  |Q   V     |          |          |          |
2+45      0.0757      0.42  |Q    V    |          |          |          |
2+50      0.0787      0.44  |Q    V    |          |          |          |
2+55      0.0818      0.45  |Q    V    |          |          |          |
3+ 0      0.0849      0.45  |Q    V    |          |          |          |
3+ 5      0.0880      0.45  |Q     V   |          |          |          |
3+10      0.0912      0.46  |Q     V   |          |          |          |
3+15      0.0945      0.48  |Q     V   |          |          |          |
3+20      0.0979      0.49  |Q     V   |          |          |          |
3+25      0.1014      0.50  | Q     V  |          |          |          |
3+30      0.1051      0.53  | Q     V  |          |          |          |
3+35      0.1090      0.57  | Q     V  |          |          |          |
3+40      0.1132      0.61  | Q      V|          |          |          |
3+45      0.1175      0.63  | Q      V|          |          |          |
3+50      0.1220      0.66  | Q      V|          |          |          |
3+55      0.1267      0.68  | Q       V          |          |          |
4+ 0      0.1315      0.70  | Q       V          |          |          |
4+ 5      0.1365      0.72  | Q       |V         |          |          |
4+10      0.1417      0.76  |  Q      |V         |          |          |
4+15      0.1472      0.80  |  Q      |V         |          |          |
4+20      0.1530      0.84  |  Q      | V        |          |          |
4+25      0.1591      0.88  |  Q      | V        |          |          |
4+30      0.1655      0.92  |  Q      |  V       |          |          |
4+35      0.1720      0.94  |  Q      |  V       |          |          |
4+40      0.1787      0.98  |  Q      |   V      |          |          |
4+45      0.1858      1.02  |   Q     |    V     |          |          |
4+50      0.1931      1.06  |   Q     |    V     |          |          |
4+55      0.2005      1.08  |   Q     |     V    |          |          |
5+ 0      0.2082      1.12  |   Q     |     V    |          |          |
5+ 5      0.2164      1.19  |   Q     |      V   |          |          |
5+10      0.2280      1.69  |     Q   |       V  |          |          |
5+15      0.2488      3.01  |         | Q       V|          |          |
5+20      0.2783      4.28  |         |      Q   | V        |          |
5+25      0.3177      5.73  |         |          | Q  V     |          |
5+30      0.3724      7.94  |         |          |          VQ         |
5+35      0.4309      8.49  |         |          |          |  QV      |
5+40      0.4570      3.79  |         |    Q     |          |     V    |
5+45      0.4710      2.04  |       Q |          |          |       V  |
5+50      0.4800      1.30  |    Q    |          |          |       V  |
```

```
    5+55       0.4861      0.88  |  Q      |         |         |        V|
    6+ 0       0.4901      0.58  | Q       |         |         |        V|
    6+ 5       0.4926      0.36  |Q        |         |         |        V|
    6+10       0.4939      0.20  Q         |         |         |        V|
    6+15       0.4942      0.04  Q         |         |         |        V|
    6+20       0.4943      0.02  Q         |         |         |        V|
    6+25       0.4944      0.01  Q         |         |         |        V|
    6+30       0.4944      0.01  Q         |         |         |        V|
    6+35       0.4945      0.00  Q         |         |         |        V|
    6+40       0.4945      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDEX245.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
5 YEAR, 24 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.50	53.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	8.00	169.60

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 8.000(In)

Point rain (area averaged) = 3.788(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.788(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	67.00	0.000

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
67.0	47.4	0.597	0.000	0.597	1.000	0.597
					Sum (F) =	0.597

Area averaged mean soil loss (F) (In/Hr) = 0.597
Minimum soil loss rate ((In/Hr)) = 0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	92.431	16.901	3.611
2	0.167	184.863	47.518	10.152
3	0.250	277.294	16.931	3.617
4	0.333	369.725	7.493	1.601
5	0.417	462.157	4.306	0.920
6	0.500	554.588	2.773	0.592
7	0.583	647.019	1.845	0.394
8	0.667	739.451	1.166	0.249
9	0.750	831.882	1.068	0.228
		Sum = 100.000	Sum=	21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.030	(1.059)	0.027	0.003
2	0.17	0.07	0.030	(1.055)	0.027	0.003
3	0.25	0.07	0.030	(1.051)	0.027	0.003
4	0.33	0.10	0.045	(1.047)	0.041	0.005
5	0.42	0.10	0.045	(1.043)	0.041	0.005
6	0.50	0.10	0.045	(1.039)	0.041	0.005
7	0.58	0.10	0.045	(1.035)	0.041	0.005
8	0.67	0.10	0.045	(1.031)	0.041	0.005
9	0.75	0.10	0.045	(1.027)	0.041	0.005
10	0.83	0.13	0.061	(1.023)	0.055	0.006
11	0.92	0.13	0.061	(1.019)	0.055	0.006
12	1.00	0.13	0.061	(1.015)	0.055	0.006
13	1.08	0.10	0.045	(1.011)	0.041	0.005
14	1.17	0.10	0.045	(1.007)	0.041	0.005
15	1.25	0.10	0.045	(1.003)	0.041	0.005
16	1.33	0.10	0.045	(0.999)	0.041	0.005
17	1.42	0.10	0.045	(0.995)	0.041	0.005
18	1.50	0.10	0.045	(0.991)	0.041	0.005
19	1.58	0.10	0.045	(0.987)	0.041	0.005
20	1.67	0.10	0.045	(0.983)	0.041	0.005
21	1.75	0.10	0.045	(0.979)	0.041	0.005
22	1.83	0.13	0.061	(0.975)	0.055	0.006
23	1.92	0.13	0.061	(0.971)	0.055	0.006
24	2.00	0.13	0.061	(0.967)	0.055	0.006
25	2.08	0.13	0.061	(0.963)	0.055	0.006
26	2.17	0.13	0.061	(0.959)	0.055	0.006
27	2.25	0.13	0.061	(0.955)	0.055	0.006

28	2.33	0.13	0.061	(0.951)	0.055	0.006
29	2.42	0.13	0.061	(0.947)	0.055	0.006
30	2.50	0.13	0.061	(0.944)	0.055	0.006
31	2.58	0.17	0.076	(0.940)	0.068	0.008
32	2.67	0.17	0.076	(0.936)	0.068	0.008
33	2.75	0.17	0.076	(0.932)	0.068	0.008
34	2.83	0.17	0.076	(0.928)	0.068	0.008
35	2.92	0.17	0.076	(0.924)	0.068	0.008
36	3.00	0.17	0.076	(0.921)	0.068	0.008
37	3.08	0.17	0.076	(0.917)	0.068	0.008
38	3.17	0.17	0.076	(0.913)	0.068	0.008
39	3.25	0.17	0.076	(0.909)	0.068	0.008
40	3.33	0.17	0.076	(0.905)	0.068	0.008
41	3.42	0.17	0.076	(0.902)	0.068	0.008
42	3.50	0.17	0.076	(0.898)	0.068	0.008
43	3.58	0.17	0.076	(0.894)	0.068	0.008
44	3.67	0.17	0.076	(0.890)	0.068	0.008
45	3.75	0.17	0.076	(0.887)	0.068	0.008
46	3.83	0.20	0.091	(0.883)	0.082	0.009
47	3.92	0.20	0.091	(0.879)	0.082	0.009
48	4.00	0.20	0.091	(0.875)	0.082	0.009
49	4.08	0.20	0.091	(0.872)	0.082	0.009
50	4.17	0.20	0.091	(0.868)	0.082	0.009
51	4.25	0.20	0.091	(0.864)	0.082	0.009
52	4.33	0.23	0.106	(0.861)	0.095	0.011
53	4.42	0.23	0.106	(0.857)	0.095	0.011
54	4.50	0.23	0.106	(0.853)	0.095	0.011
55	4.58	0.23	0.106	(0.850)	0.095	0.011
56	4.67	0.23	0.106	(0.846)	0.095	0.011
57	4.75	0.23	0.106	(0.842)	0.095	0.011
58	4.83	0.27	0.121	(0.839)	0.109	0.012
59	4.92	0.27	0.121	(0.835)	0.109	0.012
60	5.00	0.27	0.121	(0.831)	0.109	0.012
61	5.08	0.20	0.091	(0.828)	0.082	0.009
62	5.17	0.20	0.091	(0.824)	0.082	0.009
63	5.25	0.20	0.091	(0.821)	0.082	0.009
64	5.33	0.23	0.106	(0.817)	0.095	0.011
65	5.42	0.23	0.106	(0.813)	0.095	0.011
66	5.50	0.23	0.106	(0.810)	0.095	0.011
67	5.58	0.27	0.121	(0.806)	0.109	0.012
68	5.67	0.27	0.121	(0.803)	0.109	0.012
69	5.75	0.27	0.121	(0.799)	0.109	0.012
70	5.83	0.27	0.121	(0.796)	0.109	0.012
71	5.92	0.27	0.121	(0.792)	0.109	0.012
72	6.00	0.27	0.121	(0.789)	0.109	0.012
73	6.08	0.30	0.136	(0.785)	0.123	0.014
74	6.17	0.30	0.136	(0.782)	0.123	0.014
75	6.25	0.30	0.136	(0.778)	0.123	0.014
76	6.33	0.30	0.136	(0.775)	0.123	0.014
77	6.42	0.30	0.136	(0.771)	0.123	0.014
78	6.50	0.30	0.136	(0.768)	0.123	0.014
79	6.58	0.33	0.152	(0.764)	0.136	0.015
80	6.67	0.33	0.152	(0.761)	0.136	0.015
81	6.75	0.33	0.152	(0.757)	0.136	0.015
82	6.83	0.33	0.152	(0.754)	0.136	0.015
83	6.92	0.33	0.152	(0.751)	0.136	0.015
84	7.00	0.33	0.152	(0.747)	0.136	0.015
85	7.08	0.33	0.152	(0.744)	0.136	0.015
86	7.17	0.33	0.152	(0.740)	0.136	0.015
87	7.25	0.33	0.152	(0.737)	0.136	0.015
88	7.33	0.37	0.167	(0.734)	0.150	0.017
89	7.42	0.37	0.167	(0.730)	0.150	0.017
90	7.50	0.37	0.167	(0.727)	0.150	0.017
91	7.58	0.40	0.182	(0.724)	0.164	0.018
92	7.67	0.40	0.182	(0.720)	0.164	0.018
93	7.75	0.40	0.182	(0.717)	0.164	0.018
94	7.83	0.43	0.197	(0.714)	0.177	0.020
95	7.92	0.43	0.197	(0.710)	0.177	0.020

96	8.00	0.43	0.197	(0.707)	0.177	0.020
97	8.08	0.50	0.227	(0.704)	0.205	0.023
98	8.17	0.50	0.227	(0.701)	0.205	0.023
99	8.25	0.50	0.227	(0.697)	0.205	0.023
100	8.33	0.50	0.227	(0.694)	0.205	0.023
101	8.42	0.50	0.227	(0.691)	0.205	0.023
102	8.50	0.50	0.227	(0.688)	0.205	0.023
103	8.58	0.53	0.242	(0.684)	0.218	0.024
104	8.67	0.53	0.242	(0.681)	0.218	0.024
105	8.75	0.53	0.242	(0.678)	0.218	0.024
106	8.83	0.57	0.258	(0.675)	0.232	0.026
107	8.92	0.57	0.258	(0.671)	0.232	0.026
108	9.00	0.57	0.258	(0.668)	0.232	0.026
109	9.08	0.63	0.288	(0.665)	0.259	0.029
110	9.17	0.63	0.288	(0.662)	0.259	0.029
111	9.25	0.63	0.288	(0.659)	0.259	0.029
112	9.33	0.67	0.303	(0.656)	0.273	0.030
113	9.42	0.67	0.303	(0.653)	0.273	0.030
114	9.50	0.67	0.303	(0.649)	0.273	0.030
115	9.58	0.70	0.318	(0.646)	0.286	0.032
116	9.67	0.70	0.318	(0.643)	0.286	0.032
117	9.75	0.70	0.318	(0.640)	0.286	0.032
118	9.83	0.73	0.333	(0.637)	0.300	0.033
119	9.92	0.73	0.333	(0.634)	0.300	0.033
120	10.00	0.73	0.333	(0.631)	0.300	0.033
121	10.08	0.50	0.227	(0.628)	0.205	0.023
122	10.17	0.50	0.227	(0.625)	0.205	0.023
123	10.25	0.50	0.227	(0.622)	0.205	0.023
124	10.33	0.50	0.227	(0.619)	0.205	0.023
125	10.42	0.50	0.227	(0.616)	0.205	0.023
126	10.50	0.50	0.227	(0.613)	0.205	0.023
127	10.58	0.67	0.303	(0.610)	0.273	0.030
128	10.67	0.67	0.303	(0.607)	0.273	0.030
129	10.75	0.67	0.303	(0.604)	0.273	0.030
130	10.83	0.67	0.303	(0.601)	0.273	0.030
131	10.92	0.67	0.303	(0.598)	0.273	0.030
132	11.00	0.67	0.303	(0.595)	0.273	0.030
133	11.08	0.63	0.288	(0.592)	0.259	0.029
134	11.17	0.63	0.288	(0.589)	0.259	0.029
135	11.25	0.63	0.288	(0.586)	0.259	0.029
136	11.33	0.63	0.288	(0.583)	0.259	0.029
137	11.42	0.63	0.288	(0.580)	0.259	0.029
138	11.50	0.63	0.288	(0.578)	0.259	0.029
139	11.58	0.57	0.258	(0.575)	0.232	0.026
140	11.67	0.57	0.258	(0.572)	0.232	0.026
141	11.75	0.57	0.258	(0.569)	0.232	0.026
142	11.83	0.60	0.273	(0.566)	0.245	0.027
143	11.92	0.60	0.273	(0.563)	0.245	0.027
144	12.00	0.60	0.273	(0.561)	0.245	0.027
145	12.08	0.83	0.379	(0.558)	0.341	0.038
146	12.17	0.83	0.379	(0.555)	0.341	0.038
147	12.25	0.83	0.379	(0.552)	0.341	0.038
148	12.33	0.87	0.394	(0.549)	0.355	0.039
149	12.42	0.87	0.394	(0.547)	0.355	0.039
150	12.50	0.87	0.394	(0.544)	0.355	0.039
151	12.58	0.93	0.424	(0.541)	0.382	0.042
152	12.67	0.93	0.424	(0.538)	0.382	0.042
153	12.75	0.93	0.424	(0.536)	0.382	0.042
154	12.83	0.97	0.439	(0.533)	0.395	0.044
155	12.92	0.97	0.439	(0.530)	0.395	0.044
156	13.00	0.97	0.439	(0.528)	0.395	0.044
157	13.08	1.13	0.515	(0.525)	0.464	0.052
158	13.17	1.13	0.515	(0.522)	0.464	0.052
159	13.25	1.13	0.515	(0.520)	0.464	0.052
160	13.33	1.13	0.515	(0.517)	0.464	0.052
161	13.42	1.13	0.515	(0.514)	0.464	0.052
162	13.50	1.13	0.515	(0.512)	0.464	0.052
163	13.58	0.77	0.349	(0.509)	0.314	0.035

164	13.67	0.77	0.349	(0.507)	0.314	0.035
165	13.75	0.77	0.349	(0.504)	0.314	0.035
166	13.83	0.77	0.349	(0.501)	0.314	0.035
167	13.92	0.77	0.349	(0.499)	0.314	0.035
168	14.00	0.77	0.349	(0.496)	0.314	0.035
169	14.08	0.90	0.409	(0.494)	0.368	0.041
170	14.17	0.90	0.409	(0.491)	0.368	0.041
171	14.25	0.90	0.409	(0.489)	0.368	0.041
172	14.33	0.87	0.394	(0.486)	0.355	0.039
173	14.42	0.87	0.394	(0.484)	0.355	0.039
174	14.50	0.87	0.394	(0.481)	0.355	0.039
175	14.58	0.87	0.394	(0.479)	0.355	0.039
176	14.67	0.87	0.394	(0.476)	0.355	0.039
177	14.75	0.87	0.394	(0.474)	0.355	0.039
178	14.83	0.83	0.379	(0.471)	0.341	0.038
179	14.92	0.83	0.379	(0.469)	0.341	0.038
180	15.00	0.83	0.379	(0.467)	0.341	0.038
181	15.08	0.80	0.364	(0.464)	0.327	0.036
182	15.17	0.80	0.364	(0.462)	0.327	0.036
183	15.25	0.80	0.364	(0.460)	0.327	0.036
184	15.33	0.77	0.349	(0.457)	0.314	0.035
185	15.42	0.77	0.349	(0.455)	0.314	0.035
186	15.50	0.77	0.349	(0.452)	0.314	0.035
187	15.58	0.63	0.288	(0.450)	0.259	0.029
188	15.67	0.63	0.288	(0.448)	0.259	0.029
189	15.75	0.63	0.288	(0.446)	0.259	0.029
190	15.83	0.63	0.288	(0.443)	0.259	0.029
191	15.92	0.63	0.288	(0.441)	0.259	0.029
192	16.00	0.63	0.288	(0.439)	0.259	0.029
193	16.08	0.13	0.061	(0.437)	0.055	0.006
194	16.17	0.13	0.061	(0.434)	0.055	0.006
195	16.25	0.13	0.061	(0.432)	0.055	0.006
196	16.33	0.13	0.061	(0.430)	0.055	0.006
197	16.42	0.13	0.061	(0.428)	0.055	0.006
198	16.50	0.13	0.061	(0.425)	0.055	0.006
199	16.58	0.10	0.045	(0.423)	0.041	0.005
200	16.67	0.10	0.045	(0.421)	0.041	0.005
201	16.75	0.10	0.045	(0.419)	0.041	0.005
202	16.83	0.10	0.045	(0.417)	0.041	0.005
203	16.92	0.10	0.045	(0.415)	0.041	0.005
204	17.00	0.10	0.045	(0.413)	0.041	0.005
205	17.08	0.17	0.076	(0.411)	0.068	0.008
206	17.17	0.17	0.076	(0.409)	0.068	0.008
207	17.25	0.17	0.076	(0.407)	0.068	0.008
208	17.33	0.17	0.076	(0.404)	0.068	0.008
209	17.42	0.17	0.076	(0.402)	0.068	0.008
210	17.50	0.17	0.076	(0.400)	0.068	0.008
211	17.58	0.17	0.076	(0.398)	0.068	0.008
212	17.67	0.17	0.076	(0.396)	0.068	0.008
213	17.75	0.17	0.076	(0.394)	0.068	0.008
214	17.83	0.13	0.061	(0.392)	0.055	0.006
215	17.92	0.13	0.061	(0.391)	0.055	0.006
216	18.00	0.13	0.061	(0.389)	0.055	0.006
217	18.08	0.13	0.061	(0.387)	0.055	0.006
218	18.17	0.13	0.061	(0.385)	0.055	0.006
219	18.25	0.13	0.061	(0.383)	0.055	0.006
220	18.33	0.13	0.061	(0.381)	0.055	0.006
221	18.42	0.13	0.061	(0.379)	0.055	0.006
222	18.50	0.13	0.061	(0.377)	0.055	0.006
223	18.58	0.10	0.045	(0.376)	0.041	0.005
224	18.67	0.10	0.045	(0.374)	0.041	0.005
225	18.75	0.10	0.045	(0.372)	0.041	0.005
226	18.83	0.07	0.030	(0.370)	0.027	0.003
227	18.92	0.07	0.030	(0.368)	0.027	0.003
228	19.00	0.07	0.030	(0.367)	0.027	0.003
229	19.08	0.10	0.045	(0.365)	0.041	0.005
230	19.17	0.10	0.045	(0.363)	0.041	0.005
231	19.25	0.10	0.045	(0.361)	0.041	0.005

232	19.33	0.13	0.061	(0.360)	0.055	0.006
233	19.42	0.13	0.061	(0.358)	0.055	0.006
234	19.50	0.13	0.061	(0.356)	0.055	0.006
235	19.58	0.10	0.045	(0.355)	0.041	0.005
236	19.67	0.10	0.045	(0.353)	0.041	0.005
237	19.75	0.10	0.045	(0.352)	0.041	0.005
238	19.83	0.07	0.030	(0.350)	0.027	0.003
239	19.92	0.07	0.030	(0.348)	0.027	0.003
240	20.00	0.07	0.030	(0.347)	0.027	0.003
241	20.08	0.10	0.045	(0.345)	0.041	0.005
242	20.17	0.10	0.045	(0.344)	0.041	0.005
243	20.25	0.10	0.045	(0.342)	0.041	0.005
244	20.33	0.10	0.045	(0.341)	0.041	0.005
245	20.42	0.10	0.045	(0.339)	0.041	0.005
246	20.50	0.10	0.045	(0.338)	0.041	0.005
247	20.58	0.10	0.045	(0.337)	0.041	0.005
248	20.67	0.10	0.045	(0.335)	0.041	0.005
249	20.75	0.10	0.045	(0.334)	0.041	0.005
250	20.83	0.07	0.030	(0.332)	0.027	0.003
251	20.92	0.07	0.030	(0.331)	0.027	0.003
252	21.00	0.07	0.030	(0.330)	0.027	0.003
253	21.08	0.10	0.045	(0.328)	0.041	0.005
254	21.17	0.10	0.045	(0.327)	0.041	0.005
255	21.25	0.10	0.045	(0.326)	0.041	0.005
256	21.33	0.07	0.030	(0.325)	0.027	0.003
257	21.42	0.07	0.030	(0.323)	0.027	0.003
258	21.50	0.07	0.030	(0.322)	0.027	0.003
259	21.58	0.10	0.045	(0.321)	0.041	0.005
260	21.67	0.10	0.045	(0.320)	0.041	0.005
261	21.75	0.10	0.045	(0.319)	0.041	0.005
262	21.83	0.07	0.030	(0.318)	0.027	0.003
263	21.92	0.07	0.030	(0.317)	0.027	0.003
264	22.00	0.07	0.030	(0.315)	0.027	0.003
265	22.08	0.10	0.045	(0.314)	0.041	0.005
266	22.17	0.10	0.045	(0.313)	0.041	0.005
267	22.25	0.10	0.045	(0.312)	0.041	0.005
268	22.33	0.07	0.030	(0.311)	0.027	0.003
269	22.42	0.07	0.030	(0.310)	0.027	0.003
270	22.50	0.07	0.030	(0.310)	0.027	0.003
271	22.58	0.07	0.030	(0.309)	0.027	0.003
272	22.67	0.07	0.030	(0.308)	0.027	0.003
273	22.75	0.07	0.030	(0.307)	0.027	0.003
274	22.83	0.07	0.030	(0.306)	0.027	0.003
275	22.92	0.07	0.030	(0.305)	0.027	0.003
276	23.00	0.07	0.030	(0.305)	0.027	0.003
277	23.08	0.07	0.030	(0.304)	0.027	0.003
278	23.17	0.07	0.030	(0.303)	0.027	0.003
279	23.25	0.07	0.030	(0.303)	0.027	0.003
280	23.33	0.07	0.030	(0.302)	0.027	0.003
281	23.42	0.07	0.030	(0.301)	0.027	0.003
282	23.50	0.07	0.030	(0.301)	0.027	0.003
283	23.58	0.07	0.030	(0.300)	0.027	0.003
284	23.67	0.07	0.030	(0.300)	0.027	0.003
285	23.75	0.07	0.030	(0.300)	0.027	0.003
286	23.83	0.07	0.030	(0.299)	0.027	0.003
287	23.92	0.07	0.030	(0.299)	0.027	0.003
288	24.00	0.07	0.030	(0.299)	0.027	0.003

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.5

Flood volume = Effective rainfall 0.38(In)
times area 21.2(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 3.41(In)
Total soil loss = 6.023(Ac.Ft)
Total rainfall = 3.79(In)
Flood volume = 29151.5 Cubic Feet
Total soil loss = 262363.7 Cubic Feet

Peak flow rate of this hydrograph = 1.095(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0004	0.04	Q				
0+15	0.0007	0.05	Q				
0+20	0.0012	0.06	Q				
0+25	0.0017	0.08	Q				
0+30	0.0023	0.09	Q				
0+35	0.0030	0.09	Q				
0+40	0.0036	0.09	Q				
0+45	0.0043	0.10	Q				
0+50	0.0050	0.10	Q				
0+55	0.0058	0.12	Q				
1+ 0	0.0066	0.12	Q				
1+ 5	0.0075	0.12	Q				
1+10	0.0082	0.11	Q				
1+15	0.0089	0.10	Q				
1+20	0.0096	0.10	Q				
1+25	0.0103	0.10	Q				
1+30	0.0109	0.10	Q				
1+35	0.0116	0.10	Q				
1+40	0.0123	0.10	Q				
1+45	0.0130	0.10	Q				
1+50	0.0137	0.10	Q				
1+55	0.0145	0.12	Q				
2+ 0	0.0153	0.12	Q				
2+ 5	0.0162	0.13	Q				
2+10	0.0171	0.13	QV				
2+15	0.0180	0.13	QV				
2+20	0.0189	0.13	QV				
2+25	0.0197	0.13	QV				
2+30	0.0206	0.13	QV				
2+35	0.0216	0.14	QV				
2+40	0.0226	0.15	QV				
2+45	0.0237	0.16	QV				
2+50	0.0248	0.16	QV				
2+55	0.0259	0.16	QV				
3+ 0	0.0270	0.16	QV				
3+ 5	0.0281	0.16	QV				
3+10	0.0292	0.16	QV				
3+15	0.0303	0.16	QV				
3+20	0.0314	0.16	QV				
3+25	0.0325	0.16	QV				
3+30	0.0337	0.16	Q V				
3+35	0.0348	0.16	Q V				
3+40	0.0359	0.16	Q V				
3+45	0.0370	0.16	Q V				
3+50	0.0382	0.17	Q V				
3+55	0.0394	0.18	Q V				
4+ 0	0.0407	0.19	Q V				
4+ 5	0.0420	0.19	Q V				
4+10	0.0433	0.19	Q V				
4+15	0.0447	0.19	Q V				
4+20	0.0460	0.20	Q V				
4+25	0.0475	0.21	Q V				
4+30	0.0490	0.22	Q V				
4+35	0.0506	0.22	Q V				
4+40	0.0521	0.22	Q V				
4+45	0.0537	0.23	Q V				
4+50	0.0553	0.23	Q V				

```
 4+55      0.0570      0.25  Q  V      |          |          |          |
 5+ 0      0.0587      0.25  |Q V      |          |          |          |
 5+ 5      0.0604      0.24  Q  V      |          |          |          |
 5+10      0.0619      0.22  Q  V      |          |          |          |
 5+15      0.0633      0.21  Q  V      |          |          |          |
 5+20      0.0647      0.21  Q  V      |          |          |          |
 5+25      0.0662      0.22  Q  V      |          |          |          |
 5+30      0.0678      0.22  Q   V     |          |          |          |
 5+35      0.0694      0.23  Q   V     |          |          |          |
 5+40      0.0710      0.25  Q   V     |          |          |          |
 5+45      0.0728      0.25  |Q  V     |          |          |          |
 5+50      0.0745      0.25  |Q  V     |          |          |          |
 5+55      0.0763      0.26  |Q  V     |          |          |          |
 6+ 0      0.0781      0.26  |Q  V     |          |          |          |
 6+ 5      0.0799      0.26  |Q  V     |          |          |          |
 6+10      0.0818      0.28  |Q  V     |          |          |          |
 6+15      0.0838      0.29  |Q   V    |          |          |          |
 6+20      0.0858      0.29  |Q   V    |          |          |          |
 6+25      0.0878      0.29  |Q   V    |          |          |          |
 6+30      0.0898      0.29  |Q   V    |          |          |          |
 6+35      0.0918      0.30  |Q   V    |          |          |          |
 6+40      0.0940      0.31  |Q   V    |          |          |          |
 6+45      0.0961      0.32  |Q   V    |          |          |          |
 6+50      0.0983      0.32  |Q   V    |          |          |          |
 6+55      0.1006      0.32  |Q    V   |          |          |          |
 7+ 0      0.1028      0.32  |Q    V   |          |          |          |
 7+ 5      0.1050      0.32  |Q    V   |          |          |          |
 7+10      0.1072      0.32  |Q    V   |          |          |          |
 7+15      0.1095      0.32  |Q    V   |          |          |          |
 7+20      0.1117      0.33  |Q    V   |          |          |          |
 7+25      0.1141      0.34  |Q    V   |          |          |          |
 7+30      0.1165      0.35  |Q    V   |          |          |          |
 7+35      0.1190      0.36  |Q     V  |          |          |          |
 7+40      0.1216      0.37  |Q     V  |          |          |          |
 7+45      0.1242      0.38  |Q     V  |          |          |          |
 7+50      0.1269      0.39  |Q     V  |          |          |          |
 7+55      0.1297      0.41  |Q     V  |          |          |          |
 8+ 0      0.1325      0.41  |Q     V  |          |          |          |
 8+ 5      0.1355      0.43  |Q      V |          |          |          |
 8+10      0.1387      0.46  |Q      V |          |          |          |
 8+15      0.1419      0.47  |Q      V |          |          |          |
 8+20      0.1452      0.48  |Q      V |          |          |          |
 8+25      0.1485      0.48  |Q      V |          |          |          |
 8+30      0.1518      0.48  |Q       V|          |          |          |
 8+35      0.1552      0.49  |Q       V|          |          |          |
 8+40      0.1587      0.51  | Q      V|          |          |          |
 8+45      0.1622      0.51  | Q      V|          |          |          |
 8+50      0.1658      0.52  | Q      V|          |          |          |
 8+55      0.1695      0.54  | Q       V          |          |          |
 9+ 0      0.1732      0.54  | Q       V          |          |          |
 9+ 5      0.1771      0.56  | Q       V          |          |          |
 9+10      0.1811      0.59  | Q       V          |          |          |
 9+15      0.1853      0.60  | Q       |V         |          |          |
 9+20      0.1895      0.61  | Q       |V         |          |          |
 9+25      0.1939      0.63  | Q       |V         |          |          |
 9+30      0.1983      0.64  | Q       |V         |          |          |
 9+35      0.2027      0.65  | Q       | V        |          |          |
 9+40      0.2073      0.67  | Q       | V        |          |          |
 9+45      0.2119      0.67  | Q       | V        |          |          |
 9+50      0.2166      0.68  | Q       | V        |          |          |
 9+55      0.2215      0.70  | Q       |  V       |          |          |
10+ 0      0.2263      0.71  | Q       |  V       |          |          |
10+ 5      0.2309      0.67  | Q       |  V       |          |          |
10+10      0.2348      0.56  | Q       |   V      |          |          |
10+15      0.2384      0.53  | Q       |   V      |          |          |
10+20      0.2419      0.51  | Q       |   V      |          |          |
10+25      0.2454      0.50  | Q       |   V      |          |          |
10+30      0.2488      0.50  |Q        |   V      |          |          |
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10+35       0.2524      0.52  | Q       |    V    |         |         |
10+40       0.2565      0.59  | Q       |    V    |         |         |
10+45       0.2607      0.62  | Q       |    V    |         |         |
10+50       0.2651      0.63  | Q       |    V    |         |         |
10+55       0.2694      0.64  | Q       |     V   |         |         |
11+ 0       0.2739      0.64  | Q       |     V   |         |         |
11+ 5       0.2783      0.64  | Q       |     V   |         |         |
11+10       0.2826      0.63  | Q       |     V   |         |         |
11+15       0.2868      0.62  | Q       |      V  |         |         |
11+20       0.2911      0.62  | Q       |      V  |         |         |
11+25       0.2954      0.62  | Q       |      V  |         |         |
11+30       0.2996      0.62  | Q       |      V  |         |         |
11+35       0.3038      0.61  | Q       |       V |         |         |
11+40       0.3077      0.57  | Q       |       V |         |         |
11+45       0.3116      0.56  | Q       |       V |         |         |
11+50       0.3155      0.56  | Q       |       V |         |         |
11+55       0.3194      0.58  | Q       |        V|         |         |
12+ 0       0.3234      0.58  | Q       |        V|         |         |
12+ 5       0.3277      0.62  | Q       |        V|         |         |
12+10       0.3327      0.73  | Q       |        V|         |         |
12+15       0.3380      0.77  |  Q      |         V         |         |
12+20       0.3434      0.79  |  Q      |         V         |         |
12+25       0.3490      0.81  |  Q      |         V         |         |
12+30       0.3547      0.83  |  Q      |         |V        |         |
12+35       0.3605      0.84  |  Q      |         |V        |         |
12+40       0.3666      0.88  |  Q      |         |V        |         |
12+45       0.3728      0.89  |  Q      |         | V       |         |
12+50       0.3790      0.90  |  Q      |         | V       |         |
12+55       0.3853      0.92  |  Q      |         |  V      |         |
13+ 0       0.3918      0.93  |  Q      |         |  V      |         |
13+ 5       0.3984      0.96  |  Q      |         |  V      |         |
13+10       0.4055      1.04  |   Q     |         |   V     |         |
13+15       0.4129      1.07  |   Q     |         |   V     |         |
13+20       0.4204      1.08  |   Q     |         |    V    |         |
13+25       0.4279      1.09  |   Q     |         |    V    |         |
13+30       0.4354      1.09  |   Q     |         |     V   |         |
13+35       0.4426      1.04  |   Q     |         |     V   |         |
13+40       0.4485      0.87  |  Q      |         |     V   |         |
13+45       0.4541      0.81  |  Q      |         |      V  |         |
13+50       0.4595      0.78  |  Q      |         |      V  |         |
13+55       0.4648      0.77  |  Q      |         |      V  |         |
14+ 0       0.4701      0.76  |  Q      |         |       V |         |
14+ 5       0.4754      0.77  |  Q      |         |       V |         |
14+10       0.4811      0.83  |  Q      |         |       V |         |
14+15       0.4870      0.85  |  Q      |         |        V|         |
14+20       0.4929      0.85  |  Q      |         |        V|         |
14+25       0.4987      0.84  |  Q      |         |        V|         |
14+30       0.5045      0.84  |  Q      |         |         V         |
14+35       0.5103      0.84  |  Q      |         |         V         |
14+40       0.5161      0.84  |  Q      |         |         V         |
14+45       0.5219      0.84  |  Q      |         |         |V        |
14+50       0.5277      0.84  |  Q      |         |         |V        |
14+55       0.5333      0.82  |  Q      |         |         |V        |
15+ 0       0.5390      0.82  |  Q      |         |         | V       |
15+ 5       0.5445      0.81  |  Q      |         |         | V       |
15+10       0.5500      0.79  |  Q      |         |         | V       |
15+15       0.5554      0.78  |  Q      |         |         |  V      |
15+20       0.5607      0.78  |  Q      |         |         |  V      |
15+25       0.5660      0.76  |  Q      |         |         |  V      |
15+30       0.5711      0.75  |  Q      |         |         |   V     |
15+35       0.5761      0.73  | Q       |         |         |   V     |
15+40       0.5807      0.66  | Q       |         |         |   V     |
15+45       0.5851      0.64  | Q       |         |         |   V     |
15+50       0.5895      0.63  | Q       |         |         |    V    |
15+55       0.5938      0.62  | Q       |         |         |    V    |
16+ 0       0.5981      0.62  | Q       |         |         |    V    |
16+ 5       0.6017      0.54  | Q       |         |         |    V    |
16+10       0.6038      0.30  |Q        |         |         |     V   |
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16+15       0.6054      0.22  Q         |          |          |     V    |
16+20       0.6066      0.18  Q         |          |          |     V    |
16+25       0.6077      0.16  Q         |          |          |     V    |
16+30       0.6088      0.15  Q         |          |          |     V    |
16+35       0.6097      0.13  Q         |          |          |     V    |
16+40       0.6105      0.11  Q         |          |          |     V    |
16+45       0.6112      0.10  Q         |          |          |     V    |
16+50       0.6119      0.10  Q         |          |          |     V    |
16+55       0.6126      0.10  Q         |          |          |     V    |
17+ 0       0.6133      0.10  Q         |          |          |     V    |
17+ 5       0.6140      0.11  Q         |          |          |     V    |
17+10       0.6150      0.14  Q         |          |          |     V    |
17+15       0.6160      0.15  Q         |          |          |     V    |
17+20       0.6171      0.15  Q         |          |          |     V    |
17+25       0.6181      0.16  Q         |          |          |     V    |
17+30       0.6192      0.16  Q         |          |          |      V   |
17+35       0.6203      0.16  Q         |          |          |      V   |
17+40       0.6215      0.16  Q         |          |          |      V   |
17+45       0.6226      0.16  Q         |          |          |      V   |
17+50       0.6237      0.16  Q         |          |          |      V   |
17+55       0.6246      0.14  Q         |          |          |      V   |
18+ 0       0.6256      0.14  Q         |          |          |      V   |
18+ 5       0.6265      0.13  Q         |          |          |      V   |
18+10       0.6274      0.13  Q         |          |          |      V   |
18+15       0.6283      0.13  Q         |          |          |      V   |
18+20       0.6292      0.13  Q         |          |          |      V   |
18+25       0.6301      0.13  Q         |          |          |      V   |
18+30       0.6310      0.13  Q         |          |          |      V   |
18+35       0.6318      0.12  Q         |          |          |      V   |
18+40       0.6326      0.11  Q         |          |          |      V   |
18+45       0.6333      0.10  Q         |          |          |      V   |
18+50       0.6339      0.10  Q         |          |          |      V   |
18+55       0.6345      0.08  Q         |          |          |      V   |
19+ 0       0.6350      0.07  Q         |          |          |      V   |
19+ 5       0.6355      0.07  Q         |          |          |      V   |
19+10       0.6361      0.09  Q         |          |          |       V  |
19+15       0.6367      0.09  Q         |          |          |       V  |
19+20       0.6374      0.10  Q         |          |          |       V  |
19+25       0.6382      0.12  Q         |          |          |       V  |
19+30       0.6391      0.12  Q         |          |          |       V  |
19+35       0.6399      0.12  Q         |          |          |       V  |
19+40       0.6406      0.11  Q         |          |          |       V  |
19+45       0.6413      0.10  Q         |          |          |       V  |
19+50       0.6420      0.09  Q         |          |          |       V  |
19+55       0.6425      0.08  Q         |          |          |       V  |
20+ 0       0.6430      0.07  Q         |          |          |       V  |
20+ 5       0.6435      0.07  Q         |          |          |       V  |
20+10       0.6441      0.09  Q         |          |          |       V  |
20+15       0.6448      0.09  Q         |          |          |       V  |
20+20       0.6454      0.09  Q         |          |          |       V  |
20+25       0.6461      0.10  Q         |          |          |       V  |
20+30       0.6467      0.10  Q         |          |          |       V  |
20+35       0.6474      0.10  Q         |          |          |       V  |
20+40       0.6481      0.10  Q         |          |          |       V  |
20+45       0.6487      0.10  Q         |          |          |       V  |
20+50       0.6494      0.09  Q         |          |          |       V  |
20+55       0.6499      0.08  Q         |          |          |       V  |
21+ 0       0.6504      0.07  Q         |          |          |       V  |
21+ 5       0.6509      0.07  Q         |          |          |       V  |
21+10       0.6515      0.09  Q         |          |          |       V  |
21+15       0.6521      0.09  Q         |          |          |       V  |
21+20       0.6527      0.09  Q         |          |          |        V |
21+25       0.6532      0.07  Q         |          |          |        V |
21+30       0.6537      0.07  Q         |          |          |        V |
21+35       0.6542      0.07  Q         |          |          |        V |
21+40       0.6548      0.09  Q         |          |          |        V |
21+45       0.6555      0.09  Q         |          |          |        V |
21+50       0.6561      0.09  Q         |          |          |        V |
```

21+55	0.6566	0.07	Q	|	|	|	V|
22+ 0	0.6571	0.07	Q	|	|	|	V|
22+ 5	0.6576	0.07	Q	|	|	|	V|
22+10	0.6582	0.09	Q	|	|	|	V|
22+15	0.6588	0.09	Q	|	|	|	V|
22+20	0.6594	0.09	Q	|	|	|	V|
22+25	0.6599	0.07	Q	|	|	|	V|
22+30	0.6604	0.07	Q	|	|	|	V|
22+35	0.6609	0.07	Q	|	|	|	V|
22+40	0.6613	0.07	Q	|	|	|	V|
22+45	0.6618	0.07	Q	|	|	|	V|
22+50	0.6623	0.07	Q	|	|	|	V|
22+55	0.6627	0.07	Q	|	|	|	V|
23+ 0	0.6631	0.06	Q	|	|	|	V|
23+ 5	0.6636	0.06	Q	|	|	|	V|
23+10	0.6640	0.06	Q	|	|	|	V|
23+15	0.6645	0.06	Q	|	|	|	V|
23+20	0.6649	0.06	Q	|	|	|	V|
23+25	0.6654	0.06	Q	|	|	|	V|
23+30	0.6658	0.06	Q	|	|	|	V|
23+35	0.6663	0.06	Q	|	|	|	V|
23+40	0.6667	0.06	Q	|	|	|	V|
23+45	0.6672	0.06	Q	|	|	|	V|
23+50	0.6676	0.06	Q	|	|	|	V|
23+55	0.6681	0.06	Q	|	|	|	V|
24+ 0	0.6685	0.06	Q	|	|	|	V|
24+ 5	0.6689	0.05	Q	|	|	|	V|
24+10	0.6690	0.02	Q	|	|	|	V|
24+15	0.6691	0.01	Q	|	|	|	V|
24+20	0.6692	0.01	Q	|	|	|	V|
24+25	0.6692	0.00	Q	|	|	|	V|
24+30	0.6692	0.00	Q	|	|	|	V|
24+35	0.6692	0.00	Q	|	|	|	V|
24+40	0.6692	0.00	Q	|	|	|	V

UNIT HYDROGRAPH

10-YEAR,
1, 3, 6, 24 HOURS
STORM EVENTS

EXISTING CONDITION

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 03/30/18 File: MCMHYDEX110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
10 YEAR, 1 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	0.55	11.66

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.36	28.83

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.550(In)
Area Averaged 100-Year Rainfall = 1.360(In)

Point rain (area averaged) = 0.883(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 0.883(In)

Sub-Area Data:

```
      Area(Ac.)         Runoff Index   Impervious %
          21.200           67.00         0.000
       Total Area Entered =     21.20(Ac.)


      RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
      AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
      67.0  67.0      0.394     0.000        0.394       1.000      0.394
                                                        Sum (F) =   0.394
      Area averaged mean soil loss (F) (In/Hr) =  0.394
      Minimum soil loss rate ((In/Hr)) =  0.197
      (for 24 hour storm duration)
      Soil low loss rate (decimal) =   0.900
      ------------------------------------------------------------------------
      Slope of intensity-duration curve for a 1 hour storm =0.4800
      ------------------------------------------------------------------------

                  U n i t  H y d r o g r a p h
                         VALLEY S-Curve
      ------------------------------------------------------------------------
                  Unit Hydrograph Data
      ------------------------------------------------------------------------
      Unit time period   Time % of lag   Distribution   Unit Hydrograph
          (hrs)                          Graph %           (CFS)
      ------------------------------------------------------------------------
          1   0.083         92.431         16.901             3.611
          2   0.167        184.863         47.518            10.152
          3   0.250        277.294         16.931             3.617
          4   0.333        369.725          7.493             1.601
          5   0.417        462.157          4.306             0.920
          6   0.500        554.588          2.773             0.592
          7   0.583        647.019          1.845             0.394
          8   0.667        739.451          1.166             0.249
          9   0.750        831.882          1.068             0.228
                                   Sum = 100.000   Sum=      21.366
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.40      0.466          0.394    (  0.420)        0.072
   2   0.17     4.50      0.477          0.394    (  0.429)        0.082
   3   0.25     5.40      0.572          0.394    (  0.515)        0.178
   4   0.33     5.40      0.572          0.394    (  0.515)        0.178
   5   0.42     5.70      0.604          0.394    (  0.544)        0.210
   6   0.50     6.40      0.678          0.394    (  0.610)        0.284
   7   0.58     7.90      0.837          0.394    (  0.753)        0.443
   8   0.67     9.10      0.964          0.394    (  0.868)        0.570
   9   0.75    12.80      1.356          0.394    (  1.221)        0.962
  10   0.83    25.60      2.713          0.394    (  2.442)        2.318
  11   0.92     7.90      0.837          0.394    (  0.753)        0.443
  12   1.00     4.90      0.519          0.394    (  0.467)        0.125
             (Loss Rate Not Used)
     Sum =     100.0                                  Sum =     5.9
       Flood volume = Effective rainfall      0.49(In)
        times area      21.2(Ac.)/[(In)/(Ft.)] =       0.9(Ac.Ft)
       Total soil loss =      0.39(In)
       Total soil loss =     0.697(Ac.Ft)
       Total rainfall =      0.88(In)
       Flood volume =       37606.2 Cubic Feet
       Total soil loss =       30351.4 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     30.287(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0018	0.26	Q				
0+10	0.0089	1.03	VQ				
0+15	0.0209	1.74	VQ				
0+20	0.0406	2.86	VQ				
0+25	0.0640	3.41	VQ				
0+30	0.0930	4.20	Q				
0+35	0.1327	5.77	QV				
0+40	0.1894	8.24	Q				
0+45	0.2702	11.73	QV				
0+50	0.4178	21.44	V	Q			
0+55	0.6264	30.29	V		Q		
1+ 0	0.7357	15.87	Q			V	
1+ 5	0.7915	8.10	Q			V	
1+10	0.8209	4.26	Q			V	
1+15	0.8388	2.60	Q			V	
1+20	0.8503	1.66	Q			V	
1+25	0.8575	1.05	Q			V	
1+30	0.8622	0.69	Q			V	
1+35	0.8631	0.13	Q			V	
1+40	0.8633	0.03	Q			V	

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/30/18 File: MCMHYDEX310.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
10 YEAR, 3 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.00	21.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.40	50.88

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.400(In)

Point rain (area averaged) = 1.576(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.576(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	67.00	0.000

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
67.0	67.0	0.394	0.000	0.394	1.000	0.394
					Sum (F) =	0.394

Area averaged mean soil loss (F) (In/Hr) = 0.394
Minimum soil loss rate ((In/Hr)) = 0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	92.431	16.901	3.611
2	0.167	184.863	47.518	10.152
3	0.250	277.294	16.931	3.617
4	0.333	369.725	7.493	1.601
5	0.417	462.157	4.306	0.920
6	0.500	554.588	2.773	0.592
7	0.583	647.019	1.845	0.394
8	0.667	739.451	1.166	0.249
9	0.750	831.882	1.068	0.228
		Sum = 100.000	Sum=	21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.246	(0.394)		0.221	0.025
2	0.17	1.30	0.246	(0.394)		0.221	0.025
3	0.25	1.10	0.208	(0.394)		0.187	0.021
4	0.33	1.50	0.284	(0.394)		0.255	0.028
5	0.42	1.50	0.284	(0.394)		0.255	0.028
6	0.50	1.80	0.340	(0.394)		0.306	0.034
7	0.58	1.50	0.284	(0.394)		0.255	0.028
8	0.67	1.80	0.340	(0.394)		0.306	0.034
9	0.75	1.80	0.340	(0.394)		0.306	0.034
10	0.83	1.50	0.284	(0.394)		0.255	0.028
11	0.92	1.60	0.303	(0.394)		0.272	0.030
12	1.00	1.80	0.340	(0.394)		0.306	0.034
13	1.08	2.20	0.416	(0.394)		0.374	0.042
14	1.17	2.20	0.416	(0.394)		0.374	0.042
15	1.25	2.20	0.416	(0.394)		0.374	0.042
16	1.33	2.00	0.378	(0.394)		0.340	0.038
17	1.42	2.60	0.492	0.394	(	0.442)	0.097
18	1.50	2.70	0.511	0.394	(	0.460)	0.116
19	1.58	2.40	0.454	0.394	(	0.408)	0.059
20	1.67	2.70	0.511	0.394	(	0.460)	0.116
21	1.75	3.30	0.624	0.394	(	0.562)	0.230
22	1.83	3.10	0.586	0.394	(	0.528)	0.192
23	1.92	2.90	0.548	0.394	(	0.494)	0.154
24	2.00	3.00	0.567	0.394	(	0.511)	0.173
25	2.08	3.10	0.586	0.394	(	0.528)	0.192
26	2.17	4.20	0.794	0.394	(	0.715)	0.400
27	2.25	5.00	0.945	0.394	(	0.851)	0.551

```
28   2.33     3.50      0.662          0.394    (  0.596)        0.267
29   2.42     6.80      1.286          0.394    (  1.157)        0.891
30   2.50     7.30      1.380          0.394    (  1.242)        0.986
31   2.58     8.20      1.551          0.394    (  1.396)        1.156
32   2.67     5.90      1.116          0.394    (  1.004)        0.721
33   2.75     2.00      0.378       (  0.394)       0.340        0.038
34   2.83     1.80      0.340       (  0.394)       0.306        0.034
35   2.92     1.80      0.340       (  0.394)       0.306        0.034
36   3.00     0.60      0.113       (  0.394)       0.102        0.011
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     6.9
     Flood volume = Effective rainfall      0.58(In)
      times area      21.2(Ac.)/[(In)/(Ft.)] =       1.0(Ac.Ft)
     Total soil loss =      1.00(In)
     Total soil loss =     1.763(Ac.Ft)
     Total rainfall =      1.58(In)
     Flood volume =       44456.2 Cubic Feet
     Total soil loss =       76813.0 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     20.165(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         3 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        7.5      15.0      22.5      30.0
-------------------------------------------------------------------------
  0+ 5       0.0006      0.09  Q         |         |         |         |
  0+10       0.0029      0.34  Q         |         |         |         |
  0+15       0.0058      0.41  Q         |         |         |         |
  0+20       0.0088      0.44  Q         |         |         |         |
  0+25       0.0125      0.53  Q         |         |         |         |
  0+30       0.0165      0.58  Q         |         |         |         |
  0+35       0.0209      0.64  Q         |         |         |         |
  0+40       0.0253      0.63  Q         |         |         |         |
  0+45       0.0300      0.69  QV        |         |         |         |
  0+50       0.0347      0.69  QV        |         |         |         |
  0+55       0.0392      0.64  QV        |         |         |         |
  1+ 0       0.0437      0.66  QV        |         |         |         |
  1+ 5       0.0488      0.73  QV        |         |         |         |
  1+10       0.0544      0.82  |QV       |         |         |         |
  1+15       0.0603      0.85  |QV       |         |         |         |
  1+20       0.0661      0.85  |QV       |         |         |         |
  1+25       0.0733      1.04  |QV       |         |         |         |
  1+30       0.0850      1.70  | QV      |         |         |         |
  1+35       0.0981      1.90  | QV      |         |         |         |
  1+40       0.1098      1.69  | Q V     |         |         |         |
  1+45       0.1274      2.56  |  QV     |         |         |         |
  1+50       0.1532      3.74  |   Q V   |         |         |         |
  1+55       0.1787      3.70  |   Q  V  |         |         |         |
  2+ 0       0.2026      3.47  |   Q  V  |         |         |         |
  2+ 5       0.2278      3.67  |   Q   V |         |         |         |
  2+10       0.2600      4.67  |     Q   V         |         |         |
  2+15       0.3110      7.41  |        Q| V       |         |         |
  2+20       0.3711      8.73  |         |Q  V     |         |         |
  2+25       0.4332      9.01  |         | Q   V   |         |         |
  2+30       0.5372     15.10  |         |         QV        |         |
  2+35       0.6663     18.75  |         |         |   Q V   |         |
  2+40       0.8052     20.16  |         |         |     Q   |V        |
  2+45       0.9055     14.57  |         |        Q|         |    V    |
  2+50       0.9519      6.74  |       Q |         |         |      V  |
  2+55       0.9791      3.95  |    Q    |         |         |       V |
  3+ 0       0.9970      2.59  |  Q      |         |         |        V|
  3+ 5       1.0084      1.66  | Q       |         |         |        V|
  3+10       1.0149      0.95  |Q        |         |         |        V|
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    3+15       1.0186      0.53  Q         |         |         |        V|
    3+20       1.0201      0.22  Q         |         |         |        V|
    3+25       1.0203      0.04  Q         |         |         |        V|
    3+30       1.0205      0.02  Q         |         |         |        V|
    3+35       1.0206      0.01  Q         |         |         |        V|
    3+40       1.0206      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/30/18 File: MCMHYDEX610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
10 YEAR, 6 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.40	29.68

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	3.00	63.60

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.400(In)
Area Averaged 100-Year Rainfall = 3.000(In)

Point rain (area averaged) = 2.058(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.058(In)

Sub-Area Data:

```
Area(Ac.)         Runoff Index   Impervious %
    21.200           67.00         0.000
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  67.0      0.394     0.000        0.394       1.000      0.394
                                                  Sum (F) =   0.394
Area averaged mean soil loss (F) (In/Hr) =  0.394
Minimum soil loss rate ((In/Hr)) =  0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                   VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083         92.431         16.901             3.611
    2   0.167        184.863         47.518            10.152
    3   0.250        277.294         16.931             3.617
    4   0.333        369.725          7.493             1.601
    5   0.417        462.157          4.306             0.920
    6   0.500        554.588          2.773             0.592
    7   0.583        647.019          1.845             0.394
    8   0.667        739.451          1.166             0.249
    9   0.750        831.882          1.068             0.228
                              Sum = 100.000   Sum=      21.366
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

 Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
      (Hr.)  Percent   (In/Hr)         Max   |   Low         (In/Hr)
  1   0.08     0.50      0.123       (  0.394)       0.111        0.012
  2   0.17     0.60      0.148       (  0.394)       0.133        0.015
  3   0.25     0.60      0.148       (  0.394)       0.133        0.015
  4   0.33     0.60      0.148       (  0.394)       0.133        0.015
  5   0.42     0.60      0.148       (  0.394)       0.133        0.015
  6   0.50     0.70      0.173       (  0.394)       0.156        0.017
  7   0.58     0.70      0.173       (  0.394)       0.156        0.017
  8   0.67     0.70      0.173       (  0.394)       0.156        0.017
  9   0.75     0.70      0.173       (  0.394)       0.156        0.017
 10   0.83     0.70      0.173       (  0.394)       0.156        0.017
 11   0.92     0.70      0.173       (  0.394)       0.156        0.017
 12   1.00     0.80      0.198       (  0.394)       0.178        0.020
 13   1.08     0.80      0.198       (  0.394)       0.178        0.020
 14   1.17     0.80      0.198       (  0.394)       0.178        0.020
 15   1.25     0.80      0.198       (  0.394)       0.178        0.020
 16   1.33     0.80      0.198       (  0.394)       0.178        0.020
 17   1.42     0.80      0.198       (  0.394)       0.178        0.020
 18   1.50     0.80      0.198       (  0.394)       0.178        0.020
 19   1.58     0.80      0.198       (  0.394)       0.178        0.020
 20   1.67     0.80      0.198       (  0.394)       0.178        0.020
 21   1.75     0.80      0.198       (  0.394)       0.178        0.020
 22   1.83     0.80      0.198       (  0.394)       0.178        0.020
 23   1.92     0.80      0.198       (  0.394)       0.178        0.020
 24   2.00     0.90      0.222       (  0.394)       0.200        0.022
 25   2.08     0.80      0.198       (  0.394)       0.178        0.020
 26   2.17     0.90      0.222       (  0.394)       0.200        0.022
 27   2.25     0.90      0.222       (  0.394)       0.200        0.022
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28   2.33     0.90      0.222       (  0.394)       0.200        0.022
29   2.42     0.90      0.222       (  0.394)       0.200        0.022
30   2.50     0.90      0.222       (  0.394)       0.200        0.022
31   2.58     0.90      0.222       (  0.394)       0.200        0.022
32   2.67     0.90      0.222       (  0.394)       0.200        0.022
33   2.75     1.00      0.247       (  0.394)       0.222        0.025
34   2.83     1.00      0.247       (  0.394)       0.222        0.025
35   2.92     1.00      0.247       (  0.394)       0.222        0.025
36   3.00     1.00      0.247       (  0.394)       0.222        0.025
37   3.08     1.00      0.247       (  0.394)       0.222        0.025
38   3.17     1.10      0.272       (  0.394)       0.245        0.027
39   3.25     1.10      0.272       (  0.394)       0.245        0.027
40   3.33     1.10      0.272       (  0.394)       0.245        0.027
41   3.42     1.20      0.296       (  0.394)       0.267        0.030
42   3.50     1.30      0.321       (  0.394)       0.289        0.032
43   3.58     1.40      0.346       (  0.394)       0.311        0.035
44   3.67     1.40      0.346       (  0.394)       0.311        0.035
45   3.75     1.50      0.370       (  0.394)       0.333        0.037
46   3.83     1.50      0.370       (  0.394)       0.333        0.037
47   3.92     1.60      0.395       (  0.394)       0.356        0.040
48   4.00     1.60      0.395       (  0.394)       0.356        0.040
49   4.08     1.70      0.420       (  0.394)       0.378        0.042
50   4.17     1.80      0.445          0.394    (  0.400)        0.050
51   4.25     1.90      0.469          0.394    (  0.422)        0.075
52   4.33     2.00      0.494          0.394    (  0.445)        0.100
53   4.42     2.10      0.519          0.394    (  0.467)        0.124
54   4.50     2.10      0.519          0.394    (  0.467)        0.124
55   4.58     2.20      0.543          0.394    (  0.489)        0.149
56   4.67     2.30      0.568          0.394    (  0.511)        0.174
57   4.75     2.40      0.593          0.394    (  0.533)        0.198
58   4.83     2.40      0.593          0.394    (  0.533)        0.198
59   4.92     2.50      0.617          0.394    (  0.556)        0.223
60   5.00     2.60      0.642          0.394    (  0.578)        0.248
61   5.08     3.10      0.766          0.394    (  0.689)        0.371
62   5.17     3.60      0.889          0.394    (  0.800)        0.495
63   5.25     3.90      0.963          0.394    (  0.867)        0.569
64   5.33     4.20      1.037          0.394    (  0.934)        0.643
65   5.42     4.70      1.161          0.394    (  1.045)        0.766
66   5.50     5.60      1.383          0.394    (  1.245)        0.989
67   5.58     1.90      0.469          0.394    (  0.422)        0.075
68   5.67     0.90      0.222       (  0.394)       0.200        0.022
69   5.75     0.60      0.148       (  0.394)       0.133        0.015
70   5.83     0.50      0.123       (  0.394)       0.111        0.012
71   5.92     0.30      0.074       (  0.394)       0.067        0.007
72   6.00     0.20      0.049       (  0.394)       0.044        0.005
            (Loss Rate Not Used)
   Sum =     100.0                                  Sum =     6.8
     Flood volume = Effective rainfall      0.56(In)
      times area      21.2(Ac.)/[(In)/(Ft.)] =       1.0(Ac.Ft)
     Total soil loss =      1.49(In)
     Total soil loss =     2.639(Ac.Ft)
     Total rainfall =      2.06(In)
     Flood volume =       43436.8 Cubic Feet
     Total soil loss =      114946.6 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     15.468(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0003      0.04  Q         |         |         |         |
  0+10       0.0015      0.18  Q         |         |         |         |
```

```
0+15      0.0033      0.25  Q         |          |          |          |
0+20      0.0052      0.28  Q         |          |          |          |
0+25      0.0072      0.29  Q         |          |          |          |
0+30      0.0093      0.31  Q         |          |          |          |
0+35      0.0117      0.34  Q         |          |          |          |
0+40      0.0141      0.36  Q         |          |          |          |
0+45      0.0166      0.36  Q         |          |          |          |
0+50      0.0192      0.37  Q         |          |          |          |
0+55      0.0217      0.37  Q         |          |          |          |
1+ 0      0.0243      0.38  Q         |          |          |          |
1+ 5      0.0271      0.40  QV        |          |          |          |
1+10      0.0299      0.41  QV        |          |          |          |
1+15      0.0328      0.42  QV        |          |          |          |
1+20      0.0357      0.42  QV        |          |          |          |
1+25      0.0385      0.42  QV        |          |          |          |
1+30      0.0414      0.42  QV        |          |          |          |
1+35      0.0444      0.42  QV        |          |          |          |
1+40      0.0473      0.42  QV        |          |          |          |
1+45      0.0502      0.42  Q V       |          |          |          |
1+50      0.0531      0.42  Q V       |          |          |          |
1+55      0.0560      0.42  Q V       |          |          |          |
2+ 0      0.0590      0.43  Q V       |          |          |          |
2+ 5      0.0620      0.45  Q V       |          |          |          |
2+10      0.0651      0.44  Q V       |          |          |          |
2+15      0.0682      0.46  Q V       |          |          |          |
2+20      0.0715      0.47  Q V       |          |          |          |
2+25      0.0747      0.47  Q V       |          |          |          |
2+30      0.0780      0.47  Q  V       |          |          |          |
2+35      0.0812      0.47  Q  V       |          |          |          |
2+40      0.0845      0.47  Q  V       |          |          |          |
2+45      0.0878      0.48  Q  V       |          |          |          |
2+50      0.0913      0.51  |Q V       |          |          |          |
2+55      0.0949      0.52  |Q V       |          |          |          |
3+ 0      0.0985      0.52  |Q V       |          |          |          |
3+ 5      0.1021      0.52  |Q  V       |          |          |          |
3+10      0.1058      0.53  |Q  V       |          |          |          |
3+15      0.1096      0.56  |Q  V       |          |          |          |
3+20      0.1136      0.57  |Q  V       |          |          |          |
3+25      0.1176      0.58  |Q  V       |          |          |          |
3+30      0.1219      0.62  |Q  V       |          |          |          |
3+35      0.1264      0.66  |Q   V      |          |          |          |
3+40      0.1313      0.70  |Q   V      |          |          |          |
3+45      0.1363      0.73  |Q   V      |          |          |          |
3+50      0.1415      0.76  |Q   V      |          |          |          |
3+55      0.1469      0.78  |Q   V      |          |          |          |
4+ 0      0.1526      0.82  |Q    V     |          |          |          |
4+ 5      0.1583      0.84  |Q    V     |          |          |          |
4+10      0.1645      0.90  |Q    V     |          |          |          |
4+15      0.1720      1.08  | Q   V     |          |          |          |
4+20      0.1821      1.46  | Q    V    |          |          |          |
4+25      0.1952      1.91  |  Q   V    |          |          |          |
4+30      0.2110      2.30  |   Q   V   |          |          |          |
4+35      0.2285      2.54  |    Q   V  |          |          |          |
4+40      0.2489      2.96  |    Q   V  |          |          |          |
4+45      0.2726      3.44  |     Q   V |          |          |          |
4+50      0.2992      3.86  |      Q  | V          |          |          |
4+55      0.3276      4.12  |       Q |  V         |          |          |
5+ 0      0.3589      4.55  |        Q|   V        |          |          |
5+ 5      0.3960      5.39  |         Q    V       |          |          |
5+10      0.4459      7.25  |          |   Q  V     |          |          |
5+15      0.5099      9.30  |          |       Q V  |          |          |
5+20      0.5858     11.01  |          |          | QV        |          |
5+25      0.6741     12.82  |          |          |    Q V    |          |
5+30      0.7806     15.47  |          |          |          QV          |
5+35      0.8852     15.19  |          |          |          Q    V      |
5+40      0.9329      6.92  |          |  Q       |          |      V   |
5+45      0.9580      3.65  |      Q   |          |          |       V  |
5+50      0.9736      2.27  |   Q      |          |          |        V |
```

```
    5+55       0.9839      1.49  | Q       |         |         |        V|
    6+ 0       0.9905      0.95  |Q        |         |         |        V|
    6+ 5       0.9944      0.57  |Q        |         |         |        V|
    6+10       0.9965      0.30  Q         |         |         |        V|
    6+15       0.9969      0.05  Q         |         |         |        V|
    6+20       0.9970      0.02  Q         |         |         |        V|
    6+25       0.9971      0.01  Q         |         |         |        V|
    6+30       0.9971      0.01  Q         |         |         |        V|
    6+35       0.9972      0.00  Q         |         |         |        V|
    6+40       0.9972      0.00  Q         |         |         |         V
---------------------------------------------------------------------------
```

```
       U n i t   H y d r o g r a p h   A n a l y s i s

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              Study date  03/30/18 File: MCMHYDEX2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6406

----------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



----------------------------------------------------------------------
TR 37036, PARCEL 1
EXISTING CONDITION
10 YEAR, 24 HOUR STORM

----------------------------------------------------------------------
Drainage Area =      21.20(Ac.)  =      0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =      21.20(Ac.)  =      0.033 Sq. Mi.
Length along longest watercourse =    1592.00(Ft.)
Length along longest watercourse measured to centroid =    1060.00(Ft.)
Length along longest watercourse =      0.302 Mi.
Length along longest watercourse measured to centroid =      0.201 Mi.
Difference in elevation =      62.00(Ft.)
Slope along watercourse =    205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =    0.090 Hr.
Lag time =     5.41 Min.
25% of lag time =     1.35 Min.
40% of lag time =     2.16 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       21.20          2.50                53.00

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       21.20          8.00               169.60

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    2.500(In)
Area Averaged 100-Year Rainfall =    8.000(In)

Point rain (area averaged) =    4.763(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    4.763(In)

Sub-Area Data:
```

```
Area(Ac.)         Runoff Index   Impervious %
    21.200           67.00         0.000
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  67.0      0.394     0.000        0.394       1.000      0.394
                                                   Sum (F) =   0.394
Area averaged mean soil loss (F) (In/Hr) =  0.394
Minimum soil loss rate ((In/Hr)) =  0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                   VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083         92.431         16.901             3.611
    2   0.167        184.863         47.518            10.152
    3   0.250        277.294         16.931             3.617
    4   0.333        369.725          7.493             1.601
    5   0.417        462.157          4.306             0.920
    6   0.500        554.588          2.773             0.592
    7   0.583        647.019          1.845             0.394
    8   0.667        739.451          1.166             0.249
    9   0.750        831.882          1.068             0.228
                              Sum = 100.000   Sum=      21.366
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

 Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
      (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
  1   0.08     0.07      0.038       (  0.699)       0.034        0.004
  2   0.17     0.07      0.038       (  0.696)       0.034        0.004
  3   0.25     0.07      0.038       (  0.694)       0.034        0.004
  4   0.33     0.10      0.057       (  0.691)       0.051        0.006
  5   0.42     0.10      0.057       (  0.688)       0.051        0.006
  6   0.50     0.10      0.057       (  0.686)       0.051        0.006
  7   0.58     0.10      0.057       (  0.683)       0.051        0.006
  8   0.67     0.10      0.057       (  0.680)       0.051        0.006
  9   0.75     0.10      0.057       (  0.678)       0.051        0.006
 10   0.83     0.13      0.076       (  0.675)       0.069        0.008
 11   0.92     0.13      0.076       (  0.672)       0.069        0.008
 12   1.00     0.13      0.076       (  0.670)       0.069        0.008
 13   1.08     0.10      0.057       (  0.667)       0.051        0.006
 14   1.17     0.10      0.057       (  0.664)       0.051        0.006
 15   1.25     0.10      0.057       (  0.662)       0.051        0.006
 16   1.33     0.10      0.057       (  0.659)       0.051        0.006
 17   1.42     0.10      0.057       (  0.657)       0.051        0.006
 18   1.50     0.10      0.057       (  0.654)       0.051        0.006
 19   1.58     0.10      0.057       (  0.651)       0.051        0.006
 20   1.67     0.10      0.057       (  0.649)       0.051        0.006
 21   1.75     0.10      0.057       (  0.646)       0.051        0.006
 22   1.83     0.13      0.076       (  0.643)       0.069        0.008
 23   1.92     0.13      0.076       (  0.641)       0.069        0.008
 24   2.00     0.13      0.076       (  0.638)       0.069        0.008
 25   2.08     0.13      0.076       (  0.636)       0.069        0.008
 26   2.17     0.13      0.076       (  0.633)       0.069        0.008
 27   2.25     0.13      0.076       (  0.631)       0.069        0.008
```

28	2.33	0.13	0.076	(0.628)	0.069	0.008
29	2.42	0.13	0.076	(0.625)	0.069	0.008
30	2.50	0.13	0.076	(0.623)	0.069	0.008
31	2.58	0.17	0.095	(0.620)	0.086	0.010
32	2.67	0.17	0.095	(0.618)	0.086	0.010
33	2.75	0.17	0.095	(0.615)	0.086	0.010
34	2.83	0.17	0.095	(0.613)	0.086	0.010
35	2.92	0.17	0.095	(0.610)	0.086	0.010
36	3.00	0.17	0.095	(0.608)	0.086	0.010
37	3.08	0.17	0.095	(0.605)	0.086	0.010
38	3.17	0.17	0.095	(0.603)	0.086	0.010
39	3.25	0.17	0.095	(0.600)	0.086	0.010
40	3.33	0.17	0.095	(0.598)	0.086	0.010
41	3.42	0.17	0.095	(0.595)	0.086	0.010
42	3.50	0.17	0.095	(0.593)	0.086	0.010
43	3.58	0.17	0.095	(0.590)	0.086	0.010
44	3.67	0.17	0.095	(0.588)	0.086	0.010
45	3.75	0.17	0.095	(0.585)	0.086	0.010
46	3.83	0.20	0.114	(0.583)	0.103	0.011
47	3.92	0.20	0.114	(0.580)	0.103	0.011
48	4.00	0.20	0.114	(0.578)	0.103	0.011
49	4.08	0.20	0.114	(0.575)	0.103	0.011
50	4.17	0.20	0.114	(0.573)	0.103	0.011
51	4.25	0.20	0.114	(0.571)	0.103	0.011
52	4.33	0.23	0.133	(0.568)	0.120	0.013
53	4.42	0.23	0.133	(0.566)	0.120	0.013
54	4.50	0.23	0.133	(0.563)	0.120	0.013
55	4.58	0.23	0.133	(0.561)	0.120	0.013
56	4.67	0.23	0.133	(0.558)	0.120	0.013
57	4.75	0.23	0.133	(0.556)	0.120	0.013
58	4.83	0.27	0.152	(0.554)	0.137	0.015
59	4.92	0.27	0.152	(0.551)	0.137	0.015
60	5.00	0.27	0.152	(0.549)	0.137	0.015
61	5.08	0.20	0.114	(0.546)	0.103	0.011
62	5.17	0.20	0.114	(0.544)	0.103	0.011
63	5.25	0.20	0.114	(0.542)	0.103	0.011
64	5.33	0.23	0.133	(0.539)	0.120	0.013
65	5.42	0.23	0.133	(0.537)	0.120	0.013
66	5.50	0.23	0.133	(0.535)	0.120	0.013
67	5.58	0.27	0.152	(0.532)	0.137	0.015
68	5.67	0.27	0.152	(0.530)	0.137	0.015
69	5.75	0.27	0.152	(0.528)	0.137	0.015
70	5.83	0.27	0.152	(0.525)	0.137	0.015
71	5.92	0.27	0.152	(0.523)	0.137	0.015
72	6.00	0.27	0.152	(0.521)	0.137	0.015
73	6.08	0.30	0.171	(0.518)	0.154	0.017
74	6.17	0.30	0.171	(0.516)	0.154	0.017
75	6.25	0.30	0.171	(0.514)	0.154	0.017
76	6.33	0.30	0.171	(0.511)	0.154	0.017
77	6.42	0.30	0.171	(0.509)	0.154	0.017
78	6.50	0.30	0.171	(0.507)	0.154	0.017
79	6.58	0.33	0.191	(0.505)	0.171	0.019
80	6.67	0.33	0.191	(0.502)	0.171	0.019
81	6.75	0.33	0.191	(0.500)	0.171	0.019
82	6.83	0.33	0.191	(0.498)	0.171	0.019
83	6.92	0.33	0.191	(0.495)	0.171	0.019
84	7.00	0.33	0.191	(0.493)	0.171	0.019
85	7.08	0.33	0.191	(0.491)	0.171	0.019
86	7.17	0.33	0.191	(0.489)	0.171	0.019
87	7.25	0.33	0.191	(0.487)	0.171	0.019
88	7.33	0.37	0.210	(0.484)	0.189	0.021
89	7.42	0.37	0.210	(0.482)	0.189	0.021
90	7.50	0.37	0.210	(0.480)	0.189	0.021
91	7.58	0.40	0.229	(0.478)	0.206	0.023
92	7.67	0.40	0.229	(0.475)	0.206	0.023
93	7.75	0.40	0.229	(0.473)	0.206	0.023
94	7.83	0.43	0.248	(0.471)	0.223	0.025
95	7.92	0.43	0.248	(0.469)	0.223	0.025

96	8.00	0.43	0.248	(	0.467)	0.223		0.025
97	8.08	0.50	0.286	(	0.465)	0.257		0.029
98	8.17	0.50	0.286	(	0.462)	0.257		0.029
99	8.25	0.50	0.286	(	0.460)	0.257		0.029
100	8.33	0.50	0.286	(	0.458)	0.257		0.029
101	8.42	0.50	0.286	(	0.456)	0.257		0.029
102	8.50	0.50	0.286	(	0.454)	0.257		0.029
103	8.58	0.53	0.305	(	0.452)	0.274		0.030
104	8.67	0.53	0.305	(	0.450)	0.274		0.030
105	8.75	0.53	0.305	(	0.447)	0.274		0.030
106	8.83	0.57	0.324	(	0.445)	0.291		0.032
107	8.92	0.57	0.324	(	0.443)	0.291		0.032
108	9.00	0.57	0.324	(	0.441)	0.291		0.032
109	9.08	0.63	0.362	(	0.439)	0.326		0.036
110	9.17	0.63	0.362	(	0.437)	0.326		0.036
111	9.25	0.63	0.362	(	0.435)	0.326		0.036
112	9.33	0.67	0.381	(	0.433)	0.343		0.038
113	9.42	0.67	0.381	(	0.431)	0.343		0.038
114	9.50	0.67	0.381	(	0.429)	0.343		0.038
115	9.58	0.70	0.400	(	0.427)	0.360		0.040
116	9.67	0.70	0.400	(	0.425)	0.360		0.040
117	9.75	0.70	0.400	(	0.423)	0.360		0.040
118	9.83	0.73	0.419	(	0.421)	0.377		0.042
119	9.92	0.73	0.419	(	0.419)	0.377		0.042
120	10.00	0.73	0.419	(	0.416)	0.377		0.042
121	10.08	0.50	0.286	(	0.414)	0.257		0.029
122	10.17	0.50	0.286	(	0.412)	0.257		0.029
123	10.25	0.50	0.286	(	0.410)	0.257		0.029
124	10.33	0.50	0.286	(	0.408)	0.257		0.029
125	10.42	0.50	0.286	(	0.406)	0.257		0.029
126	10.50	0.50	0.286	(	0.405)	0.257		0.029
127	10.58	0.67	0.381	(	0.403)	0.343		0.038
128	10.67	0.67	0.381	(	0.401)	0.343		0.038
129	10.75	0.67	0.381	(	0.399)	0.343		0.038
130	10.83	0.67	0.381	(	0.397)	0.343		0.038
131	10.92	0.67	0.381	(	0.395)	0.343		0.038
132	11.00	0.67	0.381	(	0.393)	0.343		0.038
133	11.08	0.63	0.362	(	0.391)	0.326		0.036
134	11.17	0.63	0.362	(	0.389)	0.326		0.036
135	11.25	0.63	0.362	(	0.387)	0.326		0.036
136	11.33	0.63	0.362	(	0.385)	0.326		0.036
137	11.42	0.63	0.362	(	0.383)	0.326		0.036
138	11.50	0.63	0.362	(	0.381)	0.326		0.036
139	11.58	0.57	0.324	(	0.379)	0.291		0.032
140	11.67	0.57	0.324	(	0.377)	0.291		0.032
141	11.75	0.57	0.324	(	0.376)	0.291		0.032
142	11.83	0.60	0.343	(	0.374)	0.309		0.034
143	11.92	0.60	0.343	(	0.372)	0.309		0.034
144	12.00	0.60	0.343	(	0.370)	0.309		0.034
145	12.08	0.83	0.476		0.368	(	0.429)	0.108
146	12.17	0.83	0.476		0.366	(	0.429)	0.110
147	12.25	0.83	0.476		0.364	(	0.429)	0.112
148	12.33	0.87	0.495		0.363	(	0.446)	0.133
149	12.42	0.87	0.495		0.361	(	0.446)	0.134
150	12.50	0.87	0.495		0.359	(	0.446)	0.136
151	12.58	0.93	0.533		0.357	(	0.480)	0.176
152	12.67	0.93	0.533		0.355	(	0.480)	0.178
153	12.75	0.93	0.533		0.354	(	0.480)	0.180
154	12.83	0.97	0.552		0.352	(	0.497)	0.201
155	12.92	0.97	0.552		0.350	(	0.497)	0.202
156	13.00	0.97	0.552		0.348	(	0.497)	0.204
157	13.08	1.13	0.648		0.347	(	0.583)	0.301
158	13.17	1.13	0.648		0.345	(	0.583)	0.303
159	13.25	1.13	0.648		0.343	(	0.583)	0.305
160	13.33	1.13	0.648		0.341	(	0.583)	0.306
161	13.42	1.13	0.648		0.340	(	0.583)	0.308
162	13.50	1.13	0.648		0.338	(	0.583)	0.310
163	13.58	0.77	0.438		0.336	(	0.394)	0.102

164	13.67	0.77	0.438	0.334	(0.394)	0.104	
165	13.75	0.77	0.438	0.333	(0.394)	0.105	
166	13.83	0.77	0.438	0.331	(0.394)	0.107	
167	13.92	0.77	0.438	0.329	(0.394)	0.109	
168	14.00	0.77	0.438	0.328	(0.394)	0.111	
169	14.08	0.90	0.514	0.326	(0.463)	0.188	
170	14.17	0.90	0.514	0.324	(0.463)	0.190	
171	14.25	0.90	0.514	0.323	(0.463)	0.192	
172	14.33	0.87	0.495	0.321	(0.446)	0.174	
173	14.42	0.87	0.495	0.319	(0.446)	0.176	
174	14.50	0.87	0.495	0.318	(0.446)	0.178	
175	14.58	0.87	0.495	0.316	(0.446)	0.179	
176	14.67	0.87	0.495	0.314	(0.446)	0.181	
177	14.75	0.87	0.495	0.313	(0.446)	0.182	
178	14.83	0.83	0.476	0.311	(0.429)	0.165	
179	14.92	0.83	0.476	0.310	(0.429)	0.167	
180	15.00	0.83	0.476	0.308	(0.429)	0.168	
181	15.08	0.80	0.457	0.306	(0.411)	0.151	
182	15.17	0.80	0.457	0.305	(0.411)	0.152	
183	15.25	0.80	0.457	0.303	(0.411)	0.154	
184	15.33	0.77	0.438	0.302	(0.394)	0.136	
185	15.42	0.77	0.438	0.300	(0.394)	0.138	
186	15.50	0.77	0.438	0.299	(0.394)	0.139	
187	15.58	0.63	0.362	0.297	(0.326)	0.065	
188	15.67	0.63	0.362	0.296	(0.326)	0.066	
189	15.75	0.63	0.362	0.294	(0.326)	0.068	
190	15.83	0.63	0.362	0.293	(0.326)	0.069	
191	15.92	0.63	0.362	0.291	(0.326)	0.071	
192	16.00	0.63	0.362	0.290	(0.326)	0.072	
193	16.08	0.13	0.076	(0.288)	0.069	0.008	
194	16.17	0.13	0.076	(0.287)	0.069	0.008	
195	16.25	0.13	0.076	(0.285)	0.069	0.008	
196	16.33	0.13	0.076	(0.284)	0.069	0.008	
197	16.42	0.13	0.076	(0.282)	0.069	0.008	
198	16.50	0.13	0.076	(0.281)	0.069	0.008	
199	16.58	0.10	0.057	(0.279)	0.051	0.006	
200	16.67	0.10	0.057	(0.278)	0.051	0.006	
201	16.75	0.10	0.057	(0.277)	0.051	0.006	
202	16.83	0.10	0.057	(0.275)	0.051	0.006	
203	16.92	0.10	0.057	(0.274)	0.051	0.006	
204	17.00	0.10	0.057	(0.272)	0.051	0.006	
205	17.08	0.17	0.095	(0.271)	0.086	0.010	
206	17.17	0.17	0.095	(0.270)	0.086	0.010	
207	17.25	0.17	0.095	(0.268)	0.086	0.010	
208	17.33	0.17	0.095	(0.267)	0.086	0.010	
209	17.42	0.17	0.095	(0.266)	0.086	0.010	
210	17.50	0.17	0.095	(0.264)	0.086	0.010	
211	17.58	0.17	0.095	(0.263)	0.086	0.010	
212	17.67	0.17	0.095	(0.262)	0.086	0.010	
213	17.75	0.17	0.095	(0.260)	0.086	0.010	
214	17.83	0.13	0.076	(0.259)	0.069	0.008	
215	17.92	0.13	0.076	(0.258)	0.069	0.008	
216	18.00	0.13	0.076	(0.257)	0.069	0.008	
217	18.08	0.13	0.076	(0.255)	0.069	0.008	
218	18.17	0.13	0.076	(0.254)	0.069	0.008	
219	18.25	0.13	0.076	(0.253)	0.069	0.008	
220	18.33	0.13	0.076	(0.252)	0.069	0.008	
221	18.42	0.13	0.076	(0.250)	0.069	0.008	
222	18.50	0.13	0.076	(0.249)	0.069	0.008	
223	18.58	0.10	0.057	(0.248)	0.051	0.006	
224	18.67	0.10	0.057	(0.247)	0.051	0.006	
225	18.75	0.10	0.057	(0.246)	0.051	0.006	
226	18.83	0.07	0.038	(0.244)	0.034	0.004	
227	18.92	0.07	0.038	(0.243)	0.034	0.004	
228	19.00	0.07	0.038	(0.242)	0.034	0.004	
229	19.08	0.10	0.057	(0.241)	0.051	0.006	
230	19.17	0.10	0.057	(0.240)	0.051	0.006	
231	19.25	0.10	0.057	(0.239)	0.051	0.006	

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232  19.33     0.13      0.076       (  0.238)       0.069        0.008
233  19.42     0.13      0.076       (  0.236)       0.069        0.008
234  19.50     0.13      0.076       (  0.235)       0.069        0.008
235  19.58     0.10      0.057       (  0.234)       0.051        0.006
236  19.67     0.10      0.057       (  0.233)       0.051        0.006
237  19.75     0.10      0.057       (  0.232)       0.051        0.006
238  19.83     0.07      0.038       (  0.231)       0.034        0.004
239  19.92     0.07      0.038       (  0.230)       0.034        0.004
240  20.00     0.07      0.038       (  0.229)       0.034        0.004
241  20.08     0.10      0.057       (  0.228)       0.051        0.006
242  20.17     0.10      0.057       (  0.227)       0.051        0.006
243  20.25     0.10      0.057       (  0.226)       0.051        0.006
244  20.33     0.10      0.057       (  0.225)       0.051        0.006
245  20.42     0.10      0.057       (  0.224)       0.051        0.006
246  20.50     0.10      0.057       (  0.223)       0.051        0.006
247  20.58     0.10      0.057       (  0.222)       0.051        0.006
248  20.67     0.10      0.057       (  0.221)       0.051        0.006
249  20.75     0.10      0.057       (  0.220)       0.051        0.006
250  20.83     0.07      0.038       (  0.219)       0.034        0.004
251  20.92     0.07      0.038       (  0.219)       0.034        0.004
252  21.00     0.07      0.038       (  0.218)       0.034        0.004
253  21.08     0.10      0.057       (  0.217)       0.051        0.006
254  21.17     0.10      0.057       (  0.216)       0.051        0.006
255  21.25     0.10      0.057       (  0.215)       0.051        0.006
256  21.33     0.07      0.038       (  0.214)       0.034        0.004
257  21.42     0.07      0.038       (  0.213)       0.034        0.004
258  21.50     0.07      0.038       (  0.213)       0.034        0.004
259  21.58     0.10      0.057       (  0.212)       0.051        0.006
260  21.67     0.10      0.057       (  0.211)       0.051        0.006
261  21.75     0.10      0.057       (  0.210)       0.051        0.006
262  21.83     0.07      0.038       (  0.210)       0.034        0.004
263  21.92     0.07      0.038       (  0.209)       0.034        0.004
264  22.00     0.07      0.038       (  0.208)       0.034        0.004
265  22.08     0.10      0.057       (  0.208)       0.051        0.006
266  22.17     0.10      0.057       (  0.207)       0.051        0.006
267  22.25     0.10      0.057       (  0.206)       0.051        0.006
268  22.33     0.07      0.038       (  0.206)       0.034        0.004
269  22.42     0.07      0.038       (  0.205)       0.034        0.004
270  22.50     0.07      0.038       (  0.204)       0.034        0.004
271  22.58     0.07      0.038       (  0.204)       0.034        0.004
272  22.67     0.07      0.038       (  0.203)       0.034        0.004
273  22.75     0.07      0.038       (  0.203)       0.034        0.004
274  22.83     0.07      0.038       (  0.202)       0.034        0.004
275  22.92     0.07      0.038       (  0.202)       0.034        0.004
276  23.00     0.07      0.038       (  0.201)       0.034        0.004
277  23.08     0.07      0.038       (  0.201)       0.034        0.004
278  23.17     0.07      0.038       (  0.200)       0.034        0.004
279  23.25     0.07      0.038       (  0.200)       0.034        0.004
280  23.33     0.07      0.038       (  0.199)       0.034        0.004
281  23.42     0.07      0.038       (  0.199)       0.034        0.004
282  23.50     0.07      0.038       (  0.199)       0.034        0.004
283  23.58     0.07      0.038       (  0.198)       0.034        0.004
284  23.67     0.07      0.038       (  0.198)       0.034        0.004
285  23.75     0.07      0.038       (  0.198)       0.034        0.004
286  23.83     0.07      0.038       (  0.198)       0.034        0.004
287  23.92     0.07      0.038       (  0.197)       0.034        0.004
288  24.00     0.07      0.038       (  0.197)       0.034        0.004
            (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    11.1
      Flood volume = Effective rainfall      0.93(In)
       times area      21.2(Ac.)/[(In)/(Ft.)] =       1.6(Ac.Ft)
      Total soil loss =      3.83(In)
      Total soil loss =     6.775(Ac.Ft)
      Total rainfall =      4.76(In)
      Flood volume =       71406.1 Cubic Feet
      Total soil loss =      295100.5 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      6.481(CFS)
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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0005	0.05	Q				
0+15	0.0009	0.07	Q				
0+20	0.0015	0.08	Q				
0+25	0.0022	0.10	Q				
0+30	0.0029	0.11	Q				
0+35	0.0037	0.12	Q				
0+40	0.0045	0.12	Q				
0+45	0.0054	0.12	Q				
0+50	0.0063	0.13	Q				
0+55	0.0073	0.15	Q				
1+ 0	0.0083	0.16	Q				
1+ 5	0.0094	0.15	Q				
1+10	0.0103	0.13	Q				
1+15	0.0112	0.13	Q				
1+20	0.0121	0.13	Q				
1+25	0.0129	0.12	Q				
1+30	0.0138	0.12	Q				
1+35	0.0146	0.12	Q				
1+40	0.0155	0.12	Q				
1+45	0.0163	0.12	Q				
1+50	0.0172	0.13	Q				
1+55	0.0182	0.15	Q				
2+ 0	0.0193	0.16	Q				
2+ 5	0.0204	0.16	Q				
2+10	0.0215	0.16	Q				
2+15	0.0226	0.16	Q				
2+20	0.0237	0.16	Q				
2+25	0.0248	0.16	Q				
2+30	0.0259	0.16	Q				
2+35	0.0271	0.17	Q				
2+40	0.0284	0.19	Q				
2+45	0.0298	0.20	Q				
2+50	0.0311	0.20	Q				
2+55	0.0325	0.20	Q				
3+ 0	0.0339	0.20	Q				
3+ 5	0.0353	0.20	Q				
3+10	0.0367	0.20	Q				
3+15	0.0381	0.20	Q				
3+20	0.0395	0.20	Q				
3+25	0.0409	0.20	Q				
3+30	0.0423	0.20	QV				
3+35	0.0437	0.20	QV				
3+40	0.0451	0.20	QV				
3+45	0.0465	0.20	QV				
3+50	0.0480	0.21	QV				
3+55	0.0496	0.23	QV				
4+ 0	0.0512	0.24	QV				
4+ 5	0.0528	0.24	QV				
4+10	0.0545	0.24	QV				
4+15	0.0562	0.24	QV				
4+20	0.0579	0.25	|Q				
4+25	0.0598	0.27	|Q				
4+30	0.0617	0.28	|Q				
4+35	0.0636	0.28	|Q				
4+40	0.0655	0.28	|Q				
4+45	0.0675	0.28	|Q				
4+50	0.0695	0.29	|Q				

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 4+55      0.0716      0.31  |Q        |         |         |         |
 5+ 0      0.0738      0.32  |Q        |         |         |         |
 5+ 5      0.0759      0.31  |Q        |         |         |         |
 5+10      0.0778      0.27  |Q        |         |         |         |
 5+15      0.0796      0.26  |Q        |         |         |         |
 5+20      0.0814      0.26  |Q        |         |         |         |
 5+25      0.0833      0.28  |QV       |         |         |         |
 5+30      0.0852      0.28  |QV       |         |         |         |
 5+35      0.0872      0.29  |QV       |         |         |         |
 5+40      0.0893      0.31  |QV       |         |         |         |
 5+45      0.0915      0.32  |QV       |         |         |         |
 5+50      0.0937      0.32  |QV       |         |         |         |
 5+55      0.0959      0.32  |QV       |         |         |         |
 6+ 0      0.0982      0.32  |QV       |         |         |         |
 6+ 5      0.1005      0.33  |QV       |         |         |         |
 6+10      0.1029      0.35  |QV       |         |         |         |
 6+15      0.1053      0.36  |QV       |         |         |         |
 6+20      0.1078      0.36  |QV       |         |         |         |
 6+25      0.1103      0.36  |QV       |         |         |         |
 6+30      0.1129      0.36  |QV       |         |         |         |
 6+35      0.1154      0.37  |QV       |         |         |         |
 6+40      0.1181      0.39  |QV       |         |         |         |
 6+45      0.1209      0.40  |QV       |         |         |         |
 6+50      0.1236      0.40  |Q V      |         |         |         |
 6+55      0.1264      0.40  |Q V      |         |         |         |
 7+ 0      0.1292      0.41  |Q V      |         |         |         |
 7+ 5      0.1320      0.41  |Q V      |         |         |         |
 7+10      0.1348      0.41  |Q V      |         |         |         |
 7+15      0.1376      0.41  |Q V      |         |         |         |
 7+20      0.1405      0.41  |Q V      |         |         |         |
 7+25      0.1435      0.43  |Q V      |         |         |         |
 7+30      0.1465      0.44  |Q V      |         |         |         |
 7+35      0.1496      0.45  |Q V      |         |         |         |
 7+40      0.1528      0.47  |Q V      |         |         |         |
 7+45      0.1561      0.48  |Q V      |         |         |         |
 7+50      0.1595      0.49  |Q V      |         |         |         |
 7+55      0.1630      0.51  | QV      |         |         |         |
 8+ 0      0.1666      0.52  | Q V     |         |         |         |
 8+ 5      0.1703      0.54  | Q V     |         |         |         |
 8+10      0.1743      0.58  | Q V     |         |         |         |
 8+15      0.1784      0.59  | Q V     |         |         |         |
 8+20      0.1825      0.60  | Q V     |         |         |         |
 8+25      0.1867      0.60  | Q V     |         |         |         |
 8+30      0.1909      0.61  | Q V     |         |         |         |
 8+35      0.1951      0.62  | Q V     |         |         |         |
 8+40      0.1995      0.64  | Q V     |         |         |         |
 8+45      0.2040      0.64  | Q V     |         |         |         |
 8+50      0.2085      0.65  | Q  V    |         |         |         |
 8+55      0.2131      0.68  | Q  V    |         |         |         |
 9+ 0      0.2178      0.68  | Q  V    |         |         |         |
 9+ 5      0.2226      0.70  | Q  V    |         |         |         |
 9+10      0.2277      0.74  | Q  V    |         |         |         |
 9+15      0.2330      0.76  |  Q V    |         |         |         |
 9+20      0.2383      0.77  |  Q V    |         |         |         |
 9+25      0.2437      0.79  |  Q V    |         |         |         |
 9+30      0.2493      0.80  |  Q  V   |         |         |         |
 9+35      0.2549      0.81  |  Q  V   |         |         |         |
 9+40      0.2606      0.84  |  Q  V   |         |         |         |
 9+45      0.2665      0.85  |  Q  V   |         |         |         |
 9+50      0.2724      0.86  |  Q  V   |         |         |         |
 9+55      0.2784      0.88  |  Q  V   |         |         |         |
10+ 0      0.2845      0.89  |  Q  V   |         |         |         |
10+ 5      0.2903      0.84  |  Q   V  |         |         |         |
10+10      0.2952      0.71  | Q    V  |         |         |         |
10+15      0.2998      0.66  | Q    V  |         |         |         |
10+20      0.3042      0.64  | Q    V  |         |         |         |
10+25      0.3085      0.63  | Q    V  |         |         |         |
10+30      0.3128      0.62  | Q    V  |         |         |         |
```

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10+35       0.3173      0.65  | Q    V  |          |          |          |
10+40       0.3224      0.75  | Q    V  |          |          |          |
10+45       0.3278      0.78  |  Q   V  |          |          |          |
10+50       0.3332      0.79  |  Q    V |          |          |          |
10+55       0.3387      0.80  |  Q    V |          |          |          |
11+ 0       0.3443      0.81  |  Q    V |          |          |          |
11+ 5       0.3498      0.80  |  Q    V |          |          |          |
11+10       0.3552      0.79  |  Q    V |          |          |          |
11+15       0.3606      0.78  |  Q    V |          |          |          |
11+20       0.3660      0.78  |  Q    V |          |          |          |
11+25       0.3713      0.78  |  Q     V|          |          |          |
11+30       0.3767      0.78  |  Q     V|          |          |          |
11+35       0.3819      0.76  |  Q     V|          |          |          |
11+40       0.3869      0.72  | Q      V|          |          |          |
11+45       0.3918      0.71  | Q      V|          |          |          |
11+50       0.3966      0.71  | Q      V|          |          |          |
11+55       0.4016      0.72  | Q      V|          |          |          |
12+ 0       0.4066      0.73  | Q      V|          |          |          |
12+ 5       0.4135      1.00  |  Q      V          |          |          |
12+10       0.4256      1.75  |      Q  V          |          |          |
12+15       0.4397      2.05  |       Q V          |          |          |
12+20       0.4553      2.27  |        Q|V         |          |          |
12+25       0.4729      2.56  |         QV         |          |          |
12+30       0.4916      2.71  |         QV         |          |          |
12+35       0.5119      2.95  |          |QV       |          |          |
12+40       0.5354      3.41  |          |  Q      |          |          |
12+45       0.5603      3.61  |          |  VQ     |          |          |
12+50       0.5864      3.79  |          |   VQ    |          |          |
12+55       0.6143      4.06  |          |   V Q   |          |          |
13+ 0       0.6432      4.19  |          |    VQ   |          |          |
13+ 5       0.6750      4.62  |          |     V Q |          |          |
13+10       0.7140      5.65  |          |      V  | Q        |          |
13+15       0.7557      6.06  |          |       V |   Q      |          |
13+20       0.7987      6.25  |          |        V|    Q     |          |
13+25       0.8427      6.38  |          |         V    Q     |          |
13+30       0.8873      6.48  |          |          |V   Q     |          |
13+35       0.9273      5.80  |          |          | VQ       |          |
13+40       0.9530      3.73  |          |   Q      |  V       |          |
13+45       0.9738      3.03  |          | Q        |  V       |          |
13+50       0.9926      2.73  |         Q          |   V      |          |
13+55       1.0104      2.57  |         Q          |   V      |          |
14+ 0       1.0275      2.49  |        Q|          |    V     |          |
14+ 5       1.0462      2.72  |         Q          |    V     |          |
14+10       1.0701      3.47  |          |  Q      |     V    |          |
14+15       1.0959      3.74  |          |   Q     |     V    |          |
14+20       1.1222      3.83  |          |    Q    |      V   |          |
14+25       1.1480      3.74  |          |   Q     |       V  |          |
14+30       1.1738      3.75  |          |   Q     |       V  |          |
14+35       1.1998      3.78  |          |    Q    |        V|          |
14+40       1.2261      3.82  |          |    Q    |        V|          |
14+45       1.2527      3.86  |          |    Q    |         V          |
14+50       1.2790      3.82  |          |    Q    |          |V         |
14+55       1.3042      3.66  |          |   Q     |          |V         |
15+ 0       1.3291      3.62  |          |   Q     |          | V        |
15+ 5       1.3536      3.55  |          |   Q     |          |  V       |
15+10       1.3768      3.37  |          |  Q      |          |  V       |
15+15       1.3997      3.33  |          |  Q      |          |   V      |
15+20       1.4221      3.25  |          |  Q      |          |   V      |
15+25       1.4433      3.07  |          | Q       |          |    V     |
15+30       1.4641      3.02  |          | Q       |          |    V     |
15+35       1.4830      2.74  |          Q         |          |     V    |
15+40       1.4966      1.98  |       Q  |         |          |     V    |
15+45       1.5084      1.72  |     Q    |         |          |     V    |
15+50       1.5196      1.62  |     Q    |         |          |      V   |
15+55       1.5304      1.58  |     Q    |         |          |      V   |
16+ 0       1.5412      1.56  |     Q    |         |          |      V   |
16+ 5       1.5503      1.32  |    Q     |         |          |      V   |
16+10       1.5548      0.66  | Q        |         |          |      V   |
```

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16+15       1.5577      0.41  |Q        |          |          |        V |
16+20       1.5598      0.31  |Q        |          |          |        V |
16+25       1.5616      0.26  |Q        |          |          |        V |
16+30       1.5631      0.22  Q         |          |          |        V |
16+35       1.5644      0.19  Q         |          |          |        V |
16+40       1.5654      0.15  Q         |          |          |        V |
16+45       1.5663      0.13  Q         |          |          |        V |
16+50       1.5672      0.13  Q         |          |          |        V |
16+55       1.5680      0.12  Q         |          |          |        V |
17+ 0       1.5689      0.12  Q         |          |          |        V |
17+ 5       1.5698      0.14  Q         |          |          |        V |
17+10       1.5710      0.18  Q         |          |          |        V |
17+15       1.5723      0.19  Q         |          |          |        V |
17+20       1.5737      0.19  Q         |          |          |        V |
17+25       1.5750      0.20  Q         |          |          |        V |
17+30       1.5764      0.20  Q         |          |          |        V |
17+35       1.5778      0.20  Q         |          |          |        V |
17+40       1.5792      0.20  Q         |          |          |        V |
17+45       1.5806      0.20  Q         |          |          |        V |
17+50       1.5820      0.20  Q         |          |          |        V |
17+55       1.5832      0.18  Q         |          |          |        V |
18+ 0       1.5844      0.17  Q         |          |          |        V |
18+ 5       1.5855      0.17  Q         |          |          |        V |
18+10       1.5866      0.17  Q         |          |          |        V |
18+15       1.5878      0.16  Q         |          |          |        V |
18+20       1.5889      0.16  Q         |          |          |        V |
18+25       1.5900      0.16  Q         |          |          |        V |
18+30       1.5912      0.16  Q         |          |          |        V |
18+35       1.5922      0.16  Q         |          |          |        V |
18+40       1.5932      0.14  Q         |          |          |        V |
18+45       1.5941      0.13  Q         |          |          |        V |
18+50       1.5949      0.12  Q         |          |          |        V |
18+55       1.5956      0.10  Q         |          |          |        V |
19+ 0       1.5962      0.09  Q         |          |          |        V |
19+ 5       1.5968      0.09  Q         |          |          |        V |
19+10       1.5976      0.11  Q         |          |          |        V |
19+15       1.5984      0.12  Q         |          |          |         V|
19+20       1.5993      0.13  Q         |          |          |         V|
19+25       1.6003      0.15  Q         |          |          |         V|
19+30       1.6013      0.15  Q         |          |          |         V|
19+35       1.6024      0.15  Q         |          |          |         V|
19+40       1.6033      0.13  Q         |          |          |         V|
19+45       1.6042      0.13  Q         |          |          |         V|
19+50       1.6050      0.12  Q         |          |          |         V|
19+55       1.6057      0.10  Q         |          |          |         V|
20+ 0       1.6063      0.09  Q         |          |          |         V|
20+ 5       1.6069      0.09  Q         |          |          |         V|
20+10       1.6077      0.11  Q         |          |          |         V|
20+15       1.6085      0.12  Q         |          |          |         V|
20+20       1.6093      0.12  Q         |          |          |         V|
20+25       1.6101      0.12  Q         |          |          |         V|
20+30       1.6110      0.12  Q         |          |          |         V|
20+35       1.6118      0.12  Q         |          |          |         V|
20+40       1.6126      0.12  Q         |          |          |         V|
20+45       1.6135      0.12  Q         |          |          |         V|
20+50       1.6143      0.12  Q         |          |          |         V|
20+55       1.6149      0.10  Q         |          |          |         V|
21+ 0       1.6156      0.09  Q         |          |          |         V|
21+ 5       1.6162      0.09  Q         |          |          |         V|
21+10       1.6170      0.11  Q         |          |          |         V|
21+15       1.6178      0.12  Q         |          |          |         V|
21+20       1.6185      0.11  Q         |          |          |         V|
21+25       1.6192      0.09  Q         |          |          |         V|
21+30       1.6198      0.09  Q         |          |          |         V|
21+35       1.6204      0.09  Q         |          |          |         V|
21+40       1.6212      0.11  Q         |          |          |         V|
21+45       1.6220      0.12  Q         |          |          |         V|
21+50       1.6227      0.11  Q         |          |          |         V|
```

21+55	1.6234	0.09	Q	|	|	|	V|
22+ 0	1.6240	0.09	Q	|	|	|	V|
22+ 5	1.6246	0.09	Q	|	|	|	V|
22+10	1.6254	0.11	Q	|	|	|	V|
22+15	1.6262	0.12	Q	|	|	|	V|
22+20	1.6269	0.11	Q	|	|	|	V|
22+25	1.6276	0.09	Q	|	|	|	V|
22+30	1.6282	0.09	Q	|	|	|	V|
22+35	1.6288	0.09	Q	|	|	|	V|
22+40	1.6294	0.08	Q	|	|	|	V|
22+45	1.6299	0.08	Q	|	|	|	V|
22+50	1.6305	0.08	Q	|	|	|	V|
22+55	1.6311	0.08	Q	|	|	|	V|
23+ 0	1.6316	0.08	Q	|	|	|	V|
23+ 5	1.6322	0.08	Q	|	|	|	V|
23+10	1.6327	0.08	Q	|	|	|	V|
23+15	1.6333	0.08	Q	|	|	|	V|
23+20	1.6339	0.08	Q	|	|	|	V|
23+25	1.6344	0.08	Q	|	|	|	V|
23+30	1.6350	0.08	Q	|	|	|	V|
23+35	1.6355	0.08	Q	|	|	|	V|
23+40	1.6361	0.08	Q	|	|	|	V|
23+45	1.6367	0.08	Q	|	|	|	V|
23+50	1.6372	0.08	Q	|	|	|	V|
23+55	1.6378	0.08	Q	|	|	|	V|
24+ 0	1.6383	0.08	Q	|	|	|	V|
24+ 5	1.6388	0.07	Q	|	|	|	V|
24+10	1.6390	0.03	Q	|	|	|	V|
24+15	1.6391	0.02	Q	|	|	|	V|
24+20	1.6392	0.01	Q	|	|	|	V|
24+25	1.6392	0.01	Q	|	|	|	V|
24+30	1.6392	0.00	Q	|	|	|	V|
24+35	1.6393	0.00	Q	|	|	|	V|
24+40	1.6393	0.00	Q	|	|	|	V

UNIT HYDROGRAPH

100-YEAR,
1, 3, 6, 24 HOURS
STORM EVENTS

EXISTING CONDITION

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDEX1100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
100 YEAR, 1 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	0.55	11.66

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.36	28.83

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.550(In)
Area Averaged 100-Year Rainfall = 1.360(In)

Point rain (area averaged) = 1.360(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.360(In)

Sub-Area Data:

```
      Area(Ac.)         Runoff Index   Impervious %
          21.200           67.00         0.000
       Total Area Entered =     21.20(Ac.)


      RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
      AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
      67.0  67.0      0.394     0.000        0.394       1.000      0.394
                                                        Sum (F) =   0.394
      Area averaged mean soil loss (F) (In/Hr) =  0.394
      Minimum soil loss rate ((In/Hr)) =  0.197
      (for 24 hour storm duration)
      Soil low loss rate (decimal) =   0.900
      ------------------------------------------------------------------
      Slope of intensity-duration curve for a 1 hour storm =0.4800
      ------------------------------------------------------------------

                  U n i t  H y d r o g r a p h
                         VALLEY S-Curve
      ------------------------------------------------------------------
                  Unit Hydrograph Data
      ------------------------------------------------------------------
      Unit time period   Time % of lag   Distribution   Unit Hydrograph
          (hrs)                          Graph %           (CFS)
      ------------------------------------------------------------------
          1   0.083         92.431         16.901             3.611
          2   0.167        184.863         47.518            10.152
          3   0.250        277.294         16.931             3.617
          4   0.333        369.725          7.493             1.601
          5   0.417        462.157          4.306             0.920
          6   0.500        554.588          2.773             0.592
          7   0.583        647.019          1.845             0.394
          8   0.667        739.451          1.166             0.249
          9   0.750        831.882          1.068             0.228
                                   Sum = 100.000   Sum=      21.366
----------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.40      0.718          0.394    (  0.646)        0.324
   2   0.17     4.50      0.734          0.394    (  0.661)        0.340
   3   0.25     5.40      0.881          0.394    (  0.793)        0.487
   4   0.33     5.40      0.881          0.394    (  0.793)        0.487
   5   0.42     5.70      0.930          0.394    (  0.837)        0.536
   6   0.50     6.40      1.044          0.394    (  0.940)        0.650
   7   0.58     7.90      1.289          0.394    (  1.160)        0.895
   8   0.67     9.10      1.485          0.394    (  1.336)        1.090
   9   0.75    12.80      2.089          0.394    (  1.880)        1.694
  10   0.83    25.60      4.177          0.394    (  3.759)        3.783
  11   0.92     7.90      1.289          0.394    (  1.160)        0.895
  12   1.00     4.90      0.800          0.394    (  0.720)        0.405
            (Loss Rate Not Used)
     Sum =     100.0                                  Sum =    11.6
       Flood volume = Effective rainfall      0.97(In)
        times area      21.2(Ac.)/[(In)/(Ft.)] =       1.7(Ac.Ft)
       Total soil loss =      0.39(In)
       Total soil loss =     0.697(Ac.Ft)
       Total rainfall =      1.36(In)
       Flood volume =       74288.6 Cubic Feet
       Total soil loss =       30351.4 Cubic Feet
       ------------------------------------------------------------------
        Peak flow rate of this hydrograph =     51.187(CFS)
       ------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
```

1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	15.0	30.0	45.0	60.0
0+ 5	0.0081	1.17	Q				
0+10	0.0391	4.51	V Q				
0+15	0.0831	6.38	V Q				
0+20	0.1413	8.45	V Q				
0+25	0.2066	9.48	V Q				
0+30	0.2812	10.83	VQ				
0+35	0.3730	13.33	Q				
0+40	0.4914	17.19	Q				
0+45	0.6471	22.61	Q				
0+50	0.9058	37.56	V Q				
0+55	1.2583	51.19	V Q				
1+ 0	1.4580	28.99	Q V				
1+ 5	1.5699	16.26	Q V				
1+10	1.6263	8.19	Q V				
1+15	1.6598	4.86	Q V				
1+20	1.6809	3.07	Q V				
1+25	1.6941	1.92	Q V				
1+30	1.7027	1.25	Q V				
1+35	1.7048	0.31	Q V				
1+40	1.7054	0.09	Q V				

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDEX3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
100 YEAR, 3 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.00	21.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.40	50.88

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.400(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	67.00	0.000

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
67.0	67.0	0.394	0.000	0.394	1.000	0.394
					Sum (F) =	0.394

Area averaged mean soil loss (F) (In/Hr) = 0.394
Minimum soil loss rate ((In/Hr)) = 0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	92.431	16.901	3.611
2	0.167	184.863	47.518	10.152
3	0.250	277.294	16.931	3.617
4	0.333	369.725	7.493	1.601
5	0.417	462.157	4.306	0.920
6	0.500	554.588	2.773	0.592
7	0.583	647.019	1.845	0.394
8	0.667	739.451	1.166	0.249
9	0.750	831.882	1.068	0.228
			Sum = 100.000	Sum= 21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.374	(0.394)		0.337	0.037
2	0.17	1.30	0.374	(0.394)		0.337	0.037
3	0.25	1.10	0.317	(0.394)		0.285	0.032
4	0.33	1.50	0.432	(0.394)		0.389	0.043
5	0.42	1.50	0.432	(0.394)		0.389	0.043
6	0.50	1.80	0.518	0.394	(	0.467)	0.124
7	0.58	1.50	0.432	(0.394)		0.389	0.043
8	0.67	1.80	0.518	0.394	(	0.467)	0.124
9	0.75	1.80	0.518	0.394	(	0.467)	0.124
10	0.83	1.50	0.432	(0.394)		0.389	0.043
11	0.92	1.60	0.461	0.394	(	0.415)	0.066
12	1.00	1.80	0.518	0.394	(	0.467)	0.124
13	1.08	2.20	0.634	0.394	(	0.570)	0.239
14	1.17	2.20	0.634	0.394	(	0.570)	0.239
15	1.25	2.20	0.634	0.394	(	0.570)	0.239
16	1.33	2.00	0.576	0.394	(	0.518)	0.182
17	1.42	2.60	0.749	0.394	(	0.674)	0.354
18	1.50	2.70	0.778	0.394	(	0.700)	0.383
19	1.58	2.40	0.691	0.394	(	0.622)	0.297
20	1.67	2.70	0.778	0.394	(	0.700)	0.383
21	1.75	3.30	0.950	0.394	(	0.855)	0.556
22	1.83	3.10	0.893	0.394	(	0.803)	0.498
23	1.92	2.90	0.835	0.394	(	0.752)	0.441
24	2.00	3.00	0.864	0.394	(	0.778)	0.470
25	2.08	3.10	0.893	0.394	(	0.803)	0.498
26	2.17	4.20	1.209	0.394	(	1.089)	0.815
27	2.25	5.00	1.440	0.394	(	1.296)	1.045

```
28   2.33     3.50      1.008          0.394    (  0.907)        0.614
29   2.42     6.80      1.958          0.394    (  1.762)        1.564
30   2.50     7.30      2.102          0.394    (  1.892)        1.708
31   2.58     8.20      2.361          0.394    (  2.125)        1.967
32   2.67     5.90      1.699          0.394    (  1.529)        1.305
33   2.75     2.00      0.576          0.394    (  0.518)        0.182
34   2.83     1.80      0.518          0.394    (  0.467)        0.124
35   2.92     1.80      0.518          0.394    (  0.467)        0.124
36   3.00     0.60      0.173       (  0.394)       0.156        0.017
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    15.1
    Flood volume = Effective rainfall      1.26(In)
     times area      21.2(Ac.)/[(In)/(Ft.)] =       2.2(Ac.Ft)
    Total soil loss =      1.14(In)
    Total soil loss =     2.019(Ac.Ft)
    Total rainfall =      2.40(In)
    Flood volume =       96737.6 Cubic Feet
    Total soil loss =       87939.6 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     35.117(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        3 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       10.0      20.0      30.0      40.0
----------------------------------------------------------------------
  0+ 5       0.0009      0.14  Q         |         |         |         |
  0+10       0.0045      0.52  Q         |         |         |         |
  0+15       0.0088      0.63  Q         |         |         |         |
  0+20       0.0135      0.67  Q         |         |         |         |
  0+25       0.0190      0.80  Q         |         |         |         |
  0+30       0.0269      1.15  VQ        |         |         |         |
  0+35       0.0387      1.71  VQ        |         |         |         |
  0+40       0.0489      1.49  VQ        |         |         |         |
  0+45       0.0638      2.16  |VQ       |         |         |         |
  0+50       0.0783      2.11  |VQ       |         |         |         |
  0+55       0.0884      1.47  |Q        |         |         |         |
  1+ 0       0.1000      1.69  |Q        |         |         |         |
  1+ 5       0.1185      2.68  | Q       |         |         |         |
  1+10       0.1464      4.05  | V Q     |         |         |         |
  1+15       0.1776      4.53  |  VQ     |         |         |         |
  1+20       0.2090      4.56  |  VQ     |         |         |         |
  1+25       0.2416      4.73  |   Q     |         |         |         |
  1+30       0.2861      6.46  |    VQ   |         |         |         |
  1+35       0.3346      7.04  |     VQ  |         |         |         |
  1+40       0.3817      6.84  |     Q   |         |         |         |
  1+45       0.4384      8.23  |      VQ |         |         |         |
  1+50       0.5077     10.06  |        VQ         |         |         |
  1+55       0.5767     10.02  |         Q         |         |         |
  2+ 0       0.6433      9.68  |        Q|V        |         |         |
  2+ 5       0.7121     10.00  |        Q| V       |         |         |
  2+10       0.7914     11.51  |         |Q  V     |         |         |
  2+15       0.8995     15.70  |         |    QV   |         |         |
  2+20       1.0214     17.70  |         |      QV |         |         |
  2+25       1.1463     18.13  |         |       Q V         |         |
  2+30       1.3350     27.40  |         |         |   V  Q  |         |
  2+35       1.5620     32.96  |         |         |      V  | Q       |
  2+40       1.8039     35.12  |         |         |         | V  Q    |
  2+45       1.9850     26.29  |         |         |     Q   |    V    |
  2+50       2.0769     13.35  |         |  Q      |         |      V  |
  2+55       2.1340      8.28  |       Q |         |         |       V |
  3+ 0       2.1728      5.63  |    Q    |         |         |        V|
  3+ 5       2.1956      3.32  |  Q      |         |         |        V|
  3+10       2.2086      1.88  |Q        |         |         |        V|
```

```
    3+15       2.2159      1.06  |Q        |         |         |        V|
    3+20       2.2192      0.48  Q         |         |         |        V|
    3+25       2.2201      0.13  Q         |         |         |        V|
    3+30       2.2205      0.07  Q         |         |         |        V|
    3+35       2.2208      0.03  Q         |         |         |        V|
    3+40       2.2208      0.00  Q         |         |         |        V|
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDEX6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
100 YEAR, 6 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.40	29.68

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	3.00	63.60

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.400(In)
Area Averaged 100-Year Rainfall = 3.000(In)

Point rain (area averaged) = 3.000(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 3.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	67.00	0.000

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
67.0	67.0	0.394	0.000	0.394	1.000	0.394
					Sum (F) =	0.394

Area averaged mean soil loss (F) (In/Hr) = 0.394
Minimum soil loss rate ((In/Hr)) = 0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	92.431	16.901	3.611
2	0.167	184.863	47.518	10.152
3	0.250	277.294	16.931	3.617
4	0.333	369.725	7.493	1.601
5	0.417	462.157	4.306	0.920
6	0.500	554.588	2.773	0.592
7	0.583	647.019	1.845	0.394
8	0.667	739.451	1.166	0.249
9	0.750	831.882	1.068	0.228
			Sum = 100.000	Sum= 21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.180	(0.394)		0.162	0.018
2	0.17	0.60	0.216	(0.394)		0.194	0.022
3	0.25	0.60	0.216	(0.394)		0.194	0.022
4	0.33	0.60	0.216	(0.394)		0.194	0.022
5	0.42	0.60	0.216	(0.394)		0.194	0.022
6	0.50	0.70	0.252	(0.394)		0.227	0.025
7	0.58	0.70	0.252	(0.394)		0.227	0.025
8	0.67	0.70	0.252	(0.394)		0.227	0.025
9	0.75	0.70	0.252	(0.394)		0.227	0.025
10	0.83	0.70	0.252	(0.394)		0.227	0.025
11	0.92	0.70	0.252	(0.394)		0.227	0.025
12	1.00	0.80	0.288	(0.394)		0.259	0.029
13	1.08	0.80	0.288	(0.394)		0.259	0.029
14	1.17	0.80	0.288	(0.394)		0.259	0.029
15	1.25	0.80	0.288	(0.394)		0.259	0.029
16	1.33	0.80	0.288	(0.394)		0.259	0.029
17	1.42	0.80	0.288	(0.394)		0.259	0.029
18	1.50	0.80	0.288	(0.394)		0.259	0.029
19	1.58	0.80	0.288	(0.394)		0.259	0.029
20	1.67	0.80	0.288	(0.394)		0.259	0.029
21	1.75	0.80	0.288	(0.394)		0.259	0.029
22	1.83	0.80	0.288	(0.394)		0.259	0.029
23	1.92	0.80	0.288	(0.394)		0.259	0.029
24	2.00	0.90	0.324	(0.394)		0.292	0.032
25	2.08	0.80	0.288	(0.394)		0.259	0.029
26	2.17	0.90	0.324	(0.394)		0.292	0.032
27	2.25	0.90	0.324	(0.394)		0.292	0.032

```
28   2.33     0.90      0.324       (  0.394)       0.292        0.032
29   2.42     0.90      0.324       (  0.394)       0.292        0.032
30   2.50     0.90      0.324       (  0.394)       0.292        0.032
31   2.58     0.90      0.324       (  0.394)       0.292        0.032
32   2.67     0.90      0.324       (  0.394)       0.292        0.032
33   2.75     1.00      0.360       (  0.394)       0.324        0.036
34   2.83     1.00      0.360       (  0.394)       0.324        0.036
35   2.92     1.00      0.360       (  0.394)       0.324        0.036
36   3.00     1.00      0.360       (  0.394)       0.324        0.036
37   3.08     1.00      0.360       (  0.394)       0.324        0.036
38   3.17     1.10      0.396       (  0.394)       0.356        0.040
39   3.25     1.10      0.396       (  0.394)       0.356        0.040
40   3.33     1.10      0.396       (  0.394)       0.356        0.040
41   3.42     1.20      0.432       (  0.394)       0.389        0.043
42   3.50     1.30      0.468          0.394    (  0.421)       0.074
43   3.58     1.40      0.504          0.394    (  0.454)       0.110
44   3.67     1.40      0.504          0.394    (  0.454)       0.110
45   3.75     1.50      0.540          0.394    (  0.486)       0.146
46   3.83     1.50      0.540          0.394    (  0.486)       0.146
47   3.92     1.60      0.576          0.394    (  0.518)       0.182
48   4.00     1.60      0.576          0.394    (  0.518)       0.182
49   4.08     1.70      0.612          0.394    (  0.551)       0.218
50   4.17     1.80      0.648          0.394    (  0.583)       0.254
51   4.25     1.90      0.684          0.394    (  0.616)       0.290
52   4.33     2.00      0.720          0.394    (  0.648)       0.326
53   4.42     2.10      0.756          0.394    (  0.680)       0.362
54   4.50     2.10      0.756          0.394    (  0.680)       0.362
55   4.58     2.20      0.792          0.394    (  0.713)       0.398
56   4.67     2.30      0.828          0.394    (  0.745)       0.434
57   4.75     2.40      0.864          0.394    (  0.778)       0.470
58   4.83     2.40      0.864          0.394    (  0.778)       0.470
59   4.92     2.50      0.900          0.394    (  0.810)       0.506
60   5.00     2.60      0.936          0.394    (  0.842)       0.542
61   5.08     3.10      1.116          0.394    (  1.004)       0.722
62   5.17     3.60      1.296          0.394    (  1.166)       0.902
63   5.25     3.90      1.404          0.394    (  1.264)       1.009
64   5.33     4.20      1.512          0.394    (  1.361)       1.117
65   5.42     4.70      1.692          0.394    (  1.523)       1.297
66   5.50     5.60      2.016          0.394    (  1.814)       1.621
67   5.58     1.90      0.684          0.394    (  0.616)       0.290
68   5.67     0.90      0.324       (  0.394)       0.292        0.032
69   5.75     0.60      0.216       (  0.394)       0.194        0.022
70   5.83     0.50      0.180       (  0.394)       0.162        0.018
71   5.92     0.30      0.108       (  0.394)       0.097        0.011
72   6.00     0.20      0.072       (  0.394)       0.065        0.007
            (Loss Rate Not Used)
   Sum =     100.0                                  Sum =    13.9
     Flood volume = Effective rainfall      1.15(In)
      times area      21.2(Ac.)/[(In)/(Ft.)] =       2.0(Ac.Ft)
     Total soil loss =      1.85(In)
     Total soil loss =     3.260(Ac.Ft)
     Total rainfall =      3.00(In)
     Flood volume =       88839.6 Cubic Feet
     Total soil loss =      142011.6 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     26.403(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        7.5      15.0      22.5      30.0
-------------------------------------------------------------------------
  0+ 5       0.0004      0.07  Q         |         |         |         |
  0+10       0.0022      0.26  Q         |         |         |         |
```

```
0+15       0.0047      0.36  Q         |          |          |          |
0+20       0.0075      0.40  Q         |          |          |          |
0+25       0.0105      0.43  Q         |          |          |          |
0+30       0.0136      0.45  Q         |          |          |          |
0+35       0.0170      0.50  Q         |          |          |          |
0+40       0.0206      0.52  Q         |          |          |          |
0+45       0.0242      0.53  Q         |          |          |          |
0+50       0.0279      0.53  Q         |          |          |          |
0+55       0.0316      0.54  Q         |          |          |          |
1+ 0       0.0354      0.55  Q         |          |          |          |
1+ 5       0.0394      0.59  Q         |          |          |          |
1+10       0.0436      0.60  Q         |          |          |          |
1+15       0.0478      0.61  Q         |          |          |          |
1+20       0.0520      0.61  QV        |          |          |          |
1+25       0.0562      0.61  QV        |          |          |          |
1+30       0.0604      0.61  QV        |          |          |          |
1+35       0.0646      0.61  QV        |          |          |          |
1+40       0.0689      0.62  QV        |          |          |          |
1+45       0.0731      0.62  QV        |          |          |          |
1+50       0.0774      0.62  QV        |          |          |          |
1+55       0.0816      0.62  QV        |          |          |          |
2+ 0       0.0859      0.63  QV        |          |          |          |
2+ 5       0.0904      0.65  QV        |          |          |          |
2+10       0.0948      0.64  QV        |          |          |          |
2+15       0.0995      0.67  QV        |          |          |          |
2+20       0.1042      0.68  Q V       |          |          |          |
2+25       0.1089      0.69  Q V       |          |          |          |
2+30       0.1136      0.69  Q V       |          |          |          |
2+35       0.1184      0.69  Q V       |          |          |          |
2+40       0.1231      0.69  Q V       |          |          |          |
2+45       0.1280      0.70  Q V       |          |          |          |
2+50       0.1331      0.74  Q V       |          |          |          |
2+55       0.1383      0.76  |QV       |          |          |          |
3+ 0       0.1436      0.76  |QV       |          |          |          |
3+ 5       0.1488      0.76  |QV       |          |          |          |
3+10       0.1542      0.78  |Q V      |          |          |          |
3+15       0.1598      0.82  |Q V      |          |          |          |
3+20       0.1655      0.83  |Q V      |          |          |          |
3+25       0.1714      0.85  |Q V      |          |          |          |
3+30       0.1783      1.00  |Q V      |          |          |          |
3+35       0.1883      1.45  |Q V      |          |          |          |
3+40       0.2016      1.94  | QV      |          |          |          |
3+45       0.2171      2.25  |  QV     |          |          |          |
3+50       0.2358      2.70  |  QV     |          |          |          |
3+55       0.2565      3.02  |   QV    |          |          |          |
4+ 0       0.2805      3.47  |   QV    |          |          |          |
4+ 5       0.3066      3.79  |    QV   |          |          |          |
4+10       0.3368      4.38  |    QV   |          |          |          |
4+15       0.3716      5.06  |     QV  |          |          |          |
4+20       0.4114      5.78  |      QV |          |          |          |
4+25       0.4563      6.52  |       Q |          |          |          |
4+30       0.5054      7.13  |        Q|          |          |          |
4+35       0.5573      7.53  |         Q          |          |          |
4+40       0.6135      8.16  |         Q V        |          |          |
4+45       0.6745      8.87  |          |Q V      |          |          |
4+50       0.7398      9.48  |          | Q V     |          |          |
4+55       0.8077      9.86  |          |  Q V    |          |          |
5+ 0       0.8799     10.48  |          |  Q   V  |          |          |
5+ 5       0.9606     11.71  |          |    Q  V |          |          |
5+10       1.0599     14.42  |          |       QV           |          |
5+15       1.1798     17.41  |          |          |  Q      |          |
5+20       1.3169     19.91  |          |          |    VQ   |          |
5+25       1.4722     22.55  |          |          |       V Q          |
5+30       1.6540     26.40  |          |          |         | V  Q     |
5+35       1.8331     26.00  |          |          |         |   QV     |
5+40       1.9246     13.29  |          |      Q   |         |      V   |
5+45       1.9707      6.70  |       Q  |          |         |       V  |
5+50       1.9984      4.02  |    Q     |          |         |        V |
```

```
    5+55       2.0163      2.60  |  Q      |         |         |        V|
    6+ 0       2.0277      1.65  | Q       |         |         |        V|
    6+ 5       2.0346      0.99  |Q        |         |         |        V|
    6+10       2.0382      0.53  Q         |         |         |        V|
    6+15       2.0390      0.11  Q         |         |         |        V|
    6+20       2.0392      0.03  Q         |         |         |        V|
    6+25       2.0394      0.02  Q         |         |         |        V|
    6+30       2.0394      0.01  Q         |         |         |        V|
    6+35       2.0395      0.00  Q         |         |         |        V|
    6+40       2.0395      0.00  Q         |         |         |         V
---------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDEX24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
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English Units used in output format

TR 37036, PARCEL 1
EXISTING CONDITION
100 YEAR, 24 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1592.00(Ft.)
Length along longest watercourse measured to centroid = 1060.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.201 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 205.6281 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.090 Hr.
Lag time = 5.41 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.50	53.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	8.00	169.60

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 8.000(In)

Point rain (area averaged) = 8.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 8.000(In)

Sub-Area Data:

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Area(Ac.)         Runoff Index   Impervious %
    21.200           67.00         0.000
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  67.0      0.394     0.000        0.394       1.000      0.394
                                                  Sum (F) =   0.394
Area averaged mean soil loss (F) (In/Hr) =  0.394
Minimum soil loss rate ((In/Hr)) =  0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
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            U n i t  H y d r o g r a p h
                   VALLEY S-Curve
--------------------------------------------------------------------
            Unit Hydrograph Data
--------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
--------------------------------------------------------------------
    1   0.083         92.431         16.901             3.611
    2   0.167        184.863         47.518            10.152
    3   0.250        277.294         16.931             3.617
    4   0.333        369.725          7.493             1.601
    5   0.417        462.157          4.306             0.920
    6   0.500        554.588          2.773             0.592
    7   0.583        647.019          1.845             0.394
    8   0.667        739.451          1.166             0.249
    9   0.750        831.882          1.068             0.228
                              Sum = 100.000   Sum=      21.366
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 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

 Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
      (Hr.)  Percent   (In/Hr)          Max   |   Low        (In/Hr)
  1   0.08     0.07      0.064       (  0.699)       0.058        0.006
  2   0.17     0.07      0.064       (  0.696)       0.058        0.006
  3   0.25     0.07      0.064       (  0.694)       0.058        0.006
  4   0.33     0.10      0.096       (  0.691)       0.086        0.010
  5   0.42     0.10      0.096       (  0.688)       0.086        0.010
  6   0.50     0.10      0.096       (  0.686)       0.086        0.010
  7   0.58     0.10      0.096       (  0.683)       0.086        0.010
  8   0.67     0.10      0.096       (  0.680)       0.086        0.010
  9   0.75     0.10      0.096       (  0.678)       0.086        0.010
 10   0.83     0.13      0.128       (  0.675)       0.115        0.013
 11   0.92     0.13      0.128       (  0.672)       0.115        0.013
 12   1.00     0.13      0.128       (  0.670)       0.115        0.013
 13   1.08     0.10      0.096       (  0.667)       0.086        0.010
 14   1.17     0.10      0.096       (  0.664)       0.086        0.010
 15   1.25     0.10      0.096       (  0.662)       0.086        0.010
 16   1.33     0.10      0.096       (  0.659)       0.086        0.010
 17   1.42     0.10      0.096       (  0.657)       0.086        0.010
 18   1.50     0.10      0.096       (  0.654)       0.086        0.010
 19   1.58     0.10      0.096       (  0.651)       0.086        0.010
 20   1.67     0.10      0.096       (  0.649)       0.086        0.010
 21   1.75     0.10      0.096       (  0.646)       0.086        0.010
 22   1.83     0.13      0.128       (  0.643)       0.115        0.013
 23   1.92     0.13      0.128       (  0.641)       0.115        0.013
 24   2.00     0.13      0.128       (  0.638)       0.115        0.013
 25   2.08     0.13      0.128       (  0.636)       0.115        0.013
 26   2.17     0.13      0.128       (  0.633)       0.115        0.013
 27   2.25     0.13      0.128       (  0.631)       0.115        0.013
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28	2.33	0.13	0.128	(0.628)	0.115	0.013
29	2.42	0.13	0.128	(0.625)	0.115	0.013
30	2.50	0.13	0.128	(0.623)	0.115	0.013
31	2.58	0.17	0.160	(0.620)	0.144	0.016
32	2.67	0.17	0.160	(0.618)	0.144	0.016
33	2.75	0.17	0.160	(0.615)	0.144	0.016
34	2.83	0.17	0.160	(0.613)	0.144	0.016
35	2.92	0.17	0.160	(0.610)	0.144	0.016
36	3.00	0.17	0.160	(0.608)	0.144	0.016
37	3.08	0.17	0.160	(0.605)	0.144	0.016
38	3.17	0.17	0.160	(0.603)	0.144	0.016
39	3.25	0.17	0.160	(0.600)	0.144	0.016
40	3.33	0.17	0.160	(0.598)	0.144	0.016
41	3.42	0.17	0.160	(0.595)	0.144	0.016
42	3.50	0.17	0.160	(0.593)	0.144	0.016
43	3.58	0.17	0.160	(0.590)	0.144	0.016
44	3.67	0.17	0.160	(0.588)	0.144	0.016
45	3.75	0.17	0.160	(0.585)	0.144	0.016
46	3.83	0.20	0.192	(0.583)	0.173	0.019
47	3.92	0.20	0.192	(0.580)	0.173	0.019
48	4.00	0.20	0.192	(0.578)	0.173	0.019
49	4.08	0.20	0.192	(0.575)	0.173	0.019
50	4.17	0.20	0.192	(0.573)	0.173	0.019
51	4.25	0.20	0.192	(0.571)	0.173	0.019
52	4.33	0.23	0.224	(0.568)	0.202	0.022
53	4.42	0.23	0.224	(0.566)	0.202	0.022
54	4.50	0.23	0.224	(0.563)	0.202	0.022
55	4.58	0.23	0.224	(0.561)	0.202	0.022
56	4.67	0.23	0.224	(0.558)	0.202	0.022
57	4.75	0.23	0.224	(0.556)	0.202	0.022
58	4.83	0.27	0.256	(0.554)	0.230	0.026
59	4.92	0.27	0.256	(0.551)	0.230	0.026
60	5.00	0.27	0.256	(0.549)	0.230	0.026
61	5.08	0.20	0.192	(0.546)	0.173	0.019
62	5.17	0.20	0.192	(0.544)	0.173	0.019
63	5.25	0.20	0.192	(0.542)	0.173	0.019
64	5.33	0.23	0.224	(0.539)	0.202	0.022
65	5.42	0.23	0.224	(0.537)	0.202	0.022
66	5.50	0.23	0.224	(0.535)	0.202	0.022
67	5.58	0.27	0.256	(0.532)	0.230	0.026
68	5.67	0.27	0.256	(0.530)	0.230	0.026
69	5.75	0.27	0.256	(0.528)	0.230	0.026
70	5.83	0.27	0.256	(0.525)	0.230	0.026
71	5.92	0.27	0.256	(0.523)	0.230	0.026
72	6.00	0.27	0.256	(0.521)	0.230	0.026
73	6.08	0.30	0.288	(0.518)	0.259	0.029
74	6.17	0.30	0.288	(0.516)	0.259	0.029
75	6.25	0.30	0.288	(0.514)	0.259	0.029
76	6.33	0.30	0.288	(0.511)	0.259	0.029
77	6.42	0.30	0.288	(0.509)	0.259	0.029
78	6.50	0.30	0.288	(0.507)	0.259	0.029
79	6.58	0.33	0.320	(0.505)	0.288	0.032
80	6.67	0.33	0.320	(0.502)	0.288	0.032
81	6.75	0.33	0.320	(0.500)	0.288	0.032
82	6.83	0.33	0.320	(0.498)	0.288	0.032
83	6.92	0.33	0.320	(0.495)	0.288	0.032
84	7.00	0.33	0.320	(0.493)	0.288	0.032
85	7.08	0.33	0.320	(0.491)	0.288	0.032
86	7.17	0.33	0.320	(0.489)	0.288	0.032
87	7.25	0.33	0.320	(0.487)	0.288	0.032
88	7.33	0.37	0.352	(0.484)	0.317	0.035
89	7.42	0.37	0.352	(0.482)	0.317	0.035
90	7.50	0.37	0.352	(0.480)	0.317	0.035
91	7.58	0.40	0.384	(0.478)	0.346	0.038
92	7.67	0.40	0.384	(0.475)	0.346	0.038
93	7.75	0.40	0.384	(0.473)	0.346	0.038
94	7.83	0.43	0.416	(0.471)	0.374	0.042
95	7.92	0.43	0.416	(0.469)	0.374	0.042

96	8.00	0.43	0.416	(	0.467)	0.374	0.042
97	8.08	0.50	0.480	(	0.465)	0.432	0.048
98	8.17	0.50	0.480	(	0.462)	0.432	0.048
99	8.25	0.50	0.480	(	0.460)	0.432	0.048
100	8.33	0.50	0.480	(	0.458)	0.432	0.048
101	8.42	0.50	0.480	(	0.456)	0.432	0.048
102	8.50	0.50	0.480	(	0.454)	0.432	0.048
103	8.58	0.53	0.512		0.452	(0.461)	0.060
104	8.67	0.53	0.512		0.450	(0.461)	0.062
105	8.75	0.53	0.512		0.447	(0.461)	0.065
106	8.83	0.57	0.544		0.445	(0.490)	0.099
107	8.92	0.57	0.544		0.443	(0.490)	0.101
108	9.00	0.57	0.544		0.441	(0.490)	0.103
109	9.08	0.63	0.608		0.439	(0.547)	0.169
110	9.17	0.63	0.608		0.437	(0.547)	0.171
111	9.25	0.63	0.608		0.435	(0.547)	0.173
112	9.33	0.67	0.640		0.433	(0.576)	0.207
113	9.42	0.67	0.640		0.431	(0.576)	0.209
114	9.50	0.67	0.640		0.429	(0.576)	0.211
115	9.58	0.70	0.672		0.427	(0.605)	0.245
116	9.67	0.70	0.672		0.425	(0.605)	0.247
117	9.75	0.70	0.672		0.423	(0.605)	0.249
118	9.83	0.73	0.704		0.421	(0.634)	0.283
119	9.92	0.73	0.704		0.419	(0.634)	0.285
120	10.00	0.73	0.704		0.416	(0.634)	0.287
121	10.08	0.50	0.480		0.414	(0.432)	0.066
122	10.17	0.50	0.480		0.412	(0.432)	0.068
123	10.25	0.50	0.480		0.410	(0.432)	0.070
124	10.33	0.50	0.480		0.408	(0.432)	0.072
125	10.42	0.50	0.480		0.406	(0.432)	0.073
126	10.50	0.50	0.480		0.405	(0.432)	0.075
127	10.58	0.67	0.640		0.403	(0.576)	0.237
128	10.67	0.67	0.640		0.401	(0.576)	0.239
129	10.75	0.67	0.640		0.399	(0.576)	0.241
130	10.83	0.67	0.640		0.397	(0.576)	0.243
131	10.92	0.67	0.640		0.395	(0.576)	0.245
132	11.00	0.67	0.640		0.393	(0.576)	0.247
133	11.08	0.63	0.608		0.391	(0.547)	0.217
134	11.17	0.63	0.608		0.389	(0.547)	0.219
135	11.25	0.63	0.608		0.387	(0.547)	0.221
136	11.33	0.63	0.608		0.385	(0.547)	0.223
137	11.42	0.63	0.608		0.383	(0.547)	0.225
138	11.50	0.63	0.608		0.381	(0.547)	0.227
139	11.58	0.57	0.544		0.379	(0.490)	0.165
140	11.67	0.57	0.544		0.377	(0.490)	0.166
141	11.75	0.57	0.544		0.376	(0.490)	0.168
142	11.83	0.60	0.576		0.374	(0.518)	0.202
143	11.92	0.60	0.576		0.372	(0.518)	0.204
144	12.00	0.60	0.576		0.370	(0.518)	0.206
145	12.08	0.83	0.800		0.368	(0.720)	0.432
146	12.17	0.83	0.800		0.366	(0.720)	0.434
147	12.25	0.83	0.800		0.364	(0.720)	0.435
148	12.33	0.87	0.832		0.363	(0.749)	0.469
149	12.42	0.87	0.832		0.361	(0.749)	0.471
150	12.50	0.87	0.832		0.359	(0.749)	0.473
151	12.58	0.93	0.896		0.357	(0.806)	0.539
152	12.67	0.93	0.896		0.355	(0.806)	0.541
153	12.75	0.93	0.896		0.354	(0.806)	0.542
154	12.83	0.97	0.928		0.352	(0.835)	0.576
155	12.92	0.97	0.928		0.350	(0.835)	0.578
156	13.00	0.97	0.928		0.348	(0.835)	0.580
157	13.08	1.13	1.088		0.347	(0.979)	0.741
158	13.17	1.13	1.088		0.345	(0.979)	0.743
159	13.25	1.13	1.088		0.343	(0.979)	0.745
160	13.33	1.13	1.088		0.341	(0.979)	0.747
161	13.42	1.13	1.088		0.340	(0.979)	0.748
162	13.50	1.13	1.088		0.338	(0.979)	0.750
163	13.58	0.77	0.736		0.336	(0.662)	0.400

164	13.67	0.77	0.736	0.334	(0.662)	0.402
165	13.75	0.77	0.736	0.333	(0.662)	0.403
166	13.83	0.77	0.736	0.331	(0.662)	0.405
167	13.92	0.77	0.736	0.329	(0.662)	0.407
168	14.00	0.77	0.736	0.328	(0.662)	0.408
169	14.08	0.90	0.864	0.326	(0.778)	0.538
170	14.17	0.90	0.864	0.324	(0.778)	0.540
171	14.25	0.90	0.864	0.323	(0.778)	0.541
172	14.33	0.87	0.832	0.321	(0.749)	0.511
173	14.42	0.87	0.832	0.319	(0.749)	0.513
174	14.50	0.87	0.832	0.318	(0.749)	0.514
175	14.58	0.87	0.832	0.316	(0.749)	0.516
176	14.67	0.87	0.832	0.314	(0.749)	0.518
177	14.75	0.87	0.832	0.313	(0.749)	0.519
178	14.83	0.83	0.800	0.311	(0.720)	0.489
179	14.92	0.83	0.800	0.310	(0.720)	0.490
180	15.00	0.83	0.800	0.308	(0.720)	0.492
181	15.08	0.80	0.768	0.306	(0.691)	0.462
182	15.17	0.80	0.768	0.305	(0.691)	0.463
183	15.25	0.80	0.768	0.303	(0.691)	0.465
184	15.33	0.77	0.736	0.302	(0.662)	0.434
185	15.42	0.77	0.736	0.300	(0.662)	0.436
186	15.50	0.77	0.736	0.299	(0.662)	0.437
187	15.58	0.63	0.608	0.297	(0.547)	0.311
188	15.67	0.63	0.608	0.296	(0.547)	0.312
189	15.75	0.63	0.608	0.294	(0.547)	0.314
190	15.83	0.63	0.608	0.293	(0.547)	0.315
191	15.92	0.63	0.608	0.291	(0.547)	0.317
192	16.00	0.63	0.608	0.290	(0.547)	0.318
193	16.08	0.13	0.128	(0.288)	0.115	0.013
194	16.17	0.13	0.128	(0.287)	0.115	0.013
195	16.25	0.13	0.128	(0.285)	0.115	0.013
196	16.33	0.13	0.128	(0.284)	0.115	0.013
197	16.42	0.13	0.128	(0.282)	0.115	0.013
198	16.50	0.13	0.128	(0.281)	0.115	0.013
199	16.58	0.10	0.096	(0.279)	0.086	0.010
200	16.67	0.10	0.096	(0.278)	0.086	0.010
201	16.75	0.10	0.096	(0.277)	0.086	0.010
202	16.83	0.10	0.096	(0.275)	0.086	0.010
203	16.92	0.10	0.096	(0.274)	0.086	0.010
204	17.00	0.10	0.096	(0.272)	0.086	0.010
205	17.08	0.17	0.160	(0.271)	0.144	0.016
206	17.17	0.17	0.160	(0.270)	0.144	0.016
207	17.25	0.17	0.160	(0.268)	0.144	0.016
208	17.33	0.17	0.160	(0.267)	0.144	0.016
209	17.42	0.17	0.160	(0.266)	0.144	0.016
210	17.50	0.17	0.160	(0.264)	0.144	0.016
211	17.58	0.17	0.160	(0.263)	0.144	0.016
212	17.67	0.17	0.160	(0.262)	0.144	0.016
213	17.75	0.17	0.160	(0.260)	0.144	0.016
214	17.83	0.13	0.128	(0.259)	0.115	0.013
215	17.92	0.13	0.128	(0.258)	0.115	0.013
216	18.00	0.13	0.128	(0.257)	0.115	0.013
217	18.08	0.13	0.128	(0.255)	0.115	0.013
218	18.17	0.13	0.128	(0.254)	0.115	0.013
219	18.25	0.13	0.128	(0.253)	0.115	0.013
220	18.33	0.13	0.128	(0.252)	0.115	0.013
221	18.42	0.13	0.128	(0.250)	0.115	0.013
222	18.50	0.13	0.128	(0.249)	0.115	0.013
223	18.58	0.10	0.096	(0.248)	0.086	0.010
224	18.67	0.10	0.096	(0.247)	0.086	0.010
225	18.75	0.10	0.096	(0.246)	0.086	0.010
226	18.83	0.07	0.064	(0.244)	0.058	0.006
227	18.92	0.07	0.064	(0.243)	0.058	0.006
228	19.00	0.07	0.064	(0.242)	0.058	0.006
229	19.08	0.10	0.096	(0.241)	0.086	0.010
230	19.17	0.10	0.096	(0.240)	0.086	0.010
231	19.25	0.10	0.096	(0.239)	0.086	0.010

232	19.33	0.13	0.128	(0.238)	0.115	0.013
233	19.42	0.13	0.128	(0.236)	0.115	0.013
234	19.50	0.13	0.128	(0.235)	0.115	0.013
235	19.58	0.10	0.096	(0.234)	0.086	0.010
236	19.67	0.10	0.096	(0.233)	0.086	0.010
237	19.75	0.10	0.096	(0.232)	0.086	0.010
238	19.83	0.07	0.064	(0.231)	0.058	0.006
239	19.92	0.07	0.064	(0.230)	0.058	0.006
240	20.00	0.07	0.064	(0.229)	0.058	0.006
241	20.08	0.10	0.096	(0.228)	0.086	0.010
242	20.17	0.10	0.096	(0.227)	0.086	0.010
243	20.25	0.10	0.096	(0.226)	0.086	0.010
244	20.33	0.10	0.096	(0.225)	0.086	0.010
245	20.42	0.10	0.096	(0.224)	0.086	0.010
246	20.50	0.10	0.096	(0.223)	0.086	0.010
247	20.58	0.10	0.096	(0.222)	0.086	0.010
248	20.67	0.10	0.096	(0.221)	0.086	0.010
249	20.75	0.10	0.096	(0.220)	0.086	0.010
250	20.83	0.07	0.064	(0.219)	0.058	0.006
251	20.92	0.07	0.064	(0.219)	0.058	0.006
252	21.00	0.07	0.064	(0.218)	0.058	0.006
253	21.08	0.10	0.096	(0.217)	0.086	0.010
254	21.17	0.10	0.096	(0.216)	0.086	0.010
255	21.25	0.10	0.096	(0.215)	0.086	0.010
256	21.33	0.07	0.064	(0.214)	0.058	0.006
257	21.42	0.07	0.064	(0.213)	0.058	0.006
258	21.50	0.07	0.064	(0.213)	0.058	0.006
259	21.58	0.10	0.096	(0.212)	0.086	0.010
260	21.67	0.10	0.096	(0.211)	0.086	0.010
261	21.75	0.10	0.096	(0.210)	0.086	0.010
262	21.83	0.07	0.064	(0.210)	0.058	0.006
263	21.92	0.07	0.064	(0.209)	0.058	0.006
264	22.00	0.07	0.064	(0.208)	0.058	0.006
265	22.08	0.10	0.096	(0.208)	0.086	0.010
266	22.17	0.10	0.096	(0.207)	0.086	0.010
267	22.25	0.10	0.096	(0.206)	0.086	0.010
268	22.33	0.07	0.064	(0.206)	0.058	0.006
269	22.42	0.07	0.064	(0.205)	0.058	0.006
270	22.50	0.07	0.064	(0.204)	0.058	0.006
271	22.58	0.07	0.064	(0.204)	0.058	0.006
272	22.67	0.07	0.064	(0.203)	0.058	0.006
273	22.75	0.07	0.064	(0.203)	0.058	0.006
274	22.83	0.07	0.064	(0.202)	0.058	0.006
275	22.92	0.07	0.064	(0.202)	0.058	0.006
276	23.00	0.07	0.064	(0.201)	0.058	0.006
277	23.08	0.07	0.064	(0.201)	0.058	0.006
278	23.17	0.07	0.064	(0.200)	0.058	0.006
279	23.25	0.07	0.064	(0.200)	0.058	0.006
280	23.33	0.07	0.064	(0.199)	0.058	0.006
281	23.42	0.07	0.064	(0.199)	0.058	0.006
282	23.50	0.07	0.064	(0.199)	0.058	0.006
283	23.58	0.07	0.064	(0.198)	0.058	0.006
284	23.67	0.07	0.064	(0.198)	0.058	0.006
285	23.75	0.07	0.064	(0.198)	0.058	0.006
286	23.83	0.07	0.064	(0.198)	0.058	0.006
287	23.92	0.07	0.064	(0.197)	0.058	0.006
288	24.00	0.07	0.064	(0.197)	0.058	0.006

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.5

Flood volume = Effective rainfall 2.87(In)
times area 21.2(Ac.)/[(In)/(Ft.)] = 5.1(Ac.Ft)
Total soil loss = 5.13(In)
Total soil loss = 9.059(Ac.Ft)
Total rainfall = 8.00(In)
Flood volume = 220993.4 Cubic Feet
Total soil loss = 394629.1 Cubic Feet

Peak flow rate of this hydrograph = 15.836(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0002	0.02	Q
0+10	0.0008	0.09	Q
0+15	0.0015	0.11	Q
0+20	0.0024	0.13	Q
0+25	0.0036	0.17	Q
0+30	0.0049	0.19	Q
0+35	0.0063	0.19	Q
0+40	0.0076	0.20	Q
0+45	0.0090	0.20	Q
0+50	0.0105	0.22	Q
0+55	0.0122	0.25	Q
1+ 0	0.0140	0.26	Q
1+ 5	0.0158	0.25	Q
1+10	0.0173	0.22	Q
1+15	0.0188	0.22	Q
1+20	0.0203	0.21	Q
1+25	0.0217	0.21	Q
1+30	0.0231	0.21	Q
1+35	0.0245	0.21	Q
1+40	0.0260	0.21	Q
1+45	0.0274	0.21	Q
1+50	0.0289	0.22	Q
1+55	0.0306	0.25	Q
2+ 0	0.0324	0.26	Q
2+ 5	0.0342	0.27	Q
2+10	0.0361	0.27	Q
2+15	0.0379	0.27	Q
2+20	0.0398	0.27	Q
2+25	0.0417	0.27	Q
2+30	0.0436	0.27	Q
2+35	0.0455	0.29	Q
2+40	0.0477	0.32	Q
2+45	0.0500	0.33	Q
2+50	0.0523	0.33	Q
2+55	0.0546	0.34	Q
3+ 0	0.0570	0.34	Q
3+ 5	0.0593	0.34	Q
3+10	0.0616	0.34	Q
3+15	0.0640	0.34	Q
3+20	0.0664	0.34	Q
3+25	0.0687	0.34	Q
3+30	0.0711	0.34	Q
3+35	0.0734	0.34	Q
3+40	0.0758	0.34	Q
3+45	0.0781	0.34	Q
3+50	0.0806	0.35	Q
3+55	0.0832	0.39	Q
4+ 0	0.0860	0.40	Q
4+ 5	0.0887	0.40	Q
4+10	0.0915	0.41	Q
4+15	0.0943	0.41	Q
4+20	0.0972	0.42	Q
4+25	0.1004	0.45	Q
4+30	0.1036	0.47	Q
4+35	0.1068	0.47	Q
4+40	0.1101	0.47	Q
4+45	0.1134	0.48	Q
4+50	0.1167	0.49	Q

```
 4+55      0.1203      0.52  VQ        |         |         |         |
 5+ 0      0.1240      0.53  VQ        |         |         |         |
 5+ 5      0.1276      0.52  |Q        |         |         |         |
 5+10      0.1307      0.45  QV        |         |         |         |
 5+15      0.1337      0.43  QV        |         |         |         |
 5+20      0.1367      0.44  QV        |         |         |         |
 5+25      0.1399      0.46  QV        |         |         |         |
 5+30      0.1431      0.47  QV        |         |         |         |
 5+35      0.1465      0.49  QV        |         |         |         |
 5+40      0.1500      0.52  |Q        |         |         |         |
 5+45      0.1537      0.53  |Q        |         |         |         |
 5+50      0.1574      0.54  |Q        |         |         |         |
 5+55      0.1611      0.54  |Q        |         |         |         |
 6+ 0      0.1649      0.54  |Q        |         |         |         |
 6+ 5      0.1687      0.56  |Q        |         |         |         |
 6+10      0.1728      0.59  |Q        |         |         |         |
 6+15      0.1769      0.60  |Q        |         |         |         |
 6+20      0.1811      0.61  |Q        |         |         |         |
 6+25      0.1853      0.61  |Q        |         |         |         |
 6+30      0.1896      0.61  |Q        |         |         |         |
 6+35      0.1939      0.63  |Q        |         |         |         |
 6+40      0.1984      0.66  |Q        |         |         |         |
 6+45      0.2030      0.67  |Q        |         |         |         |
 6+50      0.2077      0.68  |Q        |         |         |         |
 6+55      0.2124      0.68  |Q        |         |         |         |
 7+ 0      0.2171      0.68  |Q        |         |         |         |
 7+ 5      0.2218      0.68  |Q        |         |         |         |
 7+10      0.2265      0.68  |Q        |         |         |         |
 7+15      0.2312      0.68  |Q        |         |         |         |
 7+20      0.2360      0.70  |Q        |         |         |         |
 7+25      0.2410      0.73  |Q        |         |         |         |
 7+30      0.2461      0.74  |Q        |         |         |         |
 7+35      0.2513      0.76  |Q        |         |         |         |
 7+40      0.2567      0.79  |QV       |         |         |         |
 7+45      0.2623      0.81  |QV       |         |         |         |
 7+50      0.2680      0.82  |QV       |         |         |         |
 7+55      0.2739      0.86  |QV       |         |         |         |
 8+ 0      0.2799      0.87  |QV       |         |         |         |
 8+ 5      0.2861      0.90  |QV       |         |         |         |
 8+10      0.2928      0.97  |QV       |         |         |         |
 8+15      0.2997      1.00  |QV       |         |         |         |
 8+20      0.3066      1.01  | Q       |         |         |         |
 8+25      0.3136      1.02  | Q       |         |         |         |
 8+30      0.3207      1.02  | Q       |         |         |         |
 8+35      0.3280      1.07  | Q       |         |         |         |
 8+40      0.3363      1.20  | Q       |         |         |         |
 8+45      0.3451      1.28  | Q       |         |         |         |
 8+50      0.3550      1.45  | Q       |         |         |         |
 8+55      0.3676      1.82  | VQ      |         |         |         |
 9+ 0      0.3813      1.99  |  Q      |         |         |         |
 9+ 5      0.3973      2.32  |  VQ     |         |         |         |
 9+10      0.4183      3.05  |  V  Q   |         |         |         |
 9+15      0.4413      3.34  |  V  Q   |         |         |         |
 9+20      0.4662      3.62  |  V   Q  |         |         |         |
 9+25      0.4942      4.06  |  V    Q |         |         |         |
 9+30      0.5235      4.26  |   V   Q |         |         |         |
 9+35      0.5545      4.50  |   V   Q |         |         |         |
 9+40      0.5883      4.91  |   V    Q|         |         |         |
 9+45      0.6235      5.10  |   V     Q         |         |         |
 9+50      0.6602      5.33  |    V    Q         |         |         |
 9+55      0.6996      5.73  |    V    |Q        |         |         |
10+ 0      0.7404      5.92  |    V    |Q        |         |         |
10+ 5      0.7763      5.22  |     V   Q         |         |         |
10+10      0.7972      3.02  |     Q   |         |         |         |
10+15      0.8129      2.28  |   Q V   |         |         |         |
10+20      0.8265      1.98  |  Q  V   |         |         |         |
10+25      0.8390      1.82  |  Q  V   |         |         |         |
10+30      0.8510      1.74  |  Q  V   |         |         |         |
```

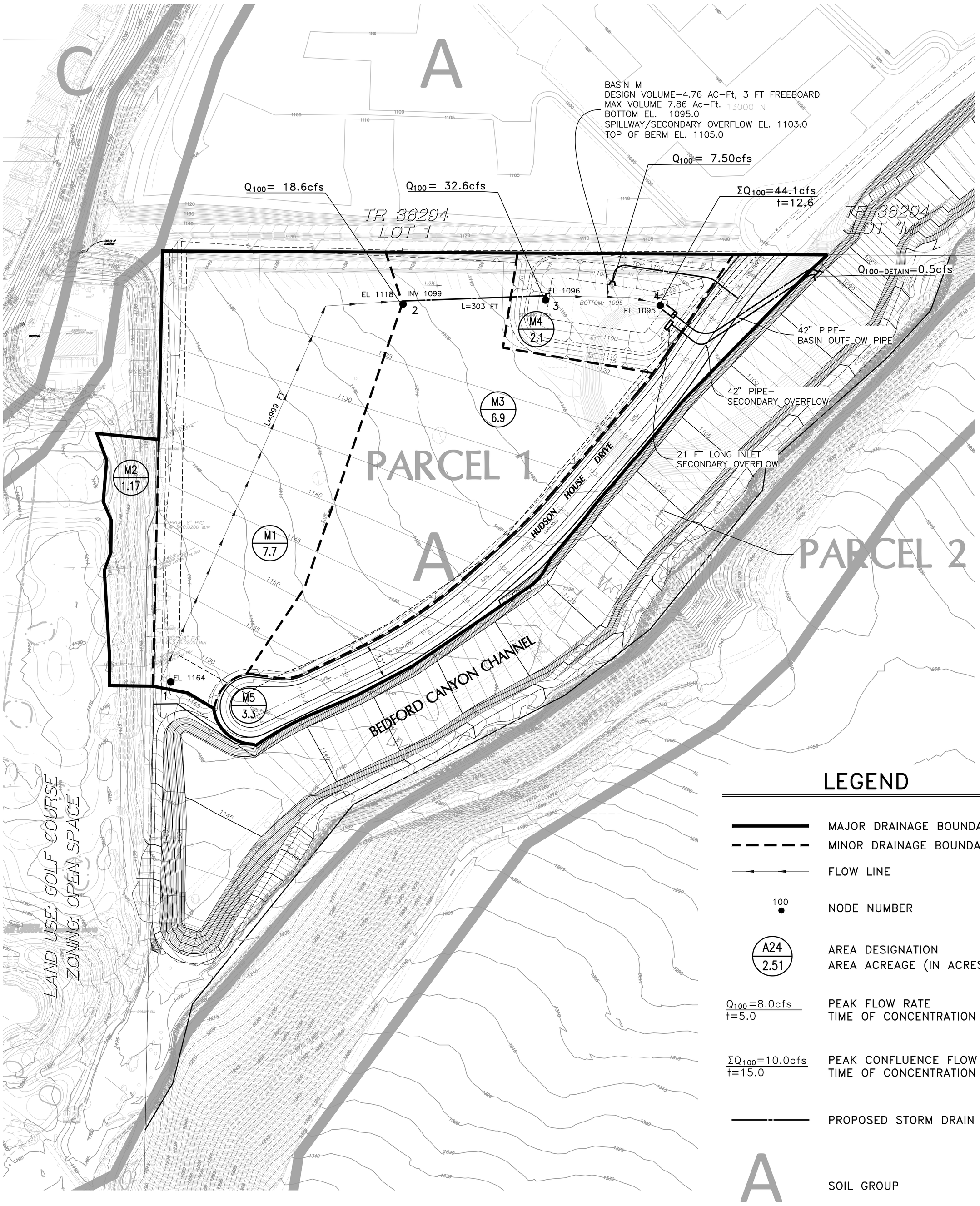
10+35	0.8667	2.27	Q V				
10+40	0.8934	3.88	Q				
10+45	0.9241	4.45	VQ				
10+50	0.9568	4.75	V Q				
10+55	0.9908	4.94	V Q				
11+ 0	1.0258	5.08	V Q				
11+ 5	1.0607	5.07	V Q				
11+10	1.0939	4.82	VQ				
11+15	1.1269	4.78	VQ				
11+20	1.1597	4.77	Q				
11+25	1.1927	4.79	Q				
11+30	1.2258	4.81	Q				
11+35	1.2575	4.60	Q				
11+40	1.2850	3.99	Q V				
11+45	1.3111	3.79	Q V				
11+50	1.3376	3.84	Q V				
11+55	1.3661	4.15	Q V				
12+ 0	1.3955	4.27	Q V				
12+ 5	1.4309	5.14	QV				
12+10	1.4824	7.47	V Q				
12+15	1.5397	8.32	V Q				
12+20	1.6006	8.85	V Q				
12+25	1.6656	9.43	V Q				
12+30	1.7325	9.72	V Q				
12+35	1.8023	10.13	V Q				
12+40	1.8775	10.91	V Q				
12+45	1.9549	11.25	V Q				
12+50	2.0342	11.52	V Q				
12+55	2.1165	11.95	V Q				
13+ 0	2.2002	12.15	V Q				
13+ 5	2.2886	12.84	V Q				
13+10	2.3888	14.55	V Q				
13+15	2.4934	15.20	V Q				
13+20	2.6002	15.50	V Q				
13+25	2.7083	15.70	V Q				
13+30	2.8174	15.84	V Q				
13+35	2.9184	14.66	V Q				
13+40	2.9953	11.17	QV				
13+45	3.0639	9.96	Q V				
13+50	3.1289	9.44	Q V				
13+55	3.1919	9.15	Q V				
14+ 0	3.2537	8.98	Q V				
14+ 5	3.3180	9.34	Q V				
14+10	3.3910	10.59	Q V				
14+15	3.4667	11.00	Q V				
14+20	3.5434	11.13	Q V				
14+25	3.6188	10.96	Q V				
14+30	3.6943	10.95	Q V				
14+35	3.7699	10.99	Q V				
14+40	3.8459	11.02	Q V				
14+45	3.9221	11.07	Q V				
14+50	3.9977	10.98	Q V				
14+55	4.0712	10.68	Q V				
15+ 0	4.1441	10.59	Q V				
15+ 5	4.2161	10.45	Q V				
15+10	4.2859	10.13	Q V				
15+15	4.3550	10.03	Q V				
15+20	4.4231	9.89	Q V				
15+25	4.4890	9.56	Q V				
15+30	4.5540	9.45	Q V				
15+35	4.6157	8.96	Q V				
15+40	4.6684	7.65	Q V				
15+45	4.7180	7.19	Q V				
15+50	4.7662	7.01	Q V				
15+55	4.8139	6.92	Q V				
16+ 0	4.8611	6.86	Q V				
16+ 5	4.9006	5.74	Q V				
16+10	4.9186	2.61	Q V				

16+15	4.9289	1.48	| Q	|	|	|	V |
16+20	4.9357	1.00	|Q	|	|	|	V |
16+25	4.9407	0.72	|Q	|	|	|	V |
16+30	4.9444	0.54	|Q	|	|	|	V |
16+35	4.9472	0.41	Q	|	|	|	V|
16+40	4.9493	0.30	Q	|	|	|	V|
16+45	4.9508	0.22	Q	|	|	|	V|
16+50	4.9522	0.21	Q	|	|	|	V|
16+55	4.9537	0.21	Q	|	|	|	V|
17+ 0	4.9551	0.21	Q	|	|	|	V|
17+ 5	4.9567	0.23	Q	|	|	|	V|
17+10	4.9587	0.29	Q	|	|	|	V|
17+15	4.9609	0.32	Q	|	|	|	V|
17+20	4.9631	0.33	Q	|	|	|	V|
17+25	4.9654	0.33	Q	|	|	|	V|
17+30	4.9678	0.34	Q	|	|	|	V|
17+35	4.9701	0.34	Q	|	|	|	V|
17+40	4.9724	0.34	Q	|	|	|	V|
17+45	4.9748	0.34	Q	|	|	|	V|
17+50	4.9771	0.33	Q	|	|	|	V|
17+55	4.9791	0.30	Q	|	|	|	V|
18+ 0	4.9811	0.29	Q	|	|	|	V|
18+ 5	4.9830	0.28	Q	|	|	|	V|
18+10	4.9849	0.28	Q	|	|	|	V|
18+15	4.9868	0.28	Q	|	|	|	V|
18+20	4.9887	0.28	Q	|	|	|	V|
18+25	4.9906	0.27	Q	|	|	|	V|
18+30	4.9925	0.27	Q	|	|	|	V|
18+35	4.9943	0.26	Q	|	|	|	V|
18+40	4.9959	0.23	Q	|	|	|	V|
18+45	4.9974	0.22	Q	|	|	|	V|
18+50	4.9988	0.20	Q	|	|	|	V|
18+55	4.9999	0.17	Q	|	|	|	V|
19+ 0	5.0010	0.15	Q	|	|	|	V|
19+ 5	5.0021	0.16	Q	|	|	|	V|
19+10	5.0033	0.19	Q	|	|	|	V|
19+15	5.0047	0.20	Q	|	|	|	V|
19+20	5.0061	0.21	Q	|	|	|	V|
19+25	5.0078	0.25	Q	|	|	|	V|
19+30	5.0096	0.26	Q	|	|	|	V|
19+35	5.0113	0.25	Q	|	|	|	V|
19+40	5.0129	0.22	Q	|	|	|	V|
19+45	5.0144	0.22	Q	|	|	|	V|
19+50	5.0158	0.20	Q	|	|	|	V|
19+55	5.0169	0.17	Q	|	|	|	V|
20+ 0	5.0179	0.15	Q	|	|	|	V|
20+ 5	5.0190	0.16	Q	|	|	|	V|
20+10	5.0203	0.19	Q	|	|	|	V|
20+15	5.0216	0.20	Q	|	|	|	V|
20+20	5.0230	0.20	Q	|	|	|	V|
20+25	5.0244	0.20	Q	|	|	|	V|
20+30	5.0258	0.20	Q	|	|	|	V|
20+35	5.0272	0.20	Q	|	|	|	V|
20+40	5.0286	0.20	Q	|	|	|	V|
20+45	5.0300	0.21	Q	|	|	|	V|
20+50	5.0314	0.19	Q	|	|	|	V|
20+55	5.0325	0.16	Q	|	|	|	V|
21+ 0	5.0335	0.15	Q	|	|	|	V|
21+ 5	5.0346	0.16	Q	|	|	|	V|
21+10	5.0359	0.19	Q	|	|	|	V|
21+15	5.0372	0.20	Q	|	|	|	V|
21+20	5.0385	0.19	Q	|	|	|	V|
21+25	5.0396	0.16	Q	|	|	|	V|
21+30	5.0406	0.15	Q	|	|	|	V|
21+35	5.0416	0.15	Q	|	|	|	V|
21+40	5.0429	0.18	Q	|	|	|	V|
21+45	5.0443	0.20	Q	|	|	|	V|
21+50	5.0456	0.19	Q	|	|	|	V|

21+55	5.0466	0.16	Q	|	|	|	V|
22+ 0	5.0476	0.15	Q	|	|	|	V|
22+ 5	5.0487	0.15	Q	|	|	|	V|
22+10	5.0500	0.18	Q	|	|	|	V|
22+15	5.0513	0.20	Q	|	|	|	V|
22+20	5.0526	0.19	Q	|	|	|	V|
22+25	5.0537	0.16	Q	|	|	|	V|
22+30	5.0547	0.15	Q	|	|	|	V|
22+35	5.0557	0.14	Q	|	|	|	V|
22+40	5.0567	0.14	Q	|	|	|	V|
22+45	5.0576	0.14	Q	|	|	|	V|
22+50	5.0586	0.14	Q	|	|	|	V|
22+55	5.0595	0.14	Q	|	|	|	V|
23+ 0	5.0605	0.14	Q	|	|	|	V|
23+ 5	5.0614	0.14	Q	|	|	|	V|
23+10	5.0624	0.14	Q	|	|	|	V|
23+15	5.0633	0.14	Q	|	|	|	V|
23+20	5.0642	0.14	Q	|	|	|	V|
23+25	5.0652	0.14	Q	|	|	|	V|
23+30	5.0661	0.14	Q	|	|	|	V|
23+35	5.0671	0.14	Q	|	|	|	V|
23+40	5.0680	0.14	Q	|	|	|	V|
23+45	5.0690	0.14	Q	|	|	|	V|
23+50	5.0699	0.14	Q	|	|	|	V|
23+55	5.0708	0.14	Q	|	|	|	V|
24+ 0	5.0718	0.14	Q	|	|	|	V|
24+ 5	5.0726	0.11	Q	|	|	|	V|
24+10	5.0729	0.05	Q	|	|	|	V|
24+15	5.0731	0.03	Q	|	|	|	V|
24+20	5.0732	0.02	Q	|	|	|	V|
24+25	5.0732	0.01	Q	|	|	|	V|
24+30	5.0733	0.01	Q	|	|	|	V|
24+35	5.0733	0.00	Q	|	|	|	V|
24+40	5.0733	0.00	Q	|	|	|	V|

SECTION 3

PROPOSED
RATIONAL HYDROLOGY



LEGEND

———	MAJOR DRAINAGE BOUNDARY
- - - -	MINOR DRAINAGE BOUNDARY
←———	FLOW LINE
100 ●	NODE NUMBER
A24 / 2.51	AREA DESIGNATION / AREA ACREAGE (IN ACRES)
Q_{100}=8.0cfs, t=5.0	PEAK FLOW RATE / TIME OF CONCENTRATION
ΣQ_{100}=10.0cfs, t=15.0	PEAK CONFLUENCE FLOW RATE / TIME OF CONCENTRATION
———	PROPOSED STORM DRAIN
A	SOIL GROUP
EL. 1045.0	PROPOSED GROUND ELEVATION
INV. 1045.0	PROPOSED PIPE INVERT

100 50 0 100 200
GRAPHIC SCALE: 1"=100'

PREPARED BY:

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(EXHIBIT 3)
HYDROLOGY MAP FOR TTM 37036 - PARCEL 1 PROPOSED CONDITION (RATIONAL METHOD)

PLOTTED BY: joanna DATE: Apr. 06, 2018 TIME: 09:08 AM F:\0853\Engineering\Hydrology\McMILLAN-H&H STUDY\HYDROLOGY MAP-PROPOSED.dwg

RATIONAL METHOD

2-YEAR STORM EVENT

PROPOSED CONDITION

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/18 File:MCMPR.out

TR 37036, PARCEL 1
PROPOSED CONDITION
2 YEAR STORM

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6406

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

2 year, 1 hour precipitation = 0.550(In.)
100 year, 1 hour precipitation = 1.360(In.)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.550(In/Hr)
Slope of intensity duration curve = 0.4300

++

Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 999.000(Ft.)
Top (of initial area) elevation = 1164.000(Ft.)
Bottom (of initial area) elevation = 1118.000(Ft.)
Difference in elevation = 46.000(Ft.)
Slope = 0.04605 s(percent)= 4.60
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 10.849 min.
Rainfall intensity = 1.147(In/Hr) for a 2.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.630
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 16.20
Pervious area fraction = 0.350; Impervious fraction = 0.650
Initial subarea runoff = 5.566(CFS)
Total initial stream area = 7.700(Ac.)
Pervious area fraction = 0.350

++

Process from Point/Station 1.000 to Point/Station 3.000
**** SUBAREA FLOW ADDITION ****

```
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.393
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  47.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Time of concentration =    10.85 min.
Rainfall intensity =      1.147(In/Hr) for a     2.0 year storm
Subarea runoff =      0.541(CFS) for      1.200(Ac.)
Total runoff =      6.107(CFS)   Total area =       8.900(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  1099.000(Ft.)
Downstream point/station elevation =  1096.000(Ft.)
Pipe length  =   303.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     6.107(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     6.107(CFS)
Normal flow depth in pipe =   11.67(In.)
Flow top width inside pipe =   12.47(In.)
Critical Depth =   11.99(In.)
Pipe flow velocity =      5.96(Ft/s)
Travel time through pipe =    0.85 min.
Time of concentration (TC) =    11.70 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
CONDOMINIUM subarea type
Runoff Coefficient = 0.629
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  16.20
Pervious area fraction =  0.350; Impervious fraction =  0.650
Time of concentration =    11.70 min.
Rainfall intensity =      1.111(In/Hr) for a     2.0 year storm
Subarea runoff =      4.819(CFS) for      6.900(Ac.)
Total runoff =     10.927(CFS)   Total area =      15.800(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        4.000
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1096.000(Ft.)
Downstream point elevation =  1095.000(Ft.)
Channel length thru subarea  =   274.000(Ft.)
Channel base width  =    0.000(Ft.)
Slope or 'Z' of left channel bank =   0.010
Slope or 'Z' of right channel bank =   0.010
Estimated mean flow rate at midpoint of channel =     11.382(CFS)
Manning's 'N'    = 0.020
Maximum depth of channel  =    3.000(Ft.)
Flow(q) thru subarea =     11.382(CFS)
Depth of flow =  61.145(Ft.), Average velocity =   3.180(Ft/s)
!!Warning: Water is above left or right bank elevations
Channel flow top width =    0.060(Ft.)
Flow Velocity =    3.18(Ft/s)
```

```
Travel time  =    1.44 min.
Time of concentration =   13.13 min.

Sub-Channel No. 1 Critical depth =     11.875(Ft.)
  '     '       '     Critical flow top width =      0.060(Ft.)
  '     '       '     Critical flow velocity=   18.284(Ft/s)
  '     '       '     Critical flow area =      0.622(Sq.Ft)

ERROR - Channel depth exceeds maximum allowable depth
 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.375
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  47.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.057(In/Hr) for a     2.0 year storm
Subarea runoff =      0.832(CFS) for      2.100(Ac.)
Total runoff =     11.759(CFS)   Total area =      17.900(Ac.)
Depth of flow =  62.324(Ft.), Average velocity =   3.222(Ft/s)
!!Warning: Water is above left or right bank elevations
ERROR - Channel depth exceeds maximum allowable depth

Sub-Channel No. 1 Critical depth =     12.125(Ft.)
  '     '       '     Critical flow top width =      0.060(Ft.)
  '     '       '     Critical flow velocity=   18.446(Ft/s)
  '     '       '     Critical flow area =      0.637(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.822
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  16.20
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    13.13 min.
Rainfall intensity =      1.057(In/Hr) for a     2.0 year storm
Subarea runoff =      2.867(CFS) for      3.300(Ac.)
Total runoff =     14.626(CFS)   Total area =      21.200(Ac.)
End of computations, total study area =           21.20 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.412
Area averaged RI index number =  37.4
```

RATIONAL METHOD

5-YEAR STORM EVENT

PROPOSED CONDITION

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/18 File:MCMPR.out

TR 37036, PARCEL 1
PROPOSED CONDITION
5 YEAR STORM

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6406

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 5.00 Antecedent Moisture Condition = 1

2 year, 1 hour precipitation = 0.550(In.)
100 year, 1 hour precipitation = 1.360(In.)

Storm event year = 5.0
Calculated rainfall intensity data:
1 hour intensity = 0.740(In/Hr)
Slope of intensity duration curve = 0.4300

++

Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 999.000(Ft.)
Top (of initial area) elevation = 1164.000(Ft.)
Bottom (of initial area) elevation = 1118.000(Ft.)
Difference in elevation = 46.000(Ft.)
Slope = 0.04605 s(percent)= 4.60
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 10.849 min.
Rainfall intensity = 1.543(In/Hr) for a 5.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.643
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 16.20
Pervious area fraction = 0.350; Impervious fraction = 0.650
Initial subarea runoff = 7.636(CFS)
Total initial stream area = 7.700(Ac.)
Pervious area fraction = 0.350

++

Process from Point/Station 1.000 to Point/Station 3.000
**** SUBAREA FLOW ADDITION ****

UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.459

```
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  47.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Time of concentration =    10.85 min.
Rainfall intensity =      1.543(In/Hr) for a     5.0 year storm
Subarea runoff =      0.851(CFS) for      1.200(Ac.)
Total runoff =      8.487(CFS)   Total area =       8.900(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1099.000(Ft.)
Downstream point/station elevation =  1096.000(Ft.)
Pipe length  =   303.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     8.487(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =     8.487(CFS)
Normal flow depth in pipe =   12.30(In.)
Flow top width inside pipe =   16.74(In.)
Critical Depth =   13.54(In.)
Pipe flow velocity =      6.59(Ft/s)
Travel time through pipe =    0.77 min.
Time of concentration (TC) =    11.62 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
CONDOMINIUM subarea type
Runoff Coefficient = 0.641
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  16.20
Pervious area fraction =  0.350; Impervious fraction =  0.650
Time of concentration =    11.62 min.
Rainfall intensity =      1.499(In/Hr) for a     5.0 year storm
Subarea runoff =      6.631(CFS) for      6.900(Ac.)
Total runoff =     15.118(CFS)   Total area =      15.800(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        4.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1096.000(Ft.)
Downstream point elevation =  1095.000(Ft.)
Channel length thru subarea  =   274.000(Ft.)
Channel base width  =    0.000(Ft.)
Slope or 'Z' of left channel bank =   0.010
Slope or 'Z' of right channel bank =   0.010
Estimated mean flow rate at midpoint of channel =     15.827(CFS)
Manning's 'N'    = 0.020
Maximum depth of channel  =    3.000(Ft.)
Flow(q) thru subarea =     15.827(CFS)
Depth of flow =  74.193(Ft.), Average velocity =   3.629(Ft/s)
!!Warning: Water is above left or right bank elevations
Channel flow top width =    0.060(Ft.)
Flow Velocity =    3.63(Ft/s)
Travel time  =    1.26 min.
Time of concentration =   12.87 min.

Sub-Channel No. 1 Critical depth =     14.500(Ft.)
```

```
  '     '       '     Critical flow top width =      0.060(Ft.)
  '     '       '     Critical flow velocity=   20.291(Ft/s)
  '     '       '     Critical flow area =      0.780(Sq.Ft)

ERROR - Channel depth exceeds maximum allowable depth
 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.443
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  47.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.434(In/Hr) for a     5.0 year storm
Subarea runoff =      1.334(CFS) for      2.100(Ac.)
Total runoff =     16.452(CFS)   Total area =      17.900(Ac.)
Depth of flow =  75.901(Ft.), Average velocity =   3.685(Ft/s)
!!Warning: Water is above left or right bank elevations
ERROR - Channel depth exceeds maximum allowable depth

Sub-Channel No. 1 Critical depth =     14.750(Ft.)
  '     '       '     Critical flow top width =      0.060(Ft.)
  '     '       '     Critical flow velocity=   20.694(Ft/s)
  '     '       '     Critical flow area =      0.795(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.825
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  16.20
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    12.87 min.
Rainfall intensity =      1.434(In/Hr) for a     5.0 year storm
Subarea runoff =      3.906(CFS) for      3.300(Ac.)
Total runoff =     20.358(CFS)   Total area =      21.200(Ac.)
End of computations, total study area =           21.20 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.412
Area averaged RI index number =  37.4
```

RATIONAL METHOD

10-YEAR STORM EVENT

PROPOSED CONDITION

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/18 File:MCMPR.out

TR 37036, PARCEL 1
PROPOSED CONDITION
10 YEAR STORM

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6406

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.550(In.)
100 year, 1 hour precipitation = 1.360(In.)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.883(In/Hr)
Slope of intensity duration curve = 0.4300

++

Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 999.000(Ft.)
Top (of initial area) elevation = 1164.000(Ft.)
Bottom (of initial area) elevation = 1118.000(Ft.)
Difference in elevation = 46.000(Ft.)
Slope = 0.04605 s(percent)= 4.60
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 10.849 min.
Rainfall intensity = 1.843(In/Hr) for a 10.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.709
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 32.00
Pervious area fraction = 0.350; Impervious fraction = 0.650
Initial subarea runoff = 10.062(CFS)
Total initial stream area = 7.700(Ac.)
Pervious area fraction = 0.350

++

Process from Point/Station 1.000 to Point/Station 3.000
**** SUBAREA FLOW ADDITION ****

```
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.664
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Time of concentration =    10.85 min.
Rainfall intensity =      1.843(In/Hr) for a    10.0 year storm
Subarea runoff =      1.467(CFS) for      1.200(Ac.)
Total runoff =     11.529(CFS)   Total area =       8.900(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  1099.000(Ft.)
Downstream point/station elevation =  1096.000(Ft.)
Pipe length  =   303.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    11.529(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    11.529(CFS)
Normal flow depth in pipe =   13.34(In.)
Flow top width inside pipe =   20.22(In.)
Critical Depth =   15.18(In.)
Pipe flow velocity =      7.16(Ft/s)
Travel time through pipe =    0.71 min.
Time of concentration (TC) =    11.55 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
CONDOMINIUM subarea type
Runoff Coefficient = 0.707
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.350; Impervious fraction =  0.650
Time of concentration =    11.55 min.
Rainfall intensity =      1.793(In/Hr) for a    10.0 year storm
Subarea runoff =      8.750(CFS) for      6.900(Ac.)
Total runoff =     20.280(CFS)   Total area =      15.800(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        4.000
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1096.000(Ft.)
Downstream point elevation =  1095.000(Ft.)
Channel length thru subarea  =   274.000(Ft.)
Channel base width  =    0.000(Ft.)
Slope or 'Z' of left channel bank =   0.010
Slope or 'Z' of right channel bank =   0.010
Estimated mean flow rate at midpoint of channel =     21.502(CFS)
Manning's 'N'    = 0.020
Maximum depth of channel  =    3.000(Ft.)
Flow(q) thru subarea =     21.502(CFS)
Depth of flow =  88.864(Ft.), Average velocity =   4.102(Ft/s)
!!Warning: Water is above left or right bank elevations
Channel flow top width =    0.060(Ft.)
Flow Velocity =    4.10(Ft/s)
```

```
Travel time  =    1.11 min.
Time of concentration =   12.67 min.

Sub-Channel No. 1 Critical depth =     17.375(Ft.)
  '     '       '     Critical flow top width =      0.060(Ft.)
  '     '       '     Critical flow velocity=   22.574(Ft/s)
  '     '       '     Critical flow area =      0.952(Sq.Ft)

ERROR - Channel depth exceeds maximum allowable depth
 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.652
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.724(In/Hr) for a    10.0 year storm
Subarea runoff =      2.359(CFS) for      2.100(Ac.)
Total runoff =     22.639(CFS)   Total area =      17.900(Ac.)
Depth of flow =  91.609(Ft.), Average velocity =   4.187(Ft/s)
!!Warning: Water is above left or right bank elevations
ERROR - Channel depth exceeds maximum allowable depth

Sub-Channel No. 1 Critical depth =     18.000(Ft.)
  '     '       '     Critical flow top width =      0.060(Ft.)
  '     '       '     Critical flow velocity=   22.868(Ft/s)
  '     '       '     Critical flow area =      0.990(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.844
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    12.67 min.
Rainfall intensity =      1.724(In/Hr) for a    10.0 year storm
Subarea runoff =      4.802(CFS) for      3.300(Ac.)
Total runoff =     27.441(CFS)   Total area =      21.200(Ac.)
End of computations, total study area =           21.20 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.412
Area averaged RI index number =  37.4
```

RATIONAL METHOD

100-YEAR STORM EVENT

PROPOSED CONDITION

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/18 File:MCMPR.out

TR 37036, PARCEL 1
PROPOSED CONDITION
100 YEAR STORM

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6406

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.550(In.)
100 year, 1 hour precipitation = 1.360(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.360(In/Hr)
Slope of intensity duration curve = 0.4300

++

Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 999.000(Ft.)
Top (of initial area) elevation = 1164.000(Ft.)
Bottom (of initial area) elevation = 1118.000(Ft.)
Difference in elevation = 46.000(Ft.)
Slope = 0.04605 s(percent)= 4.60
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 10.849 min.
Rainfall intensity = 2.837(In/Hr) for a 100.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.743
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 32.00
Pervious area fraction = 0.350; Impervious fraction = 0.650
Initial subarea runoff = 16.225(CFS)
Total initial stream area = 7.700(Ac.)
Pervious area fraction = 0.350

++

Process from Point/Station 1.000 to Point/Station 3.000
**** SUBAREA FLOW ADDITION ****

```
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.731
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Time of concentration =    10.85 min.
Rainfall intensity =      2.837(In/Hr) for a   100.0 year storm
Subarea runoff =      2.488(CFS) for      1.200(Ac.)
Total runoff =     18.713(CFS)   Total area =       8.900(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  1099.000(Ft.)
Downstream point/station elevation =  1096.000(Ft.)
Pipe length  =   303.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    18.713(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =    18.713(CFS)
Normal flow depth in pipe =   16.71(In.)
Flow top width inside pipe =   22.07(In.)
Critical Depth =   18.69(In.)
Pipe flow velocity =      8.01(Ft/s)
Travel time through pipe =    0.63 min.
Time of concentration (TC) =    11.48 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
CONDOMINIUM subarea type
Runoff Coefficient = 0.741
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.350; Impervious fraction =  0.650
Time of concentration =    11.48 min.
Rainfall intensity =      2.769(In/Hr) for a   100.0 year storm
Subarea runoff =     14.154(CFS) for      6.900(Ac.)
Total runoff =     32.867(CFS)   Total area =      15.800(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        4.000
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1096.000(Ft.)
Downstream point elevation =  1095.000(Ft.)
Channel length thru subarea  =   274.000(Ft.)
Channel base width  =    0.000(Ft.)
Slope or 'Z' of left channel bank =   0.010
Slope or 'Z' of right channel bank =   0.010
Estimated mean flow rate at midpoint of channel =     34.938(CFS)
Manning's 'N'    = 0.020
Maximum depth of channel  =    3.000(Ft.)
Flow(q) thru subarea =     34.938(CFS)
Depth of flow = 118.405(Ft.), Average velocity =   4.981(Ft/s)
!!Warning: Water is above left or right bank elevations
Channel flow top width =    0.060(Ft.)
Flow Velocity =    4.98(Ft/s)
```

```
Travel time  =    0.92 min.
Time of concentration =   12.40 min.

Sub-Channel No. 1 Critical depth =     23.500(Ft.)
  '     '       '     Critical flow top width =      0.060(Ft.)
  '     '       '     Critical flow velocity=   26.469(Ft/s)
  '     '       '     Critical flow area =      1.320(Sq.Ft)

ERROR - Channel depth exceeds maximum allowable depth
 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.723
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      2.679(In/Hr) for a   100.0 year storm
Subarea runoff =      4.067(CFS) for      2.100(Ac.)
Total runoff =     36.934(CFS)   Total area =      17.900(Ac.)
Depth of flow = 122.367(Ft.), Average velocity =   5.093(Ft/s)
!!Warning: Water is above left or right bank elevations
ERROR - Channel depth exceeds maximum allowable depth

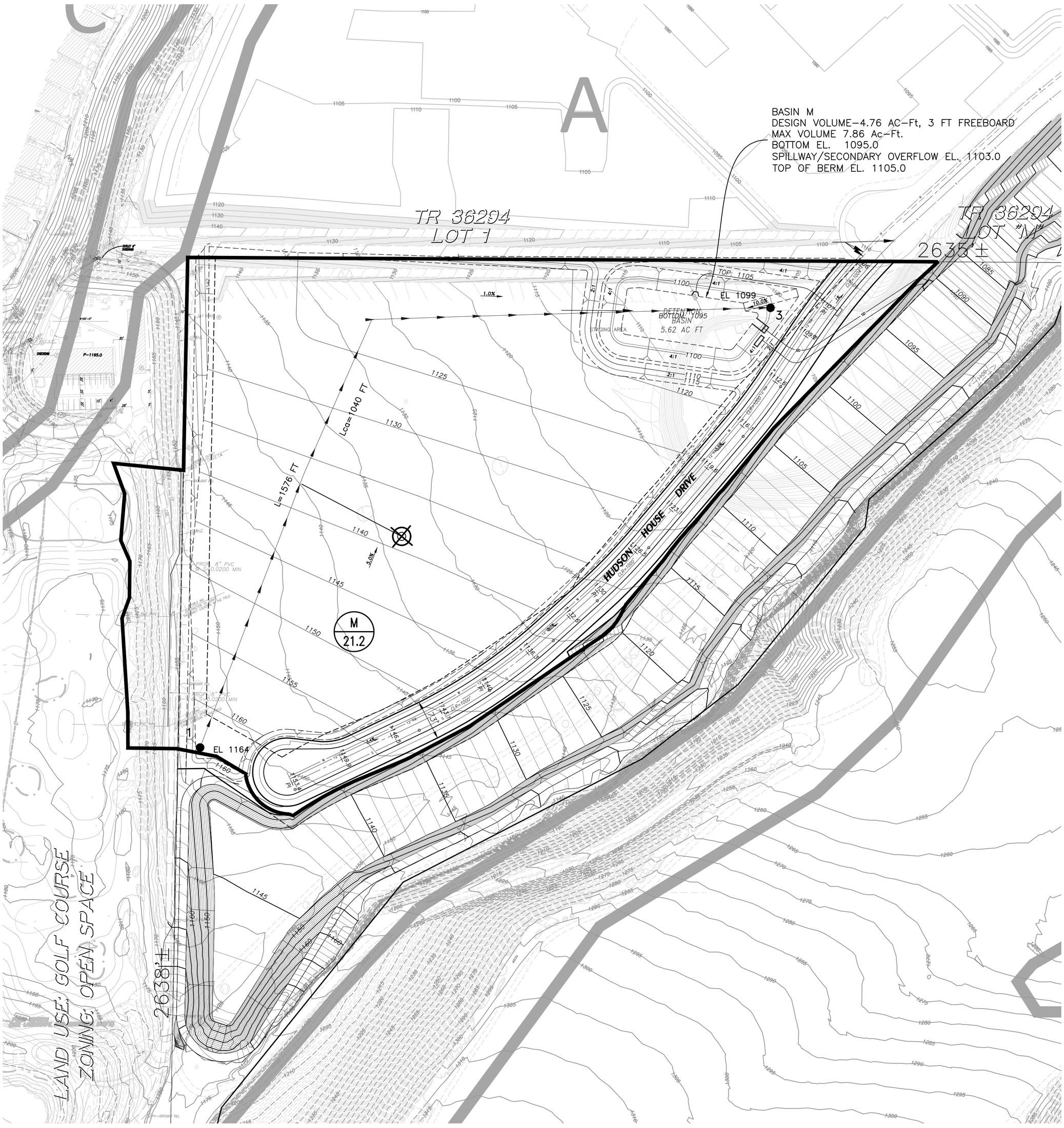
Sub-Channel No. 1 Critical depth =     24.250(Ft.)
  '     '       '     Critical flow top width =      0.060(Ft.)
  '     '       '     Critical flow velocity=   27.058(Ft/s)
  '     '       '     Critical flow area =      1.365(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.854
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    12.40 min.
Rainfall intensity =      2.679(In/Hr) for a   100.0 year storm
Subarea runoff =      7.549(CFS) for      3.300(Ac.)
Total runoff =     44.483(CFS)   Total area =      21.200(Ac.)
End of computations, total study area =           21.20 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.412
Area averaged RI index number =  37.4
```

PROPOSED
UNIT HYDROGRAPH



AREA M WITH DETENTION BASIN M			
EVENT FREQ./DURATION		PEAK FLOW RATE (CFS)	
		NODE 3	OUTFLOW – NODE 3
2–YR	3–HR	11.53	0.26
	6–HR	10.73	0.38
	24–HR	4.36	0.67
5–YR	3–HR	17.27	0.37
	6–HR	14.53	0.51
	24–HR	6.61	1.10
10–YR	3–HR	23.35	0.49
	6–HR	19.47	0.69
	24–HR	8.31	5.44
100–YR	3–HR	39.06	1.02
	6–HR	31.51	1.19
	24–HR	17.40	15.50

LEGEND

- MAJOR DRAINAGE BOUNDARY
- MINOR DRAINAGE BOUNDARY
- FLOW LINE
- 100 — NODE NUMBER
- A24 / 2.51 — AREA DESIGNATION / AREA ACREAGE (IN ACRES)
- PROPOSED STORM DRAIN
- A — SOIL GROUP
- EL. 1045.0 — PROPOSED GROUND ELEVATION

PREPARED BY:

HUNSAKER & ASSOCIATES
IRVINE, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
Three Hughes ▪ Irvine, CA 92618
FX: (949) 583-0759 ▪ PH: (949) 583-1010

100 50 0 100 200
GRAPHIC SCALE: 1"=100'

(EXHIBIT 4)
HYDROLOGY MAP FOR TTM 37036 - PARCEL 1 PROPOSED CONDITION (UNIT HYDROGRAPH METOD)

PLOTTED BY: joanna DATE: Apr. 06, 2018 TIME: 09:10 AM F:\0853\Engineering\Hydrology\McMILLAN–H&H STUDY\HYDROLOGY MAP–UH–PROP.dwg

UNIT HYDROGRAPH

2-YEAR,
1, 3, 6, 24 HOURS
STORM EVENTS

PROPOSED CONDITION

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR12.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
2 YEAR, 1 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	0.55	11.66

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.36	28.83

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.550(In)
Area Averaged 100-Year Rainfall = 1.360(In)

Point rain (area averaged) = 0.550(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 0.550(In)

Sub-Area Data:

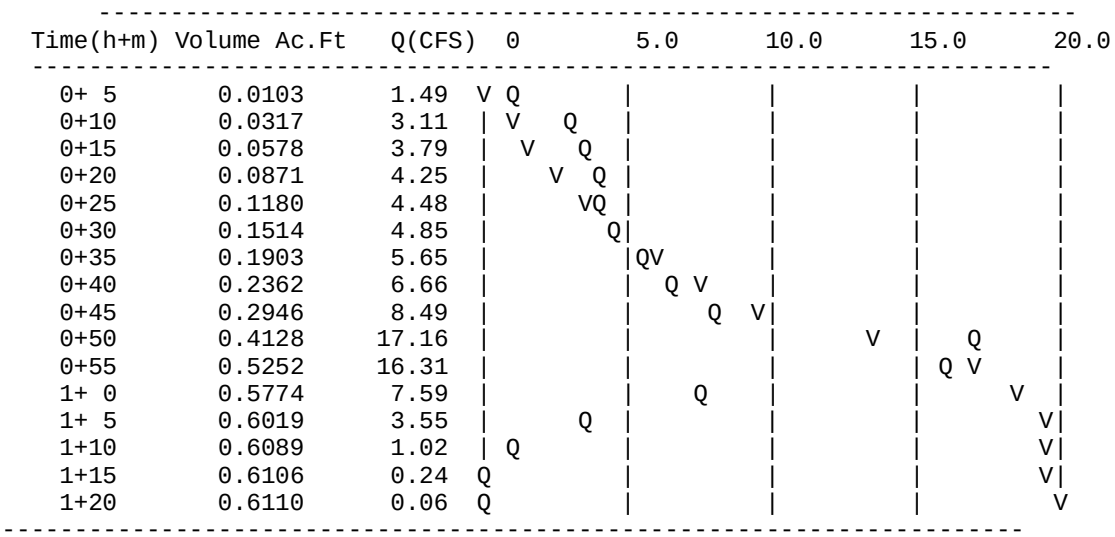
```
Area(Ac.)         Runoff Index   Impervious %
    21.200           37.40         0.600
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
37.4  19.9      0.841     0.600        0.387       1.000      0.387
                                                   Sum (F) =   0.387
Area averaged mean soil loss (F) (In/Hr) =  0.387
Minimum soil loss rate ((In/Hr)) =  0.193
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.420
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.4800
------------------------------------------------------------------------

             U n i t  H y d r o g r a p h
                    VALLEY S-Curve
------------------------------------------------------------------------
             Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        188.970         41.429             8.852
    2   0.167        377.940         44.144             9.432
    3   0.250        566.909          9.259             1.978
    4   0.333        755.879          3.697             0.790
    5   0.417        944.849          1.471             0.314
                              Sum = 100.000   Sum=      21.366
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.40      0.290       (  0.387)       0.122        0.168
   2   0.17     4.50      0.297       (  0.387)       0.125        0.172
   3   0.25     5.40      0.356       (  0.387)       0.150        0.207
   4   0.33     5.40      0.356       (  0.387)       0.150        0.207
   5   0.42     5.70      0.376       (  0.387)       0.158        0.218
   6   0.50     6.40      0.422       (  0.387)       0.177        0.245
   7   0.58     7.90      0.521       (  0.387)       0.219        0.302
   8   0.67     9.10      0.600       (  0.387)       0.252        0.348
   9   0.75    12.80      0.845       (  0.387)       0.355        0.490
  10   0.83    25.60      1.689          0.387    (  0.709)       1.303
  11   0.92     7.90      0.521       (  0.387)       0.219        0.302
  12   1.00     4.90      0.323       (  0.387)       0.136        0.188
            (Loss Rate Not Used)
     Sum =     100.0                                   Sum =     4.2
      Flood volume = Effective rainfall      0.35(In)
       times area      21.2(Ac.)/[(In)/(Ft.)] =       0.6(Ac.Ft)
      Total soil loss =      0.20(In)
      Total soil loss =     0.360(Ac.Ft)
      Total rainfall =      0.55(In)
      Flood volume =       26614.4 Cubic Feet
      Total soil loss =       15703.3 Cubic Feet
      ---------------------------------------------------------------
       Peak flow rate of this hydrograph =     17.164(CFS)
      ---------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))
```



Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0103	1.49	V Q				
0+10	0.0317	3.11	V Q				
0+15	0.0578	3.79	V Q				
0+20	0.0871	4.25	V Q				
0+25	0.1180	4.48	VQ				
0+30	0.1514	4.85	Q				
0+35	0.1903	5.65	QV				
0+40	0.2362	6.66	Q V				
0+45	0.2946	8.49	Q V				
0+50	0.4128	17.16			V	Q	
0+55	0.5252	16.31				Q V	
1+ 0	0.5774	7.59	Q			V	
1+ 5	0.6019	3.55	Q			V	
1+10	0.6089	1.02	Q			V	
1+15	0.6106	0.24	Q			V	
1+20	0.6110	0.06	Q			V	

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR32.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
2 YEAR, 3 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.00	21.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.40	50.88

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.400(In)

Point rain (area averaged) = 1.000(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	37.40	0.600

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
37.4	19.9	0.841	0.600	0.387	1.000	0.387
					Sum (F) =	0.387

Area averaged mean soil loss (F) (In/Hr) = 0.387
Minimum soil loss rate ((In/Hr)) = 0.193
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.420

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	188.970	41.429	8.852
2	0.167	377.940	44.144	9.432
3	0.250	566.909	9.259	1.978
4	0.333	755.879	3.697	0.790
5	0.417	944.849	1.471	0.314
			Sum = 100.000	Sum= 21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.156	(0.387)		0.066	0.090
2	0.17	1.30	0.156	(0.387)		0.066	0.090
3	0.25	1.10	0.132	(0.387)		0.055	0.077
4	0.33	1.50	0.180	(0.387)		0.076	0.104
5	0.42	1.50	0.180	(0.387)		0.076	0.104
6	0.50	1.80	0.216	(0.387)		0.091	0.125
7	0.58	1.50	0.180	(0.387)		0.076	0.104
8	0.67	1.80	0.216	(0.387)		0.091	0.125
9	0.75	1.80	0.216	(0.387)		0.091	0.125
10	0.83	1.50	0.180	(0.387)		0.076	0.104
11	0.92	1.60	0.192	(0.387)		0.081	0.111
12	1.00	1.80	0.216	(0.387)		0.091	0.125
13	1.08	2.20	0.264	(0.387)		0.111	0.153
14	1.17	2.20	0.264	(0.387)		0.111	0.153
15	1.25	2.20	0.264	(0.387)		0.111	0.153
16	1.33	2.00	0.240	(0.387)		0.101	0.139
17	1.42	2.60	0.312	(0.387)		0.131	0.181
18	1.50	2.70	0.324	(0.387)		0.136	0.188
19	1.58	2.40	0.288	(0.387)		0.121	0.167
20	1.67	2.70	0.324	(0.387)		0.136	0.188
21	1.75	3.30	0.396	(0.387)		0.166	0.230
22	1.83	3.10	0.372	(0.387)		0.156	0.216
23	1.92	2.90	0.348	(0.387)		0.146	0.202
24	2.00	3.00	0.360	(0.387)		0.151	0.209
25	2.08	3.10	0.372	(0.387)		0.156	0.216
26	2.17	4.20	0.504	(0.387)		0.212	0.292
27	2.25	5.00	0.600	(0.387)		0.252	0.348
28	2.33	3.50	0.420	(0.387)		0.176	0.244
29	2.42	6.80	0.816	(0.387)		0.343	0.473
30	2.50	7.30	0.876	(0.387)		0.368	0.508
31	2.58	8.20	0.984	0.387	(	0.413)	0.597

```
 32   2.67     5.90      0.708       (  0.387)       0.297        0.411
 33   2.75     2.00      0.240       (  0.387)       0.101        0.139
 34   2.83     1.80      0.216       (  0.387)       0.091        0.125
 35   2.92     1.80      0.216       (  0.387)       0.091        0.125
 36   3.00     0.60      0.072       (  0.387)       0.030        0.042
            (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     7.0
      Flood volume = Effective rainfall      0.58(In)
       times area      21.2(Ac.)/[(In)/(Ft.)] =       1.0(Ac.Ft)
      Total soil loss =      0.42(In)
      Total soil loss =     0.738(Ac.Ft)
      Total rainfall =      1.00(In)
      Flood volume =       44800.6 Cubic Feet
      Total soil loss =       32148.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     11.322(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0055      0.80  VQ        |         |         |         |
  0+10       0.0169      1.65  V  Q      |         |         |         |
  0+15       0.0287      1.71  |V Q      |         |         |         |
  0+20       0.0418      1.90  |V Q      |         |         |         |
  0+25       0.0566      2.16  | V Q     |         |         |         |
  0+30       0.0731      2.39  | V Q     |         |         |         |
  0+35       0.0898      2.42  |  VQ     |         |         |         |
  0+40       0.1067      2.46  |   Q     |         |         |         |
  0+45       0.1248      2.63  |   VQ    |         |         |         |
  0+50       0.1419      2.48  |   QV    |         |         |         |
  0+55       0.1581      2.35  |   Q V   |         |         |         |
  1+ 0       0.1753      2.51  |    QV   |         |         |         |
  1+ 5       0.1952      2.88  |    Q V  |         |         |         |
  1+10       0.2170      3.17  |     Q V |         |         |         |
  1+15       0.2393      3.24  |     Q  V|         |         |         |
  1+20       0.2609      3.14  |     Q   V         |         |         |
  1+25       0.2842      3.39  |     Q   |V        |         |         |
  1+30       0.3105      3.82  |      Q  | V       |         |         |
  1+35       0.3365      3.77  |      Q  |  V      |         |         |
  1+40       0.3626      3.80  |      Q  |   V     |         |         |
  1+45       0.3926      4.34  |       Q |    V    |         |         |
  1+50       0.4245      4.64  |        Q|     V   |         |         |
  1+55       0.4554      4.48  |       Q |      V  |         |         |
  2+ 0       0.4858      4.42  |       Q |       V |         |         |
  2+ 5       0.5170      4.52  |        Q|         V         |         |
  2+10       0.5532      5.26  |         Q         |V        |         |
  2+15       0.5980      6.50  |         | Q       |  V      |         |
  2+20       0.6410      6.26  |         | Q       |   V     |         |
  2+25       0.6925      7.48  |         |   Q     |     V   |         |
  2+30       0.7601      9.81  |         |        Q|        V|         |
  2+35       0.8381     11.32  |         |         | Q       | V       |
  2+40       0.9120     10.73  |         |         |Q        |    V    |
  2+45       0.9591      6.84  |         |  Q      |         |      V  |
  2+50       0.9857      3.87  |      Q  |         |         |       V |
  2+55       1.0069      3.08  |     Q   |         |         |        V|
  3+ 0       1.0210      2.04  |   Q     |         |         |        V|
  3+ 5       1.0264      0.78  |Q        |         |         |        V|
  3+10       1.0279      0.22  Q         |         |         |        V|
  3+15       1.0284      0.07  Q         |         |         |        V|
  3+20       1.0285      0.01  Q         |         |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR62.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
2 YEAR, 6 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.40	29.68

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	3.00	63.60

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.400(In)
Area Averaged 100-Year Rainfall = 3.000(In)

Point rain (area averaged) = 1.400(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	37.40	0.600

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
37.4	19.9	0.841	0.600	0.387	1.000	0.387
					Sum (F) =	0.387

Area averaged mean soil loss (F) (In/Hr) = 0.387
Minimum soil loss rate ((In/Hr)) = 0.193
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.420

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	188.970	41.429	8.852
2	0.167	377.940	44.144	9.432
3	0.250	566.909	9.259	1.978
4	0.333	755.879	3.697	0.790
5	0.417	944.849	1.471	0.314
			Sum = 100.000	Sum= 21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.084	(0.387)		0.035	0.049
2	0.17	0.60	0.101	(0.387)		0.042	0.058
3	0.25	0.60	0.101	(0.387)		0.042	0.058
4	0.33	0.60	0.101	(0.387)		0.042	0.058
5	0.42	0.60	0.101	(0.387)		0.042	0.058
6	0.50	0.70	0.118	(0.387)		0.049	0.068
7	0.58	0.70	0.118	(0.387)		0.049	0.068
8	0.67	0.70	0.118	(0.387)		0.049	0.068
9	0.75	0.70	0.118	(0.387)		0.049	0.068
10	0.83	0.70	0.118	(0.387)		0.049	0.068
11	0.92	0.70	0.118	(0.387)		0.049	0.068
12	1.00	0.80	0.134	(0.387)		0.056	0.078
13	1.08	0.80	0.134	(0.387)		0.056	0.078
14	1.17	0.80	0.134	(0.387)		0.056	0.078
15	1.25	0.80	0.134	(0.387)		0.056	0.078
16	1.33	0.80	0.134	(0.387)		0.056	0.078
17	1.42	0.80	0.134	(0.387)		0.056	0.078
18	1.50	0.80	0.134	(0.387)		0.056	0.078
19	1.58	0.80	0.134	(0.387)		0.056	0.078
20	1.67	0.80	0.134	(0.387)		0.056	0.078
21	1.75	0.80	0.134	(0.387)		0.056	0.078
22	1.83	0.80	0.134	(0.387)		0.056	0.078
23	1.92	0.80	0.134	(0.387)		0.056	0.078
24	2.00	0.90	0.151	(0.387)		0.063	0.088
25	2.08	0.80	0.134	(0.387)		0.056	0.078
26	2.17	0.90	0.151	(0.387)		0.063	0.088
27	2.25	0.90	0.151	(0.387)		0.063	0.088
28	2.33	0.90	0.151	(0.387)		0.063	0.088
29	2.42	0.90	0.151	(0.387)		0.063	0.088
30	2.50	0.90	0.151	(0.387)		0.063	0.088
31	2.58	0.90	0.151	(0.387)		0.063	0.088

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32   2.67     0.90      0.151       (  0.387)       0.063        0.088
33   2.75     1.00      0.168       (  0.387)       0.071        0.097
34   2.83     1.00      0.168       (  0.387)       0.071        0.097
35   2.92     1.00      0.168       (  0.387)       0.071        0.097
36   3.00     1.00      0.168       (  0.387)       0.071        0.097
37   3.08     1.00      0.168       (  0.387)       0.071        0.097
38   3.17     1.10      0.185       (  0.387)       0.078        0.107
39   3.25     1.10      0.185       (  0.387)       0.078        0.107
40   3.33     1.10      0.185       (  0.387)       0.078        0.107
41   3.42     1.20      0.202       (  0.387)       0.085        0.117
42   3.50     1.30      0.218       (  0.387)       0.092        0.127
43   3.58     1.40      0.235       (  0.387)       0.099        0.136
44   3.67     1.40      0.235       (  0.387)       0.099        0.136
45   3.75     1.50      0.252       (  0.387)       0.106        0.146
46   3.83     1.50      0.252       (  0.387)       0.106        0.146
47   3.92     1.60      0.269       (  0.387)       0.113        0.156
48   4.00     1.60      0.269       (  0.387)       0.113        0.156
49   4.08     1.70      0.286       (  0.387)       0.120        0.166
50   4.17     1.80      0.302       (  0.387)       0.127        0.175
51   4.25     1.90      0.319       (  0.387)       0.134        0.185
52   4.33     2.00      0.336       (  0.387)       0.141        0.195
53   4.42     2.10      0.353       (  0.387)       0.148        0.205
54   4.50     2.10      0.353       (  0.387)       0.148        0.205
55   4.58     2.20      0.370       (  0.387)       0.155        0.214
56   4.67     2.30      0.386       (  0.387)       0.162        0.224
57   4.75     2.40      0.403       (  0.387)       0.169        0.234
58   4.83     2.40      0.403       (  0.387)       0.169        0.234
59   4.92     2.50      0.420       (  0.387)       0.176        0.244
60   5.00     2.60      0.437       (  0.387)       0.183        0.253
61   5.08     3.10      0.521       (  0.387)       0.219        0.302
62   5.17     3.60      0.605       (  0.387)       0.254        0.351
63   5.25     3.90      0.655       (  0.387)       0.275        0.380
64   5.33     4.20      0.706       (  0.387)       0.296        0.409
65   5.42     4.70      0.790       (  0.387)       0.332        0.458
66   5.50     5.60      0.941          0.387    (  0.395)        0.554
67   5.58     1.90      0.319       (  0.387)       0.134        0.185
68   5.67     0.90      0.151       (  0.387)       0.063        0.088
69   5.75     0.60      0.101       (  0.387)       0.042        0.058
70   5.83     0.50      0.084       (  0.387)       0.035        0.049
71   5.92     0.30      0.050       (  0.387)       0.021        0.029
72   6.00     0.20      0.034       (  0.387)       0.014        0.019
            (Loss Rate Not Used)
   Sum =     100.0                                   Sum =     9.8
     Flood volume = Effective rainfall      0.81(In)
      times area      21.2(Ac.)/[(In)/(Ft.)] =       1.4(Ac.Ft)
     Total soil loss =      0.59(In)
     Total soil loss =     1.037(Ac.Ft)
     Total rainfall =      1.40(In)
     Flood volume =       62537.7 Cubic Feet
     Total soil loss =       45192.9 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     10.449(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0030      0.43  Q         |         |         |         |
  0+10       0.0097      0.98  VQ        |         |         |         |
  0+15       0.0177      1.17  V Q       |         |         |         |
  0+20       0.0262      1.22  V Q       |         |         |         |
  0+25       0.0347      1.25  V Q       |         |         |         |
  0+30       0.0439      1.34  |VQ       |         |         |         |
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0+35      0.0538     1.43  |VQ       |         |         |         |
0+40      0.0637     1.45  |VQ       |         |         |         |
0+45      0.0738     1.45  | Q       |         |         |         |
0+50      0.0838     1.46  | Q       |         |         |         |
0+55      0.0938     1.46  | Q       |         |         |         |
1+ 0      0.1045     1.54  | VQ      |         |         |         |
1+ 5      0.1158     1.64  |  Q      |         |         |         |
1+10      0.1272     1.66  |  Q      |         |         |         |
1+15      0.1386     1.66  |  Q      |         |         |         |
1+20      0.1501     1.67  |  QV     |         |         |         |
1+25      0.1616     1.67  |  QV     |         |         |         |
1+30      0.1730     1.67  |  QV     |         |         |         |
1+35      0.1845     1.67  |  Q V    |         |         |         |
1+40      0.1960     1.67  |  Q V    |         |         |         |
1+45      0.2075     1.67  |  Q V    |         |         |         |
1+50      0.2189     1.67  |  Q  V   |         |         |         |
1+55      0.2304     1.67  |  Q  V   |         |         |         |
2+ 0      0.2425     1.75  |  Q  V   |         |         |         |
2+ 5      0.2546     1.76  |  Q   V  |         |         |         |
2+10      0.2668     1.77  |  Q   V  |         |         |         |
2+15      0.2795     1.85  |  Q   V  |         |         |         |
2+20      0.2924     1.87  |  Q    V |         |         |         |
2+25      0.3053     1.87  |  Q    V |         |         |         |
2+30      0.3182     1.87  |  Q    V |         |         |         |
2+35      0.3311     1.87  |  Q     V|         |         |         |
2+40      0.3440     1.87  |  Q     V|         |         |         |
2+45      0.3575     1.96  |  Q     V|         |         |         |
2+50      0.3717     2.05  |   Q     V         |         |         |
2+55      0.3859     2.07  |   Q     V         |         |         |
3+ 0      0.4003     2.08  |   Q     |V        |         |         |
3+ 5      0.4146     2.08  |   Q     |V        |         |         |
3+10      0.4295     2.17  |   Q     |V        |         |         |
3+15      0.4451     2.26  |   Q     | V       |         |         |
3+20      0.4608     2.28  |   Q     | V       |         |         |
3+25      0.4772     2.37  |   Q     |  V      |         |         |
3+30      0.4948     2.56  |    Q    |  V      |         |         |
3+35      0.5137     2.75  |    Q    |   V     |         |         |
3+40      0.5335     2.87  |    Q    |   V     |         |         |
3+45      0.5541     2.99  |    Q    |    V    |         |         |
3+50      0.5754     3.09  |     Q   |     V   |         |         |
3+55      0.5974     3.20  |     Q   |     V   |         |         |
4+ 0      0.6201     3.30  |     Q   |      V  |         |         |
4+ 5      0.6436     3.41  |     Q   |      V  |         |         |
4+10      0.6684     3.59  |      Q  |       V |         |         |
4+15      0.6945     3.79  |      Q  |        V|         |         |
4+20      0.7220     4.00  |      Q  |         V         |         |
4+25      0.7510     4.21  |       Q |         V         |         |
4+30      0.7808     4.33  |       Q |         |V        |         |
4+35      0.8115     4.45  |       Q |         | V       |         |
4+40      0.8434     4.64  |        Q|         |  V      |         |
4+45      0.8767     4.84  |        Q|         |   V     |         |
4+50      0.9108     4.95  |        Q|         |    V    |         |
4+55      0.9457     5.07  |         Q         |     V   |         |
5+ 0      0.9820     5.26  |         Q         |      V  |         |
5+ 5      1.0220     5.81  |         |Q        |       V |         |
5+10      1.0683     6.72  |         |  Q      |        V|         |
5+15      1.1203     7.55  |         |    Q    |         |V        |
5+20      1.1769     8.22  |         |     Q   |         | V       |
5+25      1.2392     9.04  |         |       Q |         |   V     |
5+30      1.3111    10.45  |         |         Q         |     V   |
5+35      1.3677     8.22  |         |     Q   |         |       V |
5+40      1.3960     4.11  |       Q |         |         |       V |
5+45      1.4118     2.29  |   Q     |         |         |        V|
5+50      1.4220     1.48  | Q       |         |         |        V|
5+55      1.4286     0.96  |Q        |         |         |        V|
6+ 0      1.4329     0.62  |Q        |         |         |        V|
6+ 5      1.4349     0.30  Q         |         |         |        V|
6+10      1.4355     0.08  Q         |         |         |        V|
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    6+15       1.4356      0.02  Q         |         |         |        V|
    6+20       1.4357      0.01  Q         |         |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
2 YEAR, 24 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.50	53.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	8.00	169.60

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 8.000(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

```
Area(Ac.)         Runoff Index   Impervious %
    21.200           37.40         0.600
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
37.4  19.9      0.841     0.600        0.387       1.000      0.387
                                                  Sum (F) =   0.387
Area averaged mean soil loss (F) (In/Hr) =  0.387
Minimum soil loss rate ((In/Hr)) =  0.193
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.420
--------------------------------------------------------------------

             U n i t  H y d r o g r a p h
                    VALLEY S-Curve
--------------------------------------------------------------------
             Unit Hydrograph Data
--------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
--------------------------------------------------------------------
    1   0.083        188.970         41.429             8.852
    2   0.167        377.940         44.144             9.432
    3   0.250        566.909          9.259             1.978
    4   0.333        755.879          3.697             0.790
    5   0.417        944.849          1.471             0.314
                              Sum = 100.000   Sum=      21.366
--------------------------------------------------------------------
```

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.020	(0.686)		0.008	0.012
2	0.17	0.07	0.020	(0.683)		0.008	0.012
3	0.25	0.07	0.020	(0.680)		0.008	0.012
4	0.33	0.10	0.030	(0.678)		0.013	0.017
5	0.42	0.10	0.030	(0.675)		0.013	0.017
6	0.50	0.10	0.030	(0.672)		0.013	0.017
7	0.58	0.10	0.030	(0.670)		0.013	0.017
8	0.67	0.10	0.030	(0.667)		0.013	0.017
9	0.75	0.10	0.030	(0.664)		0.013	0.017
10	0.83	0.13	0.040	(0.662)		0.017	0.023
11	0.92	0.13	0.040	(0.659)		0.017	0.023
12	1.00	0.13	0.040	(0.657)		0.017	0.023
13	1.08	0.10	0.030	(0.654)		0.013	0.017
14	1.17	0.10	0.030	(0.651)		0.013	0.017
15	1.25	0.10	0.030	(0.649)		0.013	0.017
16	1.33	0.10	0.030	(0.646)		0.013	0.017
17	1.42	0.10	0.030	(0.644)		0.013	0.017
18	1.50	0.10	0.030	(0.641)		0.013	0.017
19	1.58	0.10	0.030	(0.639)		0.013	0.017
20	1.67	0.10	0.030	(0.636)		0.013	0.017
21	1.75	0.10	0.030	(0.633)		0.013	0.017
22	1.83	0.13	0.040	(0.631)		0.017	0.023
23	1.92	0.13	0.040	(0.628)		0.017	0.023
24	2.00	0.13	0.040	(0.626)		0.017	0.023
25	2.08	0.13	0.040	(0.623)		0.017	0.023
26	2.17	0.13	0.040	(0.621)		0.017	0.023
27	2.25	0.13	0.040	(0.618)		0.017	0.023
28	2.33	0.13	0.040	(0.616)		0.017	0.023
29	2.42	0.13	0.040	(0.613)		0.017	0.023
30	2.50	0.13	0.040	(0.611)		0.017	0.023
31	2.58	0.17	0.050	(0.608)		0.021	0.029

32	2.67	0.17	0.050	(0.606)	0.021	0.029
33	2.75	0.17	0.050	(0.603)	0.021	0.029
34	2.83	0.17	0.050	(0.601)	0.021	0.029
35	2.92	0.17	0.050	(0.598)	0.021	0.029
36	3.00	0.17	0.050	(0.596)	0.021	0.029
37	3.08	0.17	0.050	(0.593)	0.021	0.029
38	3.17	0.17	0.050	(0.591)	0.021	0.029
39	3.25	0.17	0.050	(0.588)	0.021	0.029
40	3.33	0.17	0.050	(0.586)	0.021	0.029
41	3.42	0.17	0.050	(0.584)	0.021	0.029
42	3.50	0.17	0.050	(0.581)	0.021	0.029
43	3.58	0.17	0.050	(0.579)	0.021	0.029
44	3.67	0.17	0.050	(0.576)	0.021	0.029
45	3.75	0.17	0.050	(0.574)	0.021	0.029
46	3.83	0.20	0.060	(0.571)	0.025	0.035
47	3.92	0.20	0.060	(0.569)	0.025	0.035
48	4.00	0.20	0.060	(0.567)	0.025	0.035
49	4.08	0.20	0.060	(0.564)	0.025	0.035
50	4.17	0.20	0.060	(0.562)	0.025	0.035
51	4.25	0.20	0.060	(0.559)	0.025	0.035
52	4.33	0.23	0.070	(0.557)	0.029	0.041
53	4.42	0.23	0.070	(0.555)	0.029	0.041
54	4.50	0.23	0.070	(0.552)	0.029	0.041
55	4.58	0.23	0.070	(0.550)	0.029	0.041
56	4.67	0.23	0.070	(0.547)	0.029	0.041
57	4.75	0.23	0.070	(0.545)	0.029	0.041
58	4.83	0.27	0.080	(0.543)	0.034	0.046
59	4.92	0.27	0.080	(0.540)	0.034	0.046
60	5.00	0.27	0.080	(0.538)	0.034	0.046
61	5.08	0.20	0.060	(0.536)	0.025	0.035
62	5.17	0.20	0.060	(0.533)	0.025	0.035
63	5.25	0.20	0.060	(0.531)	0.025	0.035
64	5.33	0.23	0.070	(0.529)	0.029	0.041
65	5.42	0.23	0.070	(0.526)	0.029	0.041
66	5.50	0.23	0.070	(0.524)	0.029	0.041
67	5.58	0.27	0.080	(0.522)	0.034	0.046
68	5.67	0.27	0.080	(0.520)	0.034	0.046
69	5.75	0.27	0.080	(0.517)	0.034	0.046
70	5.83	0.27	0.080	(0.515)	0.034	0.046
71	5.92	0.27	0.080	(0.513)	0.034	0.046
72	6.00	0.27	0.080	(0.510)	0.034	0.046
73	6.08	0.30	0.090	(0.508)	0.038	0.052
74	6.17	0.30	0.090	(0.506)	0.038	0.052
75	6.25	0.30	0.090	(0.504)	0.038	0.052
76	6.33	0.30	0.090	(0.501)	0.038	0.052
77	6.42	0.30	0.090	(0.499)	0.038	0.052
78	6.50	0.30	0.090	(0.497)	0.038	0.052
79	6.58	0.33	0.100	(0.495)	0.042	0.058
80	6.67	0.33	0.100	(0.492)	0.042	0.058
81	6.75	0.33	0.100	(0.490)	0.042	0.058
82	6.83	0.33	0.100	(0.488)	0.042	0.058
83	6.92	0.33	0.100	(0.486)	0.042	0.058
84	7.00	0.33	0.100	(0.484)	0.042	0.058
85	7.08	0.33	0.100	(0.481)	0.042	0.058
86	7.17	0.33	0.100	(0.479)	0.042	0.058
87	7.25	0.33	0.100	(0.477)	0.042	0.058
88	7.33	0.37	0.110	(0.475)	0.046	0.064
89	7.42	0.37	0.110	(0.473)	0.046	0.064
90	7.50	0.37	0.110	(0.471)	0.046	0.064
91	7.58	0.40	0.120	(0.468)	0.050	0.070
92	7.67	0.40	0.120	(0.466)	0.050	0.070
93	7.75	0.40	0.120	(0.464)	0.050	0.070
94	7.83	0.43	0.130	(0.462)	0.055	0.075
95	7.92	0.43	0.130	(0.460)	0.055	0.075
96	8.00	0.43	0.130	(0.458)	0.055	0.075
97	8.08	0.50	0.150	(0.456)	0.063	0.087
98	8.17	0.50	0.150	(0.453)	0.063	0.087
99	8.25	0.50	0.150	(0.451)	0.063	0.087

100	8.33	0.50	0.150	(0.449)	0.063	0.087
101	8.42	0.50	0.150	(0.447)	0.063	0.087
102	8.50	0.50	0.150	(0.445)	0.063	0.087
103	8.58	0.53	0.160	(0.443)	0.067	0.093
104	8.67	0.53	0.160	(0.441)	0.067	0.093
105	8.75	0.53	0.160	(0.439)	0.067	0.093
106	8.83	0.57	0.170	(0.437)	0.071	0.099
107	8.92	0.57	0.170	(0.435)	0.071	0.099
108	9.00	0.57	0.170	(0.433)	0.071	0.099
109	9.08	0.63	0.190	(0.430)	0.080	0.110
110	9.17	0.63	0.190	(0.428)	0.080	0.110
111	9.25	0.63	0.190	(0.426)	0.080	0.110
112	9.33	0.67	0.200	(0.424)	0.084	0.116
113	9.42	0.67	0.200	(0.422)	0.084	0.116
114	9.50	0.67	0.200	(0.420)	0.084	0.116
115	9.58	0.70	0.210	(0.418)	0.088	0.122
116	9.67	0.70	0.210	(0.416)	0.088	0.122
117	9.75	0.70	0.210	(0.414)	0.088	0.122
118	9.83	0.73	0.220	(0.412)	0.092	0.128
119	9.92	0.73	0.220	(0.410)	0.092	0.128
120	10.00	0.73	0.220	(0.408)	0.092	0.128
121	10.08	0.50	0.150	(0.406)	0.063	0.087
122	10.17	0.50	0.150	(0.404)	0.063	0.087
123	10.25	0.50	0.150	(0.402)	0.063	0.087
124	10.33	0.50	0.150	(0.400)	0.063	0.087
125	10.42	0.50	0.150	(0.399)	0.063	0.087
126	10.50	0.50	0.150	(0.397)	0.063	0.087
127	10.58	0.67	0.200	(0.395)	0.084	0.116
128	10.67	0.67	0.200	(0.393)	0.084	0.116
129	10.75	0.67	0.200	(0.391)	0.084	0.116
130	10.83	0.67	0.200	(0.389)	0.084	0.116
131	10.92	0.67	0.200	(0.387)	0.084	0.116
132	11.00	0.67	0.200	(0.385)	0.084	0.116
133	11.08	0.63	0.190	(0.383)	0.080	0.110
134	11.17	0.63	0.190	(0.381)	0.080	0.110
135	11.25	0.63	0.190	(0.379)	0.080	0.110
136	11.33	0.63	0.190	(0.378)	0.080	0.110
137	11.42	0.63	0.190	(0.376)	0.080	0.110
138	11.50	0.63	0.190	(0.374)	0.080	0.110
139	11.58	0.57	0.170	(0.372)	0.071	0.099
140	11.67	0.57	0.170	(0.370)	0.071	0.099
141	11.75	0.57	0.170	(0.368)	0.071	0.099
142	11.83	0.60	0.180	(0.366)	0.076	0.104
143	11.92	0.60	0.180	(0.365)	0.076	0.104
144	12.00	0.60	0.180	(0.363)	0.076	0.104
145	12.08	0.83	0.250	(0.361)	0.105	0.145
146	12.17	0.83	0.250	(0.359)	0.105	0.145
147	12.25	0.83	0.250	(0.357)	0.105	0.145
148	12.33	0.87	0.260	(0.356)	0.109	0.151
149	12.42	0.87	0.260	(0.354)	0.109	0.151
150	12.50	0.87	0.260	(0.352)	0.109	0.151
151	12.58	0.93	0.280	(0.350)	0.118	0.162
152	12.67	0.93	0.280	(0.348)	0.118	0.162
153	12.75	0.93	0.280	(0.347)	0.118	0.162
154	12.83	0.97	0.290	(0.345)	0.122	0.168
155	12.92	0.97	0.290	(0.343)	0.122	0.168
156	13.00	0.97	0.290	(0.341)	0.122	0.168
157	13.08	1.13	0.340	(0.340)	0.143	0.197
158	13.17	1.13	0.340	(0.338)	0.143	0.197
159	13.25	1.13	0.340	(0.336)	0.143	0.197
160	13.33	1.13	0.340	(0.335)	0.143	0.197
161	13.42	1.13	0.340	(0.333)	0.143	0.197
162	13.50	1.13	0.340	(0.331)	0.143	0.197
163	13.58	0.77	0.230	(0.330)	0.097	0.133
164	13.67	0.77	0.230	(0.328)	0.097	0.133
165	13.75	0.77	0.230	(0.326)	0.097	0.133
166	13.83	0.77	0.230	(0.325)	0.097	0.133
167	13.92	0.77	0.230	(0.323)	0.097	0.133

168	14.00	0.77	0.230	(0.321)	0.097	0.133
169	14.08	0.90	0.270	(0.320)	0.113	0.157
170	14.17	0.90	0.270	(0.318)	0.113	0.157
171	14.25	0.90	0.270	(0.316)	0.113	0.157
172	14.33	0.87	0.260	(0.315)	0.109	0.151
173	14.42	0.87	0.260	(0.313)	0.109	0.151
174	14.50	0.87	0.260	(0.311)	0.109	0.151
175	14.58	0.87	0.260	(0.310)	0.109	0.151
176	14.67	0.87	0.260	(0.308)	0.109	0.151
177	14.75	0.87	0.260	(0.307)	0.109	0.151
178	14.83	0.83	0.250	(0.305)	0.105	0.145
179	14.92	0.83	0.250	(0.304)	0.105	0.145
180	15.00	0.83	0.250	(0.302)	0.105	0.145
181	15.08	0.80	0.240	(0.300)	0.101	0.139
182	15.17	0.80	0.240	(0.299)	0.101	0.139
183	15.25	0.80	0.240	(0.297)	0.101	0.139
184	15.33	0.77	0.230	(0.296)	0.097	0.133
185	15.42	0.77	0.230	(0.294)	0.097	0.133
186	15.50	0.77	0.230	(0.293)	0.097	0.133
187	15.58	0.63	0.190	(0.291)	0.080	0.110
188	15.67	0.63	0.190	(0.290)	0.080	0.110
189	15.75	0.63	0.190	(0.288)	0.080	0.110
190	15.83	0.63	0.190	(0.287)	0.080	0.110
191	15.92	0.63	0.190	(0.285)	0.080	0.110
192	16.00	0.63	0.190	(0.284)	0.080	0.110
193	16.08	0.13	0.040	(0.283)	0.017	0.023
194	16.17	0.13	0.040	(0.281)	0.017	0.023
195	16.25	0.13	0.040	(0.280)	0.017	0.023
196	16.33	0.13	0.040	(0.278)	0.017	0.023
197	16.42	0.13	0.040	(0.277)	0.017	0.023
198	16.50	0.13	0.040	(0.275)	0.017	0.023
199	16.58	0.10	0.030	(0.274)	0.013	0.017
200	16.67	0.10	0.030	(0.273)	0.013	0.017
201	16.75	0.10	0.030	(0.271)	0.013	0.017
202	16.83	0.10	0.030	(0.270)	0.013	0.017
203	16.92	0.10	0.030	(0.268)	0.013	0.017
204	17.00	0.10	0.030	(0.267)	0.013	0.017
205	17.08	0.17	0.050	(0.266)	0.021	0.029
206	17.17	0.17	0.050	(0.264)	0.021	0.029
207	17.25	0.17	0.050	(0.263)	0.021	0.029
208	17.33	0.17	0.050	(0.262)	0.021	0.029
209	17.42	0.17	0.050	(0.260)	0.021	0.029
210	17.50	0.17	0.050	(0.259)	0.021	0.029
211	17.58	0.17	0.050	(0.258)	0.021	0.029
212	17.67	0.17	0.050	(0.257)	0.021	0.029
213	17.75	0.17	0.050	(0.255)	0.021	0.029
214	17.83	0.13	0.040	(0.254)	0.017	0.023
215	17.92	0.13	0.040	(0.253)	0.017	0.023
216	18.00	0.13	0.040	(0.252)	0.017	0.023
217	18.08	0.13	0.040	(0.250)	0.017	0.023
218	18.17	0.13	0.040	(0.249)	0.017	0.023
219	18.25	0.13	0.040	(0.248)	0.017	0.023
220	18.33	0.13	0.040	(0.247)	0.017	0.023
221	18.42	0.13	0.040	(0.245)	0.017	0.023
222	18.50	0.13	0.040	(0.244)	0.017	0.023
223	18.58	0.10	0.030	(0.243)	0.013	0.017
224	18.67	0.10	0.030	(0.242)	0.013	0.017
225	18.75	0.10	0.030	(0.241)	0.013	0.017
226	18.83	0.07	0.020	(0.240)	0.008	0.012
227	18.92	0.07	0.020	(0.238)	0.008	0.012
228	19.00	0.07	0.020	(0.237)	0.008	0.012
229	19.08	0.10	0.030	(0.236)	0.013	0.017
230	19.17	0.10	0.030	(0.235)	0.013	0.017
231	19.25	0.10	0.030	(0.234)	0.013	0.017
232	19.33	0.13	0.040	(0.233)	0.017	0.023
233	19.42	0.13	0.040	(0.232)	0.017	0.023
234	19.50	0.13	0.040	(0.231)	0.017	0.023
235	19.58	0.10	0.030	(0.230)	0.013	0.017

236	19.67	0.10	0.030	(0.229)	0.013	0.017
237	19.75	0.10	0.030	(0.228)	0.013	0.017
238	19.83	0.07	0.020	(0.227)	0.008	0.012
239	19.92	0.07	0.020	(0.226)	0.008	0.012
240	20.00	0.07	0.020	(0.225)	0.008	0.012
241	20.08	0.10	0.030	(0.224)	0.013	0.017
242	20.17	0.10	0.030	(0.223)	0.013	0.017
243	20.25	0.10	0.030	(0.222)	0.013	0.017
244	20.33	0.10	0.030	(0.221)	0.013	0.017
245	20.42	0.10	0.030	(0.220)	0.013	0.017
246	20.50	0.10	0.030	(0.219)	0.013	0.017
247	20.58	0.10	0.030	(0.218)	0.013	0.017
248	20.67	0.10	0.030	(0.217)	0.013	0.017
249	20.75	0.10	0.030	(0.216)	0.013	0.017
250	20.83	0.07	0.020	(0.215)	0.008	0.012
251	20.92	0.07	0.020	(0.214)	0.008	0.012
252	21.00	0.07	0.020	(0.213)	0.008	0.012
253	21.08	0.10	0.030	(0.213)	0.013	0.017
254	21.17	0.10	0.030	(0.212)	0.013	0.017
255	21.25	0.10	0.030	(0.211)	0.013	0.017
256	21.33	0.07	0.020	(0.210)	0.008	0.012
257	21.42	0.07	0.020	(0.209)	0.008	0.012
258	21.50	0.07	0.020	(0.209)	0.008	0.012
259	21.58	0.10	0.030	(0.208)	0.013	0.017
260	21.67	0.10	0.030	(0.207)	0.013	0.017
261	21.75	0.10	0.030	(0.206)	0.013	0.017
262	21.83	0.07	0.020	(0.206)	0.008	0.012
263	21.92	0.07	0.020	(0.205)	0.008	0.012
264	22.00	0.07	0.020	(0.204)	0.008	0.012
265	22.08	0.10	0.030	(0.203)	0.013	0.017
266	22.17	0.10	0.030	(0.203)	0.013	0.017
267	22.25	0.10	0.030	(0.202)	0.013	0.017
268	22.33	0.07	0.020	(0.202)	0.008	0.012
269	22.42	0.07	0.020	(0.201)	0.008	0.012
270	22.50	0.07	0.020	(0.200)	0.008	0.012
271	22.58	0.07	0.020	(0.200)	0.008	0.012
272	22.67	0.07	0.020	(0.199)	0.008	0.012
273	22.75	0.07	0.020	(0.199)	0.008	0.012
274	22.83	0.07	0.020	(0.198)	0.008	0.012
275	22.92	0.07	0.020	(0.198)	0.008	0.012
276	23.00	0.07	0.020	(0.197)	0.008	0.012
277	23.08	0.07	0.020	(0.197)	0.008	0.012
278	23.17	0.07	0.020	(0.196)	0.008	0.012
279	23.25	0.07	0.020	(0.196)	0.008	0.012
280	23.33	0.07	0.020	(0.195)	0.008	0.012
281	23.42	0.07	0.020	(0.195)	0.008	0.012
282	23.50	0.07	0.020	(0.195)	0.008	0.012
283	23.58	0.07	0.020	(0.194)	0.008	0.012
284	23.67	0.07	0.020	(0.194)	0.008	0.012
285	23.75	0.07	0.020	(0.194)	0.008	0.012
286	23.83	0.07	0.020	(0.194)	0.008	0.012
287	23.92	0.07	0.020	(0.193)	0.008	0.012
288	24.00	0.07	0.020	(0.193)	0.008	0.012

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.4

Flood volume = Effective rainfall 1.45(In)
times area 21.2(Ac.)/[(In)/(Ft.)] = 2.6(Ac.Ft)
Total soil loss = 1.05(In)
Total soil loss = 1.855(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 111581.6 Cubic Feet
Total soil loss = 80800.5 Cubic Feet

Peak flow rate of this hydrograph = 4.215(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0007	0.10	Q				
0+10	0.0022	0.21	Q				
0+15	0.0038	0.24	Q				
0+20	0.0058	0.30	VQ				
0+25	0.0083	0.35	VQ				
0+30	0.0108	0.37	VQ				
0+35	0.0133	0.37	VQ				
0+40	0.0159	0.37	VQ				
0+45	0.0185	0.37	VQ				
0+50	0.0214	0.42	VQ				
0+55	0.0247	0.48	VQ				
1+ 0	0.0280	0.49	VQ				
1+ 5	0.0311	0.44	VQ				
1+10	0.0338	0.39	VQ				
1+15	0.0364	0.38	VQ				
1+20	0.0389	0.37	VQ				
1+25	0.0415	0.37	VQ				
1+30	0.0441	0.37	VQ				
1+35	0.0466	0.37	VQ				
1+40	0.0492	0.37	VQ				
1+45	0.0518	0.37	VQ				
1+50	0.0547	0.42	VQ				
1+55	0.0580	0.48	VQ				
2+ 0	0.0613	0.49	VQ				
2+ 5	0.0647	0.49	|Q				
2+10	0.0681	0.50	|Q				
2+15	0.0716	0.50	|Q				
2+20	0.0750	0.50	|Q				
2+25	0.0784	0.50	|Q				
2+30	0.0818	0.50	|Q				
2+35	0.0856	0.55	|VQ				
2+40	0.0897	0.60	|VQ				
2+45	0.0940	0.61	|VQ				
2+50	0.0982	0.62	|VQ				
2+55	0.1025	0.62	|VQ				
3+ 0	0.1067	0.62	|VQ				
3+ 5	0.1110	0.62	|VQ				
3+10	0.1153	0.62	|VQ				
3+15	0.1196	0.62	|VQ				
3+20	0.1238	0.62	|VQ				
3+25	0.1281	0.62	| Q				
3+30	0.1324	0.62	| Q				
3+35	0.1366	0.62	| Q				
3+40	0.1409	0.62	| Q				
3+45	0.1452	0.62	| Q				
3+50	0.1498	0.67	| Q				
3+55	0.1548	0.73	| Q				
4+ 0	0.1599	0.74	| Q				
4+ 5	0.1650	0.74	| Q				
4+10	0.1701	0.74	| Q				
4+15	0.1752	0.74	| Q				
4+20	0.1807	0.80	| VQ				
4+25	0.1866	0.85	| VQ				
4+30	0.1925	0.86	| Q				
4+35	0.1985	0.87	| Q				
4+40	0.2044	0.87	| Q				
4+45	0.2104	0.87	| Q				
4+50	0.2167	0.92	| Q				
4+55	0.2234	0.97	| Q				
5+ 0	0.2302	0.99	| Q				
5+ 5	0.2363	0.89	| Q				
5+10	0.2417	0.78	| Q				

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 5+15      0.2469     0.76  |  Q      |         |         |         |
 5+20      0.2524     0.80  |  Q      |         |         |         |
 5+25      0.2583     0.85  |  QV     |         |         |         |
 5+30      0.2642     0.86  |  QV     |         |         |         |
 5+35      0.2705     0.92  |  QV     |         |         |         |
 5+40      0.2772     0.97  |  QV     |         |         |         |
 5+45      0.2840     0.99  |  QV     |         |         |         |
 5+50      0.2908     0.99  |  QV     |         |         |         |
 5+55      0.2977     0.99  |  QV     |         |         |         |
 6+ 0      0.3045     0.99  |  QV     |         |         |         |
 6+ 5      0.3117     1.04  |   Q     |         |         |         |
 6+10      0.3193     1.10  |   Q     |         |         |         |
 6+15      0.3269     1.11  |   QV    |         |         |         |
 6+20      0.3346     1.11  |   QV    |         |         |         |
 6+25      0.3423     1.12  |   QV    |         |         |         |
 6+30      0.3499     1.12  |   QV    |         |         |         |
 6+35      0.3580     1.17  |   QV    |         |         |         |
 6+40      0.3664     1.22  |   QV    |         |         |         |
 6+45      0.3749     1.23  |   QV    |         |         |         |
 6+50      0.3834     1.24  |   QV    |         |         |         |
 6+55      0.3919     1.24  |   Q V   |         |         |         |
 7+ 0      0.4005     1.24  |   Q V   |         |         |         |
 7+ 5      0.4090     1.24  |   Q V   |         |         |         |
 7+10      0.4176     1.24  |   Q V   |         |         |         |
 7+15      0.4261     1.24  |   Q V   |         |         |         |
 7+20      0.4350     1.29  |    QV   |         |         |         |
 7+25      0.4443     1.35  |    QV   |         |         |         |
 7+30      0.4536     1.36  |    Q V  |         |         |         |
 7+35      0.4633     1.41  |    Q V  |         |         |         |
 7+40      0.4735     1.47  |    Q V  |         |         |         |
 7+45      0.4837     1.48  |    Q V  |         |         |         |
 7+50      0.4943     1.54  |    QV   |         |         |         |
 7+55      0.5052     1.59  |    QV   |         |         |         |
 8+ 0      0.5163     1.61  |    Q V  |         |         |         |
 8+ 5      0.5281     1.71  |    Q V  |         |         |         |
 8+10      0.5406     1.82  |     QV  |         |         |         |
 8+15      0.5534     1.85  |     QV  |         |         |         |
 8+20      0.5662     1.86  |     QV  |         |         |         |
 8+25      0.5790     1.86  |     Q V |         |         |         |
 8+30      0.5918     1.86  |     Q V |         |         |         |
 8+35      0.6049     1.91  |     Q V |         |         |         |
 8+40      0.6185     1.97  |     Q V |         |         |         |
 8+45      0.6321     1.98  |     Q V |         |         |         |
 8+50      0.6461     2.03  |      Q V        |         |         |
 8+55      0.6605     2.09  |      Q V        |         |         |
 9+ 0      0.6750     2.10  |      Q V        |         |         |
 9+ 5      0.6902     2.21  |      Q V        |         |         |
 9+10      0.7061     2.32  |       Q|V       |         |         |
 9+15      0.7223     2.34  |       Q|V       |         |         |
 9+20      0.7388     2.40  |       Q|V       |         |         |
 9+25      0.7558     2.46  |       Q|V       |         |         |
 9+30      0.7728     2.47  |       Q| V      |         |         |
 9+35      0.7902     2.53  |        Q V      |         |         |
 9+40      0.8080     2.59  |        Q V      |         |         |
 9+45      0.8259     2.60  |        Q V      |         |         |
 9+50      0.8442     2.65  |        Q  V     |         |         |
 9+55      0.8629     2.71  |        Q  V     |         |         |
10+ 0      0.8816     2.72  |        Q  V     |         |         |
10+ 5      0.8979     2.37  |       Q|   V    |         |         |
10+10      0.9116     1.98  |      Q |   V    |         |         |
10+15      0.9247     1.90  |      Q |   V    |         |         |
10+20      0.9376     1.87  |      Q |   V    |         |         |
10+25      0.9504     1.86  |      Q |   V    |         |         |
10+30      0.9632     1.86  |      Q |    V   |         |         |
10+35      0.9778     2.12  |       Q|    V   |         |         |
10+40      0.9942     2.39  |        Q|   V   |         |         |
10+45      1.0111     2.45  |        Q|   V   |         |         |
10+50      1.0281     2.47  |        Q|    V  |         |         |
```

```
10+55       1.0452      2.48  |         Q|     V   |          |          |
11+ 0       1.0623      2.48  |         Q|     V   |          |          |
11+ 5       1.0790      2.43  |         Q|     V   |          |          |
11+10       1.0953      2.37  |         Q|      V  |          |          |
11+15       1.1116      2.36  |         Q|      V  |          |          |
11+20       1.1278      2.36  |         Q|      V  |          |          |
11+25       1.1441      2.36  |         Q|      V  |          |          |
11+30       1.1603      2.36  |         Q|       V |          |          |
11+35       1.1758      2.25  |         Q|       V |          |          |
11+40       1.1906      2.14  |        Q |       V |          |          |
11+45       1.2052      2.12  |        Q |       V |          |          |
11+50       1.2201      2.16  |        Q |        V|          |          |
11+55       1.2353      2.21  |        Q |        V|          |          |
12+ 0       1.2506      2.23  |        Q |        V|          |          |
12+ 5       1.2685      2.59  |          Q        V|          |          |
12+10       1.2889      2.97  |          |Q        V          |          |
12+15       1.3100      3.05  |          | Q       V          |          |
12+20       1.3316      3.14  |          | Q       V          |          |
12+25       1.3537      3.21  |          | Q       |V         |          |
12+30       1.3758      3.22  |          | Q       |V         |          |
12+35       1.3987      3.32  |          |  Q      |V         |          |
12+40       1.4224      3.44  |          |  Q      | V        |          |
12+45       1.4462      3.46  |          |  Q      | V        |          |
12+50       1.4704      3.52  |          |   Q     | V        |          |
12+55       1.4951      3.58  |          |   Q     |  V       |          |
13+ 0       1.5198      3.59  |          |   Q     |  V       |          |
13+ 5       1.5463      3.85  |          |    Q    |   V      |          |
13+10       1.5747      4.13  |          |     Q   |   V      |          |
13+15       1.6035      4.18  |          |     Q   |    V     |          |
13+20       1.6325      4.21  |          |     Q   |    V     |          |
13+25       1.6615      4.22  |          |     Q   |    V     |          |
13+30       1.6906      4.22  |          |     Q   |     V    |          |
13+35       1.7157      3.65  |          |   Q     |     V    |          |
13+40       1.7367      3.05  |          | Q       |      V   |          |
13+45       1.7568      2.92  |          |Q        |      V   |          |
13+50       1.7766      2.87  |          |Q        |      V   |          |
13+55       1.7962      2.85  |          |Q        |       V  |          |
14+ 0       1.8159      2.85  |          |Q        |       V  |          |
14+ 5       1.8369      3.06  |          | Q       |       V  |          |
14+10       1.8595      3.28  |          |  Q      |        V |          |
14+15       1.8824      3.32  |          |  Q      |        V |          |
14+20       1.9050      3.29  |          |  Q      |        V |          |
14+25       1.9273      3.24  |          | Q       |         V          |
14+30       1.9496      3.23  |          | Q       |         V          |
14+35       1.9718      3.23  |          | Q       |         V          |
14+40       1.9940      3.22  |          | Q       |         |V         |
14+45       2.0162      3.22  |          | Q       |         |V         |
14+50       2.0380      3.17  |          | Q       |         |V         |
14+55       2.0595      3.12  |          | Q       |         | V        |
15+ 0       2.0809      3.11  |          | Q       |         | V        |
15+ 5       2.1019      3.05  |          | Q       |         | V        |
15+10       2.1225      2.99  |          |Q        |         |  V       |
15+15       2.1431      2.98  |          |Q        |         |  V       |
15+20       2.1632      2.93  |          |Q        |         |  V       |
15+25       2.1830      2.87  |          |Q        |         |   V      |
15+30       2.2027      2.86  |          |Q        |         |   V      |
15+35       2.2209      2.65  |          Q         |         |   V      |
15+40       2.2376      2.43  |         Q|         |         |   V      |
15+45       2.2540      2.38  |         Q|         |         |    V     |
15+50       2.2703      2.36  |         Q|         |         |    V     |
15+55       2.2865      2.36  |         Q|         |         |    V     |
16+ 0       2.3027      2.36  |         Q|         |         |    V     |
16+ 5       2.3136      1.59  |      Q   |         |         |     V    |
16+10       2.3189      0.76  |   Q      |         |         |     V    |
16+15       2.3230      0.59  |  Q       |         |         |     V    |
16+20       2.3266      0.52  |  Q       |         |         |     V    |
16+25       2.3300      0.50  |Q         |         |         |     V    |
16+30       2.3334      0.50  |Q         |         |         |     V    |
```

16+35	2.3365	0.44	|Q	|	|	|	V |
16+40	2.3392	0.39	|Q	|	|	|	V |
16+45	2.3418	0.38	|Q	|	|	|	V |
16+50	2.3443	0.37	|Q	|	|	|	V |
16+55	2.3469	0.37	|Q	|	|	|	V |
17+ 0	2.3495	0.37	|Q	|	|	|	V |
17+ 5	2.3527	0.47	|Q	|	|	|	V |
17+10	2.3568	0.58	| Q	|	|	|	V |
17+15	2.3609	0.61	| Q	|	|	|	V |
17+20	2.3652	0.62	| Q	|	|	|	V |
17+25	2.3695	0.62	| Q	|	|	|	V |
17+30	2.3737	0.62	| Q	|	|	|	V |
17+35	2.3780	0.62	| Q	|	|	|	V |
17+40	2.3823	0.62	| Q	|	|	|	V |
17+45	2.3865	0.62	| Q	|	|	|	V |
17+50	2.3905	0.57	| Q	|	|	|	V |
17+55	2.3940	0.51	| Q	|	|	|	V |
18+ 0	2.3974	0.50	| Q	|	|	|	V |
18+ 5	2.4009	0.50	|Q	|	|	|	V |
18+10	2.4043	0.50	|Q	|	|	|	V |
18+15	2.4077	0.50	|Q	|	|	|	V |
18+20	2.4111	0.50	|Q	|	|	|	V |
18+25	2.4145	0.50	|Q	|	|	|	V |
18+30	2.4180	0.50	|Q	|	|	|	V |
18+35	2.4210	0.44	|Q	|	|	|	V |
18+40	2.4237	0.39	|Q	|	|	|	V |
18+45	2.4263	0.38	|Q	|	|	|	V |
18+50	2.4285	0.32	|Q	|	|	|	V |
18+55	2.4304	0.27	|Q	|	|	|	V |
19+ 0	2.4321	0.25	|Q	|	|	|	V |
19+ 5	2.4342	0.30	|Q	|	|	|	V |
19+10	2.4366	0.35	|Q	|	|	|	V |
19+15	2.4391	0.37	|Q	|	|	|	V |
19+20	2.4420	0.42	|Q	|	|	|	V |
19+25	2.4453	0.48	|Q	|	|	|	V |
19+30	2.4487	0.49	|Q	|	|	|	V |
19+35	2.4518	0.44	|Q	|	|	|	V |
19+40	2.4544	0.39	|Q	|	|	|	V |
19+45	2.4570	0.38	|Q	|	|	|	V |
19+50	2.4593	0.32	|Q	|	|	|	V |
19+55	2.4611	0.27	|Q	|	|	|	V |
20+ 0	2.4628	0.25	|Q	|	|	|	V |
20+ 5	2.4649	0.30	|Q	|	|	|	V |
20+10	2.4674	0.35	|Q	|	|	|	V |
20+15	2.4699	0.37	|Q	|	|	|	V |
20+20	2.4724	0.37	|Q	|	|	|	V |
20+25	2.4750	0.37	|Q	|	|	|	V |
20+30	2.4776	0.37	|Q	|	|	|	V |
20+35	2.4801	0.37	|Q	|	|	|	V |
20+40	2.4827	0.37	|Q	|	|	|	V |
20+45	2.4852	0.37	|Q	|	|	|	V |
20+50	2.4874	0.32	|Q	|	|	|	V |
20+55	2.4893	0.27	|Q	|	|	|	V |
21+ 0	2.4910	0.25	|Q	|	|	|	V |
21+ 5	2.4931	0.30	|Q	|	|	|	V |
21+10	2.4955	0.35	|Q	|	|	|	V |
21+15	2.4981	0.37	|Q	|	|	|	V|
21+20	2.5003	0.32	|Q	|	|	|	V|
21+25	2.5021	0.27	|Q	|	|	|	V|
21+30	2.5038	0.25	|Q	|	|	|	V|
21+35	2.5059	0.30	|Q	|	|	|	V|
21+40	2.5083	0.35	|Q	|	|	|	V|
21+45	2.5109	0.37	|Q	|	|	|	V|
21+50	2.5131	0.32	|Q	|	|	|	V|
21+55	2.5149	0.27	|Q	|	|	|	V|
22+ 0	2.5166	0.25	|Q	|	|	|	V|
22+ 5	2.5187	0.30	|Q	|	|	|	V|
22+10	2.5212	0.35	|Q	|	|	|	V|

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   22+15       2.5237      0.37  |Q        |         |         |        V|
   22+20       2.5259      0.32  |Q        |         |         |        V|
   22+25       2.5277      0.27  |Q        |         |         |        V|
   22+30       2.5294      0.25  |Q        |         |         |        V|
   22+35       2.5312      0.25  Q         |         |         |        V|
   22+40       2.5329      0.25  Q         |         |         |        V|
   22+45       2.5346      0.25  Q         |         |         |        V|
   22+50       2.5363      0.25  Q         |         |         |        V|
   22+55       2.5380      0.25  Q         |         |         |        V|
   23+ 0       2.5397      0.25  Q         |         |         |        V|
   23+ 5       2.5414      0.25  Q         |         |         |        V|
   23+10       2.5431      0.25  Q         |         |         |        V|
   23+15       2.5448      0.25  Q         |         |         |        V|
   23+20       2.5465      0.25  Q         |         |         |        V|
   23+25       2.5482      0.25  Q         |         |         |        V|
   23+30       2.5500      0.25  Q         |         |         |        V|
   23+35       2.5517      0.25  Q         |         |         |        V|
   23+40       2.5534      0.25  Q         |         |         |        V|
   23+45       2.5551      0.25  Q         |         |         |        V|
   23+50       2.5568      0.25  Q         |         |         |        V|
   23+55       2.5585      0.25  Q         |         |         |        V|
   24+ 0       2.5602      0.25  Q         |         |         |        V|
   24+ 5       2.5612      0.15  Q         |         |         |        V|
   24+10       2.5614      0.04  Q         |         |         |        V|
   24+15       2.5615      0.01  Q         |         |         |        V|
   24+20       2.5616      0.00  Q         |         |         |        V|
-------------------------------------------------------------------------
```

UNIT HYDROGRAPH

5-YEAR,
1, 3, 6, 24 HOURS
STORM EVENTS

PROPOSED CONDITION

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 04/03/18 File: MCMHYDPR15.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
5 YEAR, 1 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	0.55	11.66

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.36	28.83

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.550(In)
Area Averaged 100-Year Rainfall = 1.360(In)

Point rain (area averaged) = 0.740(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 0.740(In)

Sub-Area Data:

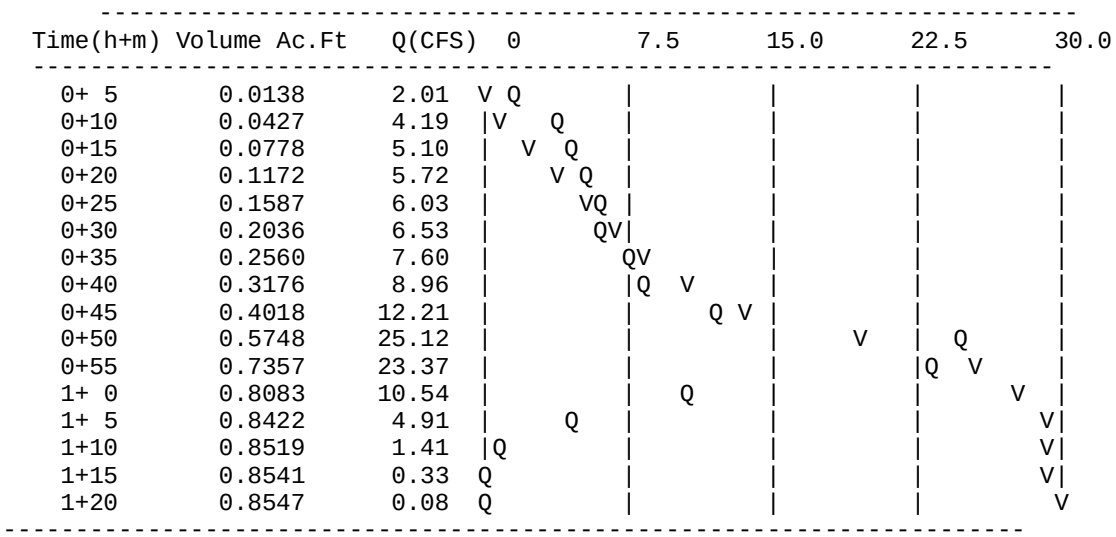
```
Area(Ac.)         Runoff Index   Impervious %
    21.200           37.40         0.600
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
37.4  19.9      0.841     0.600        0.387       1.000      0.387
                                                  Sum (F) =   0.387
Area averaged mean soil loss (F) (In/Hr) =  0.387
Minimum soil loss rate ((In/Hr)) =  0.193
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.420
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.4800
------------------------------------------------------------------------

             U n i t  H y d r o g r a p h
                    VALLEY S-Curve
------------------------------------------------------------------------
             Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        188.970         41.429             8.852
    2   0.167        377.940         44.144             9.432
    3   0.250        566.909          9.259             1.978
    4   0.333        755.879          3.697             0.790
    5   0.417        944.849          1.471             0.314
                              Sum = 100.000   Sum=      21.366
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.40      0.390       (  0.387)       0.164        0.226
   2   0.17     4.50      0.399       (  0.387)       0.168        0.232
   3   0.25     5.40      0.479       (  0.387)       0.201        0.278
   4   0.33     5.40      0.479       (  0.387)       0.201        0.278
   5   0.42     5.70      0.506       (  0.387)       0.212        0.293
   6   0.50     6.40      0.568       (  0.387)       0.239        0.329
   7   0.58     7.90      0.701       (  0.387)       0.294        0.407
   8   0.67     9.10      0.808       (  0.387)       0.339        0.468
   9   0.75    12.80      1.136          0.387    (  0.477)        0.749
  10   0.83    25.60      2.272          0.387    (  0.954)        1.885
  11   0.92     7.90      0.701       (  0.387)       0.294        0.407
  12   1.00     4.90      0.435       (  0.387)       0.183        0.252
            (Loss Rate Not Used)
     Sum =     100.0                                   Sum =     5.8
      Flood volume = Effective rainfall      0.48(In)
       times area      21.2(Ac.)/[(In)/(Ft.)] =       0.9(Ac.Ft)
      Total soil loss =      0.26(In)
      Total soil loss =     0.452(Ac.Ft)
      Total rainfall =      0.74(In)
      Flood volume =       37230.3 Cubic Feet
      Total soil loss =       19684.8 Cubic Feet
      ------------------------------------------------------------------
       Peak flow rate of this hydrograph =     25.119(CFS)
      ------------------------------------------------------------------
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
      ------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))
```


Time(h+m) Volume Ac.Ft Q(CFS) 0 7.5 15.0 22.5 30.0
0+ 5 0.0138 2.01
0+10 0.0427 4.19
0+15 0.0778 5.10
0+20 0.1172 5.72
0+25 0.1587 6.03
0+30 0.2036 6.53
0+35 0.2560 7.60
0+40 0.3176 8.96
0+45 0.4018 12.21
0+50 0.5748 25.12
0+55 0.7357 23.37
1+ 0 0.8083 10.54
1+ 5 0.8422 4.91
1+10 0.8519 1.41
1+15 0.8541 0.33
1+20 0.8547 0.08

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR35.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
5 YEAR, 3 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.00	21.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.40	50.88

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.400(In)

Point rain (area averaged) = 1.328(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.328(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	37.40	0.600

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
37.4	19.9	0.841	0.600	0.387	1.000	0.387
					Sum (F) =	0.387

Area averaged mean soil loss (F) (In/Hr) = 0.387
Minimum soil loss rate ((In/Hr)) = 0.193
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.420

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	188.970	41.429	8.852
2	0.167	377.940	44.144	9.432
3	0.250	566.909	9.259	1.978
4	0.333	755.879	3.697	0.790
5	0.417	944.849	1.471	0.314
			Sum = 100.000	Sum= 21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.207	(0.387)		0.087	0.120
2	0.17	1.30	0.207	(0.387)		0.087	0.120
3	0.25	1.10	0.175	(0.387)		0.074	0.102
4	0.33	1.50	0.239	(0.387)		0.100	0.139
5	0.42	1.50	0.239	(0.387)		0.100	0.139
6	0.50	1.80	0.287	(0.387)		0.120	0.166
7	0.58	1.50	0.239	(0.387)		0.100	0.139
8	0.67	1.80	0.287	(0.387)		0.120	0.166
9	0.75	1.80	0.287	(0.387)		0.120	0.166
10	0.83	1.50	0.239	(0.387)		0.100	0.139
11	0.92	1.60	0.255	(0.387)		0.107	0.148
12	1.00	1.80	0.287	(0.387)		0.120	0.166
13	1.08	2.20	0.351	(0.387)		0.147	0.203
14	1.17	2.20	0.351	(0.387)		0.147	0.203
15	1.25	2.20	0.351	(0.387)		0.147	0.203
16	1.33	2.00	0.319	(0.387)		0.134	0.185
17	1.42	2.60	0.414	(0.387)		0.174	0.240
18	1.50	2.70	0.430	(0.387)		0.181	0.250
19	1.58	2.40	0.382	(0.387)		0.161	0.222
20	1.67	2.70	0.430	(0.387)		0.181	0.250
21	1.75	3.30	0.526	(0.387)		0.221	0.305
22	1.83	3.10	0.494	(0.387)		0.207	0.286
23	1.92	2.90	0.462	(0.387)		0.194	0.268
24	2.00	3.00	0.478	(0.387)		0.201	0.277
25	2.08	3.10	0.494	(0.387)		0.207	0.286
26	2.17	4.20	0.669	(0.387)		0.281	0.388
27	2.25	5.00	0.797	(0.387)		0.335	0.462
28	2.33	3.50	0.558	(0.387)		0.234	0.323
29	2.42	6.80	1.083	0.387	(	0.455)	0.697
30	2.50	7.30	1.163	0.387	(	0.489)	0.776
31	2.58	8.20	1.307	0.387	(	0.549)	0.920

```
 32   2.67     5.90      0.940          0.387    (  0.395)        0.553
 33   2.75     2.00      0.319       (  0.387)       0.134        0.185
 34   2.83     1.80      0.287       (  0.387)       0.120        0.166
 35   2.92     1.80      0.287       (  0.387)       0.120        0.166
 36   3.00     0.60      0.096       (  0.387)       0.040        0.055
            (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     9.6
      Flood volume = Effective rainfall      0.80(In)
       times area      21.2(Ac.)/[(In)/(Ft.)] =       1.4(Ac.Ft)
      Total soil loss =      0.53(In)
      Total soil loss =     0.935(Ac.Ft)
      Total rainfall =      1.33(In)
      Flood volume =       61448.1 Cubic Feet
      Total soil loss =       40733.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     17.253(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0073      1.06  V Q       |         |         |         |
  0+10       0.0225      2.20  V   Q     |         |         |         |
  0+15       0.0381      2.27  |V  Q     |         |         |         |
  0+20       0.0555      2.52  |V   Q    |         |         |         |
  0+25       0.0752      2.87  | V  Q    |         |         |         |
  0+30       0.0971      3.17  | V   Q   |         |         |         |
  0+35       0.1192      3.21  |  V  Q   |         |         |         |
  0+40       0.1417      3.26  |   V Q   |         |         |         |
  0+45       0.1657      3.49  |   V Q   |         |         |         |
  0+50       0.1884      3.29  |    VQ   |         |         |         |
  0+55       0.2099      3.12  |    VQ   |         |         |         |
  1+ 0       0.2328      3.33  |     Q   |         |         |         |
  1+ 5       0.2591      3.82  |      Q  |         |         |         |
  1+10       0.2881      4.21  |       Q |         |         |         |
  1+15       0.3177      4.30  |       QV|         |         |         |
  1+20       0.3465      4.17  |       QV|         |         |         |
  1+25       0.3774      4.50  |       Q V         |         |         |
  1+30       0.4124      5.07  |         QV        |         |         |
  1+35       0.4468      5.00  |         Q V       |         |         |
  1+40       0.4816      5.04  |         Q  V      |         |         |
  1+45       0.5213      5.77  |         |Q  V     |         |         |
  1+50       0.5637      6.16  |         | Q  V    |         |         |
  1+55       0.6047      5.95  |         |Q     V  |         |         |
  2+ 0       0.6451      5.87  |         |Q      V |         |         |
  2+ 5       0.6865      6.01  |         | Q      V|         |         |
  2+10       0.7346      6.99  |         |  Q      V         |         |
  2+15       0.7940      8.63  |         |      Q  | V       |         |
  2+20       0.8512      8.31  |         |     Q   |   V     |         |
  2+25       0.9238     10.53  |         |         |Q    V   |         |
  2+30       1.0242     14.58  |         |         |        Q|         |
  2+35       1.1430     17.25  |         |         |         | V Q     |
  2+40       1.2516     15.77  |         |         |         |Q   V    |
  2+45       1.3171      9.51  |         |        Q|         |     V   |
  2+50       1.3535      5.28  |         Q         |         |       V |
  2+55       1.3820      4.14  |        Q |        |         |        V|
  3+ 0       1.4007      2.71  |    Q     |        |         |        V|
  3+ 5       1.4079      1.04  | Q        |        |         |        V|
  3+10       1.4099      0.29  Q          |        |         |        V|
  3+15       1.4105      0.10  Q          |        |         |        V|
  3+20       1.4107      0.02  Q          |        |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR65.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
5 YEAR, 6 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.40	29.68

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	3.00	63.60

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.400(In)
Area Averaged 100-Year Rainfall = 3.000(In)

Point rain (area averaged) = 1.775(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.775(In)

Sub-Area Data:

```
Area(Ac.)         Runoff Index   Impervious %
    21.200           37.40         0.600
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
37.4  19.9      0.841     0.600        0.387       1.000      0.387
                                                  Sum (F) =   0.387
Area averaged mean soil loss (F) (In/Hr) =  0.387
Minimum soil loss rate ((In/Hr)) =  0.193
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.420
------------------------------------------------------------------------

             U n i t  H y d r o g r a p h
                    VALLEY S-Curve
------------------------------------------------------------------------
             Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        188.970         41.429             8.852
    2   0.167        377.940         44.144             9.432
    3   0.250        566.909          9.259             1.978
    4   0.333        755.879          3.697             0.790
    5   0.417        944.849          1.471             0.314
                              Sum = 100.000   Sum=      21.366
------------------------------------------------------------------------
```

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.106	(0.387)		0.045	0.062
2	0.17	0.60	0.128	(0.387)		0.054	0.074
3	0.25	0.60	0.128	(0.387)		0.054	0.074
4	0.33	0.60	0.128	(0.387)		0.054	0.074
5	0.42	0.60	0.128	(0.387)		0.054	0.074
6	0.50	0.70	0.149	(0.387)		0.063	0.086
7	0.58	0.70	0.149	(0.387)		0.063	0.086
8	0.67	0.70	0.149	(0.387)		0.063	0.086
9	0.75	0.70	0.149	(0.387)		0.063	0.086
10	0.83	0.70	0.149	(0.387)		0.063	0.086
11	0.92	0.70	0.149	(0.387)		0.063	0.086
12	1.00	0.80	0.170	(0.387)		0.072	0.099
13	1.08	0.80	0.170	(0.387)		0.072	0.099
14	1.17	0.80	0.170	(0.387)		0.072	0.099
15	1.25	0.80	0.170	(0.387)		0.072	0.099
16	1.33	0.80	0.170	(0.387)		0.072	0.099
17	1.42	0.80	0.170	(0.387)		0.072	0.099
18	1.50	0.80	0.170	(0.387)		0.072	0.099
19	1.58	0.80	0.170	(0.387)		0.072	0.099
20	1.67	0.80	0.170	(0.387)		0.072	0.099
21	1.75	0.80	0.170	(0.387)		0.072	0.099
22	1.83	0.80	0.170	(0.387)		0.072	0.099
23	1.92	0.80	0.170	(0.387)		0.072	0.099
24	2.00	0.90	0.192	(0.387)		0.080	0.111
25	2.08	0.80	0.170	(0.387)		0.072	0.099
26	2.17	0.90	0.192	(0.387)		0.080	0.111
27	2.25	0.90	0.192	(0.387)		0.080	0.111
28	2.33	0.90	0.192	(0.387)		0.080	0.111
29	2.42	0.90	0.192	(0.387)		0.080	0.111
30	2.50	0.90	0.192	(0.387)		0.080	0.111
31	2.58	0.90	0.192	(0.387)		0.080	0.111

```
32   2.67     0.90      0.192       (  0.387)       0.080        0.111
33   2.75     1.00      0.213       (  0.387)       0.089        0.124
34   2.83     1.00      0.213       (  0.387)       0.089        0.124
35   2.92     1.00      0.213       (  0.387)       0.089        0.124
36   3.00     1.00      0.213       (  0.387)       0.089        0.124
37   3.08     1.00      0.213       (  0.387)       0.089        0.124
38   3.17     1.10      0.234       (  0.387)       0.098        0.136
39   3.25     1.10      0.234       (  0.387)       0.098        0.136
40   3.33     1.10      0.234       (  0.387)       0.098        0.136
41   3.42     1.20      0.256       (  0.387)       0.107        0.148
42   3.50     1.30      0.277       (  0.387)       0.116        0.161
43   3.58     1.40      0.298       (  0.387)       0.125        0.173
44   3.67     1.40      0.298       (  0.387)       0.125        0.173
45   3.75     1.50      0.319       (  0.387)       0.134        0.185
46   3.83     1.50      0.319       (  0.387)       0.134        0.185
47   3.92     1.60      0.341       (  0.387)       0.143        0.198
48   4.00     1.60      0.341       (  0.387)       0.143        0.198
49   4.08     1.70      0.362       (  0.387)       0.152        0.210
50   4.17     1.80      0.383       (  0.387)       0.161        0.222
51   4.25     1.90      0.405       (  0.387)       0.170        0.235
52   4.33     2.00      0.426       (  0.387)       0.179        0.247
53   4.42     2.10      0.447       (  0.387)       0.188        0.259
54   4.50     2.10      0.447       (  0.387)       0.188        0.259
55   4.58     2.20      0.469       (  0.387)       0.197        0.272
56   4.67     2.30      0.490       (  0.387)       0.206        0.284
57   4.75     2.40      0.511       (  0.387)       0.215        0.296
58   4.83     2.40      0.511       (  0.387)       0.215        0.296
59   4.92     2.50      0.532       (  0.387)       0.224        0.309
60   5.00     2.60      0.554       (  0.387)       0.233        0.321
61   5.08     3.10      0.660       (  0.387)       0.277        0.383
62   5.17     3.60      0.767       (  0.387)       0.322        0.445
63   5.25     3.90      0.831       (  0.387)       0.349        0.482
64   5.33     4.20      0.894       (  0.387)       0.376        0.519
65   5.42     4.70      1.001          0.387    (  0.420)       0.614
66   5.50     5.60      1.193          0.387    (  0.501)       0.806
67   5.58     1.90      0.405       (  0.387)       0.170        0.235
68   5.67     0.90      0.192       (  0.387)       0.080        0.111
69   5.75     0.60      0.128       (  0.387)       0.054        0.074
70   5.83     0.50      0.106       (  0.387)       0.045        0.062
71   5.92     0.30      0.064       (  0.387)       0.027        0.037
72   6.00     0.20      0.043       (  0.387)       0.018        0.025
            (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    12.5
     Flood volume = Effective rainfall      1.04(In)
      times area      21.2(Ac.)/[(In)/(Ft.)] =       1.8(Ac.Ft)
     Total soil loss =      0.73(In)
     Total soil loss =     1.295(Ac.Ft)
     Total rainfall =      1.77(In)
     Flood volume =       80157.9 Cubic Feet
     Total soil loss =       56410.5 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     14.480(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0038      0.55  VQ        |         |         |         |
  0+10       0.0123      1.24  V Q       |         |         |         |
  0+15       0.0225      1.48  V Q       |         |         |         |
  0+20       0.0332      1.55  V  Q      |         |         |         |
  0+25       0.0440      1.58  V  Q      |         |         |         |
  0+30       0.0557      1.69  |V Q      |         |         |         |
```

```
0+35      0.0682     1.81  |V Q      |         |         |         |
0+40      0.0808     1.83  |V Q      |         |         |         |
0+45      0.0935     1.84  | VQ      |         |         |         |
0+50      0.1062     1.85  | VQ      |         |         |         |
0+55      0.1190     1.85  | VQ      |         |         |         |
1+ 0      0.1325     1.96  | VQ      |         |         |         |
1+ 5      0.1467     2.07  |  VQ     |         |         |         |
1+10      0.1612     2.10  |  VQ     |         |         |         |
1+15      0.1757     2.11  |  VQ     |         |         |         |
1+20      0.1903     2.11  |   Q     |         |         |         |
1+25      0.2048     2.11  |   Q     |         |         |         |
1+30      0.2194     2.11  |   Q     |         |         |         |
1+35      0.2339     2.11  |   QV    |         |         |         |
1+40      0.2484     2.11  |   QV    |         |         |         |
1+45      0.2630     2.11  |   QV    |         |         |         |
1+50      0.2775     2.11  |   Q V   |         |         |         |
1+55      0.2921     2.11  |   Q V   |         |         |         |
2+ 0      0.3074     2.22  |   Q V   |         |         |         |
2+ 5      0.3227     2.23  |   Q  V  |         |         |         |
2+10      0.3382     2.25  |   Q  V  |         |         |         |
2+15      0.3544     2.35  |   Q  V  |         |         |         |
2+20      0.3707     2.37  |   Q   V |         |         |         |
2+25      0.3870     2.37  |   Q   V |         |         |         |
2+30      0.4034     2.38  |   Q   V |         |         |         |
2+35      0.4197     2.38  |   Q    V|         |         |         |
2+40      0.4361     2.38  |   Q    V|         |         |         |
2+45      0.4532     2.49  |   Q    V|         |         |         |
2+50      0.4712     2.60  |    Q    V         |         |         |
2+55      0.4892     2.63  |    Q    V         |         |         |
3+ 0      0.5074     2.64  |    Q    |V        |         |         |
3+ 5      0.5256     2.64  |    Q    |V        |         |         |
3+10      0.5445     2.75  |    Q    |V        |         |         |
3+15      0.5643     2.87  |    Q    | V       |         |         |
3+20      0.5842     2.89  |    Q    | V       |         |         |
3+25      0.6049     3.01  |     Q   |  V      |         |         |
3+30      0.6272     3.24  |     Q   |  V      |         |         |
3+35      0.6512     3.49  |     Q   |   V     |         |         |
3+40      0.6763     3.64  |      Q  |   V     |         |         |
3+45      0.7024     3.79  |      Q  |    V    |         |         |
3+50      0.7294     3.92  |      Q  |    V    |         |         |
3+55      0.7573     4.06  |       Q |     V   |         |         |
4+ 0      0.7861     4.18  |       Q |      V  |         |         |
4+ 5      0.8159     4.32  |       Q |      V  |         |         |
4+10      0.8473     4.56  |        Q|       V |         |         |
4+15      0.8804     4.81  |        Q|        V|         |         |
4+20      0.9153     5.07  |         Q        V|         |         |
4+25      0.9521     5.33  |         Q         V         |         |
4+30      0.9899     5.49  |         Q         |V        |         |
4+35      1.0287     5.64  |         |Q        | V       |         |
4+40      1.0692     5.88  |         |Q        |  V      |         |
4+45      1.1114     6.13  |         | Q       |   V     |         |
4+50      1.1546     6.28  |         | Q       |    V    |         |
4+55      1.1989     6.43  |         | Q       |     V   |         |
5+ 0      1.2448     6.67  |         |  Q      |      V  |         |
5+ 5      1.2955     7.36  |         |   Q     |       V |         |
5+10      1.3542     8.52  |         |      Q  |        V|         |
5+15      1.4201     9.57  |         |        Q|         V         |
5+20      1.4919    10.42  |         |         Q          | V      |
5+25      1.5729    11.76  |         |          |  Q      |   V    |
5+30      1.6726    14.48  |         |          |       Q |     V  |
5+35      1.7516    11.46  |         |          | Q       |       V|
5+40      1.7890     5.44  |         |        Q |         |       V|
5+45      1.8097     3.00  |    Q    |          |         |        V|
5+50      1.8228     1.91  |  Q      |          |         |        V|
5+55      1.8312     1.22  | Q       |          |         |        V|
6+ 0      1.8366     0.78  |Q        |          |         |        V|
6+ 5      1.8392     0.38  Q         |          |         |        V|
6+10      1.8399     0.10  Q         |          |         |        V|
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    6+15       1.8401      0.03  Q         |         |         |        V|
    6+20       1.8402      0.01  Q         |         |         |         V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR245.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
5 YEAR, 24 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.50	53.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	8.00	169.60

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 8.000(In)

Point rain (area averaged) = 3.788(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.788(In)

Sub-Area Data:

```
Area(Ac.)         Runoff Index   Impervious %
    21.200           37.40         0.600
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
37.4  19.9      0.841     0.600        0.387       1.000      0.387
                                                  Sum (F) =   0.387
Area averaged mean soil loss (F) (In/Hr) =  0.387
Minimum soil loss rate ((In/Hr)) =  0.193
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.420
------------------------------------------------------------------------

             U n i t  H y d r o g r a p h
                    VALLEY S-Curve
------------------------------------------------------------------------
             Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        188.970         41.429             8.852
    2   0.167        377.940         44.144             9.432
    3   0.250        566.909          9.259             1.978
    4   0.333        755.879          3.697             0.790
    5   0.417        944.849          1.471             0.314
                              Sum = 100.000   Sum=      21.366
------------------------------------------------------------------------
```

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.030	(0.686)		0.013	0.018
2	0.17	0.07	0.030	(0.683)		0.013	0.018
3	0.25	0.07	0.030	(0.680)		0.013	0.018
4	0.33	0.10	0.045	(0.678)		0.019	0.026
5	0.42	0.10	0.045	(0.675)		0.019	0.026
6	0.50	0.10	0.045	(0.672)		0.019	0.026
7	0.58	0.10	0.045	(0.670)		0.019	0.026
8	0.67	0.10	0.045	(0.667)		0.019	0.026
9	0.75	0.10	0.045	(0.664)		0.019	0.026
10	0.83	0.13	0.061	(0.662)		0.025	0.035
11	0.92	0.13	0.061	(0.659)		0.025	0.035
12	1.00	0.13	0.061	(0.657)		0.025	0.035
13	1.08	0.10	0.045	(0.654)		0.019	0.026
14	1.17	0.10	0.045	(0.651)		0.019	0.026
15	1.25	0.10	0.045	(0.649)		0.019	0.026
16	1.33	0.10	0.045	(0.646)		0.019	0.026
17	1.42	0.10	0.045	(0.644)		0.019	0.026
18	1.50	0.10	0.045	(0.641)		0.019	0.026
19	1.58	0.10	0.045	(0.639)		0.019	0.026
20	1.67	0.10	0.045	(0.636)		0.019	0.026
21	1.75	0.10	0.045	(0.633)		0.019	0.026
22	1.83	0.13	0.061	(0.631)		0.025	0.035
23	1.92	0.13	0.061	(0.628)		0.025	0.035
24	2.00	0.13	0.061	(0.626)		0.025	0.035
25	2.08	0.13	0.061	(0.623)		0.025	0.035
26	2.17	0.13	0.061	(0.621)		0.025	0.035
27	2.25	0.13	0.061	(0.618)		0.025	0.035
28	2.33	0.13	0.061	(0.616)		0.025	0.035
29	2.42	0.13	0.061	(0.613)		0.025	0.035
30	2.50	0.13	0.061	(0.611)		0.025	0.035
31	2.58	0.17	0.076	(0.608)		0.032	0.044

32	2.67	0.17	0.076	(0.606)	0.032	0.044
33	2.75	0.17	0.076	(0.603)	0.032	0.044
34	2.83	0.17	0.076	(0.601)	0.032	0.044
35	2.92	0.17	0.076	(0.598)	0.032	0.044
36	3.00	0.17	0.076	(0.596)	0.032	0.044
37	3.08	0.17	0.076	(0.593)	0.032	0.044
38	3.17	0.17	0.076	(0.591)	0.032	0.044
39	3.25	0.17	0.076	(0.588)	0.032	0.044
40	3.33	0.17	0.076	(0.586)	0.032	0.044
41	3.42	0.17	0.076	(0.584)	0.032	0.044
42	3.50	0.17	0.076	(0.581)	0.032	0.044
43	3.58	0.17	0.076	(0.579)	0.032	0.044
44	3.67	0.17	0.076	(0.576)	0.032	0.044
45	3.75	0.17	0.076	(0.574)	0.032	0.044
46	3.83	0.20	0.091	(0.571)	0.038	0.053
47	3.92	0.20	0.091	(0.569)	0.038	0.053
48	4.00	0.20	0.091	(0.567)	0.038	0.053
49	4.08	0.20	0.091	(0.564)	0.038	0.053
50	4.17	0.20	0.091	(0.562)	0.038	0.053
51	4.25	0.20	0.091	(0.559)	0.038	0.053
52	4.33	0.23	0.106	(0.557)	0.045	0.062
53	4.42	0.23	0.106	(0.555)	0.045	0.062
54	4.50	0.23	0.106	(0.552)	0.045	0.062
55	4.58	0.23	0.106	(0.550)	0.045	0.062
56	4.67	0.23	0.106	(0.547)	0.045	0.062
57	4.75	0.23	0.106	(0.545)	0.045	0.062
58	4.83	0.27	0.121	(0.543)	0.051	0.070
59	4.92	0.27	0.121	(0.540)	0.051	0.070
60	5.00	0.27	0.121	(0.538)	0.051	0.070
61	5.08	0.20	0.091	(0.536)	0.038	0.053
62	5.17	0.20	0.091	(0.533)	0.038	0.053
63	5.25	0.20	0.091	(0.531)	0.038	0.053
64	5.33	0.23	0.106	(0.529)	0.045	0.062
65	5.42	0.23	0.106	(0.526)	0.045	0.062
66	5.50	0.23	0.106	(0.524)	0.045	0.062
67	5.58	0.27	0.121	(0.522)	0.051	0.070
68	5.67	0.27	0.121	(0.520)	0.051	0.070
69	5.75	0.27	0.121	(0.517)	0.051	0.070
70	5.83	0.27	0.121	(0.515)	0.051	0.070
71	5.92	0.27	0.121	(0.513)	0.051	0.070
72	6.00	0.27	0.121	(0.510)	0.051	0.070
73	6.08	0.30	0.136	(0.508)	0.057	0.079
74	6.17	0.30	0.136	(0.506)	0.057	0.079
75	6.25	0.30	0.136	(0.504)	0.057	0.079
76	6.33	0.30	0.136	(0.501)	0.057	0.079
77	6.42	0.30	0.136	(0.499)	0.057	0.079
78	6.50	0.30	0.136	(0.497)	0.057	0.079
79	6.58	0.33	0.152	(0.495)	0.064	0.088
80	6.67	0.33	0.152	(0.492)	0.064	0.088
81	6.75	0.33	0.152	(0.490)	0.064	0.088
82	6.83	0.33	0.152	(0.488)	0.064	0.088
83	6.92	0.33	0.152	(0.486)	0.064	0.088
84	7.00	0.33	0.152	(0.484)	0.064	0.088
85	7.08	0.33	0.152	(0.481)	0.064	0.088
86	7.17	0.33	0.152	(0.479)	0.064	0.088
87	7.25	0.33	0.152	(0.477)	0.064	0.088
88	7.33	0.37	0.167	(0.475)	0.070	0.097
89	7.42	0.37	0.167	(0.473)	0.070	0.097
90	7.50	0.37	0.167	(0.471)	0.070	0.097
91	7.58	0.40	0.182	(0.468)	0.076	0.105
92	7.67	0.40	0.182	(0.466)	0.076	0.105
93	7.75	0.40	0.182	(0.464)	0.076	0.105
94	7.83	0.43	0.197	(0.462)	0.083	0.114
95	7.92	0.43	0.197	(0.460)	0.083	0.114
96	8.00	0.43	0.197	(0.458)	0.083	0.114
97	8.08	0.50	0.227	(0.456)	0.095	0.132
98	8.17	0.50	0.227	(0.453)	0.095	0.132
99	8.25	0.50	0.227	(0.451)	0.095	0.132

100	8.33	0.50	0.227	(0.449)	0.095	0.132
101	8.42	0.50	0.227	(0.447)	0.095	0.132
102	8.50	0.50	0.227	(0.445)	0.095	0.132
103	8.58	0.53	0.242	(0.443)	0.102	0.141
104	8.67	0.53	0.242	(0.441)	0.102	0.141
105	8.75	0.53	0.242	(0.439)	0.102	0.141
106	8.83	0.57	0.258	(0.437)	0.108	0.149
107	8.92	0.57	0.258	(0.435)	0.108	0.149
108	9.00	0.57	0.258	(0.433)	0.108	0.149
109	9.08	0.63	0.288	(0.430)	0.121	0.167
110	9.17	0.63	0.288	(0.428)	0.121	0.167
111	9.25	0.63	0.288	(0.426)	0.121	0.167
112	9.33	0.67	0.303	(0.424)	0.127	0.176
113	9.42	0.67	0.303	(0.422)	0.127	0.176
114	9.50	0.67	0.303	(0.420)	0.127	0.176
115	9.58	0.70	0.318	(0.418)	0.134	0.185
116	9.67	0.70	0.318	(0.416)	0.134	0.185
117	9.75	0.70	0.318	(0.414)	0.134	0.185
118	9.83	0.73	0.333	(0.412)	0.140	0.193
119	9.92	0.73	0.333	(0.410)	0.140	0.193
120	10.00	0.73	0.333	(0.408)	0.140	0.193
121	10.08	0.50	0.227	(0.406)	0.095	0.132
122	10.17	0.50	0.227	(0.404)	0.095	0.132
123	10.25	0.50	0.227	(0.402)	0.095	0.132
124	10.33	0.50	0.227	(0.400)	0.095	0.132
125	10.42	0.50	0.227	(0.399)	0.095	0.132
126	10.50	0.50	0.227	(0.397)	0.095	0.132
127	10.58	0.67	0.303	(0.395)	0.127	0.176
128	10.67	0.67	0.303	(0.393)	0.127	0.176
129	10.75	0.67	0.303	(0.391)	0.127	0.176
130	10.83	0.67	0.303	(0.389)	0.127	0.176
131	10.92	0.67	0.303	(0.387)	0.127	0.176
132	11.00	0.67	0.303	(0.385)	0.127	0.176
133	11.08	0.63	0.288	(0.383)	0.121	0.167
134	11.17	0.63	0.288	(0.381)	0.121	0.167
135	11.25	0.63	0.288	(0.379)	0.121	0.167
136	11.33	0.63	0.288	(0.378)	0.121	0.167
137	11.42	0.63	0.288	(0.376)	0.121	0.167
138	11.50	0.63	0.288	(0.374)	0.121	0.167
139	11.58	0.57	0.258	(0.372)	0.108	0.149
140	11.67	0.57	0.258	(0.370)	0.108	0.149
141	11.75	0.57	0.258	(0.368)	0.108	0.149
142	11.83	0.60	0.273	(0.366)	0.115	0.158
143	11.92	0.60	0.273	(0.365)	0.115	0.158
144	12.00	0.60	0.273	(0.363)	0.115	0.158
145	12.08	0.83	0.379	(0.361)	0.159	0.220
146	12.17	0.83	0.379	(0.359)	0.159	0.220
147	12.25	0.83	0.379	(0.357)	0.159	0.220
148	12.33	0.87	0.394	(0.356)	0.165	0.228
149	12.42	0.87	0.394	(0.354)	0.165	0.228
150	12.50	0.87	0.394	(0.352)	0.165	0.228
151	12.58	0.93	0.424	(0.350)	0.178	0.246
152	12.67	0.93	0.424	(0.348)	0.178	0.246
153	12.75	0.93	0.424	(0.347)	0.178	0.246
154	12.83	0.97	0.439	(0.345)	0.185	0.255
155	12.92	0.97	0.439	(0.343)	0.185	0.255
156	13.00	0.97	0.439	(0.341)	0.185	0.255
157	13.08	1.13	0.515	(0.340)	0.216	0.299
158	13.17	1.13	0.515	(0.338)	0.216	0.299
159	13.25	1.13	0.515	(0.336)	0.216	0.299
160	13.33	1.13	0.515	(0.335)	0.216	0.299
161	13.42	1.13	0.515	(0.333)	0.216	0.299
162	13.50	1.13	0.515	(0.331)	0.216	0.299
163	13.58	0.77	0.349	(0.330)	0.146	0.202
164	13.67	0.77	0.349	(0.328)	0.146	0.202
165	13.75	0.77	0.349	(0.326)	0.146	0.202
166	13.83	0.77	0.349	(0.325)	0.146	0.202
167	13.92	0.77	0.349	(0.323)	0.146	0.202

168	14.00	0.77	0.349	(0.321)	0.146	0.202
169	14.08	0.90	0.409	(0.320)	0.172	0.237
170	14.17	0.90	0.409	(0.318)	0.172	0.237
171	14.25	0.90	0.409	(0.316)	0.172	0.237
172	14.33	0.87	0.394	(0.315)	0.165	0.228
173	14.42	0.87	0.394	(0.313)	0.165	0.228
174	14.50	0.87	0.394	(0.311)	0.165	0.228
175	14.58	0.87	0.394	(0.310)	0.165	0.228
176	14.67	0.87	0.394	(0.308)	0.165	0.228
177	14.75	0.87	0.394	(0.307)	0.165	0.228
178	14.83	0.83	0.379	(0.305)	0.159	0.220
179	14.92	0.83	0.379	(0.304)	0.159	0.220
180	15.00	0.83	0.379	(0.302)	0.159	0.220
181	15.08	0.80	0.364	(0.300)	0.153	0.211
182	15.17	0.80	0.364	(0.299)	0.153	0.211
183	15.25	0.80	0.364	(0.297)	0.153	0.211
184	15.33	0.77	0.349	(0.296)	0.146	0.202
185	15.42	0.77	0.349	(0.294)	0.146	0.202
186	15.50	0.77	0.349	(0.293)	0.146	0.202
187	15.58	0.63	0.288	(0.291)	0.121	0.167
188	15.67	0.63	0.288	(0.290)	0.121	0.167
189	15.75	0.63	0.288	(0.288)	0.121	0.167
190	15.83	0.63	0.288	(0.287)	0.121	0.167
191	15.92	0.63	0.288	(0.285)	0.121	0.167
192	16.00	0.63	0.288	(0.284)	0.121	0.167
193	16.08	0.13	0.061	(0.283)	0.025	0.035
194	16.17	0.13	0.061	(0.281)	0.025	0.035
195	16.25	0.13	0.061	(0.280)	0.025	0.035
196	16.33	0.13	0.061	(0.278)	0.025	0.035
197	16.42	0.13	0.061	(0.277)	0.025	0.035
198	16.50	0.13	0.061	(0.275)	0.025	0.035
199	16.58	0.10	0.045	(0.274)	0.019	0.026
200	16.67	0.10	0.045	(0.273)	0.019	0.026
201	16.75	0.10	0.045	(0.271)	0.019	0.026
202	16.83	0.10	0.045	(0.270)	0.019	0.026
203	16.92	0.10	0.045	(0.268)	0.019	0.026
204	17.00	0.10	0.045	(0.267)	0.019	0.026
205	17.08	0.17	0.076	(0.266)	0.032	0.044
206	17.17	0.17	0.076	(0.264)	0.032	0.044
207	17.25	0.17	0.076	(0.263)	0.032	0.044
208	17.33	0.17	0.076	(0.262)	0.032	0.044
209	17.42	0.17	0.076	(0.260)	0.032	0.044
210	17.50	0.17	0.076	(0.259)	0.032	0.044
211	17.58	0.17	0.076	(0.258)	0.032	0.044
212	17.67	0.17	0.076	(0.257)	0.032	0.044
213	17.75	0.17	0.076	(0.255)	0.032	0.044
214	17.83	0.13	0.061	(0.254)	0.025	0.035
215	17.92	0.13	0.061	(0.253)	0.025	0.035
216	18.00	0.13	0.061	(0.252)	0.025	0.035
217	18.08	0.13	0.061	(0.250)	0.025	0.035
218	18.17	0.13	0.061	(0.249)	0.025	0.035
219	18.25	0.13	0.061	(0.248)	0.025	0.035
220	18.33	0.13	0.061	(0.247)	0.025	0.035
221	18.42	0.13	0.061	(0.245)	0.025	0.035
222	18.50	0.13	0.061	(0.244)	0.025	0.035
223	18.58	0.10	0.045	(0.243)	0.019	0.026
224	18.67	0.10	0.045	(0.242)	0.019	0.026
225	18.75	0.10	0.045	(0.241)	0.019	0.026
226	18.83	0.07	0.030	(0.240)	0.013	0.018
227	18.92	0.07	0.030	(0.238)	0.013	0.018
228	19.00	0.07	0.030	(0.237)	0.013	0.018
229	19.08	0.10	0.045	(0.236)	0.019	0.026
230	19.17	0.10	0.045	(0.235)	0.019	0.026
231	19.25	0.10	0.045	(0.234)	0.019	0.026
232	19.33	0.13	0.061	(0.233)	0.025	0.035
233	19.42	0.13	0.061	(0.232)	0.025	0.035
234	19.50	0.13	0.061	(0.231)	0.025	0.035
235	19.58	0.10	0.045	(0.230)	0.019	0.026

236	19.67	0.10	0.045	(0.229)	0.019	0.026
237	19.75	0.10	0.045	(0.228)	0.019	0.026
238	19.83	0.07	0.030	(0.227)	0.013	0.018
239	19.92	0.07	0.030	(0.226)	0.013	0.018
240	20.00	0.07	0.030	(0.225)	0.013	0.018
241	20.08	0.10	0.045	(0.224)	0.019	0.026
242	20.17	0.10	0.045	(0.223)	0.019	0.026
243	20.25	0.10	0.045	(0.222)	0.019	0.026
244	20.33	0.10	0.045	(0.221)	0.019	0.026
245	20.42	0.10	0.045	(0.220)	0.019	0.026
246	20.50	0.10	0.045	(0.219)	0.019	0.026
247	20.58	0.10	0.045	(0.218)	0.019	0.026
248	20.67	0.10	0.045	(0.217)	0.019	0.026
249	20.75	0.10	0.045	(0.216)	0.019	0.026
250	20.83	0.07	0.030	(0.215)	0.013	0.018
251	20.92	0.07	0.030	(0.214)	0.013	0.018
252	21.00	0.07	0.030	(0.213)	0.013	0.018
253	21.08	0.10	0.045	(0.213)	0.019	0.026
254	21.17	0.10	0.045	(0.212)	0.019	0.026
255	21.25	0.10	0.045	(0.211)	0.019	0.026
256	21.33	0.07	0.030	(0.210)	0.013	0.018
257	21.42	0.07	0.030	(0.209)	0.013	0.018
258	21.50	0.07	0.030	(0.209)	0.013	0.018
259	21.58	0.10	0.045	(0.208)	0.019	0.026
260	21.67	0.10	0.045	(0.207)	0.019	0.026
261	21.75	0.10	0.045	(0.206)	0.019	0.026
262	21.83	0.07	0.030	(0.206)	0.013	0.018
263	21.92	0.07	0.030	(0.205)	0.013	0.018
264	22.00	0.07	0.030	(0.204)	0.013	0.018
265	22.08	0.10	0.045	(0.203)	0.019	0.026
266	22.17	0.10	0.045	(0.203)	0.019	0.026
267	22.25	0.10	0.045	(0.202)	0.019	0.026
268	22.33	0.07	0.030	(0.202)	0.013	0.018
269	22.42	0.07	0.030	(0.201)	0.013	0.018
270	22.50	0.07	0.030	(0.200)	0.013	0.018
271	22.58	0.07	0.030	(0.200)	0.013	0.018
272	22.67	0.07	0.030	(0.199)	0.013	0.018
273	22.75	0.07	0.030	(0.199)	0.013	0.018
274	22.83	0.07	0.030	(0.198)	0.013	0.018
275	22.92	0.07	0.030	(0.198)	0.013	0.018
276	23.00	0.07	0.030	(0.197)	0.013	0.018
277	23.08	0.07	0.030	(0.197)	0.013	0.018
278	23.17	0.07	0.030	(0.196)	0.013	0.018
279	23.25	0.07	0.030	(0.196)	0.013	0.018
280	23.33	0.07	0.030	(0.195)	0.013	0.018
281	23.42	0.07	0.030	(0.195)	0.013	0.018
282	23.50	0.07	0.030	(0.195)	0.013	0.018
283	23.58	0.07	0.030	(0.194)	0.013	0.018
284	23.67	0.07	0.030	(0.194)	0.013	0.018
285	23.75	0.07	0.030	(0.194)	0.013	0.018
286	23.83	0.07	0.030	(0.194)	0.013	0.018
287	23.92	0.07	0.030	(0.193)	0.013	0.018
288	24.00	0.07	0.030	(0.193)	0.013	0.018

(Loss Rate Not Used)

Sum = 100.0 Sum = 26.4

Flood volume = Effective rainfall 2.20(In)
times area 21.2(Ac.)/[(In)/(Ft.)] = 3.9(Ac.Ft)
Total soil loss = 1.59(In)
Total soil loss = 2.811(Ac.Ft)
Total rainfall = 3.79(In)
Flood volume = 169078.8 Cubic Feet
Total soil loss = 122436.4 Cubic Feet

Peak flow rate of this hydrograph = 6.387(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0011	0.16	Q				
0+10	0.0033	0.32	VQ				
0+15	0.0057	0.36	VQ				
0+20	0.0088	0.45	VQ				
0+25	0.0125	0.54	V Q				
0+30	0.0163	0.55	V Q				
0+35	0.0202	0.56	V Q				
0+40	0.0241	0.56	V Q				
0+45	0.0280	0.56	V Q				
0+50	0.0324	0.64	V Q				
0+55	0.0374	0.72	V Q				
1+ 0	0.0425	0.74	V Q				
1+ 5	0.0471	0.67	V Q				
1+10	0.0512	0.59	V Q				
1+15	0.0551	0.57	V Q				
1+20	0.0590	0.57	V Q				
1+25	0.0629	0.56	V Q				
1+30	0.0668	0.56	V Q				
1+35	0.0707	0.56	V Q				
1+40	0.0745	0.56	V Q				
1+45	0.0784	0.56	V Q				
1+50	0.0828	0.64	V Q				
1+55	0.0878	0.72	V Q				
2+ 0	0.0929	0.74	V Q				
2+ 5	0.0981	0.75	|VQ				
2+10	0.1033	0.75	|V Q				
2+15	0.1084	0.75	|V Q				
2+20	0.1136	0.75	|V Q				
2+25	0.1188	0.75	|V Q				
2+30	0.1240	0.75	|V Q				
2+35	0.1297	0.83	|V Q				
2+40	0.1360	0.91	|V Q				
2+45	0.1424	0.93	|V Q				
2+50	0.1488	0.94	|V Q				
2+55	0.1553	0.94	|V Q				
3+ 0	0.1618	0.94	|V Q				
3+ 5	0.1682	0.94	|V Q				
3+10	0.1747	0.94	|V Q				
3+15	0.1812	0.94	|V Q				
3+20	0.1876	0.94	|V Q				
3+25	0.1941	0.94	| VQ				
3+30	0.2006	0.94	| VQ				
3+35	0.2070	0.94	| VQ				
3+40	0.2135	0.94	| VQ				
3+45	0.2200	0.94	| VQ				
3+50	0.2270	1.02	| V Q				
3+55	0.2346	1.10	| V Q				
4+ 0	0.2423	1.12	| V Q				
4+ 5	0.2500	1.12	| V Q				
4+10	0.2578	1.13	| V Q				
4+15	0.2655	1.13	| V Q				
4+20	0.2738	1.21	| V Q				
4+25	0.2827	1.29	| V Q				
4+30	0.2917	1.31	| V Q				
4+35	0.3007	1.31	| V Q				
4+40	0.3098	1.32	| V Q				
4+45	0.3188	1.32	| V Q				
4+50	0.3284	1.39	| V Q				
4+55	0.3386	1.48	| V Q				
5+ 0	0.3489	1.49	| V Q				
5+ 5	0.3581	1.34	| V Q				
5+10	0.3663	1.18	| VQ				

5+15	0.3742	1.15	VQ				
5+20	0.3825	1.21	VQ				
5+25	0.3914	1.29	VQ				
5+30	0.4004	1.31	VQ				
5+35	0.4099	1.39	VQ				
5+40	0.4201	1.48	VQ				
5+45	0.4304	1.49	VQ				
5+50	0.4407	1.50	V Q				
5+55	0.4511	1.50	V Q				
6+ 0	0.4614	1.50	V Q				
6+ 5	0.4723	1.58	V Q				
6+10	0.4838	1.66	V Q				
6+15	0.4953	1.68	VQ				
6+20	0.5070	1.69	VQ				
6+25	0.5186	1.69	VQ				
6+30	0.5303	1.69	VQ				
6+35	0.5424	1.77	V Q				
6+40	0.5552	1.85	V Q				
6+45	0.5681	1.87	V Q				
6+50	0.5810	1.88	V Q				
6+55	0.5939	1.88	VQ				
7+ 0	0.6069	1.88	VQ				
7+ 5	0.6198	1.88	VQ				
7+10	0.6327	1.88	VQ				
7+15	0.6457	1.88	VQ				
7+20	0.6591	1.96	VQ				
7+25	0.6732	2.04	V Q				
7+30	0.6874	2.06	VQ				
7+35	0.7021	2.14	VQ				
7+40	0.7174	2.23	VQ				
7+45	0.7329	2.24	VQ				
7+50	0.7489	2.33	V Q				
7+55	0.7656	2.42	V Q				
8+ 0	0.7823	2.43	VQ				
8+ 5	0.8002	2.60	V Q				
8+10	0.8192	2.76	V |Q				
8+15	0.8385	2.80	V |Q				
8+20	0.8579	2.81	V |Q				
8+25	0.8773	2.82	V|Q				
8+30	0.8967	2.82	V|Q				
8+35	0.9166	2.90	V|Q				
8+40	0.9372	2.98	V|Q				
8+45	0.9578	3.00	V|Q				
8+50	0.9790	3.08	V Q				
8+55	1.0008	3.17	V Q				
9+ 0	1.0227	3.18	V Q				
9+ 5	1.0458	3.35	V Q				
9+10	1.0700	3.52	|V Q				
9+15	1.0945	3.55	|V Q				
9+20	1.1195	3.64	|V Q				
9+25	1.1452	3.73	|V Q				
9+30	1.1710	3.75	| V Q				
9+35	1.1974	3.83	| V Q				
9+40	1.2244	3.92	| V Q				
9+45	1.2515	3.94	| V Q				
9+50	1.2792	4.02	| V Q				
9+55	1.3075	4.11	| V Q				
10+ 0	1.3359	4.12	| V Q				
10+ 5	1.3606	3.59	| Q				
10+10	1.3813	3.01	| Q V				
10+15	1.4012	2.89	|Q V				
10+20	1.4207	2.84	|Q V				
10+25	1.4401	2.82	|Q V				
10+30	1.4595	2.82	|Q V				
10+35	1.4816	3.21	| Q V				
10+40	1.5066	3.62	| QV				
10+45	1.5321	3.71	| QV				
10+50	1.5579	3.74	| Q V				

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10+55       1.5838      3.76  |          |    QV   |          |          |
11+ 0       1.6096      3.76  |          |    QV   |          |          |
11+ 5       1.6350      3.68  |          |   Q V   |          |          |
11+10       1.6597      3.60  |          |   Q  V  |          |          |
11+15       1.6844      3.58  |          |   Q  V  |          |          |
11+20       1.7090      3.57  |          |   Q  V  |          |          |
11+25       1.7336      3.57  |          |   Q  V  |          |          |
11+30       1.7582      3.57  |          |   Q   V |          |          |
11+35       1.7817      3.41  |          |  Q    V |          |          |
11+40       1.8040      3.25  |          | Q     V |          |          |
11+45       1.8262      3.21  |          | Q     V |          |          |
11+50       1.8487      3.28  |          |  Q     V|          |          |
11+55       1.8718      3.35  |          |  Q     V|          |          |
12+ 0       1.8951      3.37  |          |  Q     V|          |          |
12+ 5       1.9221      3.92  |          |    Q   V|          |          |
12+10       1.9531      4.51  |          |       Q V          |          |
12+15       1.9850      4.63  |          |       Q V          |          |
12+20       2.0177      4.76  |          |        QV          |          |
12+25       2.0512      4.86  |          |        Q|V         |          |
12+30       2.0848      4.87  |          |        Q|V         |          |
12+35       2.1195      5.04  |          |         QV         |          |
12+40       2.1553      5.21  |          |         Q V        |          |
12+45       2.1914      5.24  |          |         Q V        |          |
12+50       2.2281      5.33  |          |         |QV        |          |
12+55       2.2655      5.42  |          |         |Q V       |          |
13+ 0       2.3029      5.44  |          |         |Q V       |          |
13+ 5       2.3431      5.83  |          |         |  QV      |          |
13+10       2.3862      6.25  |          |         |   VQ     |          |
13+15       2.4298      6.34  |          |         |    Q     |          |
13+20       2.4737      6.37  |          |         |    Q     |          |
13+25       2.5177      6.39  |          |         |    Q     |          |
13+30       2.5617      6.39  |          |         |    QV    |          |
13+35       2.5998      5.53  |          |         | Q   V    |          |
13+40       2.6316      4.62  |          |       Q |      V   |          |
13+45       2.6621      4.43  |          |      Q  |      V   |          |
13+50       2.6921      4.35  |          |      Q  |      V   |          |
13+55       2.7218      4.32  |          |      Q  |       V  |          |
14+ 0       2.7516      4.32  |          |      Q  |       V  |          |
14+ 5       2.7835      4.63  |          |       Q |       V  |          |
14+10       2.8177      4.96  |          |        Q|        V|          |
14+15       2.8523      5.03  |          |         Q        V|          |
14+20       2.8867      4.98  |          |        Q|        V|          |
14+25       2.9205      4.91  |          |        Q|         V          |
14+30       2.9542      4.89  |          |        Q|         V          |
14+35       2.9879      4.89  |          |        Q|         V          |
14+40       3.0215      4.88  |          |        Q|         |V         |
14+45       3.0551      4.88  |          |        Q|         |V         |
14+50       3.0882      4.81  |          |        Q|         |V         |
14+55       3.1208      4.72  |          |       Q |         | V        |
15+ 0       3.1532      4.71  |          |       Q |         | V        |
15+ 5       3.1850      4.62  |          |       Q |         | V        |
15+10       3.2163      4.54  |          |       Q |         |  V       |
15+15       3.2474      4.52  |          |       Q |         |  V       |
15+20       3.2779      4.43  |          |      Q  |         |  V       |
15+25       3.3079      4.35  |          |      Q  |         |   V      |
15+30       3.3377      4.33  |          |      Q  |         |   V      |
15+35       3.3653      4.01  |          |     Q   |         |   V      |
15+40       3.3906      3.68  |          |   Q     |         |   V      |
15+45       3.4155      3.61  |          |   Q     |         |    V     |
15+50       3.4401      3.58  |          |   Q     |         |    V     |
15+55       3.4647      3.57  |          |   Q     |         |    V     |
16+ 0       3.4893      3.57  |          |   Q     |         |    V     |
16+ 5       3.5059      2.40  |        Q|         |         |     V    |
16+10       3.5138      1.16  |   Q     |         |         |     V    |
16+15       3.5200      0.90  |  Q      |         |         |     V    |
16+20       3.5255      0.79  |  Q      |         |         |     V    |
16+25       3.5306      0.75  |  Q      |         |         |     V    |
16+30       3.5358      0.75  |  Q      |         |         |     V    |
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16+35	3.5405	0.67	| Q	|	|	| V	|
16+40	3.5445	0.59	| Q	|	|	| V	|
16+45	3.5485	0.57	| Q	|	|	| V	|
16+50	3.5524	0.57	| Q	|	|	| V	|
16+55	3.5563	0.56	| Q	|	|	| V	|
17+ 0	3.5601	0.56	| Q	|	|	| V	|
17+ 5	3.5651	0.72	| Q	|	|	| V	|
17+10	3.5712	0.89	| Q	|	|	| V	|
17+15	3.5775	0.92	| Q	|	|	| V	|
17+20	3.5840	0.93	| Q	|	|	| V	|
17+25	3.5904	0.94	| Q	|	|	| V	|
17+30	3.5969	0.94	| Q	|	|	| V	|
17+35	3.6034	0.94	| Q	|	|	| V	|
17+40	3.6098	0.94	| Q	|	|	| V	|
17+45	3.6163	0.94	| Q	|	|	| V	|
17+50	3.6222	0.86	| Q	|	|	| V	|
17+55	3.6276	0.78	| Q	|	|	| V	|
18+ 0	3.6328	0.76	| Q	|	|	| V	|
18+ 5	3.6380	0.75	| Q	|	|	| V	|
18+10	3.6432	0.75	| Q	|	|	| V	|
18+15	3.6484	0.75	| Q	|	|	| V	|
18+20	3.6536	0.75	| Q	|	|	| V	|
18+25	3.6587	0.75	| Q	|	|	| V	|
18+30	3.6639	0.75	| Q	|	|	| V	|
18+35	3.6686	0.67	| Q	|	|	| V	|
18+40	3.6726	0.59	| Q	|	|	| V	|
18+45	3.6766	0.57	| Q	|	|	| V	|
18+50	3.6799	0.49	|Q	|	|	| V	|
18+55	3.6827	0.40	|Q	|	|	| V	|
19+ 0	3.6854	0.39	|Q	|	|	| V	|
19+ 5	3.6885	0.46	|Q	|	|	| V	|
19+10	3.6922	0.54	| Q	|	|	| V	|
19+15	3.6960	0.55	| Q	|	|	| V	|
19+20	3.7004	0.64	| Q	|	|	| V	|
19+25	3.7054	0.72	| Q	|	|	| V	|
19+30	3.7105	0.74	| Q	|	|	| V	|
19+35	3.7151	0.67	| Q	|	|	| V	|
19+40	3.7192	0.59	| Q	|	|	| V	|
19+45	3.7231	0.57	| Q	|	|	| V	|
19+50	3.7265	0.49	|Q	|	|	| V	|
19+55	3.7293	0.40	|Q	|	|	| V	|
20+ 0	3.7319	0.39	|Q	|	|	| V	|
20+ 5	3.7351	0.46	|Q	|	|	| V	|
20+10	3.7388	0.54	| Q	|	|	| V	|
20+15	3.7426	0.55	| Q	|	|	| V	|
20+20	3.7465	0.56	| Q	|	|	| V	|
20+25	3.7503	0.56	| Q	|	|	| V	|
20+30	3.7542	0.56	| Q	|	|	| V	|
20+35	3.7581	0.56	| Q	|	|	| V	|
20+40	3.7620	0.56	| Q	|	|	| V	|
20+45	3.7659	0.56	| Q	|	|	| V	|
20+50	3.7692	0.49	|Q	|	|	| V	|
20+55	3.7720	0.40	|Q	|	|	| V	|
21+ 0	3.7746	0.39	|Q	|	|	| V	|
21+ 5	3.7778	0.46	|Q	|	|	| V	|
21+10	3.7815	0.54	| Q	|	|	| V	|
21+15	3.7853	0.55	| Q	|	|	| V	|
21+20	3.7886	0.48	|Q	|	|	| V	|
21+25	3.7914	0.40	|Q	|	|	| V	|
21+30	3.7940	0.39	|Q	|	|	| V	|
21+35	3.7972	0.46	|Q	|	|	| V	|
21+40	3.8009	0.54	| Q	|	|	| V	|
21+45	3.8047	0.55	| Q	|	|	| V	|
21+50	3.8080	0.48	|Q	|	|	| V	|
21+55	3.8108	0.40	|Q	|	|	| V	|
22+ 0	3.8135	0.39	|Q	|	|	| V	|
22+ 5	3.8166	0.46	|Q	|	|	| V	|
22+10	3.8203	0.54	| Q	|	|	| V	|

```
   22+15       3.8241      0.55  | Q       |         |         |        V|
   22+20       3.8274      0.48  |Q        |         |         |        V|
   22+25       3.8302      0.40  |Q        |         |         |        V|
   22+30       3.8329      0.39  |Q        |         |         |        V|
   22+35       3.8355      0.38  |Q        |         |         |        V|
   22+40       3.8381      0.38  |Q        |         |         |        V|
   22+45       3.8406      0.38  |Q        |         |         |        V|
   22+50       3.8432      0.38  |Q        |         |         |        V|
   22+55       3.8458      0.38  |Q        |         |         |        V|
   23+ 0       3.8484      0.38  |Q        |         |         |        V|
   23+ 5       3.8510      0.38  |Q        |         |         |        V|
   23+10       3.8536      0.38  |Q        |         |         |        V|
   23+15       3.8562      0.38  |Q        |         |         |        V|
   23+20       3.8588      0.38  |Q        |         |         |        V|
   23+25       3.8613      0.38  |Q        |         |         |        V|
   23+30       3.8639      0.38  |Q        |         |         |        V|
   23+35       3.8665      0.38  |Q        |         |         |        V|
   23+40       3.8691      0.38  |Q        |         |         |        V|
   23+45       3.8717      0.38  |Q        |         |         |        V|
   23+50       3.8743      0.38  |Q        |         |         |        V|
   23+55       3.8769      0.38  |Q        |         |         |        V|
   24+ 0       3.8795      0.38  |Q        |         |         |        V|
   24+ 5       3.8810      0.22  Q         |         |         |        V|
   24+10       3.8813      0.05  Q         |         |         |        V|
   24+15       3.8815      0.02  Q         |         |         |        V|
   24+20       3.8815      0.01  Q         |         |         |         V
-------------------------------------------------------------------------
```

UNIT HYDROGRAPH

10-YEAR,
1, 3, 6, 24 HOURS
STORM EVENTS

PROPOSED CONDITION

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
10 YEAR, 1 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	0.55	11.66

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.36	28.83

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.550(In)
Area Averaged 100-Year Rainfall = 1.360(In)

Point rain (area averaged) = 0.883(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 0.883(In)

Sub-Area Data:

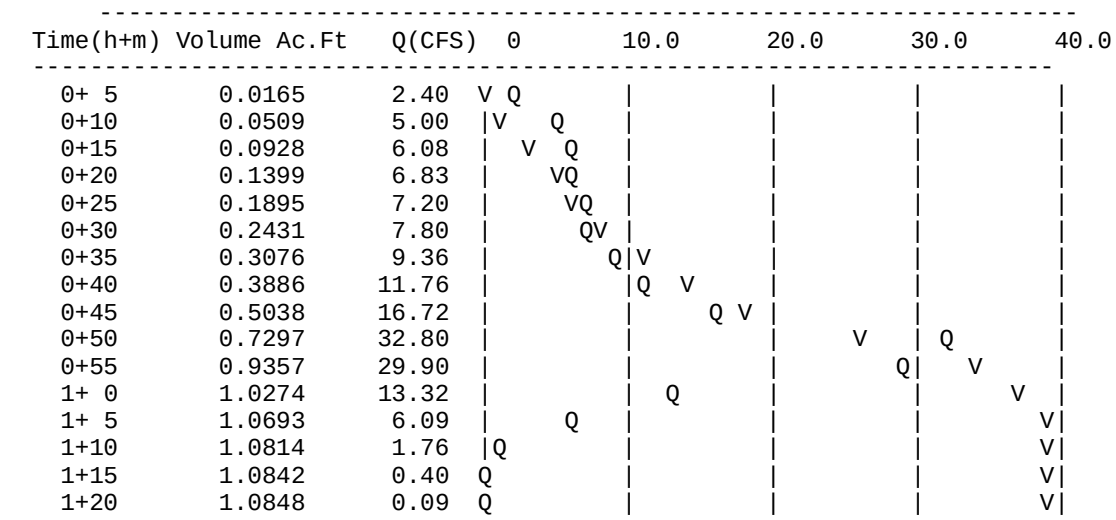
```
Area(Ac.)         Runoff Index   Impervious %
    21.200           37.40         0.600
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
37.4  37.4      0.693     0.600        0.319       1.000      0.319
                                                   Sum (F) =   0.319
Area averaged mean soil loss (F) (In/Hr) =  0.319
Minimum soil loss rate ((In/Hr)) =  0.159
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.420
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.4800
------------------------------------------------------------------------

             U n i t  H y d r o g r a p h
                    VALLEY S-Curve
------------------------------------------------------------------------
             Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        188.970         41.429             8.852
    2   0.167        377.940         44.144             9.432
    3   0.250        566.909          9.259             1.978
    4   0.333        755.879          3.697             0.790
    5   0.417        944.849          1.471             0.314
                              Sum = 100.000   Sum=      21.366
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.40      0.466       (  0.319)       0.196        0.270
   2   0.17     4.50      0.477       (  0.319)       0.200        0.277
   3   0.25     5.40      0.572       (  0.319)       0.240        0.332
   4   0.33     5.40      0.572       (  0.319)       0.240        0.332
   5   0.42     5.70      0.604       (  0.319)       0.254        0.350
   6   0.50     6.40      0.678       (  0.319)       0.285        0.393
   7   0.58     7.90      0.837          0.319    (  0.352)        0.518
   8   0.67     9.10      0.964          0.319    (  0.405)        0.645
   9   0.75    12.80      1.356          0.319    (  0.570)        1.037
  10   0.83    25.60      2.713          0.319    (  1.139)        2.394
  11   0.92     7.90      0.837          0.319    (  0.352)        0.518
  12   1.00     4.90      0.519       (  0.319)       0.218        0.301
            (Loss Rate Not Used)
     Sum =     100.0                                    Sum =     7.4
      Flood volume = Effective rainfall      0.61(In)
       times area      21.2(Ac.)/[(In)/(Ft.)] =       1.1(Ac.Ft)
      Total soil loss =      0.27(In)
      Total soil loss =     0.475(Ac.Ft)
      Total rainfall =      0.88(In)
      Flood volume =       47255.0 Cubic Feet
      Total soil loss =       20702.6 Cubic Feet
      ------------------------------------------------------------------
       Peak flow rate of this hydrograph =     32.801(CFS)
      ------------------------------------------------------------------
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
      ------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))
```


Time(h+m) Volume Ac.Ft Q(CFS) 0 10.0 20.0 30.0 40.0
0+ 5 0.0165 2.40
0+10 0.0509 5.00
0+15 0.0928 6.08
0+20 0.1399 6.83
0+25 0.1895 7.20
0+30 0.2431 7.80
0+35 0.3076 9.36
0+40 0.3886 11.76
0+45 0.5038 16.72
0+50 0.7297 32.80
0+55 0.9357 29.90
1+ 0 1.0274 13.32
1+ 5 1.0693 6.09
1+10 1.0814 1.76
1+15 1.0842 0.40
1+20 1.0848 0.09

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR310.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
10 YEAR, 3 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.00	21.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.40	50.88

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.400(In)

Point rain (area averaged) = 1.576(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.576(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	37.40	0.600

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
37.4	37.4	0.693	0.600	0.319	1.000	0.319
					Sum (F) =	0.319

Area averaged mean soil loss (F) (In/Hr) = 0.319
Minimum soil loss rate ((In/Hr)) = 0.159
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.420

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	188.970	41.429	8.852
2	0.167	377.940	44.144	9.432
3	0.250	566.909	9.259	1.978
4	0.333	755.879	3.697	0.790
5	0.417	944.849	1.471	0.314
			Sum = 100.000	Sum= 21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.246	(0.319)		0.103	0.143
2	0.17	1.30	0.246	(0.319)		0.103	0.143
3	0.25	1.10	0.208	(0.319)		0.087	0.121
4	0.33	1.50	0.284	(0.319)		0.119	0.165
5	0.42	1.50	0.284	(0.319)		0.119	0.165
6	0.50	1.80	0.340	(0.319)		0.143	0.197
7	0.58	1.50	0.284	(0.319)		0.119	0.165
8	0.67	1.80	0.340	(0.319)		0.143	0.197
9	0.75	1.80	0.340	(0.319)		0.143	0.197
10	0.83	1.50	0.284	(0.319)		0.119	0.165
11	0.92	1.60	0.303	(0.319)		0.127	0.175
12	1.00	1.80	0.340	(0.319)		0.143	0.197
13	1.08	2.20	0.416	(0.319)		0.175	0.241
14	1.17	2.20	0.416	(0.319)		0.175	0.241
15	1.25	2.20	0.416	(0.319)		0.175	0.241
16	1.33	2.00	0.378	(0.319)		0.159	0.219
17	1.42	2.60	0.492	(0.319)		0.206	0.285
18	1.50	2.70	0.511	(0.319)		0.214	0.296
19	1.58	2.40	0.454	(0.319)		0.191	0.263
20	1.67	2.70	0.511	(0.319)		0.214	0.296
21	1.75	3.30	0.624	(0.319)		0.262	0.362
22	1.83	3.10	0.586	(0.319)		0.246	0.340
23	1.92	2.90	0.548	(0.319)		0.230	0.318
24	2.00	3.00	0.567	(0.319)		0.238	0.329
25	2.08	3.10	0.586	(0.319)		0.246	0.340
26	2.17	4.20	0.794	0.319	(	0.334)	0.475
27	2.25	5.00	0.945	0.319	(	0.397)	0.627
28	2.33	3.50	0.662	(0.319)		0.278	0.384
29	2.42	6.80	1.286	0.319	(	0.540)	0.967
30	2.50	7.30	1.380	0.319	(	0.580)	1.061
31	2.58	8.20	1.551	0.319	(	0.651)	1.232

```
 32   2.67     5.90      1.116          0.319    (  0.469)        0.797
 33   2.75     2.00      0.378       (  0.319)       0.159        0.219
 34   2.83     1.80      0.340       (  0.319)       0.143        0.197
 35   2.92     1.80      0.340       (  0.319)       0.143        0.197
 36   3.00     0.60      0.113       (  0.319)       0.048        0.066
            (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    12.0
      Flood volume = Effective rainfall      1.00(In)
       times area      21.2(Ac.)/[(In)/(Ft.)] =       1.8(Ac.Ft)
      Total soil loss =      0.57(In)
      Total soil loss =     1.014(Ac.Ft)
      Total rainfall =      1.58(In)
      Flood volume =       77112.0 Cubic Feet
      Total soil loss =       44157.2 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     23.338(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        7.5      15.0      22.5      30.0
-------------------------------------------------------------------------
  0+ 5       0.0087      1.26  VQ       |         |         |         |
  0+10       0.0267      2.61  V  Q     |         |         |         |
  0+15       0.0452      2.70  |V Q     |         |         |         |
  0+20       0.0658      2.99  |V Q     |         |         |         |
  0+25       0.0893      3.41  | V Q    |         |         |         |
  0+30       0.1152      3.77  | V  Q   |         |         |         |
  0+35       0.1415      3.81  |  V Q   |         |         |         |
  0+40       0.1682      3.87  |  V Q   |         |         |         |
  0+45       0.1967      4.14  |   VQ   |         |         |         |
  0+50       0.2236      3.90  |    Q   |         |         |         |
  0+55       0.2491      3.71  |   QV   |         |         |         |
  1+ 0       0.2763      3.95  |    QV  |         |         |         |
  1+ 5       0.3076      4.54  |     Q  |         |         |         |
  1+10       0.3420      5.00  |     QV |         |         |         |
  1+15       0.3771      5.10  |     Q V|         |         |         |
  1+20       0.4112      4.95  |     Q  V|        |         |         |
  1+25       0.4480      5.34  |      Q  V        |         |         |
  1+30       0.4894      6.01  |       Q |V       |         |         |
  1+35       0.5303      5.94  |      Q  |V       |         |         |
  1+40       0.5715      5.99  |      Q  | V      |         |         |
  1+45       0.6187      6.84  |        Q|  V     |         |         |
  1+50       0.6690      7.31  |        Q|    V   |         |         |
  1+55       0.7176      7.06  |        Q|     V  |         |         |
  2+ 0       0.7656      6.97  |        Q|      V |         |         |
  2+ 5       0.8147      7.13  |        Q|       V|         |         |
  2+10       0.8727      8.43  |         |Q       V|         |         |
  2+15       0.9490     11.07  |         |   Q     |V        |         |
  2+20       1.0221     10.62  |         |   Q     |  V      |         |
  2+25       1.1179     13.91  |         |       Q |    V    |         |
  2+30       1.2552     19.93  |         |         |     Q V |         |
  2+35       1.4159     23.34  |         |         |         |Q        |
  2+40       1.5651     21.66  |         |         |       Q |    V    |
  2+45       1.6549     13.04  |         |      Q  |         |      V  |
  2+50       1.7011      6.70  |       Q |         |         |       V |
  2+55       1.7359      5.06  |     Q   |         |         |        V|
  3+ 0       1.7584      3.26  |   Q     |         |         |        V|
  3+ 5       1.7669      1.24  |Q        |         |         |        V|
  3+10       1.7693      0.35  Q         |         |         |        V|
  3+15       1.7701      0.11  Q         |         |         |        V|
  3+20       1.7702      0.02  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
10 YEAR, 6 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.40	29.68

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	3.00	63.60

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.400(In)
Area Averaged 100-Year Rainfall = 3.000(In)

Point rain (area averaged) = 2.058(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.058(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	37.40	0.600

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
37.4	37.4	0.693	0.600	0.319	1.000	0.319
					Sum (F) =	0.319

Area averaged mean soil loss (F) (In/Hr) = 0.319
Minimum soil loss rate ((In/Hr)) = 0.159
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.420

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	188.970	41.429	8.852
2	0.167	377.940	44.144	9.432
3	0.250	566.909	9.259	1.978
4	0.333	755.879	3.697	0.790
5	0.417	944.849	1.471	0.314
			Sum = 100.000	Sum= 21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.123	(0.319)	0.052	0.072
2	0.17	0.60	0.148	(0.319)	0.062	0.086
3	0.25	0.60	0.148	(0.319)	0.062	0.086
4	0.33	0.60	0.148	(0.319)	0.062	0.086
5	0.42	0.60	0.148	(0.319)	0.062	0.086
6	0.50	0.70	0.173	(0.319)	0.073	0.100
7	0.58	0.70	0.173	(0.319)	0.073	0.100
8	0.67	0.70	0.173	(0.319)	0.073	0.100
9	0.75	0.70	0.173	(0.319)	0.073	0.100
10	0.83	0.70	0.173	(0.319)	0.073	0.100
11	0.92	0.70	0.173	(0.319)	0.073	0.100
12	1.00	0.80	0.198	(0.319)	0.083	0.115
13	1.08	0.80	0.198	(0.319)	0.083	0.115
14	1.17	0.80	0.198	(0.319)	0.083	0.115
15	1.25	0.80	0.198	(0.319)	0.083	0.115
16	1.33	0.80	0.198	(0.319)	0.083	0.115
17	1.42	0.80	0.198	(0.319)	0.083	0.115
18	1.50	0.80	0.198	(0.319)	0.083	0.115
19	1.58	0.80	0.198	(0.319)	0.083	0.115
20	1.67	0.80	0.198	(0.319)	0.083	0.115
21	1.75	0.80	0.198	(0.319)	0.083	0.115
22	1.83	0.80	0.198	(0.319)	0.083	0.115
23	1.92	0.80	0.198	(0.319)	0.083	0.115
24	2.00	0.90	0.222	(0.319)	0.093	0.129
25	2.08	0.80	0.198	(0.319)	0.083	0.115
26	2.17	0.90	0.222	(0.319)	0.093	0.129
27	2.25	0.90	0.222	(0.319)	0.093	0.129
28	2.33	0.90	0.222	(0.319)	0.093	0.129
29	2.42	0.90	0.222	(0.319)	0.093	0.129
30	2.50	0.90	0.222	(0.319)	0.093	0.129
31	2.58	0.90	0.222	(0.319)	0.093	0.129

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32   2.67     0.90      0.222       (  0.319)       0.093        0.129
33   2.75     1.00      0.247       (  0.319)       0.104        0.143
34   2.83     1.00      0.247       (  0.319)       0.104        0.143
35   2.92     1.00      0.247       (  0.319)       0.104        0.143
36   3.00     1.00      0.247       (  0.319)       0.104        0.143
37   3.08     1.00      0.247       (  0.319)       0.104        0.143
38   3.17     1.10      0.272       (  0.319)       0.114        0.158
39   3.25     1.10      0.272       (  0.319)       0.114        0.158
40   3.33     1.10      0.272       (  0.319)       0.114        0.158
41   3.42     1.20      0.296       (  0.319)       0.124        0.172
42   3.50     1.30      0.321       (  0.319)       0.135        0.186
43   3.58     1.40      0.346       (  0.319)       0.145        0.201
44   3.67     1.40      0.346       (  0.319)       0.145        0.201
45   3.75     1.50      0.370       (  0.319)       0.156        0.215
46   3.83     1.50      0.370       (  0.319)       0.156        0.215
47   3.92     1.60      0.395       (  0.319)       0.166        0.229
48   4.00     1.60      0.395       (  0.319)       0.166        0.229
49   4.08     1.70      0.420       (  0.319)       0.176        0.244
50   4.17     1.80      0.445       (  0.319)       0.187        0.258
51   4.25     1.90      0.469       (  0.319)       0.197        0.272
52   4.33     2.00      0.494       (  0.319)       0.207        0.286
53   4.42     2.10      0.519       (  0.319)       0.218        0.301
54   4.50     2.10      0.519       (  0.319)       0.218        0.301
55   4.58     2.20      0.543       (  0.319)       0.228        0.315
56   4.67     2.30      0.568       (  0.319)       0.239        0.329
57   4.75     2.40      0.593       (  0.319)       0.249        0.344
58   4.83     2.40      0.593       (  0.319)       0.249        0.344
59   4.92     2.50      0.617       (  0.319)       0.259        0.358
60   5.00     2.60      0.642       (  0.319)       0.270        0.372
61   5.08     3.10      0.766          0.319    (  0.322)       0.447
62   5.17     3.60      0.889          0.319    (  0.373)       0.570
63   5.25     3.90      0.963          0.319    (  0.405)       0.644
64   5.33     4.20      1.037          0.319    (  0.436)       0.718
65   5.42     4.70      1.161          0.319    (  0.488)       0.842
66   5.50     5.60      1.383          0.319    (  0.581)       1.064
67   5.58     1.90      0.469       (  0.319)       0.197        0.272
68   5.67     0.90      0.222       (  0.319)       0.093        0.129
69   5.75     0.60      0.148       (  0.319)       0.062        0.086
70   5.83     0.50      0.123       (  0.319)       0.052        0.072
71   5.92     0.30      0.074       (  0.319)       0.031        0.043
72   6.00     0.20      0.049       (  0.319)       0.021        0.029
           (Loss Rate Not Used)
   Sum =     100.0                                  Sum =    15.0
    Flood volume = Effective rainfall      1.25(In)
     times area      21.2(Ac.)/[(In)/(Ft.)] =       2.2(Ac.Ft)
    Total soil loss =      0.81(In)
    Total soil loss =     1.426(Ac.Ft)
    Total rainfall =      2.06(In)
    Flood volume =       96286.0 Cubic Feet
    Total soil loss =       62097.3 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     19.478(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0044      0.63  VQ        |         |         |         |
  0+10       0.0143      1.44  V Q       |         |         |         |
  0+15       0.0261      1.71  V  Q      |         |         |         |
  0+20       0.0385      1.80  V  Q      |         |         |         |
  0+25       0.0511      1.83  V  Q      |         |         |         |
  0+30       0.0646      1.96  |V Q      |         |         |         |
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0+35       0.0791      2.10  |V  Q     |          |          |          |
0+40       0.0937      2.13  |V  Q     |          |          |          |
0+45       0.1084      2.14  |V  Q     |          |          |          |
0+50       0.1232      2.14  | V Q     |          |          |          |
0+55       0.1380      2.14  | V Q     |          |          |          |
1+ 0       0.1536      2.27  | V Q     |          |          |          |
1+ 5       0.1702      2.41  |  VQ     |          |          |          |
1+10       0.1869      2.43  |  VQ     |          |          |          |
1+15       0.2038      2.45  |  VQ     |          |          |          |
1+20       0.2206      2.45  |  VQ     |          |          |          |
1+25       0.2375      2.45  |   Q     |          |          |          |
1+30       0.2544      2.45  |   Q     |          |          |          |
1+35       0.2713      2.45  |   Q     |          |          |          |
1+40       0.2881      2.45  |   QV    |          |          |          |
1+45       0.3050      2.45  |   QV    |          |          |          |
1+50       0.3219      2.45  |   QV    |          |          |          |
1+55       0.3387      2.45  |   Q V   |          |          |          |
2+ 0       0.3565      2.58  |    QV   |          |          |          |
2+ 5       0.3743      2.58  |    QV   |          |          |          |
2+10       0.3922      2.60  |    Q V  |          |          |          |
2+15       0.4110      2.72  |    Q V  |          |          |          |
2+20       0.4299      2.74  |    Q V  |          |          |          |
2+25       0.4488      2.75  |    Q  V |          |          |          |
2+30       0.4678      2.76  |    Q  V |          |          |          |
2+35       0.4868      2.76  |    Q  V |          |          |          |
2+40       0.5058      2.76  |    Q   V|          |          |          |
2+45       0.5256      2.88  |    Q   V|          |          |          |
2+50       0.5464      3.02  |     Q  V|          |          |          |
2+55       0.5674      3.05  |     Q   V          |          |          |
3+ 0       0.5885      3.06  |     Q   V          |          |          |
3+ 5       0.6095      3.06  |     Q   |V         |          |          |
3+10       0.6315      3.19  |     Q   |V         |          |          |
3+15       0.6544      3.32  |     Q   |V         |          |          |
3+20       0.6775      3.35  |     Q   | V        |          |          |
3+25       0.7015      3.49  |     Q   | V        |          |          |
3+30       0.7274      3.76  |      Q  |  V       |          |          |
3+35       0.7553      4.05  |       Q |  V       |          |          |
3+40       0.7844      4.22  |       Q |   V      |          |          |
3+45       0.8146      4.39  |       Q |   V      |          |          |
3+50       0.8459      4.54  |        Q|    V     |          |          |
3+55       0.8783      4.70  |        Q|    V     |          |          |
4+ 0       0.9117      4.85  |        Q|     V    |          |          |
4+ 5       0.9462      5.01  |         Q      V   |          |          |
4+10       0.9826      5.28  |         Q      V   |          |          |
4+15       1.0210      5.58  |         |Q      V  |          |          |
4+20       1.0615      5.88  |         |Q       V|          |          |
4+25       1.1041      6.19  |         | Q      V|          |          |
4+30       1.1480      6.37  |         | Q       V          |          |
4+35       1.1930      6.54  |         |  Q      |V         |          |
4+40       1.2399      6.81  |         |  Q      | V        |          |
4+45       1.2889      7.11  |         |   Q     |  V       |          |
4+50       1.3391      7.28  |         |   Q     |   V      |          |
4+55       1.3904      7.46  |         |   Q     |    V     |          |
5+ 0       1.4437      7.73  |         |    Q    |     V    |          |
5+ 5       1.5026      8.56  |         |      Q  |      V   |          |
5+10       1.5742     10.39  |         |         Q       V  |          |
5+15       1.6594     12.38  |         |         |   Q     V          |
5+20       1.7561     14.04  |         |         |       Q |V         |
5+25       1.8670     16.10  |         |         |         | QV       |
5+30       2.0011     19.48  |         |         |         |     V Q  |
5+35       2.1037     14.89  |         |         |        Q|       V  |
5+40       2.1499      6.71  |         |  Q      |         |       V  |
5+45       2.1748      3.62  |       Q |         |         |        V |
5+50       2.1903      2.25  |   Q     |         |         |        V |
5+55       2.2000      1.41  | Q       |         |         |        V |
6+ 0       2.2063      0.91  |Q        |         |         |        V |
6+ 5       2.2093      0.44  Q         |         |         |        V |
6+10       2.2101      0.11  Q         |         |         |        V |
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    6+15       2.2104      0.04  Q         |         |         |        V|
    6+20       2.2104      0.01  Q         |         |         |         V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
10 YEAR, 24 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.50	53.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	8.00	169.60

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 8.000(In)

Point rain (area averaged) = 4.763(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.763(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	37.40	0.600

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
37.4	37.4	0.693	0.600	0.319	1.000	0.319
					Sum (F) =	0.319

Area averaged mean soil loss (F) (In/Hr) = 0.319
Minimum soil loss rate ((In/Hr)) = 0.159
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.420

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	188.970	41.429	8.852
2	0.167	377.940	44.144	9.432
3	0.250	566.909	9.259	1.978
4	0.333	755.879	3.697	0.790
5	0.417	944.849	1.471	0.314
			Sum = 100.000	Sum= 21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.038	(0.565)	0.016	0.022
2	0.17	0.07	0.038	(0.563)	0.016	0.022
3	0.25	0.07	0.038	(0.561)	0.016	0.022
4	0.33	0.10	0.057	(0.559)	0.024	0.033
5	0.42	0.10	0.057	(0.557)	0.024	0.033
6	0.50	0.10	0.057	(0.555)	0.024	0.033
7	0.58	0.10	0.057	(0.552)	0.024	0.033
8	0.67	0.10	0.057	(0.550)	0.024	0.033
9	0.75	0.10	0.057	(0.548)	0.024	0.033
10	0.83	0.13	0.076	(0.546)	0.032	0.044
11	0.92	0.13	0.076	(0.544)	0.032	0.044
12	1.00	0.13	0.076	(0.542)	0.032	0.044
13	1.08	0.10	0.057	(0.539)	0.024	0.033
14	1.17	0.10	0.057	(0.537)	0.024	0.033
15	1.25	0.10	0.057	(0.535)	0.024	0.033
16	1.33	0.10	0.057	(0.533)	0.024	0.033
17	1.42	0.10	0.057	(0.531)	0.024	0.033
18	1.50	0.10	0.057	(0.529)	0.024	0.033
19	1.58	0.10	0.057	(0.527)	0.024	0.033
20	1.67	0.10	0.057	(0.525)	0.024	0.033
21	1.75	0.10	0.057	(0.523)	0.024	0.033
22	1.83	0.13	0.076	(0.520)	0.032	0.044
23	1.92	0.13	0.076	(0.518)	0.032	0.044
24	2.00	0.13	0.076	(0.516)	0.032	0.044
25	2.08	0.13	0.076	(0.514)	0.032	0.044
26	2.17	0.13	0.076	(0.512)	0.032	0.044
27	2.25	0.13	0.076	(0.510)	0.032	0.044
28	2.33	0.13	0.076	(0.508)	0.032	0.044
29	2.42	0.13	0.076	(0.506)	0.032	0.044
30	2.50	0.13	0.076	(0.504)	0.032	0.044
31	2.58	0.17	0.095	(0.502)	0.040	0.055

32	2.67	0.17	0.095	(0.500)	0.040	0.055
33	2.75	0.17	0.095	(0.498)	0.040	0.055
34	2.83	0.17	0.095	(0.496)	0.040	0.055
35	2.92	0.17	0.095	(0.493)	0.040	0.055
36	3.00	0.17	0.095	(0.491)	0.040	0.055
37	3.08	0.17	0.095	(0.489)	0.040	0.055
38	3.17	0.17	0.095	(0.487)	0.040	0.055
39	3.25	0.17	0.095	(0.485)	0.040	0.055
40	3.33	0.17	0.095	(0.483)	0.040	0.055
41	3.42	0.17	0.095	(0.481)	0.040	0.055
42	3.50	0.17	0.095	(0.479)	0.040	0.055
43	3.58	0.17	0.095	(0.477)	0.040	0.055
44	3.67	0.17	0.095	(0.475)	0.040	0.055
45	3.75	0.17	0.095	(0.473)	0.040	0.055
46	3.83	0.20	0.114	(0.471)	0.048	0.066
47	3.92	0.20	0.114	(0.469)	0.048	0.066
48	4.00	0.20	0.114	(0.467)	0.048	0.066
49	4.08	0.20	0.114	(0.465)	0.048	0.066
50	4.17	0.20	0.114	(0.463)	0.048	0.066
51	4.25	0.20	0.114	(0.461)	0.048	0.066
52	4.33	0.23	0.133	(0.459)	0.056	0.077
53	4.42	0.23	0.133	(0.457)	0.056	0.077
54	4.50	0.23	0.133	(0.455)	0.056	0.077
55	4.58	0.23	0.133	(0.454)	0.056	0.077
56	4.67	0.23	0.133	(0.452)	0.056	0.077
57	4.75	0.23	0.133	(0.450)	0.056	0.077
58	4.83	0.27	0.152	(0.448)	0.064	0.088
59	4.92	0.27	0.152	(0.446)	0.064	0.088
60	5.00	0.27	0.152	(0.444)	0.064	0.088
61	5.08	0.20	0.114	(0.442)	0.048	0.066
62	5.17	0.20	0.114	(0.440)	0.048	0.066
63	5.25	0.20	0.114	(0.438)	0.048	0.066
64	5.33	0.23	0.133	(0.436)	0.056	0.077
65	5.42	0.23	0.133	(0.434)	0.056	0.077
66	5.50	0.23	0.133	(0.432)	0.056	0.077
67	5.58	0.27	0.152	(0.430)	0.064	0.088
68	5.67	0.27	0.152	(0.429)	0.064	0.088
69	5.75	0.27	0.152	(0.427)	0.064	0.088
70	5.83	0.27	0.152	(0.425)	0.064	0.088
71	5.92	0.27	0.152	(0.423)	0.064	0.088
72	6.00	0.27	0.152	(0.421)	0.064	0.088
73	6.08	0.30	0.171	(0.419)	0.072	0.099
74	6.17	0.30	0.171	(0.417)	0.072	0.099
75	6.25	0.30	0.171	(0.415)	0.072	0.099
76	6.33	0.30	0.171	(0.414)	0.072	0.099
77	6.42	0.30	0.171	(0.412)	0.072	0.099
78	6.50	0.30	0.171	(0.410)	0.072	0.099
79	6.58	0.33	0.191	(0.408)	0.080	0.110
80	6.67	0.33	0.191	(0.406)	0.080	0.110
81	6.75	0.33	0.191	(0.404)	0.080	0.110
82	6.83	0.33	0.191	(0.403)	0.080	0.110
83	6.92	0.33	0.191	(0.401)	0.080	0.110
84	7.00	0.33	0.191	(0.399)	0.080	0.110
85	7.08	0.33	0.191	(0.397)	0.080	0.110
86	7.17	0.33	0.191	(0.395)	0.080	0.110
87	7.25	0.33	0.191	(0.393)	0.080	0.110
88	7.33	0.37	0.210	(0.392)	0.088	0.122
89	7.42	0.37	0.210	(0.390)	0.088	0.122
90	7.50	0.37	0.210	(0.388)	0.088	0.122
91	7.58	0.40	0.229	(0.386)	0.096	0.133
92	7.67	0.40	0.229	(0.385)	0.096	0.133
93	7.75	0.40	0.229	(0.383)	0.096	0.133
94	7.83	0.43	0.248	(0.381)	0.104	0.144
95	7.92	0.43	0.248	(0.379)	0.104	0.144
96	8.00	0.43	0.248	(0.377)	0.104	0.144
97	8.08	0.50	0.286	(0.376)	0.120	0.166
98	8.17	0.50	0.286	(0.374)	0.120	0.166
99	8.25	0.50	0.286	(0.372)	0.120	0.166

100	8.33	0.50	0.286	(0.371)	0.120	0.166
101	8.42	0.50	0.286	(0.369)	0.120	0.166
102	8.50	0.50	0.286	(0.367)	0.120	0.166
103	8.58	0.53	0.305	(0.365)	0.128	0.177
104	8.67	0.53	0.305	(0.364)	0.128	0.177
105	8.75	0.53	0.305	(0.362)	0.128	0.177
106	8.83	0.57	0.324	(0.360)	0.136	0.188
107	8.92	0.57	0.324	(0.358)	0.136	0.188
108	9.00	0.57	0.324	(0.357)	0.136	0.188
109	9.08	0.63	0.362	(0.355)	0.152	0.210
110	9.17	0.63	0.362	(0.353)	0.152	0.210
111	9.25	0.63	0.362	(0.352)	0.152	0.210
112	9.33	0.67	0.381	(0.350)	0.160	0.221
113	9.42	0.67	0.381	(0.348)	0.160	0.221
114	9.50	0.67	0.381	(0.347)	0.160	0.221
115	9.58	0.70	0.400	(0.345)	0.168	0.232
116	9.67	0.70	0.400	(0.343)	0.168	0.232
117	9.75	0.70	0.400	(0.342)	0.168	0.232
118	9.83	0.73	0.419	(0.340)	0.176	0.243
119	9.92	0.73	0.419	(0.338)	0.176	0.243
120	10.00	0.73	0.419	(0.337)	0.176	0.243
121	10.08	0.50	0.286	(0.335)	0.120	0.166
122	10.17	0.50	0.286	(0.334)	0.120	0.166
123	10.25	0.50	0.286	(0.332)	0.120	0.166
124	10.33	0.50	0.286	(0.330)	0.120	0.166
125	10.42	0.50	0.286	(0.329)	0.120	0.166
126	10.50	0.50	0.286	(0.327)	0.120	0.166
127	10.58	0.67	0.381	(0.326)	0.160	0.221
128	10.67	0.67	0.381	(0.324)	0.160	0.221
129	10.75	0.67	0.381	(0.322)	0.160	0.221
130	10.83	0.67	0.381	(0.321)	0.160	0.221
131	10.92	0.67	0.381	(0.319)	0.160	0.221
132	11.00	0.67	0.381	(0.318)	0.160	0.221
133	11.08	0.63	0.362	(0.316)	0.152	0.210
134	11.17	0.63	0.362	(0.315)	0.152	0.210
135	11.25	0.63	0.362	(0.313)	0.152	0.210
136	11.33	0.63	0.362	(0.311)	0.152	0.210
137	11.42	0.63	0.362	(0.310)	0.152	0.210
138	11.50	0.63	0.362	(0.308)	0.152	0.210
139	11.58	0.57	0.324	(0.307)	0.136	0.188
140	11.67	0.57	0.324	(0.305)	0.136	0.188
141	11.75	0.57	0.324	(0.304)	0.136	0.188
142	11.83	0.60	0.343	(0.302)	0.144	0.199
143	11.92	0.60	0.343	(0.301)	0.144	0.199
144	12.00	0.60	0.343	(0.299)	0.144	0.199
145	12.08	0.83	0.476	(0.298)	0.200	0.276
146	12.17	0.83	0.476	(0.296)	0.200	0.276
147	12.25	0.83	0.476	(0.295)	0.200	0.276
148	12.33	0.87	0.495	(0.293)	0.208	0.287
149	12.42	0.87	0.495	(0.292)	0.208	0.287
150	12.50	0.87	0.495	(0.290)	0.208	0.287
151	12.58	0.93	0.533	(0.289)	0.224	0.309
152	12.67	0.93	0.533	(0.287)	0.224	0.309
153	12.75	0.93	0.533	(0.286)	0.224	0.309
154	12.83	0.97	0.552	(0.285)	0.232	0.320
155	12.92	0.97	0.552	(0.283)	0.232	0.320
156	13.00	0.97	0.552	(0.282)	0.232	0.320
157	13.08	1.13	0.648	(0.280)	0.272	0.376
158	13.17	1.13	0.648	(0.279)	0.272	0.376
159	13.25	1.13	0.648	(0.277)	0.272	0.376
160	13.33	1.13	0.648	(0.276)	0.272	0.376
161	13.42	1.13	0.648	(0.275)	0.272	0.376
162	13.50	1.13	0.648	(0.273)	0.272	0.376
163	13.58	0.77	0.438	(0.272)	0.184	0.254
164	13.67	0.77	0.438	(0.270)	0.184	0.254
165	13.75	0.77	0.438	(0.269)	0.184	0.254
166	13.83	0.77	0.438	(0.268)	0.184	0.254
167	13.92	0.77	0.438	(0.266)	0.184	0.254

168	14.00	0.77	0.438	(0.265)	0.184	0.254
169	14.08	0.90	0.514	(0.264)	0.216	0.298
170	14.17	0.90	0.514	(0.262)	0.216	0.298
171	14.25	0.90	0.514	(0.261)	0.216	0.298
172	14.33	0.87	0.495	(0.260)	0.208	0.287
173	14.42	0.87	0.495	(0.258)	0.208	0.287
174	14.50	0.87	0.495	(0.257)	0.208	0.287
175	14.58	0.87	0.495	(0.256)	0.208	0.287
176	14.67	0.87	0.495	(0.254)	0.208	0.287
177	14.75	0.87	0.495	(0.253)	0.208	0.287
178	14.83	0.83	0.476	(0.252)	0.200	0.276
179	14.92	0.83	0.476	(0.250)	0.200	0.276
180	15.00	0.83	0.476	(0.249)	0.200	0.276
181	15.08	0.80	0.457	(0.248)	0.192	0.265
182	15.17	0.80	0.457	(0.247)	0.192	0.265
183	15.25	0.80	0.457	(0.245)	0.192	0.265
184	15.33	0.77	0.438	(0.244)	0.184	0.254
185	15.42	0.77	0.438	(0.243)	0.184	0.254
186	15.50	0.77	0.438	(0.242)	0.184	0.254
187	15.58	0.63	0.362	(0.240)	0.152	0.210
188	15.67	0.63	0.362	(0.239)	0.152	0.210
189	15.75	0.63	0.362	(0.238)	0.152	0.210
190	15.83	0.63	0.362	(0.237)	0.152	0.210
191	15.92	0.63	0.362	(0.235)	0.152	0.210
192	16.00	0.63	0.362	(0.234)	0.152	0.210
193	16.08	0.13	0.076	(0.233)	0.032	0.044
194	16.17	0.13	0.076	(0.232)	0.032	0.044
195	16.25	0.13	0.076	(0.231)	0.032	0.044
196	16.33	0.13	0.076	(0.229)	0.032	0.044
197	16.42	0.13	0.076	(0.228)	0.032	0.044
198	16.50	0.13	0.076	(0.227)	0.032	0.044
199	16.58	0.10	0.057	(0.226)	0.024	0.033
200	16.67	0.10	0.057	(0.225)	0.024	0.033
201	16.75	0.10	0.057	(0.224)	0.024	0.033
202	16.83	0.10	0.057	(0.223)	0.024	0.033
203	16.92	0.10	0.057	(0.221)	0.024	0.033
204	17.00	0.10	0.057	(0.220)	0.024	0.033
205	17.08	0.17	0.095	(0.219)	0.040	0.055
206	17.17	0.17	0.095	(0.218)	0.040	0.055
207	17.25	0.17	0.095	(0.217)	0.040	0.055
208	17.33	0.17	0.095	(0.216)	0.040	0.055
209	17.42	0.17	0.095	(0.215)	0.040	0.055
210	17.50	0.17	0.095	(0.214)	0.040	0.055
211	17.58	0.17	0.095	(0.213)	0.040	0.055
212	17.67	0.17	0.095	(0.212)	0.040	0.055
213	17.75	0.17	0.095	(0.211)	0.040	0.055
214	17.83	0.13	0.076	(0.210)	0.032	0.044
215	17.92	0.13	0.076	(0.208)	0.032	0.044
216	18.00	0.13	0.076	(0.207)	0.032	0.044
217	18.08	0.13	0.076	(0.206)	0.032	0.044
218	18.17	0.13	0.076	(0.205)	0.032	0.044
219	18.25	0.13	0.076	(0.204)	0.032	0.044
220	18.33	0.13	0.076	(0.203)	0.032	0.044
221	18.42	0.13	0.076	(0.202)	0.032	0.044
222	18.50	0.13	0.076	(0.201)	0.032	0.044
223	18.58	0.10	0.057	(0.200)	0.024	0.033
224	18.67	0.10	0.057	(0.200)	0.024	0.033
225	18.75	0.10	0.057	(0.199)	0.024	0.033
226	18.83	0.07	0.038	(0.198)	0.016	0.022
227	18.92	0.07	0.038	(0.197)	0.016	0.022
228	19.00	0.07	0.038	(0.196)	0.016	0.022
229	19.08	0.10	0.057	(0.195)	0.024	0.033
230	19.17	0.10	0.057	(0.194)	0.024	0.033
231	19.25	0.10	0.057	(0.193)	0.024	0.033
232	19.33	0.13	0.076	(0.192)	0.032	0.044
233	19.42	0.13	0.076	(0.191)	0.032	0.044
234	19.50	0.13	0.076	(0.190)	0.032	0.044
235	19.58	0.10	0.057	(0.189)	0.024	0.033

236	19.67	0.10	0.057	(0.189)	0.024	0.033
237	19.75	0.10	0.057	(0.188)	0.024	0.033
238	19.83	0.07	0.038	(0.187)	0.016	0.022
239	19.92	0.07	0.038	(0.186)	0.016	0.022
240	20.00	0.07	0.038	(0.185)	0.016	0.022
241	20.08	0.10	0.057	(0.184)	0.024	0.033
242	20.17	0.10	0.057	(0.184)	0.024	0.033
243	20.25	0.10	0.057	(0.183)	0.024	0.033
244	20.33	0.10	0.057	(0.182)	0.024	0.033
245	20.42	0.10	0.057	(0.181)	0.024	0.033
246	20.50	0.10	0.057	(0.180)	0.024	0.033
247	20.58	0.10	0.057	(0.180)	0.024	0.033
248	20.67	0.10	0.057	(0.179)	0.024	0.033
249	20.75	0.10	0.057	(0.178)	0.024	0.033
250	20.83	0.07	0.038	(0.177)	0.016	0.022
251	20.92	0.07	0.038	(0.177)	0.016	0.022
252	21.00	0.07	0.038	(0.176)	0.016	0.022
253	21.08	0.10	0.057	(0.175)	0.024	0.033
254	21.17	0.10	0.057	(0.175)	0.024	0.033
255	21.25	0.10	0.057	(0.174)	0.024	0.033
256	21.33	0.07	0.038	(0.173)	0.016	0.022
257	21.42	0.07	0.038	(0.173)	0.016	0.022
258	21.50	0.07	0.038	(0.172)	0.016	0.022
259	21.58	0.10	0.057	(0.171)	0.024	0.033
260	21.67	0.10	0.057	(0.171)	0.024	0.033
261	21.75	0.10	0.057	(0.170)	0.024	0.033
262	21.83	0.07	0.038	(0.170)	0.016	0.022
263	21.92	0.07	0.038	(0.169)	0.016	0.022
264	22.00	0.07	0.038	(0.168)	0.016	0.022
265	22.08	0.10	0.057	(0.168)	0.024	0.033
266	22.17	0.10	0.057	(0.167)	0.024	0.033
267	22.25	0.10	0.057	(0.167)	0.024	0.033
268	22.33	0.07	0.038	(0.166)	0.016	0.022
269	22.42	0.07	0.038	(0.166)	0.016	0.022
270	22.50	0.07	0.038	(0.165)	0.016	0.022
271	22.58	0.07	0.038	(0.165)	0.016	0.022
272	22.67	0.07	0.038	(0.164)	0.016	0.022
273	22.75	0.07	0.038	(0.164)	0.016	0.022
274	22.83	0.07	0.038	(0.163)	0.016	0.022
275	22.92	0.07	0.038	(0.163)	0.016	0.022
276	23.00	0.07	0.038	(0.163)	0.016	0.022
277	23.08	0.07	0.038	(0.162)	0.016	0.022
278	23.17	0.07	0.038	(0.162)	0.016	0.022
279	23.25	0.07	0.038	(0.162)	0.016	0.022
280	23.33	0.07	0.038	(0.161)	0.016	0.022
281	23.42	0.07	0.038	(0.161)	0.016	0.022
282	23.50	0.07	0.038	(0.161)	0.016	0.022
283	23.58	0.07	0.038	(0.160)	0.016	0.022
284	23.67	0.07	0.038	(0.160)	0.016	0.022
285	23.75	0.07	0.038	(0.160)	0.016	0.022
286	23.83	0.07	0.038	(0.160)	0.016	0.022
287	23.92	0.07	0.038	(0.160)	0.016	0.022
288	24.00	0.07	0.038	(0.160)	0.016	0.022

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.1

Flood volume = Effective rainfall 2.76(In)
times area 21.2(Ac.)/[(In)/(Ft.)] = 4.9(Ac.Ft)
Total soil loss = 2.00(In)
Total soil loss = 3.534(Ac.Ft)
Total rainfall = 4.76(In)
Flood volume = 212573.8 Cubic Feet
Total soil loss = 153932.8 Cubic Feet

Peak flow rate of this hydrograph = 8.031(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0013	0.20	Q				
0+10	0.0041	0.40	VQ				
0+15	0.0072	0.45	VQ				
0+20	0.0111	0.56	V Q				
0+25	0.0157	0.67	V Q				
0+30	0.0205	0.70	V Q				
0+35	0.0254	0.71	V Q				
0+40	0.0303	0.71	V Q				
0+45	0.0352	0.71	V Q				
0+50	0.0407	0.81	V Q				
0+55	0.0470	0.91	V Q				
1+ 0	0.0534	0.93	V Q				
1+ 5	0.0592	0.84	V Q				
1+10	0.0643	0.74	V Q				
1+15	0.0693	0.72	V Q				
1+20	0.0742	0.71	V Q				
1+25	0.0791	0.71	V Q				
1+30	0.0840	0.71	V Q				
1+35	0.0888	0.71	V Q				
1+40	0.0937	0.71	V Q				
1+45	0.0986	0.71	V Q				
1+50	0.1041	0.81	V Q				
1+55	0.1104	0.91	V Q				
2+ 0	0.1168	0.93	V Q				
2+ 5	0.1233	0.94	|V Q				
2+10	0.1298	0.94	|V Q				
2+15	0.1363	0.94	|V Q				
2+20	0.1428	0.94	|V Q				
2+25	0.1494	0.94	|V Q				
2+30	0.1559	0.94	|V Q				
2+35	0.1630	1.04	|V Q				
2+40	0.1709	1.15	|V Q				
2+45	0.1790	1.17	|V Q				
2+50	0.1871	1.18	|V Q				
2+55	0.1952	1.18	|V Q				
3+ 0	0.2034	1.18	|V Q				
3+ 5	0.2115	1.18	|V Q				
3+10	0.2196	1.18	|V Q				
3+15	0.2278	1.18	|V Q				
3+20	0.2359	1.18	|V Q				
3+25	0.2440	1.18	| V Q				
3+30	0.2522	1.18	| V Q				
3+35	0.2603	1.18	| V Q				
3+40	0.2684	1.18	| V Q				
3+45	0.2766	1.18	| V Q				
3+50	0.2854	1.28	| V Q				
3+55	0.2949	1.38	| V Q				
4+ 0	0.3046	1.40	| V Q				
4+ 5	0.3143	1.41	| V Q				
4+10	0.3241	1.42	| V Q				
4+15	0.3338	1.42	| V Q				
4+20	0.3443	1.52	| V Q				
4+25	0.3554	1.62	| V Q				
4+30	0.3667	1.64	| V Q				
4+35	0.3781	1.65	| V Q				
4+40	0.3895	1.65	| V Q				
4+45	0.4009	1.65	| V Q				
4+50	0.4129	1.75	| V Q				
4+55	0.4257	1.86	| V Q				
5+ 0	0.4386	1.88	| V Q				
5+ 5	0.4503	1.69	| V Q				
5+10	0.4605	1.49	| V Q				

5+15	0.4704	1.44	V Q				
5+20	0.4809	1.52	V Q				
5+25	0.4921	1.62	V Q				
5+30	0.5034	1.64	V Q				
5+35	0.5154	1.75	V Q				
5+40	0.5282	1.86	V Q				
5+45	0.5411	1.88	V Q				
5+50	0.5541	1.89	V Q				
5+55	0.5671	1.89	V Q				
6+ 0	0.5801	1.89	V Q				
6+ 5	0.5938	1.99	V Q				
6+10	0.6082	2.09	V Q				
6+15	0.6228	2.11	V Q				
6+20	0.6374	2.12	V Q				
6+25	0.6520	2.13	V Q				
6+30	0.6667	2.13	V Q				
6+35	0.6820	2.22	V Q				
6+40	0.6980	2.33	V Q				
6+45	0.7142	2.35	V Q				
6+50	0.7304	2.36	V Q				
6+55	0.7467	2.36	V Q				
7+ 0	0.7630	2.36	V Q				
7+ 5	0.7792	2.36	V Q				
7+10	0.7955	2.36	V Q				
7+15	0.8118	2.36	V Q				
7+20	0.8287	2.46	V Q				
7+25	0.8464	2.56	V Q				
7+30	0.8642	2.59	V Q				
7+35	0.8827	2.69	V Q				
7+40	0.9020	2.80	V Q				
7+45	0.9214	2.82	V Q				
7+50	0.9416	2.93	V Q				
7+55	0.9625	3.04	V Q				
8+ 0	0.9836	3.06	V Q				
8+ 5	1.0061	3.26	V Q				
8+10	1.0300	3.47	V Q				
8+15	1.0542	3.52	V Q				
8+20	1.0786	3.54	V Q				
8+25	1.1030	3.54	V Q				
8+30	1.1274	3.54	V Q				
8+35	1.1524	3.64	V Q				
8+40	1.1782	3.75	V Q				
8+45	1.2042	3.77	V Q				
8+50	1.2309	3.87	V Q				
8+55	1.2583	3.98	V Q				
9+ 0	1.2858	4.00	V Q				
9+ 5	1.3148	4.21	V Q				
9+10	1.3453	4.42	V Q				
9+15	1.3760	4.46	V Q				
9+20	1.4075	4.58	V Q				
9+25	1.4398	4.69	V Q				
9+30	1.4723	4.71	V Q				
9+35	1.5055	4.82	V Q				
9+40	1.5394	4.93	V Q				
9+45	1.5735	4.95	V Q				
9+50	1.6083	5.05	V Q				
9+55	1.6438	5.16	V Q				
10+ 0	1.6795	5.18	V Q				
10+ 5	1.7106	4.51	V Q				
10+10	1.7366	3.78	VQ				
10+15	1.7616	3.63	Q				
10+20	1.7862	3.57	Q				
10+25	1.8106	3.54	Q				
10+30	1.8350	3.54	QV				
10+35	1.8627	4.03	VQ				
10+40	1.8941	4.55	V Q				
10+45	1.9262	4.66	V Q				
10+50	1.9586	4.71	V Q				

10+55	1.9912	4.72	|	|	V Q |	|	|
11+ 0	2.0237	4.72	|	|	V Q |	|	|
11+ 5	2.0556	4.63	|	|	V Q |	|	|
11+10	2.0867	4.52	|	|	VQ |	|	|
11+15	2.1177	4.50	|	|	Q |	|	|
11+20	2.1486	4.49	|	|	Q |	|	|
11+25	2.1795	4.49	|	|	Q |	|	|
11+30	2.2104	4.49	|	|	QV |	|	|
11+35	2.2400	4.29	|	|	QV |	|	|
11+40	2.2681	4.08	|	|	Q V |	|	|
11+45	2.2959	4.04	|	|	Q V |	|	|
11+50	2.3243	4.12	|	|	Q V|	|	|
11+55	2.3534	4.22	|	|	Q V|	|	|
12+ 0	2.3826	4.24	|	|	Q V|	|	|
12+ 5	2.4165	4.93	|	|	Q|	|	|
12+10	2.4556	5.67	|	|	V Q	|	|
12+15	2.4956	5.82	|	|	V Q	|	|
12+20	2.5368	5.98	|	|	V Q	|	|
12+25	2.5789	6.11	|	|	|V Q	|	|
12+30	2.6211	6.13	|	|	|V Q	|	|
12+35	2.6647	6.33	|	|	|V Q	|	|
12+40	2.7098	6.55	|	|	| V Q	|	|
12+45	2.7551	6.59	|	|	| V Q	|	|
12+50	2.8013	6.70	|	|	| V Q	|	|
12+55	2.8483	6.82	|	|	| V Q	|	|
13+ 0	2.8954	6.84	|	|	| V Q	|	|
13+ 5	2.9459	7.34	|	|	| V Q|	|	|
13+10	3.0000	7.86	|	|	| V |Q	|	|
13+15	3.0549	7.97	|	|	| V |Q	|	|
13+20	3.1101	8.01	|	|	| V | Q	|	|
13+25	3.1654	8.03	|	|	| V | Q	|	|
13+30	3.2207	8.03	|	|	| V | Q	|	|
13+35	3.2686	6.95	|	|	| VQ |	|	|
13+40	3.3086	5.81	|	|	| Q V |	|	|
13+45	3.3469	5.57	|	|	| Q V |	|	|
13+50	3.3846	5.47	|	|	|Q V |	|	|
13+55	3.4220	5.43	|	|	|Q V |	|	|
14+ 0	3.4594	5.43	|	|	|Q V |	|	|
14+ 5	3.4995	5.82	|	|	| Q V |	|	|
14+10	3.5425	6.24	|	|	| Q V|	|	|
14+15	3.5861	6.33	|	|	| Q V|	|	|
14+20	3.6292	6.27	|	|	| Q V|	|	|
14+25	3.6718	6.18	|	|	| Q V	|	|
14+30	3.7142	6.15	|	|	| Q V	|	|
14+35	3.7565	6.14	|	|	| Q V	|	|
14+40	3.7988	6.14	|	|	| Q |V	|	|
14+45	3.8411	6.14	|	|	| Q |V	|	|
14+50	3.8827	6.04	|	|	| Q |V	|	|
14+55	3.9236	5.94	|	|	| Q | V	|	|
15+ 0	3.9643	5.92	|	|	| Q | V	|	|
15+ 5	4.0043	5.81	|	|	| Q | V	|	|
15+10	4.0436	5.70	|	|	| Q | V	|	|
15+15	4.0827	5.68	|	|	| Q | V	|	|
15+20	4.1211	5.57	|	|	| Q | V	|	|
15+25	4.1588	5.47	|	|	|Q | V	|	|
15+30	4.1963	5.44	|	|	|Q | V	|	|
15+35	4.2310	5.04	|	|	Q | V	|	|
15+40	4.2629	4.62	|	|	Q | V	|	|
15+45	4.2941	4.54	|	|	Q | V	|	|
15+50	4.3251	4.50	|	|	Q | V	|	|
15+55	4.3560	4.49	|	|	Q | V	|	|
16+ 0	4.3869	4.49	|	|	Q | V	|	|
16+ 5	4.4077	3.02	|	| Q	| V	|	|
16+10	4.4178	1.46	| Q	|	| V	|	|
16+15	4.4255	1.13	| Q	|	| V	|	|
16+20	4.4324	1.00	| Q	|	| V	|	|
16+25	4.4389	0.94	| Q	|	| V	|	|
16+30	4.4454	0.94	| Q	|	| V	|	|

16+35	4.4512	0.85	| Q	|	|	| V	|
16+40	4.4563	0.74	| Q	|	|	| V	|
16+45	4.4613	0.72	| Q	|	|	| V	|
16+50	4.4662	0.71	| Q	|	|	| V	|
16+55	4.4711	0.71	| Q	|	|	| V	|
17+ 0	4.4760	0.71	| Q	|	|	| V	|
17+ 5	4.4822	0.90	| Q	|	|	| V	|
17+10	4.4899	1.11	| Q	|	|	| V	|
17+15	4.4978	1.16	| Q	|	|	| V	|
17+20	4.5059	1.17	| Q	|	|	| V	|
17+25	4.5141	1.18	| Q	|	|	| V	|
17+30	4.5222	1.18	| Q	|	|	| V	|
17+35	4.5303	1.18	| Q	|	|	| V	|
17+40	4.5385	1.18	| Q	|	|	| V	|
17+45	4.5466	1.18	| Q	|	|	| V	|
17+50	4.5540	1.08	| Q	|	|	| V	|
17+55	4.5608	0.98	| Q	|	|	| V	|
18+ 0	4.5674	0.96	| Q	|	|	| V	|
18+ 5	4.5739	0.95	| Q	|	|	| V	|
18+10	4.5804	0.94	| Q	|	|	| V	|
18+15	4.5869	0.94	| Q	|	|	| V	|
18+20	4.5934	0.94	| Q	|	|	| V	|
18+25	4.5999	0.94	| Q	|	|	| V	|
18+30	4.6064	0.94	| Q	|	|	| V	|
18+35	4.6123	0.85	| Q	|	|	| V	|
18+40	4.6174	0.74	| Q	|	|	| V	|
18+45	4.6224	0.72	| Q	|	|	| V	|
18+50	4.6266	0.61	| Q	|	|	| V	|
18+55	4.6301	0.51	| Q	|	|	| V	|
19+ 0	4.6334	0.48	|Q	|	|	| V	|
19+ 5	4.6374	0.57	| Q	|	|	| V	|
19+10	4.6420	0.67	| Q	|	|	| V	|
19+15	4.6468	0.70	| Q	|	|	| V	|
19+20	4.6523	0.80	| Q	|	|	| V	|
19+25	4.6586	0.91	| Q	|	|	| V	|
19+30	4.6650	0.93	| Q	|	|	| V	|
19+35	4.6708	0.84	| Q	|	|	| V	|
19+40	4.6759	0.74	| Q	|	|	| V	|
19+45	4.6809	0.72	| Q	|	|	| V	|
19+50	4.6851	0.61	| Q	|	|	| V	|
19+55	4.6886	0.51	| Q	|	|	| V	|
20+ 0	4.6920	0.48	|Q	|	|	| V	|
20+ 5	4.6959	0.57	| Q	|	|	| V	|
20+10	4.7006	0.67	| Q	|	|	| V	|
20+15	4.7054	0.70	| Q	|	|	| V	|
20+20	4.7102	0.71	| Q	|	|	| V	|
20+25	4.7151	0.71	| Q	|	|	| V	|
20+30	4.7200	0.71	| Q	|	|	| V	|
20+35	4.7249	0.71	| Q	|	|	| V	|
20+40	4.7297	0.71	| Q	|	|	| V	|
20+45	4.7346	0.71	| Q	|	|	| V	|
20+50	4.7388	0.61	| Q	|	|	| V	|
20+55	4.7423	0.51	| Q	|	|	| V	|
21+ 0	4.7456	0.48	|Q	|	|	| V	|
21+ 5	4.7496	0.57	| Q	|	|	| V	|
21+10	4.7542	0.67	| Q	|	|	| V	|
21+15	4.7590	0.70	| Q	|	|	| V	|
21+20	4.7632	0.61	| Q	|	|	| V	|
21+25	4.7667	0.51	| Q	|	|	| V	|
21+30	4.7700	0.48	|Q	|	|	| V	|
21+35	4.7740	0.57	| Q	|	|	| V	|
21+40	4.7786	0.67	| Q	|	|	| V	|
21+45	4.7834	0.70	| Q	|	|	| V	|
21+50	4.7876	0.61	| Q	|	|	| V	|
21+55	4.7911	0.51	| Q	|	|	| V	|
22+ 0	4.7944	0.48	|Q	|	|	| V	|
22+ 5	4.7984	0.57	| Q	|	|	| V	|
22+10	4.8030	0.67	| Q	|	|	| V	|

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   22+15       4.8078      0.70  | Q       |         |         |        V|
   22+20       4.8120      0.61  | Q       |         |         |        V|
   22+25       4.8155      0.51  | Q       |         |         |        V|
   22+30       4.8188      0.48  |Q        |         |         |        V|
   22+35       4.8221      0.48  |Q        |         |         |        V|
   22+40       4.8254      0.47  |Q        |         |         |        V|
   22+45       4.8286      0.47  |Q        |         |         |        V|
   22+50       4.8319      0.47  |Q        |         |         |        V|
   22+55       4.8351      0.47  |Q        |         |         |        V|
   23+ 0       4.8384      0.47  |Q        |         |         |        V|
   23+ 5       4.8416      0.47  |Q        |         |         |        V|
   23+10       4.8449      0.47  |Q        |         |         |        V|
   23+15       4.8482      0.47  |Q        |         |         |        V|
   23+20       4.8514      0.47  |Q        |         |         |        V|
   23+25       4.8547      0.47  |Q        |         |         |        V|
   23+30       4.8579      0.47  |Q        |         |         |        V|
   23+35       4.8612      0.47  |Q        |         |         |        V|
   23+40       4.8644      0.47  |Q        |         |         |        V|
   23+45       4.8677      0.47  |Q        |         |         |        V|
   23+50       4.8709      0.47  |Q        |         |         |        V|
   23+55       4.8742      0.47  |Q        |         |         |        V|
   24+ 0       4.8774      0.47  |Q        |         |         |        V|
   24+ 5       4.8793      0.28  |Q        |         |         |        V|
   24+10       4.8798      0.07  Q         |         |         |        V|
   24+15       4.8800      0.02  Q         |         |         |        V|
   24+20       4.8800      0.01  Q         |         |         |         V
------------------------------------------------------------------------
```

UNIT HYDROGRAPH

100-YEAR,
1, 3, 6, 24 HOURS
STORM EVENTS

PROPOSED CONDITION

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR1100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
100 YEAR, 1 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	0.55	11.66

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.36	28.83

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.550(In)
Area Averaged 100-Year Rainfall = 1.360(In)

Point rain (area averaged) = 1.360(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.360(In)

Sub-Area Data:

```
      Area(Ac.)         Runoff Index   Impervious %
          21.200           37.40         0.600
       Total Area Entered =     21.20(Ac.)


      RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
      AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
      37.4  37.4      0.693     0.600        0.319       1.000      0.319
                                                        Sum (F) =   0.319
      Area averaged mean soil loss (F) (In/Hr) =  0.319
      Minimum soil loss rate ((In/Hr)) =  0.159
      (for 24 hour storm duration)
      Soil low loss rate (decimal) =   0.420
      ------------------------------------------------------------------------
      Slope of intensity-duration curve for a 1 hour storm =0.4800
      ------------------------------------------------------------------------

                  U n i t  H y d r o g r a p h
                         VALLEY S-Curve
      ------------------------------------------------------------------------
                  Unit Hydrograph Data
      ------------------------------------------------------------------------
      Unit time period   Time % of lag   Distribution   Unit Hydrograph
          (hrs)                          Graph %           (CFS)
      ------------------------------------------------------------------------
          1   0.083        188.970         41.429             8.852
          2   0.167        377.940         44.144             9.432
          3   0.250        566.909          9.259             1.978
          4   0.333        755.879          3.697             0.790
          5   0.417        944.849          1.471             0.314
                                  Sum = 100.000   Sum=      21.366
-------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.40      0.718       (  0.319)       0.302        0.416
   2   0.17     4.50      0.734       (  0.319)       0.308        0.426
   3   0.25     5.40      0.881          0.319    (  0.370)        0.562
   4   0.33     5.40      0.881          0.319    (  0.370)        0.562
   5   0.42     5.70      0.930          0.319    (  0.391)        0.611
   6   0.50     6.40      1.044          0.319    (  0.439)        0.725
   7   0.58     7.90      1.289          0.319    (  0.541)        0.970
   8   0.67     9.10      1.485          0.319    (  0.624)        1.166
   9   0.75    12.80      2.089          0.319    (  0.877)        1.770
  10   0.83    25.60      4.177          0.319    (  1.754)        3.858
  11   0.92     7.90      1.289          0.319    (  0.541)        0.970
  12   1.00     4.90      0.800          0.319    (  0.336)        0.481
            (Loss Rate Not Used)
     Sum =     100.0                                    Sum =    12.5
       Flood volume = Effective rainfall      1.04(In)
        times area      21.2(Ac.)/[(In)/(Ft.)] =       1.8(Ac.Ft)
       Total soil loss =      0.32(In)
       Total soil loss =     0.559(Ac.Ft)
       Total rainfall =      1.36(In)
       Flood volume =       80273.4 Cubic Feet
       Total soil loss =       24366.6 Cubic Feet
       ------------------------------------------------------------------------
        Peak flow rate of this hydrograph =     54.170(CFS)
       ------------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         1 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ------------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))
```

```
    ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0       15.0      30.0      45.0      60.0
  ---------------------------------------------------------------------
    0+ 5       0.0254      3.69  V Q       |         |         |         |
    0+10       0.0784      7.70  |V   Q    |         |         |         |
    0+15       0.1461      9.82  |  V  Q   |         |         |         |
    0+20       0.2250     11.46  |   V  Q  |         |         |         |
    0+25       0.3097     12.30  |     V Q |         |         |         |
    0+30       0.4053     13.88  |       VQ|         |         |         |
    0+35       0.5242     17.27  |         |Q        |         |         |
    0+40       0.6728     21.57  |         |   Q     |         |         |
    0+45       0.8750     29.36  |         |       VQ|         |         |
    0+50       1.2480     54.17  |         |         |      V  |     Q   |
    0+55       1.5905     49.73  |         |         |         |  QV     |
    1+ 0       1.7476     22.81  |         |    Q    |         |      V  |
    1+ 5       1.8169     10.06  |     Q   |         |         |        V|
    1+10       1.8371      2.93  |Q        |         |         |        V|
    1+15       1.8418      0.68  Q         |         |         |        V|
    1+20       1.8428      0.15  Q         |         |         |         V
---------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
100 YEAR, 3 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.00	21.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.40	50.88

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.400(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.200	37.40	0.600

Total Area Entered = 21.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
37.4	37.4	0.693	0.600	0.319	1.000	0.319
					Sum (F) =	0.319

Area averaged mean soil loss (F) (In/Hr) = 0.319
Minimum soil loss rate ((In/Hr)) = 0.159
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.420

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	188.970	41.429	8.852
2	0.167	377.940	44.144	9.432
3	0.250	566.909	9.259	1.978
4	0.333	755.879	3.697	0.790
5	0.417	944.849	1.471	0.314
			Sum = 100.000	Sum= 21.366

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.374	(0.319)		0.157	0.217
2	0.17	1.30	0.374	(0.319)		0.157	0.217
3	0.25	1.10	0.317	(0.319)		0.133	0.184
4	0.33	1.50	0.432	(0.319)		0.181	0.251
5	0.42	1.50	0.432	(0.319)		0.181	0.251
6	0.50	1.80	0.518	(0.319)		0.218	0.301
7	0.58	1.50	0.432	(0.319)		0.181	0.251
8	0.67	1.80	0.518	(0.319)		0.218	0.301
9	0.75	1.80	0.518	(0.319)		0.218	0.301
10	0.83	1.50	0.432	(0.319)		0.181	0.251
11	0.92	1.60	0.461	(0.319)		0.194	0.267
12	1.00	1.80	0.518	(0.319)		0.218	0.301
13	1.08	2.20	0.634	(0.319)		0.266	0.367
14	1.17	2.20	0.634	(0.319)		0.266	0.367
15	1.25	2.20	0.634	(0.319)		0.266	0.367
16	1.33	2.00	0.576	(0.319)		0.242	0.334
17	1.42	2.60	0.749	(0.319)		0.314	0.434
18	1.50	2.70	0.778	0.319	(	0.327)	0.459
19	1.58	2.40	0.691	(0.319)		0.290	0.401
20	1.67	2.70	0.778	0.319	(	0.327)	0.459
21	1.75	3.30	0.950	0.319	(	0.399)	0.631
22	1.83	3.10	0.893	0.319	(	0.375)	0.574
23	1.92	2.90	0.835	0.319	(	0.351)	0.516
24	2.00	3.00	0.864	0.319	(	0.363)	0.545
25	2.08	3.10	0.893	0.319	(	0.375)	0.574
26	2.17	4.20	1.209	0.319	(	0.508)	0.891
27	2.25	5.00	1.440	0.319	(	0.605)	1.121
28	2.33	3.50	1.008	0.319	(	0.423)	0.689
29	2.42	6.80	1.958	0.319	(	0.822)	1.639
30	2.50	7.30	2.102	0.319	(	0.883)	1.783
31	2.58	8.20	2.361	0.319	(	0.992)	2.042

```
 32   2.67     5.90      1.699          0.319    (  0.714)        1.380
 33   2.75     2.00      0.576       (  0.319)       0.242        0.334
 34   2.83     1.80      0.518       (  0.319)       0.218        0.301
 35   2.92     1.80      0.518       (  0.319)       0.218        0.301
 36   3.00     0.60      0.173       (  0.319)       0.073        0.100
            (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    19.7
      Flood volume = Effective rainfall      1.64(In)
       times area      21.2(Ac.)/[(In)/(Ft.)] =       2.9(Ac.Ft)
      Total soil loss =      0.76(In)
      Total soil loss =     1.339(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =      126332.9 Cubic Feet
      Total soil loss =       58344.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     39.057(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       10.0      20.0      30.0      40.0
-------------------------------------------------------------------------
  0+ 5       0.0132      1.92  VQ        |         |         |         |
  0+10       0.0406      3.97  V  Q      |         |         |         |
  0+15       0.0689      4.11  V   Q     |         |         |         |
  0+20       0.1002      4.55  |V  Q     |         |         |         |
  0+25       0.1360      5.19  |V   Q    |         |         |         |
  0+30       0.1755      5.74  | V  Q    |         |         |         |
  0+35       0.2155      5.81  | V  Q    |         |         |         |
  0+40       0.2561      5.90  |  V Q    |         |         |         |
  0+45       0.2996      6.31  |   V Q   |         |         |         |
  0+50       0.3405      5.94  |   VQ    |         |         |         |
  0+55       0.3793      5.64  |    Q    |         |         |         |
  1+ 0       0.4208      6.01  |    VQ   |         |         |         |
  1+ 5       0.4684      6.91  |     Q   |         |         |         |
  1+10       0.5207      7.61  |      Q  |         |         |         |
  1+15       0.5743      7.77  |      Q  |         |         |         |
  1+20       0.6262      7.54  |      QV |         |         |         |
  1+25       0.6822      8.13  |       QV|         |         |         |
  1+30       0.7457      9.23  |        QV         |         |         |
  1+35       0.8085      9.12  |        Q|V        |         |         |
  1+40       0.8719      9.20  |        Q| V       |         |         |
  1+45       0.9491     11.21  |         |Q V      |         |         |
  1+50       1.0345     12.41  |         | Q V     |         |         |
  1+55       1.1153     11.72  |         |Q   V    |         |         |
  2+ 0       1.1943     11.48  |         |Q    V   |         |         |
  2+ 5       1.2762     11.90  |         |Q     V  |         |         |
  2+10       1.3793     14.97  |         |   Q    V|         |         |
  2+15       1.5175     20.06  |         |         Q         |         |
  2+20       1.6488     19.07  |         |        Q| V       |         |
  2+25       1.8149     24.12  |         |         |   QV    |         |
  2+30       2.0476     33.79  |         |         |       V |  Q      |
  2+35       2.3166     39.06  |         |         |         |V       Q|
  2+40       2.5682     36.54  |         |         |         |    VQ   |
  2+45       2.7194     21.95  |         |         |Q        |      V  |
  2+50       2.7932     10.72  |         Q         |         |       V |
  2+55       2.8476      7.89  |       Q |         |         |        V|
  3+ 0       2.8822      5.02  |    Q    |         |         |        V|
  3+ 5       2.8951      1.88  |Q        |         |         |        V|
  3+10       2.8988      0.53  Q         |         |         |        V|
  3+15       2.9000      0.17  Q         |         |         |        V|
  3+20       2.9002      0.03  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
100 YEAR, 6 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	1.40	29.68

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	3.00	63.60

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.400(In)
Area Averaged 100-Year Rainfall = 3.000(In)

Point rain (area averaged) = 3.000(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 3.000(In)

Sub-Area Data:

```
Area(Ac.)         Runoff Index   Impervious %
    21.200           37.40         0.600
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
37.4  37.4      0.693     0.600        0.319       1.000      0.319
                                                   Sum (F) =   0.319
Area averaged mean soil loss (F) (In/Hr) =  0.319
Minimum soil loss rate ((In/Hr)) =  0.159
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.420
--------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                   VALLEY S-Curve
--------------------------------------------------------------------
            Unit Hydrograph Data
--------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
--------------------------------------------------------------------
    1   0.083        188.970         41.429             8.852
    2   0.167        377.940         44.144             9.432
    3   0.250        566.909          9.259             1.978
    4   0.333        755.879          3.697             0.790
    5   0.417        944.849          1.471             0.314
                              Sum = 100.000   Sum=      21.366
--------------------------------------------------------------------
```

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.180	(0.319)		0.076	0.104
2	0.17	0.60	0.216	(0.319)		0.091	0.125
3	0.25	0.60	0.216	(0.319)		0.091	0.125
4	0.33	0.60	0.216	(0.319)		0.091	0.125
5	0.42	0.60	0.216	(0.319)		0.091	0.125
6	0.50	0.70	0.252	(0.319)		0.106	0.146
7	0.58	0.70	0.252	(0.319)		0.106	0.146
8	0.67	0.70	0.252	(0.319)		0.106	0.146
9	0.75	0.70	0.252	(0.319)		0.106	0.146
10	0.83	0.70	0.252	(0.319)		0.106	0.146
11	0.92	0.70	0.252	(0.319)		0.106	0.146
12	1.00	0.80	0.288	(0.319)		0.121	0.167
13	1.08	0.80	0.288	(0.319)		0.121	0.167
14	1.17	0.80	0.288	(0.319)		0.121	0.167
15	1.25	0.80	0.288	(0.319)		0.121	0.167
16	1.33	0.80	0.288	(0.319)		0.121	0.167
17	1.42	0.80	0.288	(0.319)		0.121	0.167
18	1.50	0.80	0.288	(0.319)		0.121	0.167
19	1.58	0.80	0.288	(0.319)		0.121	0.167
20	1.67	0.80	0.288	(0.319)		0.121	0.167
21	1.75	0.80	0.288	(0.319)		0.121	0.167
22	1.83	0.80	0.288	(0.319)		0.121	0.167
23	1.92	0.80	0.288	(0.319)		0.121	0.167
24	2.00	0.90	0.324	(0.319)		0.136	0.188
25	2.08	0.80	0.288	(0.319)		0.121	0.167
26	2.17	0.90	0.324	(0.319)		0.136	0.188
27	2.25	0.90	0.324	(0.319)		0.136	0.188
28	2.33	0.90	0.324	(0.319)		0.136	0.188
29	2.42	0.90	0.324	(0.319)		0.136	0.188
30	2.50	0.90	0.324	(0.319)		0.136	0.188
31	2.58	0.90	0.324	(0.319)		0.136	0.188

```
32   2.67     0.90      0.324       (  0.319)       0.136        0.188
33   2.75     1.00      0.360       (  0.319)       0.151        0.209
34   2.83     1.00      0.360       (  0.319)       0.151        0.209
35   2.92     1.00      0.360       (  0.319)       0.151        0.209
36   3.00     1.00      0.360       (  0.319)       0.151        0.209
37   3.08     1.00      0.360       (  0.319)       0.151        0.209
38   3.17     1.10      0.396       (  0.319)       0.166        0.230
39   3.25     1.10      0.396       (  0.319)       0.166        0.230
40   3.33     1.10      0.396       (  0.319)       0.166        0.230
41   3.42     1.20      0.432       (  0.319)       0.181        0.251
42   3.50     1.30      0.468       (  0.319)       0.197        0.271
43   3.58     1.40      0.504       (  0.319)       0.212        0.292
44   3.67     1.40      0.504       (  0.319)       0.212        0.292
45   3.75     1.50      0.540       (  0.319)       0.227        0.313
46   3.83     1.50      0.540       (  0.319)       0.227        0.313
47   3.92     1.60      0.576       (  0.319)       0.242        0.334
48   4.00     1.60      0.576       (  0.319)       0.242        0.334
49   4.08     1.70      0.612       (  0.319)       0.257        0.355
50   4.17     1.80      0.648       (  0.319)       0.272        0.376
51   4.25     1.90      0.684       (  0.319)       0.287        0.397
52   4.33     2.00      0.720       (  0.319)       0.302        0.418
53   4.42     2.10      0.756       (  0.319)       0.317        0.438
54   4.50     2.10      0.756       (  0.319)       0.317        0.438
55   4.58     2.20      0.792          0.319    (  0.333)        0.473
56   4.67     2.30      0.828          0.319    (  0.348)        0.509
57   4.75     2.40      0.864          0.319    (  0.363)        0.545
58   4.83     2.40      0.864          0.319    (  0.363)        0.545
59   4.92     2.50      0.900          0.319    (  0.378)        0.581
60   5.00     2.60      0.936          0.319    (  0.393)        0.617
61   5.08     3.10      1.116          0.319    (  0.469)        0.797
62   5.17     3.60      1.296          0.319    (  0.544)        0.977
63   5.25     3.90      1.404          0.319    (  0.590)        1.085
64   5.33     4.20      1.512          0.319    (  0.635)        1.193
65   5.42     4.70      1.692          0.319    (  0.711)        1.373
66   5.50     5.60      2.016          0.319    (  0.847)        1.697
67   5.58     1.90      0.684       (  0.319)       0.287        0.397
68   5.67     0.90      0.324       (  0.319)       0.136        0.188
69   5.75     0.60      0.216       (  0.319)       0.091        0.125
70   5.83     0.50      0.180       (  0.319)       0.076        0.104
71   5.92     0.30      0.108       (  0.319)       0.045        0.063
72   6.00     0.20      0.072       (  0.319)       0.030        0.042
            (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    23.0
     Flood volume = Effective rainfall      1.92(In)
      times area      21.2(Ac.)/[(In)/(Ft.)] =       3.4(Ac.Ft)
     Total soil loss =      1.08(In)
     Total soil loss =     1.910(Ac.Ft)
     Total rainfall =      3.00(In)
     Flood volume =      147645.7 Cubic Feet
     Total soil loss =       83205.5 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     31.509(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       10.0      20.0      30.0      40.0
----------------------------------------------------------------------
  0+ 5       0.0064      0.92  Q         |         |         |         |
  0+10       0.0208      2.09  V Q       |         |         |         |
  0+15       0.0380      2.50  V Q       |         |         |         |
  0+20       0.0561      2.62  V Q       |         |         |         |
  0+25       0.0745      2.67  V Q       |         |         |         |
  0+30       0.0942      2.86  |VQ       |         |         |         |
```

```
0+35       0.1152      3.06  |V Q      |          |          |          |
0+40       0.1366      3.10  |V Q      |          |          |          |
0+45       0.1581      3.12  |V Q      |          |          |          |
0+50       0.1796      3.12  | VQ      |          |          |          |
0+55       0.2011      3.12  | VQ      |          |          |          |
1+ 0       0.2239      3.31  | VQ      |          |          |          |
1+ 5       0.2480      3.51  | VQ      |          |          |          |
1+10       0.2725      3.55  |  Q      |          |          |          |
1+15       0.2970      3.56  |  Q      |          |          |          |
1+20       0.3216      3.57  |  Q      |          |          |          |
1+25       0.3462      3.57  |  QV     |          |          |          |
1+30       0.3708      3.57  |  QV     |          |          |          |
1+35       0.3954      3.57  |  QV     |          |          |          |
1+40       0.4200      3.57  |  QV     |          |          |          |
1+45       0.4446      3.57  |  Q V    |          |          |          |
1+50       0.4691      3.57  |  Q V    |          |          |          |
1+55       0.4937      3.57  |  Q V    |          |          |          |
2+ 0       0.5196      3.76  |  Q  V   |          |          |          |
2+ 5       0.5455      3.77  |  Q  V   |          |          |          |
2+10       0.5717      3.80  |  Q  V   |          |          |          |
2+15       0.5990      3.97  |  Q   V  |          |          |          |
2+20       0.6266      4.00  |   Q  V  |          |          |          |
2+25       0.6542      4.01  |   Q  V  |          |          |          |
2+30       0.6819      4.02  |   Q   V |          |          |          |
2+35       0.7095      4.02  |   Q   V |          |          |          |
2+40       0.7372      4.02  |   Q   V |          |          |          |
2+45       0.7661      4.20  |   Q    V|          |          |          |
2+50       0.7964      4.40  |   Q    V|          |          |          |
2+55       0.8270      4.44  |   Q    V|          |          |          |
3+ 0       0.8577      4.46  |   Q     V          |          |          |
3+ 5       0.8884      4.46  |   Q     V          |          |          |
3+10       0.9204      4.65  |   Q     V          |          |          |
3+15       0.9538      4.85  |   Q     |V         |          |          |
3+20       0.9875      4.89  |   Q     |V         |          |          |
3+25       1.0225      5.09  |    Q    | V        |          |          |
3+30       1.0602      5.48  |    Q    | V        |          |          |
3+35       1.1009      5.90  |    Q    | V        |          |          |
3+40       1.1432      6.15  |     Q   |  V       |          |          |
3+45       1.1873      6.40  |     Q   |   V      |          |          |
3+50       1.2330      6.62  |     Q   |   V      |          |          |
3+55       1.2802      6.86  |     Q   |    V     |          |          |
4+ 0       1.3289      7.07  |      Q  |    V     |          |          |
4+ 5       1.3792      7.30  |      Q  |     V    |          |          |
4+10       1.4322      7.70  |      Q  |     V    |          |          |
4+15       1.4882      8.13  |       Q |      V   |          |          |
4+20       1.5472      8.57  |       Q |       V  |          |          |
4+25       1.6093      9.02  |        Q|       V  |          |          |
4+30       1.6732      9.28  |        Q|        V |          |          |
4+35       1.7397      9.65  |        Q|         V          |          |
4+40       1.8107     10.32  |         Q         |V         |          |
4+45       1.8868     11.05  |         |Q        | V        |          |
4+50       1.9660     11.49  |         |Q        |  V       |          |
4+55       2.0480     11.92  |         |Q        |   V      |          |
5+ 0       2.1349     12.62  |         | Q       |    V     |          |
5+ 5       2.2357     14.63  |         |   Q     |     V    |          |
5+10       2.3598     18.02  |         |       Q |      V   |          |
5+15       2.5050     21.07  |         |         |Q       V|          |
5+20       2.6672     23.56  |         |         |  Q      |V         |
5+25       2.8503     26.59  |         |         |     Q   |  V       |
5+30       3.0673     31.51  |         |         |         |Q    V    |
5+35       3.2294     23.53  |         |         |  Q      |       V  |
5+40       3.2998     10.23  |         |        Q|         |       V  |
5+45       3.3373      5.44  |    Q    |         |         |        V |
5+50       3.3602      3.33  |  Q      |         |         |        V |
5+55       3.3744      2.06  | Q       |         |         |        V |
6+ 0       3.3835      1.33  |Q        |         |         |        V |
6+ 5       3.3879      0.64  Q         |         |         |        V |
6+10       3.3890      0.16  Q         |         |         |        V |
```

```
    6+15       3.3894      0.05  Q         |         |         |        V|
    6+20       3.3895      0.01  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/03/18 File: MCMHYDPR24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6406

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TR 37036, PARCEL 1
PROPOSED CONDITION
100 YEAR, 24 HOUR STORM

Drainage Area = 21.20(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.20(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1576.00(Ft.)
Length along longest watercourse measured to centroid = 1040.00(Ft.)
Length along longest watercourse = 0.298 Mi.
Length along longest watercourse measured to centroid = 0.197 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 217.7665 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.044 Hr.
Lag time = 2.65 Min.
25% of lag time = 0.66 Min.
40% of lag time = 1.06 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	2.50	53.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.20	8.00	169.60

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 8.000(In)

Point rain (area averaged) = 8.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 8.000(In)

Sub-Area Data:

```
Area(Ac.)         Runoff Index   Impervious %
    21.200           37.40         0.600
 Total Area Entered =     21.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
37.4  37.4      0.693     0.600        0.319       1.000      0.319
                                                  Sum (F) =   0.319
Area averaged mean soil loss (F) (In/Hr) =  0.319
Minimum soil loss rate ((In/Hr)) =  0.159
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.420
------------------------------------------------------------------------

             U n i t  H y d r o g r a p h
                    VALLEY S-Curve
------------------------------------------------------------------------
             Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        188.970         41.429             8.852
    2   0.167        377.940         44.144             9.432
    3   0.250        566.909          9.259             1.978
    4   0.333        755.879          3.697             0.790
    5   0.417        944.849          1.471             0.314
                              Sum = 100.000   Sum=      21.366
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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.064	(0.565)		0.027	0.037
2	0.17	0.07	0.064	(0.563)		0.027	0.037
3	0.25	0.07	0.064	(0.561)		0.027	0.037
4	0.33	0.10	0.096	(0.559)		0.040	0.056
5	0.42	0.10	0.096	(0.557)		0.040	0.056
6	0.50	0.10	0.096	(0.555)		0.040	0.056
7	0.58	0.10	0.096	(0.552)		0.040	0.056
8	0.67	0.10	0.096	(0.550)		0.040	0.056
9	0.75	0.10	0.096	(0.548)		0.040	0.056
10	0.83	0.13	0.128	(0.546)		0.054	0.074
11	0.92	0.13	0.128	(0.544)		0.054	0.074
12	1.00	0.13	0.128	(0.542)		0.054	0.074
13	1.08	0.10	0.096	(0.539)		0.040	0.056
14	1.17	0.10	0.096	(0.537)		0.040	0.056
15	1.25	0.10	0.096	(0.535)		0.040	0.056
16	1.33	0.10	0.096	(0.533)		0.040	0.056
17	1.42	0.10	0.096	(0.531)		0.040	0.056
18	1.50	0.10	0.096	(0.529)		0.040	0.056
19	1.58	0.10	0.096	(0.527)		0.040	0.056
20	1.67	0.10	0.096	(0.525)		0.040	0.056
21	1.75	0.10	0.096	(0.523)		0.040	0.056
22	1.83	0.13	0.128	(0.520)		0.054	0.074
23	1.92	0.13	0.128	(0.518)		0.054	0.074
24	2.00	0.13	0.128	(0.516)		0.054	0.074
25	2.08	0.13	0.128	(0.514)		0.054	0.074
26	2.17	0.13	0.128	(0.512)		0.054	0.074
27	2.25	0.13	0.128	(0.510)		0.054	0.074
28	2.33	0.13	0.128	(0.508)		0.054	0.074
29	2.42	0.13	0.128	(0.506)		0.054	0.074
30	2.50	0.13	0.128	(0.504)		0.054	0.074
31	2.58	0.17	0.160	(0.502)		0.067	0.093

32	2.67	0.17	0.160	(0.500)	0.067	0.093
33	2.75	0.17	0.160	(0.498)	0.067	0.093
34	2.83	0.17	0.160	(0.496)	0.067	0.093
35	2.92	0.17	0.160	(0.493)	0.067	0.093
36	3.00	0.17	0.160	(0.491)	0.067	0.093
37	3.08	0.17	0.160	(0.489)	0.067	0.093
38	3.17	0.17	0.160	(0.487)	0.067	0.093
39	3.25	0.17	0.160	(0.485)	0.067	0.093
40	3.33	0.17	0.160	(0.483)	0.067	0.093
41	3.42	0.17	0.160	(0.481)	0.067	0.093
42	3.50	0.17	0.160	(0.479)	0.067	0.093
43	3.58	0.17	0.160	(0.477)	0.067	0.093
44	3.67	0.17	0.160	(0.475)	0.067	0.093
45	3.75	0.17	0.160	(0.473)	0.067	0.093
46	3.83	0.20	0.192	(0.471)	0.081	0.111
47	3.92	0.20	0.192	(0.469)	0.081	0.111
48	4.00	0.20	0.192	(0.467)	0.081	0.111
49	4.08	0.20	0.192	(0.465)	0.081	0.111
50	4.17	0.20	0.192	(0.463)	0.081	0.111
51	4.25	0.20	0.192	(0.461)	0.081	0.111
52	4.33	0.23	0.224	(0.459)	0.094	0.130
53	4.42	0.23	0.224	(0.457)	0.094	0.130
54	4.50	0.23	0.224	(0.455)	0.094	0.130
55	4.58	0.23	0.224	(0.454)	0.094	0.130
56	4.67	0.23	0.224	(0.452)	0.094	0.130
57	4.75	0.23	0.224	(0.450)	0.094	0.130
58	4.83	0.27	0.256	(0.448)	0.108	0.148
59	4.92	0.27	0.256	(0.446)	0.108	0.148
60	5.00	0.27	0.256	(0.444)	0.108	0.148
61	5.08	0.20	0.192	(0.442)	0.081	0.111
62	5.17	0.20	0.192	(0.440)	0.081	0.111
63	5.25	0.20	0.192	(0.438)	0.081	0.111
64	5.33	0.23	0.224	(0.436)	0.094	0.130
65	5.42	0.23	0.224	(0.434)	0.094	0.130
66	5.50	0.23	0.224	(0.432)	0.094	0.130
67	5.58	0.27	0.256	(0.430)	0.108	0.148
68	5.67	0.27	0.256	(0.429)	0.108	0.148
69	5.75	0.27	0.256	(0.427)	0.108	0.148
70	5.83	0.27	0.256	(0.425)	0.108	0.148
71	5.92	0.27	0.256	(0.423)	0.108	0.148
72	6.00	0.27	0.256	(0.421)	0.108	0.148
73	6.08	0.30	0.288	(0.419)	0.121	0.167
74	6.17	0.30	0.288	(0.417)	0.121	0.167
75	6.25	0.30	0.288	(0.415)	0.121	0.167
76	6.33	0.30	0.288	(0.414)	0.121	0.167
77	6.42	0.30	0.288	(0.412)	0.121	0.167
78	6.50	0.30	0.288	(0.410)	0.121	0.167
79	6.58	0.33	0.320	(0.408)	0.134	0.186
80	6.67	0.33	0.320	(0.406)	0.134	0.186
81	6.75	0.33	0.320	(0.404)	0.134	0.186
82	6.83	0.33	0.320	(0.403)	0.134	0.186
83	6.92	0.33	0.320	(0.401)	0.134	0.186
84	7.00	0.33	0.320	(0.399)	0.134	0.186
85	7.08	0.33	0.320	(0.397)	0.134	0.186
86	7.17	0.33	0.320	(0.395)	0.134	0.186
87	7.25	0.33	0.320	(0.393)	0.134	0.186
88	7.33	0.37	0.352	(0.392)	0.148	0.204
89	7.42	0.37	0.352	(0.390)	0.148	0.204
90	7.50	0.37	0.352	(0.388)	0.148	0.204
91	7.58	0.40	0.384	(0.386)	0.161	0.223
92	7.67	0.40	0.384	(0.385)	0.161	0.223
93	7.75	0.40	0.384	(0.383)	0.161	0.223
94	7.83	0.43	0.416	(0.381)	0.175	0.241
95	7.92	0.43	0.416	(0.379)	0.175	0.241
96	8.00	0.43	0.416	(0.377)	0.175	0.241
97	8.08	0.50	0.480	(0.376)	0.202	0.278
98	8.17	0.50	0.480	(0.374)	0.202	0.278
99	8.25	0.50	0.480	(0.372)	0.202	0.278

100	8.33	0.50	0.480	(0.371)	0.202	0.278
101	8.42	0.50	0.480	(0.369)	0.202	0.278
102	8.50	0.50	0.480	(0.367)	0.202	0.278
103	8.58	0.53	0.512	(0.365)	0.215	0.297
104	8.67	0.53	0.512	(0.364)	0.215	0.297
105	8.75	0.53	0.512	(0.362)	0.215	0.297
106	8.83	0.57	0.544	(0.360)	0.228	0.316
107	8.92	0.57	0.544	(0.358)	0.228	0.316
108	9.00	0.57	0.544	(0.357)	0.228	0.316
109	9.08	0.63	0.608	(0.355)	0.255	0.353
110	9.17	0.63	0.608	(0.353)	0.255	0.353
111	9.25	0.63	0.608	(0.352)	0.255	0.353
112	9.33	0.67	0.640	(0.350)	0.269	0.371
113	9.42	0.67	0.640	(0.348)	0.269	0.371
114	9.50	0.67	0.640	(0.347)	0.269	0.371
115	9.58	0.70	0.672	(0.345)	0.282	0.390
116	9.67	0.70	0.672	(0.343)	0.282	0.390
117	9.75	0.70	0.672	(0.342)	0.282	0.390
118	9.83	0.73	0.704	(0.340)	0.296	0.408
119	9.92	0.73	0.704	(0.338)	0.296	0.408
120	10.00	0.73	0.704	(0.337)	0.296	0.408
121	10.08	0.50	0.480	(0.335)	0.202	0.278
122	10.17	0.50	0.480	(0.334)	0.202	0.278
123	10.25	0.50	0.480	(0.332)	0.202	0.278
124	10.33	0.50	0.480	(0.330)	0.202	0.278
125	10.42	0.50	0.480	(0.329)	0.202	0.278
126	10.50	0.50	0.480	(0.327)	0.202	0.278
127	10.58	0.67	0.640	(0.326)	0.269	0.371
128	10.67	0.67	0.640	(0.324)	0.269	0.371
129	10.75	0.67	0.640	(0.322)	0.269	0.371
130	10.83	0.67	0.640	(0.321)	0.269	0.371
131	10.92	0.67	0.640	(0.319)	0.269	0.371
132	11.00	0.67	0.640	(0.318)	0.269	0.371
133	11.08	0.63	0.608	(0.316)	0.255	0.353
134	11.17	0.63	0.608	(0.315)	0.255	0.353
135	11.25	0.63	0.608	(0.313)	0.255	0.353
136	11.33	0.63	0.608	(0.311)	0.255	0.353
137	11.42	0.63	0.608	(0.310)	0.255	0.353
138	11.50	0.63	0.608	(0.308)	0.255	0.353
139	11.58	0.57	0.544	(0.307)	0.228	0.316
140	11.67	0.57	0.544	(0.305)	0.228	0.316
141	11.75	0.57	0.544	(0.304)	0.228	0.316
142	11.83	0.60	0.576	(0.302)	0.242	0.334
143	11.92	0.60	0.576	(0.301)	0.242	0.334
144	12.00	0.60	0.576	(0.299)	0.242	0.334
145	12.08	0.83	0.800	0.298	(0.336)	0.502
146	12.17	0.83	0.800	0.296	(0.336)	0.504
147	12.25	0.83	0.800	0.295	(0.336)	0.505
148	12.33	0.87	0.832	0.293	(0.349)	0.539
149	12.42	0.87	0.832	0.292	(0.349)	0.540
150	12.50	0.87	0.832	0.290	(0.349)	0.542
151	12.58	0.93	0.896	0.289	(0.376)	0.607
152	12.67	0.93	0.896	0.287	(0.376)	0.609
153	12.75	0.93	0.896	0.286	(0.376)	0.610
154	12.83	0.97	0.928	0.285	(0.390)	0.643
155	12.92	0.97	0.928	0.283	(0.390)	0.645
156	13.00	0.97	0.928	0.282	(0.390)	0.646
157	13.08	1.13	1.088	0.280	(0.457)	0.808
158	13.17	1.13	1.088	0.279	(0.457)	0.809
159	13.25	1.13	1.088	0.277	(0.457)	0.811
160	13.33	1.13	1.088	0.276	(0.457)	0.812
161	13.42	1.13	1.088	0.275	(0.457)	0.813
162	13.50	1.13	1.088	0.273	(0.457)	0.815
163	13.58	0.77	0.736	0.272	(0.309)	0.464
164	13.67	0.77	0.736	0.270	(0.309)	0.466
165	13.75	0.77	0.736	0.269	(0.309)	0.467
166	13.83	0.77	0.736	0.268	(0.309)	0.468
167	13.92	0.77	0.736	0.266	(0.309)	0.470

168	14.00	0.77	0.736	0.265	(0.309)	0.471
169	14.08	0.90	0.864	0.264	(0.363)	0.600
170	14.17	0.90	0.864	0.262	(0.363)	0.602
171	14.25	0.90	0.864	0.261	(0.363)	0.603
172	14.33	0.87	0.832	0.260	(0.349)	0.572
173	14.42	0.87	0.832	0.258	(0.349)	0.574
174	14.50	0.87	0.832	0.257	(0.349)	0.575
175	14.58	0.87	0.832	0.256	(0.349)	0.576
176	14.67	0.87	0.832	0.254	(0.349)	0.578
177	14.75	0.87	0.832	0.253	(0.349)	0.579
178	14.83	0.83	0.800	0.252	(0.336)	0.548
179	14.92	0.83	0.800	0.250	(0.336)	0.550
180	15.00	0.83	0.800	0.249	(0.336)	0.551
181	15.08	0.80	0.768	0.248	(0.323)	0.520
182	15.17	0.80	0.768	0.247	(0.323)	0.521
183	15.25	0.80	0.768	0.245	(0.323)	0.523
184	15.33	0.77	0.736	0.244	(0.309)	0.492
185	15.42	0.77	0.736	0.243	(0.309)	0.493
186	15.50	0.77	0.736	0.242	(0.309)	0.494
187	15.58	0.63	0.608	0.240	(0.255)	0.368
188	15.67	0.63	0.608	0.239	(0.255)	0.369
189	15.75	0.63	0.608	0.238	(0.255)	0.370
190	15.83	0.63	0.608	0.237	(0.255)	0.371
191	15.92	0.63	0.608	0.235	(0.255)	0.373
192	16.00	0.63	0.608	0.234	(0.255)	0.374
193	16.08	0.13	0.128	(0.233)	0.054	0.074
194	16.17	0.13	0.128	(0.232)	0.054	0.074
195	16.25	0.13	0.128	(0.231)	0.054	0.074
196	16.33	0.13	0.128	(0.229)	0.054	0.074
197	16.42	0.13	0.128	(0.228)	0.054	0.074
198	16.50	0.13	0.128	(0.227)	0.054	0.074
199	16.58	0.10	0.096	(0.226)	0.040	0.056
200	16.67	0.10	0.096	(0.225)	0.040	0.056
201	16.75	0.10	0.096	(0.224)	0.040	0.056
202	16.83	0.10	0.096	(0.223)	0.040	0.056
203	16.92	0.10	0.096	(0.221)	0.040	0.056
204	17.00	0.10	0.096	(0.220)	0.040	0.056
205	17.08	0.17	0.160	(0.219)	0.067	0.093
206	17.17	0.17	0.160	(0.218)	0.067	0.093
207	17.25	0.17	0.160	(0.217)	0.067	0.093
208	17.33	0.17	0.160	(0.216)	0.067	0.093
209	17.42	0.17	0.160	(0.215)	0.067	0.093
210	17.50	0.17	0.160	(0.214)	0.067	0.093
211	17.58	0.17	0.160	(0.213)	0.067	0.093
212	17.67	0.17	0.160	(0.212)	0.067	0.093
213	17.75	0.17	0.160	(0.211)	0.067	0.093
214	17.83	0.13	0.128	(0.210)	0.054	0.074
215	17.92	0.13	0.128	(0.208)	0.054	0.074
216	18.00	0.13	0.128	(0.207)	0.054	0.074
217	18.08	0.13	0.128	(0.206)	0.054	0.074
218	18.17	0.13	0.128	(0.205)	0.054	0.074
219	18.25	0.13	0.128	(0.204)	0.054	0.074
220	18.33	0.13	0.128	(0.203)	0.054	0.074
221	18.42	0.13	0.128	(0.202)	0.054	0.074
222	18.50	0.13	0.128	(0.201)	0.054	0.074
223	18.58	0.10	0.096	(0.200)	0.040	0.056
224	18.67	0.10	0.096	(0.200)	0.040	0.056
225	18.75	0.10	0.096	(0.199)	0.040	0.056
226	18.83	0.07	0.064	(0.198)	0.027	0.037
227	18.92	0.07	0.064	(0.197)	0.027	0.037
228	19.00	0.07	0.064	(0.196)	0.027	0.037
229	19.08	0.10	0.096	(0.195)	0.040	0.056
230	19.17	0.10	0.096	(0.194)	0.040	0.056
231	19.25	0.10	0.096	(0.193)	0.040	0.056
232	19.33	0.13	0.128	(0.192)	0.054	0.074
233	19.42	0.13	0.128	(0.191)	0.054	0.074
234	19.50	0.13	0.128	(0.190)	0.054	0.074
235	19.58	0.10	0.096	(0.189)	0.040	0.056

236	19.67	0.10	0.096	(0.189)	0.040	0.056
237	19.75	0.10	0.096	(0.188)	0.040	0.056
238	19.83	0.07	0.064	(0.187)	0.027	0.037
239	19.92	0.07	0.064	(0.186)	0.027	0.037
240	20.00	0.07	0.064	(0.185)	0.027	0.037
241	20.08	0.10	0.096	(0.184)	0.040	0.056
242	20.17	0.10	0.096	(0.184)	0.040	0.056
243	20.25	0.10	0.096	(0.183)	0.040	0.056
244	20.33	0.10	0.096	(0.182)	0.040	0.056
245	20.42	0.10	0.096	(0.181)	0.040	0.056
246	20.50	0.10	0.096	(0.180)	0.040	0.056
247	20.58	0.10	0.096	(0.180)	0.040	0.056
248	20.67	0.10	0.096	(0.179)	0.040	0.056
249	20.75	0.10	0.096	(0.178)	0.040	0.056
250	20.83	0.07	0.064	(0.177)	0.027	0.037
251	20.92	0.07	0.064	(0.177)	0.027	0.037
252	21.00	0.07	0.064	(0.176)	0.027	0.037
253	21.08	0.10	0.096	(0.175)	0.040	0.056
254	21.17	0.10	0.096	(0.175)	0.040	0.056
255	21.25	0.10	0.096	(0.174)	0.040	0.056
256	21.33	0.07	0.064	(0.173)	0.027	0.037
257	21.42	0.07	0.064	(0.173)	0.027	0.037
258	21.50	0.07	0.064	(0.172)	0.027	0.037
259	21.58	0.10	0.096	(0.171)	0.040	0.056
260	21.67	0.10	0.096	(0.171)	0.040	0.056
261	21.75	0.10	0.096	(0.170)	0.040	0.056
262	21.83	0.07	0.064	(0.170)	0.027	0.037
263	21.92	0.07	0.064	(0.169)	0.027	0.037
264	22.00	0.07	0.064	(0.168)	0.027	0.037
265	22.08	0.10	0.096	(0.168)	0.040	0.056
266	22.17	0.10	0.096	(0.167)	0.040	0.056
267	22.25	0.10	0.096	(0.167)	0.040	0.056
268	22.33	0.07	0.064	(0.166)	0.027	0.037
269	22.42	0.07	0.064	(0.166)	0.027	0.037
270	22.50	0.07	0.064	(0.165)	0.027	0.037
271	22.58	0.07	0.064	(0.165)	0.027	0.037
272	22.67	0.07	0.064	(0.164)	0.027	0.037
273	22.75	0.07	0.064	(0.164)	0.027	0.037
274	22.83	0.07	0.064	(0.163)	0.027	0.037
275	22.92	0.07	0.064	(0.163)	0.027	0.037
276	23.00	0.07	0.064	(0.163)	0.027	0.037
277	23.08	0.07	0.064	(0.162)	0.027	0.037
278	23.17	0.07	0.064	(0.162)	0.027	0.037
279	23.25	0.07	0.064	(0.162)	0.027	0.037
280	23.33	0.07	0.064	(0.161)	0.027	0.037
281	23.42	0.07	0.064	(0.161)	0.027	0.037
282	23.50	0.07	0.064	(0.161)	0.027	0.037
283	23.58	0.07	0.064	(0.160)	0.027	0.037
284	23.67	0.07	0.064	(0.160)	0.027	0.037
285	23.75	0.07	0.064	(0.160)	0.027	0.037
286	23.83	0.07	0.064	(0.160)	0.027	0.037
287	23.92	0.07	0.064	(0.160)	0.027	0.037
288	24.00	0.07	0.064	(0.160)	0.027	0.037

(Loss Rate Not Used)

Sum = 100.0 Sum = 59.5

Flood volume = Effective rainfall 4.96(In)
times area 21.2(Ac.)/[(In)/(Ft.)] = 8.8(Ac.Ft)
Total soil loss = 3.04(In)
Total soil loss = 5.368(Ac.Ft)
Total rainfall = 8.00(In)
Flood volume = 381797.2 Cubic Feet
Total soil loss = 233825.3 Cubic Feet

Peak flow rate of this hydrograph = 17.393(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0023	0.33	Q				
0+10	0.0069	0.68	VQ				
0+15	0.0121	0.75	VQ				
0+20	0.0186	0.95	VQ				
0+25	0.0264	1.13	V Q				
0+30	0.0345	1.17	V Q				
0+35	0.0427	1.18	V Q				
0+40	0.0509	1.19	V Q				
0+45	0.0590	1.19	V Q				
0+50	0.0684	1.35	V Q				
0+55	0.0789	1.53	V Q				
1+ 0	0.0897	1.57	V Q				
1+ 5	0.0995	1.42	V Q				
1+10	0.1080	1.25	V Q				
1+15	0.1164	1.21	V Q				
1+20	0.1246	1.20	V Q				
1+25	0.1328	1.19	V Q				
1+30	0.1410	1.19	V Q				
1+35	0.1492	1.19	V Q				
1+40	0.1574	1.19	V Q				
1+45	0.1656	1.19	V Q				
1+50	0.1749	1.35	V Q				
1+55	0.1855	1.53	V Q				
2+ 0	0.1963	1.57	V Q				
2+ 5	0.2072	1.58	V Q				
2+10	0.2181	1.59	V Q				
2+15	0.2290	1.59	|V Q				
2+20	0.2399	1.59	|V Q				
2+25	0.2509	1.59	|V Q				
2+30	0.2618	1.59	|V Q				
2+35	0.2739	1.75	|V Q				
2+40	0.2871	1.93	|V Q				
2+45	0.3006	1.96	|V Q				
2+50	0.3143	1.98	|V Q				
2+55	0.3279	1.98	|V Q				
3+ 0	0.3416	1.98	|V Q				
3+ 5	0.3553	1.98	|V Q				
3+10	0.3689	1.98	|V Q				
3+15	0.3826	1.98	|V Q				
3+20	0.3962	1.98	|V Q				
3+25	0.4099	1.98	|V Q				
3+30	0.4236	1.98	|V Q				
3+35	0.4372	1.98	|V Q				
3+40	0.4509	1.98	| VQ				
3+45	0.4645	1.98	| VQ				
3+50	0.4793	2.15	| V Q				
3+55	0.4953	2.32	| V Q				
4+ 0	0.5116	2.36	| V Q				
4+ 5	0.5279	2.37	| V Q				
4+10	0.5443	2.38	| V Q				
4+15	0.5607	2.38	| V Q				
4+20	0.5783	2.54	| V Q				
4+25	0.5970	2.72	| V Q				
4+30	0.6160	2.76	| V Q				
4+35	0.6351	2.77	| V Q				
4+40	0.6542	2.78	| V Q				
4+45	0.6733	2.78	| V Q				
4+50	0.6936	2.94	| V Q				
4+55	0.7150	3.12	| V Q				
5+ 0	0.7368	3.15	| V Q				
5+ 5	0.7563	2.84	| V Q				
5+10	0.7735	2.49	| VQ				

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 5+15      0.7902      2.42  |  VQ     |         |         |         |
 5+20      0.8078      2.56  |  V Q    |         |         |         |
 5+25      0.8265      2.72  |  V Q    |         |         |         |
 5+30      0.8455      2.76  |  V Q    |         |         |         |
 5+35      0.8657      2.94  |  V Q    |         |         |         |
 5+40      0.8872      3.12  |   V Q   |         |         |         |
 5+45      0.9089      3.15  |   V Q   |         |         |         |
 5+50      0.9307      3.17  |   V Q   |         |         |         |
 5+55      0.9526      3.17  |   V Q   |         |         |         |
 6+ 0      0.9744      3.17  |   V Q   |         |         |         |
 6+ 5      0.9974      3.34  |   V Q   |         |         |         |
 6+10      1.0216      3.51  |   V  Q  |         |         |         |
 6+15      1.0461      3.55  |   V  Q  |         |         |         |
 6+20      1.0706      3.56  |   V  Q  |         |         |         |
 6+25      1.0952      3.57  |   V  Q  |         |         |         |
 6+30      1.1198      3.57  |    V Q  |         |         |         |
 6+35      1.1455      3.73  |    V Q  |         |         |         |
 6+40      1.1725      3.91  |    V Q  |         |         |         |
 6+45      1.1996      3.95  |    V Q  |         |         |         |
 6+50      1.2269      3.96  |    V Q  |         |         |         |
 6+55      1.2542      3.97  |    V Q  |         |         |         |
 7+ 0      1.2816      3.97  |    V Q  |         |         |         |
 7+ 5      1.3089      3.97  |    V Q  |         |         |         |
 7+10      1.3362      3.97  |     VQ  |         |         |         |
 7+15      1.3635      3.97  |     VQ  |         |         |         |
 7+20      1.3920      4.13  |     V Q |         |         |         |
 7+25      1.4216      4.31  |     V Q |         |         |         |
 7+30      1.4516      4.34  |     V Q |         |         |         |
 7+35      1.4827      4.52  |     V  Q|         |         |         |
 7+40      1.5151      4.70  |     V  Q|         |         |         |
 7+45      1.5478      4.74  |      V Q|         |         |         |
 7+50      1.5816      4.92  |      V Q|         |         |         |
 7+55      1.6168      5.10  |      V  Q         |         |         |
 8+ 0      1.6521      5.14  |      V  Q         |         |         |
 8+ 5      1.6899      5.48  |      V  Q         |         |         |
 8+10      1.7301      5.84  |      V  |Q        |         |         |
 8+15      1.7708      5.91  |       V |Q        |         |         |
 8+20      1.8117      5.94  |       V |Q        |         |         |
 8+25      1.8527      5.95  |       V |Q        |         |         |
 8+30      1.8937      5.95  |       V |Q        |         |         |
 8+35      1.9358      6.12  |       V | Q       |         |         |
 8+40      1.9791      6.29  |        V| Q       |         |         |
 8+45      2.0227      6.33  |        V| Q       |         |         |
 8+50      2.0675      6.51  |        V|  Q      |         |         |
 8+55      2.1135      6.69  |        V|  Q      |         |         |
 9+ 0      2.1598      6.72  |        V|  Q      |         |         |
 9+ 5      2.2085      7.07  |         V   Q     |         |         |
 9+10      2.2596      7.42  |         V   Q     |         |         |
 9+15      2.3113      7.50  |         V   Q     |         |         |
 9+20      2.3642      7.69  |         V    Q    |         |         |
 9+25      2.4185      7.88  |         |V   Q    |         |         |
 9+30      2.4730      7.91  |         |V   Q    |         |         |
 9+35      2.5287      8.09  |         |V    Q   |         |         |
 9+40      2.5857      8.27  |         |V    Q   |         |         |
 9+45      2.6430      8.31  |         | V   Q   |         |         |
 9+50      2.7014      8.49  |         | V   Q   |         |         |
 9+55      2.7611      8.67  |         | V    Q  |         |         |
10+ 0      2.8211      8.71  |         | V    Q  |         |         |
10+ 5      2.8733      7.57  |         |  V Q    |         |         |
10+10      2.9170      6.35  |         | QV      |         |         |
10+15      2.9590      6.09  |         | QV      |         |         |
10+20      3.0002      5.99  |         |Q V      |         |         |
10+25      3.0412      5.95  |         |Q V      |         |         |
10+30      3.0822      5.95  |         |Q  V     |         |         |
10+35      3.1289      6.77  |         |  QV     |         |         |
10+40      3.1815      7.65  |         |   VQ    |         |         |
10+45      3.2355      7.83  |         |   VQ    |         |         |
10+50      3.2899      7.91  |         |    Q    |         |         |
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10+55       3.3446      7.93  |          |    Q     |          |          |
11+ 0       3.3992      7.93  |          |    Q     |          |          |
11+ 5       3.4527      7.77  |          |    Q     |          |          |
11+10       3.5050      7.60  |          |    Q     |          |          |
11+15       3.5571      7.56  |          |    QV    |          |          |
11+20       3.6091      7.54  |          |    QV    |          |          |
11+25       3.6610      7.54  |          |    QV    |          |          |
11+30       3.7129      7.54  |          |    QV    |          |          |
11+35       3.7625      7.21  |          |   Q  V   |          |          |
11+40       3.8098      6.86  |          |  Q   V   |          |          |
11+45       3.8565      6.79  |          |  Q   V   |          |          |
11+50       3.9042      6.92  |          |  Q   V   |          |          |
11+55       3.9530      7.08  |          |   Q   V  |          |          |
12+ 0       4.0020      7.12  |          |   Q   V  |          |          |
12+ 5       4.0614      8.62  |          |      QV  |          |          |
12+10       4.1318     10.23  |          |       V Q          |          |
12+15       4.2048     10.59  |          |        V|Q         |          |
12+20       4.2808     11.04  |          |        V| Q        |          |
12+25       4.3595     11.42  |          |        V| Q        |          |
12+30       4.4388     11.52  |          |         V  Q       |          |
12+35       4.5224     12.14  |          |         V   Q      |          |
12+40       4.6105     12.79  |          |         |V   Q     |          |
12+45       4.6996     12.94  |          |         |V   Q     |          |
12+50       4.7913     13.31  |          |         |V    Q    |          |
12+55       4.8854     13.66  |          |         | V    Q   |          |
13+ 0       4.9801     13.76  |          |         | V    Q   |          |
13+ 5       5.0850     15.23  |          |         |  V      Q          |
13+10       5.2005     16.78  |          |         |  V       |  Q       |
13+15       5.3185     17.13  |          |         |   V      |   Q      |
13+20       5.4375     17.28  |          |         |   V      |   Q      |
13+25       5.5571     17.36  |          |         |    V     |   Q      |
13+30       5.6769     17.39  |          |         |    V     |   Q      |
13+35       5.7754     14.31  |          |         |     V Q  |          |
13+40       5.8512     11.01  |          |         | Q   V    |          |
13+45       5.9225     10.35  |          |         Q     V    |          |
13+50       5.9920     10.10  |          |         Q     V    |          |
13+55       6.0610     10.02  |          |         Q     V    |          |
14+ 0       6.1302     10.05  |          |         Q     V    |          |
14+ 5       6.2074     11.21  |          |         | Q    V   |          |
14+10       6.2931     12.44  |          |         |   Q   V   |          |
14+15       6.3808     12.73  |          |         |    Q   V|          |
14+20       6.4674     12.57  |          |         |    Q   V|          |
14+25       6.5524     12.34  |          |         |   Q    V|          |
14+30       6.6371     12.31  |          |         |   Q     V          |
14+35       6.7219     12.31  |          |         |   Q     V          |
14+40       6.8068     12.33  |          |         |   Q     |V         |
14+45       6.8918     12.35  |          |         |   Q     |V         |
14+50       6.9752     12.10  |          |         |   Q     |V         |
14+55       7.0566     11.82  |          |         |  Q      | V        |
15+ 0       7.1378     11.79  |          |         |  Q      | V        |
15+ 5       7.2170     11.51  |          |         |  Q      | V        |
15+10       7.2943     11.22  |          |         | Q       |  V       |
15+15       7.3714     11.19  |          |         | Q       |  V       |
15+20       7.4465     10.90  |          |         |Q        |  V       |
15+25       7.5196     10.62  |          |         |Q        |   V      |
15+30       7.5925     10.58  |          |         |Q        |   V      |
15+35       7.6576      9.45  |          |       Q |         |   V      |
15+40       7.7145      8.26  |          |     Q   |         |    V     |
15+45       7.7698      8.03  |          |     Q   |         |    V     |
15+50       7.8246      7.96  |          |    Q    |         |    V     |
15+55       7.8793      7.94  |          |    Q    |         |    V     |
16+ 0       7.9342      7.97  |          |    Q    |         |     V    |
16+ 5       7.9709      5.33  |         Q          |         |     V    |
16+10       7.9882      2.51  |    Q     |         |         |     V    |
16+15       8.0014      1.92  |  Q       |         |         |     V    |
16+20       8.0130      1.68  |  Q       |         |         |     V    |
16+25       8.0239      1.59  |  Q       |         |         |     V    |
16+30       8.0348      1.59  |  Q       |         |         |     V    |
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16+35       8.0446      1.42  | Q       |         |         |     V   |
16+40       8.0532      1.25  | Q       |         |         |     V   |
16+45       8.0615      1.21  | Q       |         |         |     V   |
16+50       8.0698      1.20  | Q       |         |         |     V   |
16+55       8.0780      1.19  | Q       |         |         |     V   |
17+ 0       8.0862      1.19  | Q       |         |         |     V   |
17+ 5       8.0966      1.52  |  Q      |         |         |     V   |
17+10       8.1095      1.87  |  Q      |         |         |      V  |
17+15       8.1229      1.94  |  Q      |         |         |      V  |
17+20       8.1365      1.97  |  Q      |         |         |      V  |
17+25       8.1501      1.98  |  Q      |         |         |      V  |
17+30       8.1638      1.98  |  Q      |         |         |      V  |
17+35       8.1775      1.98  |  Q      |         |         |      V  |
17+40       8.1911      1.98  |  Q      |         |         |      V  |
17+45       8.2048      1.98  |  Q      |         |         |      V  |
17+50       8.2173      1.82  |  Q      |         |         |      V  |
17+55       8.2286      1.64  |  Q      |         |         |      V  |
18+ 0       8.2397      1.61  |  Q      |         |         |      V  |
18+ 5       8.2507      1.59  |  Q      |         |         |      V  |
18+10       8.2616      1.59  |  Q      |         |         |      V  |
18+15       8.2725      1.59  |  Q      |         |         |      V  |
18+20       8.2835      1.59  |  Q      |         |         |      V  |
18+25       8.2944      1.59  |  Q      |         |         |      V  |
18+30       8.3053      1.59  |  Q      |         |         |      V  |
18+35       8.3151      1.42  | Q       |         |         |      V  |
18+40       8.3237      1.25  | Q       |         |         |      V  |
18+45       8.3320      1.21  | Q       |         |         |       V |
18+50       8.3392      1.03  | Q       |         |         |       V |
18+55       8.3450      0.85  |Q        |         |         |       V |
19+ 0       8.3506      0.81  |Q        |         |         |       V |
19+ 5       8.3573      0.96  |Q        |         |         |       V |
19+10       8.3651      1.13  | Q       |         |         |       V |
19+15       8.3731      1.17  | Q       |         |         |       V |
19+20       8.3824      1.35  | Q       |         |         |       V |
19+25       8.3929      1.53  |  Q      |         |         |       V |
19+30       8.4037      1.57  |  Q      |         |         |       V |
19+35       8.4135      1.42  | Q       |         |         |       V |
19+40       8.4221      1.25  | Q       |         |         |       V |
19+45       8.4304      1.21  | Q       |         |         |       V |
19+50       8.4375      1.03  | Q       |         |         |       V |
19+55       8.4434      0.85  |Q        |         |         |       V |
20+ 0       8.4490      0.81  |Q        |         |         |       V |
20+ 5       8.4556      0.96  |Q        |         |         |       V |
20+10       8.4634      1.13  | Q       |         |         |       V |
20+15       8.4715      1.17  | Q       |         |         |       V |
20+20       8.4796      1.18  | Q       |         |         |       V |
20+25       8.4878      1.19  | Q       |         |         |       V |
20+30       8.4960      1.19  | Q       |         |         |       V |
20+35       8.5042      1.19  | Q       |         |         |       V |
20+40       8.5124      1.19  | Q       |         |         |       V |
20+45       8.5206      1.19  | Q       |         |         |       V |
20+50       8.5277      1.03  | Q       |         |         |       V |
20+55       8.5335      0.85  |Q        |         |         |       V |
21+ 0       8.5391      0.81  |Q        |         |         |       V |
21+ 5       8.5458      0.96  |Q        |         |         |        V|
21+10       8.5536      1.13  | Q       |         |         |        V|
21+15       8.5616      1.17  | Q       |         |         |        V|
21+20       8.5687      1.02  | Q       |         |         |        V|
21+25       8.5745      0.85  |Q        |         |         |        V|
21+30       8.5801      0.81  |Q        |         |         |        V|
21+35       8.5868      0.96  |Q        |         |         |        V|
21+40       8.5946      1.13  | Q       |         |         |        V|
21+45       8.6026      1.17  | Q       |         |         |        V|
21+50       8.6097      1.02  | Q       |         |         |        V|
21+55       8.6155      0.85  |Q        |         |         |        V|
22+ 0       8.6211      0.81  |Q        |         |         |        V|
22+ 5       8.6278      0.96  |Q        |         |         |        V|
22+10       8.6356      1.13  | Q       |         |         |        V|
```

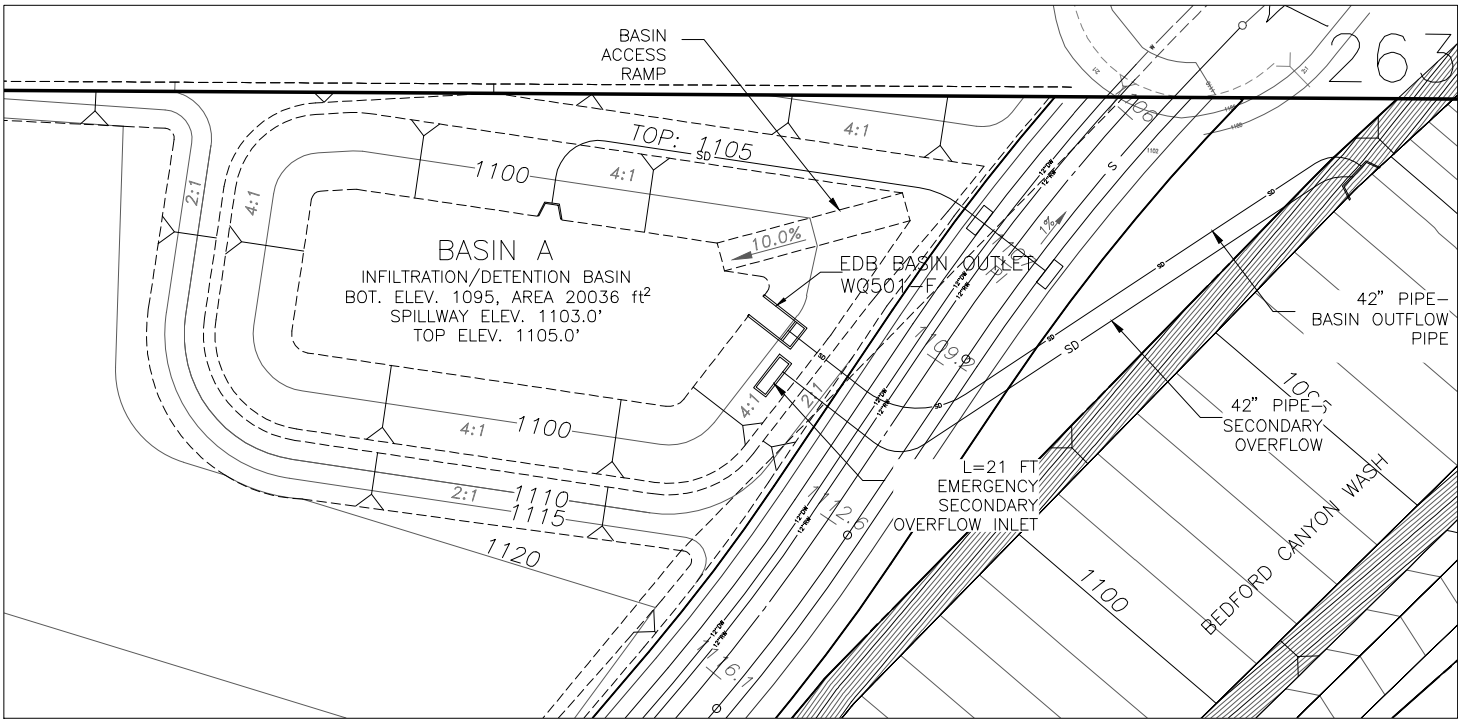
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   22+15       8.6436      1.17  | Q       |         |         |        V|
   22+20       8.6506      1.02  | Q       |         |         |        V|
   22+25       8.6565      0.85  |Q        |         |         |        V|
   22+30       8.6621      0.81  |Q        |         |         |        V|
   22+35       8.6676      0.80  |Q        |         |         |        V|
   22+40       8.6731      0.79  |Q        |         |         |        V|
   22+45       8.6785      0.79  |Q        |         |         |        V|
   22+50       8.6840      0.79  |Q        |         |         |        V|
   22+55       8.6895      0.79  |Q        |         |         |        V|
   23+ 0       8.6949      0.79  |Q        |         |         |        V|
   23+ 5       8.7004      0.79  |Q        |         |         |        V|
   23+10       8.7059      0.79  |Q        |         |         |        V|
   23+15       8.7113      0.79  |Q        |         |         |        V|
   23+20       8.7168      0.79  |Q        |         |         |        V|
   23+25       8.7223      0.79  |Q        |         |         |        V|
   23+30       8.7277      0.79  |Q        |         |         |        V|
   23+35       8.7332      0.79  |Q        |         |         |        V|
   23+40       8.7386      0.79  |Q        |         |         |        V|
   23+45       8.7441      0.79  |Q        |         |         |        V|
   23+50       8.7496      0.79  |Q        |         |         |        V|
   23+55       8.7550      0.79  |Q        |         |         |        V|
   24+ 0       8.7605      0.79  |Q        |         |         |        V|
   24+ 5       8.7637      0.46  Q         |         |         |        V|
   24+10       8.7645      0.11  Q         |         |         |        V|
   24+15       8.7648      0.04  Q         |         |         |        V|
   24+20       8.7649      0.01  Q         |         |         |        V|
-------------------------------------------------------------------------
```

SECTION 4

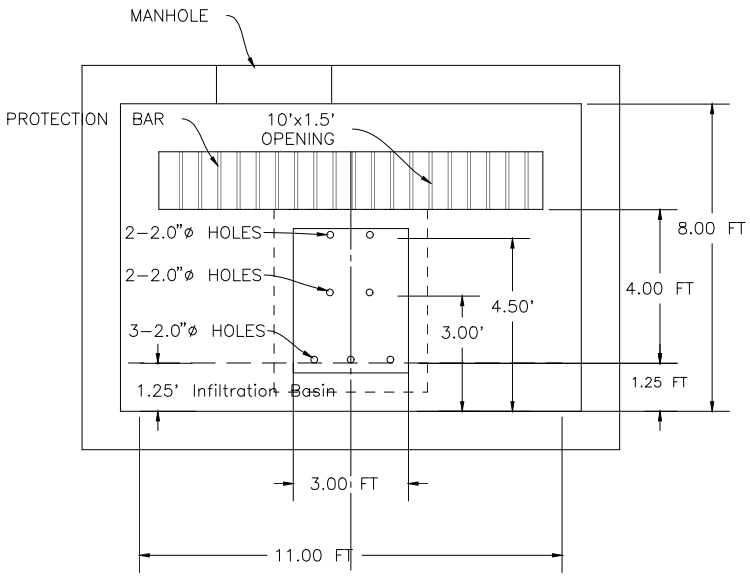
BASIN ROUTING

OUTLET STRUCTURE DETAIL

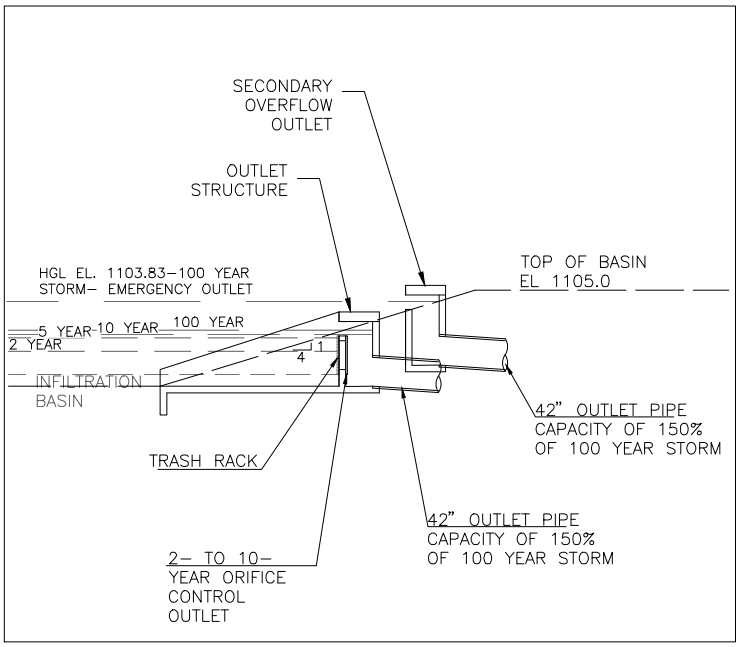
DETENTION / WQ (INFILTRATION) BASIN "M"
OUTLET STRUCTURE DETAIL



BASIN A – PLAN VIEW



ORIFICE PLATE DETAIL



EDB BASIN OUTLET

FIGURE H1

TTM NO. 37036
OUTLET DETAIL
BASIN M

Tract 37036, Parcel 1- Detention/Water Quality Basin Outflow Calculation

Basin M

4/5/2018

No. of Holes →		HOLES 3	HOLES 2	HOLES 2	WEIR 1	WEIR 1	←	No. of Weir
Discharge Coefficient →		HOLE C 0.66	HOLE C 0.66	HOLE C 0.66	WEIR C 2.8	WEIR C 2.8	←	Weir Coefficient
Distance of Holes from Basin Bottom (in) →		HOLE FL 15	HOLE FL 36	HOLE FL 54	DIST TO WEIR 63	DIST TO WEIR 96	←	Distance of Top of Riser Pipe from Basin Bottom (in)
openning size (in) →		HOLE R 1.000	HOLE R 1	HOLE R 1	WEIR LENGTH FT 10.00	WEIR LENGTH FT 21.00	←	STRUCTURE
OPENNING AREA								
Hole Centerline Elev (ft) →		CEN EL 1096.333333	CEN EL 1098.083	CEN EL 1099.583	WEIR ELEV 1100.25	WEIR ELEV 1103.0	←	Top of Riser Elevation (ft)
ELEVATION	DEPTH	OUTFLOW						
1095.00	0	**0**						
			Infiltration Basin					
1096.00	1	**0**		0.00	0.00	0.00	0.00	0.00
			I= 1.85 inch/hour					
1096.25	1.25	**0**		0.00	0.00	0.00	0.00	0.00
1097.00	2	**0.28**		0.28	0.00	0.00	0.00	0.00
1098.00	3	**0.45**		0.45	0.00	0.00	0.00	0.00
1099.00	4	**0.79**		0.57	0.22	0.00	0.00	0.00
1100.00	5	**1.13**		0.66	0.32	0.15	0.00	0.00
1100.25	5.25	**1.21**		0.69	0.34	0.19	0.00	0.00
1101.00	6	**19.61**		0.75	0.39	0.28	18.19	0.00
1102.00	7	**66.46**		0.83	0.46	0.36	64.82	0.00
1103.00	8	**129.52**	Spillway	0.90	0.51	0.43	127.69	0.00
1104.00	9	**264.14**		0.96	0.56	0.49	203.33	58.80
1105.00	10	**458.34**	Top of Basin	1.02	0.61	0.54	289.87	166.31
		↑					↑	↑
		[Σ FLOWS (HOLES+RISER)]		(OUTFLO\	(OUTFLOW THROUGH HOLES			
Note:					(FLOW OVER TOP OF	(FLOW OVER TOP OF RISER)		

1. Orifice outflow is based on:
   $Q=CA(2gH)^{0.5}$
   where:
   C = Coefficient, 0.6 used here
   A = Orifice Area
   H = Headwater

2. Weir flow is based on:
   $Q=CLH^{1.5}$
   where:
   C = Coefficient, 2.8 used here
   L = Weir Length, Riser Pipe Perimeter was used here
   H = Headwater

3. Secondary outlet spillway are designed to convey 100-year peak flow rate.

   $Q=CLH^{1.5}$
   Where:
   C = coffcient 3.0 was used here
   L = spillway length (ft)
   H = headwater (ft)
   Q = 49.0 cfs
   L = 17' in this design
   H = 1.0'
   6" freeboard for the detention basin spillway.
   Berm crest elevation at 290' and the spillway crest elevation at 288.5'

Tract 37036, Parcel1 - Detention/Water Quality Basin Volume Calculation

Basin M

4/6/2018

INFILTRATION BASIN WQMP Volume=25,175 cubic feet

DRAW DOWN TIME CALCULATIONS

Basin Outflow - including infiltration

Elevation	Depth	$Depth_{accumulate}$	Area	$Area_{average}$	Volume		$Volume_{accumulative}$		$Qout^{*}$	Volume to Drain	Average Outflow	Drawdown Time	
(ft)	(ft)	(ft)	(ft^2)	(ft^2)	(ft3)	(ac-ft)	(ft3)	(ac-ft)	(cfs)	(ft^3)	(cfs)	(hrs)	Accumulative
1095.00		0.00	20037				0	0	**0.00**	0	0.00	0.00	0.00
	1.00			21310	21310	0.489							
1096.00		1.00	22583				21310	0.49	**0.15**				6.49
	0.25			23235	5809	0.133				INFILTRATION - 1.85 INCH/HOUR			
1096.25		1.25	23893				**27118**	0.62	**0.15**				8.10
	0.75			24561	18421	0.423							
1097.00		2.00	25229				45539	1.05	**0.28**	18421	0.22	23.63	23.63
	1.00			26602	26602	0.611							
1098.00		3.00	27976				72142	1.66	**0.45**	26602	0.37	20.23	43.86
	1.00			29400	29400	0.675							
1099.00		4.00	30823				101541	2.33	**0.79**	29400	0.62	13.23	57.09
	1.00			32297	32297	0.741							
1100.00		5.00	33771				133839	3.07	**1.13**	32297	0.96	9.34	66.43
	0.25			34148	8537	0.196							
1100.25		5.25	34524				142376	3.27	**1.21**	8537	1.17	2.02	68.45
	0.75			35672	26754	0.614							
1101.00		6.00	36820				169130	3.88	**19.61**	26754	10.37	0.72	67.15
	1.00			38395	38395	0.881							
1102.00		7.00	39969				207524	4.76	**66.46**	38395	43.03	0.25	67.40
	1.00			41594	41594	0.955							
1103.00	Spillway	8.00	43219				249118	5.72	**129.52**	41594	97.99	0.12	67.52
	1.00			44894	44894	1.031							
1104.00		9.00	46569				294012	6.75	**264.14**	44894	196.83	0.06	67.58
	1.00			48294	48294	1.109							
1105.00	Top of berm	10.00	50019				342306	7.86					
	1.00			25010	25010	0.574							
1106.00		11.00					367316	8.43					

* Outflow from Riser Pipe Outflow Calculations

Infiltration Basin - Design Procedure (Rev. 03-2012)	BMP ID: BASIN M	Legend:	Required Entries / Calculated Cells

Company Name: Hunsaker & Associates — Date: 4/6/2018

Designed by: — County/City Case No.:

Design Volume

a) Tributary area (BMP subarea)	A_T =	21.2	acres
b) Enter V_{BMP} determined from Section 2.1 of this Handbook	V_{BMP} =	25,175	ft^3

Maximum Depth

a) Infiltration rate	I =	1.85	in/hr
b) Factor of Safety (See Table 1, Appendix A: "Infiltration Testing" from this BMP Handbook)	FS =	1	
c) Calculate D_1 $D_1 = \frac{I\ (in/hr) \times 72\ hrs}{12\ (in/ft) \times FS}$	D_1 =	11.1	ft
d) Enter the depth of freeboard (at least 1 ft)		1	ft
e) Enter depth to historic high ground water (measured from **top** of basin)		160	ft
f) Enter depth to top of bedrock or impermeable layer (measured from **top** of basin)		35	ft
g) D_2 is the smaller of: Depth to groundwater - (10 ft + freeboard) and Depth to impermeable layer - (5 ft + freeboard)	D_2 =	29.0	ft
h) D_{MAX} is the smaller value of D_1 and D_2 but shall not exceed 5 feet	D_{MAX} =	11.1	ft

Basin Geometry

a) Basin side slopes (no steeper than 4:1)	z =	4	:1
b) Proposed basin depth (excluding freeboard)	d_B =	1.25	ft
c) Minimum bottom surface area of basin ($A_S = V_{BMP}/d_B$)	A_S =	20140	ft^2
d) Proposed Design Surface Area	A_D =	20140	ft^2

Forebay

a) Forebay volume (minimum 0.5% V_{BMP})	Volume =	126	ft^3
b) Forebay depth (height of berm/splashwall. 1 foot min.)	Depth =	1	ft
c) Forebay surface area (minimum)	Area =	126	ft^2
d) Full height notch-type weir	Width (W) =	12.0	in

2-YR
1, 3, 6, 24-HR STORMS

```
                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

-----------------------------------------------------------------------


TR 37036, PARCEL 1
BASIN M
2Y 1H STORM

-----------------------------------------------------------------------


Program License Serial Number 6406

-----------------------------------------------------------------------
******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR12.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    16
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       17.164 (CFS)
                Total volume =       0.611 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
***********************************************************************



+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
_______________________________________________________________________

User entry of depth-outflow-storage data
-----------------------------------------------------------------------
Total number of inflow hydrograph intervals = 16
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
-----------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
-----------------------------------------------------------------------
                Hydrograph Detention Basin Routing
-----------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
-----------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       4.3    8.58   12.87  17.16 (Ft.)
 0.083   1.49    0.00      0.005  O I      |       |       |       |     0.01
 0.167   3.11    0.00      0.021  O   I    |       |       |       |     0.04
 0.250   3.79    0.00      0.045  O     I  |       |       |       |     0.09
 0.333   4.25    0.00      0.072  O     I  |       |       |       |     0.15
 0.417   4.48    0.00      0.103  O      I       |       |       |     0.21
 0.500   4.85    0.00      0.135  O      |I      |       |       |     0.27
 0.583   5.65    0.00      0.171  O      | I     |       |       |     0.34
 0.667   6.66    0.00      0.213  O      |   I   |       |       |     0.43
 0.750   8.49    0.00      0.265  O      |      I|       |       |     0.53
 0.833  17.16    0.01      0.354  O      |       |       |       I     0.71
 0.917  16.31    0.01      0.469  O      |       |       |     I |     0.95
 1.000   7.59    0.01      0.551  O      |     I |       |       |     1.11
 1.083   3.55    0.01      0.589  O    I |       |       |       |     1.19
 1.167   1.02    0.01      0.605  OI     |       |       |       |     1.22
 1.250   0.24    0.01      0.609  O      |       |       |       |     1.23
 1.333   0.06    0.01      0.610  O      |       |       |       |     1.23
 1.417   0.00    0.01      0.610  O      |       |       |       |     1.23
 1.500   0.00    0.01      0.610  O      |       |       |       |     1.23
 1.583   0.00    0.01      0.610  O      |       |       |       |     1.23
 1.667   0.00    0.01      0.610  O      |       |       |       |     1.23
 1.750   0.00    0.01      0.610  O      |       |       |       |     1.23
 1.833   0.00    0.01      0.610  O      |       |       |       |     1.23
 1.917   0.00    0.01      0.610  O      |       |       |       |     1.23
 2.000   0.00    0.01      0.610  O      |       |       |       |     1.23
 2.083   0.00    0.01      0.610  O      |       |       |       |     1.23
 2.167   0.00    0.01      0.610  O      |       |       |       |     1.23
 2.250   0.00    0.01      0.610  O      |       |       |       |     1.23
 2.333   0.00    0.01      0.610  O      |       |       |       |     1.23
 2.417   0.00    0.01      0.610  O      |       |       |       |     1.23
 2.500   0.00    0.01      0.610  O      |       |       |       |     1.23
 2.583   0.00    0.01      0.609  O      |       |       |       |     1.23
 2.667   0.00    0.01      0.609  O      |       |       |       |     1.23
 2.750   0.00    0.01      0.609  O      |       |       |       |     1.23
 2.833   0.00    0.01      0.609  O      |       |       |       |     1.23
 2.917   0.00    0.01      0.609  O      |       |       |       |     1.23
 3.000   0.00    0.01      0.609  O      |       |       |       |     1.23
 3.083   0.00    0.01      0.609  O      |       |       |       |     1.23
 3.167   0.00    0.01      0.609  O      |       |       |       |     1.23
 3.250   0.00    0.01      0.609  O      |       |       |       |     1.23
 3.333   0.00    0.01      0.609  O      |       |       |       |     1.23
 3.417   0.00    0.01      0.609  O      |       |       |       |     1.23
 3.500   0.00    0.01      0.609  O      |       |       |       |     1.23
 3.583   0.00    0.01      0.609  O      |       |       |       |     1.23
 3.667   0.00    0.01      0.609  O      |       |       |       |     1.23
 3.750   0.00    0.01      0.609  O      |       |       |       |     1.23
 3.833   0.00    0.01      0.608  O      |       |       |       |     1.23
```

3.917	0.00	0.01	0.608	O	|	|	|	|	1.23	8.917	0.00	0.01	0.604	O	|	|	|	|	1.22
4.000	0.00	0.01	0.608	O	|	|	|	|	1.23	9.000	0.00	0.01	0.604	O	|	|	|	|	1.22
4.083	0.00	0.01	0.608	O	|	|	|	|	1.23	9.083	0.00	0.01	0.604	O	|	|	|	|	1.22
4.167	0.00	0.01	0.608	O	|	|	|	|	1.23	9.167	0.00	0.01	0.604	O	|	|	|	|	1.22
4.250	0.00	0.01	0.608	O	|	|	|	|	1.23	9.250	0.00	0.01	0.604	O	|	|	|	|	1.22
4.333	0.00	0.01	0.608	O	|	|	|	|	1.23	9.333	0.00	0.01	0.604	O	|	|	|	|	1.22
4.417	0.00	0.01	0.608	O	|	|	|	|	1.23	9.417	0.00	0.01	0.604	O	|	|	|	|	1.22
4.500	0.00	0.01	0.608	O	|	|	|	|	1.23	9.500	0.00	0.01	0.604	O	|	|	|	|	1.22
4.583	0.00	0.01	0.608	O	|	|	|	|	1.23	9.583	0.00	0.01	0.604	O	|	|	|	|	1.22
4.667	0.00	0.01	0.608	O	|	|	|	|	1.23	9.667	0.00	0.01	0.604	O	|	|	|	|	1.22
4.750	0.00	0.01	0.608	O	|	|	|	|	1.23	9.750	0.00	0.01	0.604	O	|	|	|	|	1.22
4.833	0.00	0.01	0.608	O	|	|	|	|	1.23	9.833	0.00	0.01	0.604	O	|	|	|	|	1.22
4.917	0.00	0.01	0.608	O	|	|	|	|	1.22	9.917	0.00	0.01	0.604	O	|	|	|	|	1.22
5.000	0.00	0.01	0.608	O	|	|	|	|	1.22	10.000	0.00	0.01	0.603	O	|	|	|	|	1.22
5.083	0.00	0.01	0.607	O	|	|	|	|	1.22	10.083	0.00	0.01	0.603	O	|	|	|	|	1.22
5.167	0.00	0.01	0.607	O	|	|	|	|	1.22	10.167	0.00	0.01	0.603	O	|	|	|	|	1.22
5.250	0.00	0.01	0.607	O	|	|	|	|	1.22	10.250	0.00	0.01	0.603	O	|	|	|	|	1.22
5.333	0.00	0.01	0.607	O	|	|	|	|	1.22	10.333	0.00	0.01	0.603	O	|	|	|	|	1.22
5.417	0.00	0.01	0.607	O	|	|	|	|	1.22	10.417	0.00	0.01	0.603	O	|	|	|	|	1.22
5.500	0.00	0.01	0.607	O	|	|	|	|	1.22	10.500	0.00	0.01	0.603	O	|	|	|	|	1.22
5.583	0.00	0.01	0.607	O	|	|	|	|	1.22	10.583	0.00	0.01	0.603	O	|	|	|	|	1.22
5.667	0.00	0.01	0.607	O	|	|	|	|	1.22	10.667	0.00	0.01	0.603	O	|	|	|	|	1.22
5.750	0.00	0.01	0.607	O	|	|	|	|	1.22	10.750	0.00	0.01	0.603	O	|	|	|	|	1.22
5.833	0.00	0.01	0.607	O	|	|	|	|	1.22	10.833	0.00	0.01	0.603	O	|	|	|	|	1.22
5.917	0.00	0.01	0.607	O	|	|	|	|	1.22	10.917	0.00	0.01	0.603	O	|	|	|	|	1.22
6.000	0.00	0.01	0.607	O	|	|	|	|	1.22	11.000	0.00	0.01	0.603	O	|	|	|	|	1.22
6.083	0.00	0.01	0.607	O	|	|	|	|	1.22	11.083	0.00	0.01	0.603	O	|	|	|	|	1.21
6.167	0.00	0.01	0.607	O	|	|	|	|	1.22	11.167	0.00	0.01	0.603	O	|	|	|	|	1.21
6.250	0.00	0.01	0.606	O	|	|	|	|	1.22	11.250	0.00	0.01	0.602	O	|	|	|	|	1.21
6.333	0.00	0.01	0.606	O	|	|	|	|	1.22	11.333	0.00	0.01	0.602	O	|	|	|	|	1.21
6.417	0.00	0.01	0.606	O	|	|	|	|	1.22	11.417	0.00	0.01	0.602	O	|	|	|	|	1.21
6.500	0.00	0.01	0.606	O	|	|	|	|	1.22	11.500	0.00	0.01	0.602	O	|	|	|	|	1.21
6.583	0.00	0.01	0.606	O	|	|	|	|	1.22	11.583	0.00	0.01	0.602	O	|	|	|	|	1.21
6.667	0.00	0.01	0.606	O	|	|	|	|	1.22	11.667	0.00	0.01	0.602	O	|	|	|	|	1.21
6.750	0.00	0.01	0.606	O	|	|	|	|	1.22	11.750	0.00	0.01	0.602	O	|	|	|	|	1.21
6.833	0.00	0.01	0.606	O	|	|	|	|	1.22	11.833	0.00	0.01	0.602	O	|	|	|	|	1.21
6.917	0.00	0.01	0.606	O	|	|	|	|	1.22	11.917	0.00	0.01	0.602	O	|	|	|	|	1.21
7.000	0.00	0.01	0.606	O	|	|	|	|	1.22	12.000	0.00	0.01	0.602	O	|	|	|	|	1.21
7.083	0.00	0.01	0.606	O	|	|	|	|	1.22	12.083	0.00	0.01	0.602	O	|	|	|	|	1.21
7.167	0.00	0.01	0.606	O	|	|	|	|	1.22	12.167	0.00	0.01	0.602	O	|	|	|	|	1.21
7.250	0.00	0.01	0.606	O	|	|	|	|	1.22	12.250	0.00	0.01	0.602	O	|	|	|	|	1.21
7.333	0.00	0.01	0.606	O	|	|	|	|	1.22	12.333	0.00	0.01	0.602	O	|	|	|	|	1.21
7.417	0.00	0.01	0.606	O	|	|	|	|	1.22	12.417	0.00	0.01	0.602	O	|	|	|	|	1.21
7.500	0.00	0.01	0.605	O	|	|	|	|	1.22	12.500	0.00	0.01	0.601	O	|	|	|	|	1.21
7.583	0.00	0.01	0.605	O	|	|	|	|	1.22	12.583	0.00	0.01	0.601	O	|	|	|	|	1.21
7.667	0.00	0.01	0.605	O	|	|	|	|	1.22	12.667	0.00	0.01	0.601	O	|	|	|	|	1.21
7.750	0.00	0.01	0.605	O	|	|	|	|	1.22	12.750	0.00	0.01	0.601	O	|	|	|	|	1.21
7.833	0.00	0.01	0.605	O	|	|	|	|	1.22	12.833	0.00	0.01	0.601	O	|	|	|	|	1.21
7.917	0.00	0.01	0.605	O	|	|	|	|	1.22	12.917	0.00	0.01	0.601	O	|	|	|	|	1.21
8.000	0.00	0.01	0.605	O	|	|	|	|	1.22	13.000	0.00	0.01	0.601	O	|	|	|	|	1.21
8.083	0.00	0.01	0.605	O	|	|	|	|	1.22	13.083	0.00	0.01	0.601	O	|	|	|	|	1.21
8.167	0.00	0.01	0.605	O	|	|	|	|	1.22	13.167	0.00	0.01	0.601	O	|	|	|	|	1.21
8.250	0.00	0.01	0.605	O	|	|	|	|	1.22	13.250	0.00	0.01	0.601	O	|	|	|	|	1.21
8.333	0.00	0.01	0.605	O	|	|	|	|	1.22	13.333	0.00	0.01	0.601	O	|	|	|	|	1.21
8.417	0.00	0.01	0.605	O	|	|	|	|	1.22	13.417	0.00	0.01	0.601	O	|	|	|	|	1.21
8.500	0.00	0.01	0.605	O	|	|	|	|	1.22	13.500	0.00	0.01	0.601	O	|	|	|	|	1.21
8.583	0.00	0.01	0.605	O	|	|	|	|	1.22	13.583	0.00	0.01	0.601	O	|	|	|	|	1.21
8.667	0.00	0.01	0.605	O	|	|	|	|	1.22	13.667	0.00	0.01	0.601	O	|	|	|	|	1.21
8.750	0.00	0.01	0.604	O	|	|	|	|	1.22	13.750	0.00	0.01	0.600	O	|	|	|	|	1.21
8.833	0.00	0.01	0.604	O	|	|	|	|	1.22	13.833	0.00	0.01	0.600	O	|	|	|	|	1.21

13.917	0.00	0.01	0.600	O	|	|	|	|	1.21	18.917	0.00	0.01	0.596	O	|	|	|	|	1.20
14.000	0.00	0.01	0.600	O	|	|	|	|	1.21	19.000	0.00	0.01	0.596	O	|	|	|	|	1.20
14.083	0.00	0.01	0.600	O	|	|	|	|	1.21	19.083	0.00	0.01	0.596	O	|	|	|	|	1.20
14.167	0.00	0.01	0.600	O	|	|	|	|	1.21	19.167	0.00	0.01	0.596	O	|	|	|	|	1.20
14.250	0.00	0.01	0.600	O	|	|	|	|	1.21	19.250	0.00	0.01	0.596	O	|	|	|	|	1.20
14.333	0.00	0.01	0.600	O	|	|	|	|	1.21	19.333	0.00	0.01	0.596	O	|	|	|	|	1.20
14.417	0.00	0.01	0.600	O	|	|	|	|	1.21	19.417	0.00	0.01	0.596	O	|	|	|	|	1.20
14.500	0.00	0.01	0.600	O	|	|	|	|	1.21	19.500	0.00	0.01	0.596	O	|	|	|	|	1.20
14.583	0.00	0.01	0.600	O	|	|	|	|	1.21	19.583	0.00	0.01	0.596	O	|	|	|	|	1.20
14.667	0.00	0.01	0.600	O	|	|	|	|	1.21	19.667	0.00	0.01	0.596	O	|	|	|	|	1.20
14.750	0.00	0.01	0.600	O	|	|	|	|	1.21	19.750	0.00	0.01	0.596	O	|	|	|	|	1.20
14.833	0.00	0.01	0.600	O	|	|	|	|	1.21	19.833	0.00	0.01	0.596	O	|	|	|	|	1.20
14.917	0.00	0.01	0.600	O	|	|	|	|	1.21	19.917	0.00	0.01	0.596	O	|	|	|	|	1.20
15.000	0.00	0.01	0.599	O	|	|	|	|	1.21	20.000	0.00	0.01	0.595	O	|	|	|	|	1.20
15.083	0.00	0.01	0.599	O	|	|	|	|	1.21	20.083	0.00	0.01	0.595	O	|	|	|	|	1.20
15.167	0.00	0.01	0.599	O	|	|	|	|	1.21	20.167	0.00	0.01	0.595	O	|	|	|	|	1.20
15.250	0.00	0.01	0.599	O	|	|	|	|	1.21	20.250	0.00	0.01	0.595	O	|	|	|	|	1.20
15.333	0.00	0.01	0.599	O	|	|	|	|	1.21	20.333	0.00	0.01	0.595	O	|	|	|	|	1.20
15.417	0.00	0.01	0.599	O	|	|	|	|	1.21	20.417	0.00	0.01	0.595	O	|	|	|	|	1.20
15.500	0.00	0.01	0.599	O	|	|	|	|	1.21	20.500	0.00	0.01	0.595	O	|	|	|	|	1.20
15.583	0.00	0.01	0.599	O	|	|	|	|	1.21	20.583	0.00	0.01	0.595	O	|	|	|	|	1.20
15.667	0.00	0.01	0.599	O	|	|	|	|	1.21	20.667	0.00	0.01	0.595	O	|	|	|	|	1.20
15.750	0.00	0.01	0.599	O	|	|	|	|	1.21	20.750	0.00	0.01	0.595	O	|	|	|	|	1.20
15.833	0.00	0.01	0.599	O	|	|	|	|	1.21	20.833	0.00	0.01	0.595	O	|	|	|	|	1.20
15.917	0.00	0.01	0.599	O	|	|	|	|	1.21	20.917	0.00	0.01	0.595	O	|	|	|	|	1.20
16.000	0.00	0.01	0.599	O	|	|	|	|	1.21	21.000	0.00	0.01	0.595	O	|	|	|	|	1.20
16.083	0.00	0.01	0.599	O	|	|	|	|	1.21	21.083	0.00	0.01	0.595	O	|	|	|	|	1.20
16.167	0.00	0.01	0.599	O	|	|	|	|	1.21	21.167	0.00	0.01	0.595	O	|	|	|	|	1.20
16.250	0.00	0.01	0.598	O	|	|	|	|	1.21	21.250	0.00	0.01	0.594	O	|	|	|	|	1.20
16.333	0.00	0.01	0.598	O	|	|	|	|	1.21	21.333	0.00	0.01	0.594	O	|	|	|	|	1.20
16.417	0.00	0.01	0.598	O	|	|	|	|	1.21	21.417	0.00	0.01	0.594	O	|	|	|	|	1.20
16.500	0.00	0.01	0.598	O	|	|	|	|	1.21	21.500	0.00	0.01	0.594	O	|	|	|	|	1.20
16.583	0.00	0.01	0.598	O	|	|	|	|	1.21	21.583	0.00	0.01	0.594	O	|	|	|	|	1.20
16.667	0.00	0.01	0.598	O	|	|	|	|	1.21	21.667	0.00	0.01	0.594	O	|	|	|	|	1.20
16.750	0.00	0.01	0.598	O	|	|	|	|	1.21	21.750	0.00	0.01	0.594	O	|	|	|	|	1.20
16.833	0.00	0.01	0.598	O	|	|	|	|	1.21	21.833	0.00	0.01	0.594	O	|	|	|	|	1.20
16.917	0.00	0.01	0.598	O	|	|	|	|	1.21	21.917	0.00	0.01	0.594	O	|	|	|	|	1.20
17.000	0.00	0.01	0.598	O	|	|	|	|	1.21	22.000	0.00	0.01	0.594	O	|	|	|	|	1.20
17.083	0.00	0.01	0.598	O	|	|	|	|	1.21	22.083	0.00	0.01	0.594	O	|	|	|	|	1.20
17.167	0.00	0.01	0.598	O	|	|	|	|	1.21	22.167	0.00	0.01	0.594	O	|	|	|	|	1.20
17.250	0.00	0.01	0.598	O	|	|	|	|	1.20	22.250	0.00	0.01	0.594	O	|	|	|	|	1.20
17.333	0.00	0.01	0.598	O	|	|	|	|	1.20	22.333	0.00	0.01	0.594	O	|	|	|	|	1.20
17.417	0.00	0.01	0.598	O	|	|	|	|	1.20	22.417	0.00	0.01	0.594	O	|	|	|	|	1.20
17.500	0.00	0.01	0.597	O	|	|	|	|	1.20	22.500	0.00	0.01	0.593	O	|	|	|	|	1.20
17.583	0.00	0.01	0.597	O	|	|	|	|	1.20	22.583	0.00	0.01	0.593	O	|	|	|	|	1.20
17.667	0.00	0.01	0.597	O	|	|	|	|	1.20	22.667	0.00	0.01	0.593	O	|	|	|	|	1.20
17.750	0.00	0.01	0.597	O	|	|	|	|	1.20	22.750	0.00	0.01	0.593	O	|	|	|	|	1.20
17.833	0.00	0.01	0.597	O	|	|	|	|	1.20	22.833	0.00	0.01	0.593	O	|	|	|	|	1.20
17.917	0.00	0.01	0.597	O	|	|	|	|	1.20	22.917	0.00	0.01	0.593	O	|	|	|	|	1.20
18.000	0.00	0.01	0.597	O	|	|	|	|	1.20	23.000	0.00	0.01	0.593	O	|	|	|	|	1.20
18.083	0.00	0.01	0.597	O	|	|	|	|	1.20	23.083	0.00	0.01	0.593	O	|	|	|	|	1.20
18.167	0.00	0.01	0.597	O	|	|	|	|	1.20	23.167	0.00	0.01	0.593	O	|	|	|	|	1.20
18.250	0.00	0.01	0.597	O	|	|	|	|	1.20	23.250	0.00	0.01	0.593	O	|	|	|	|	1.20
18.333	0.00	0.01	0.597	O	|	|	|	|	1.20	23.333	0.00	0.01	0.593	O	|	|	|	|	1.20
18.417	0.00	0.01	0.597	O	|	|	|	|	1.20	23.417	0.00	0.01	0.593	O	|	|	|	|	1.20
18.500	0.00	0.01	0.597	O	|	|	|	|	1.20	23.500	0.00	0.01	0.593	O	|	|	|	|	1.19
18.583	0.00	0.01	0.597	O	|	|	|	|	1.20	23.583	0.00	0.01	0.593	O	|	|	|	|	1.19
18.667	0.00	0.01	0.597	O	|	|	|	|	1.20	23.667	0.00	0.01	0.593	O	|	|	|	|	1.19
18.750	0.00	0.01	0.596	O	|	|	|	|	1.20	23.750	0.00	0.01	0.593	O	|	|	|	|	1.19
18.833	0.00	0.01	0.596	O	|	|	|	|	1.20	23.833	0.00	0.01	0.592	O	|	|	|	|	1.19

23.917	0.00	0.01	0.592	O	|	|	|	|	1.19	28.917	0.00	0.01	0.588	O	|	|	|	|	1.19
24.000	0.00	0.01	0.592	O	|	|	|	|	1.19	29.000	0.00	0.01	0.588	O	|	|	|	|	1.19
24.083	0.00	0.01	0.592	O	|	|	|	|	1.19	29.083	0.00	0.01	0.588	O	|	|	|	|	1.19
24.167	0.00	0.01	0.592	O	|	|	|	|	1.19	29.167	0.00	0.01	0.588	O	|	|	|	|	1.19
24.250	0.00	0.01	0.592	O	|	|	|	|	1.19	29.250	0.00	0.01	0.588	O	|	|	|	|	1.19
24.333	0.00	0.01	0.592	O	|	|	|	|	1.19	29.333	0.00	0.01	0.588	O	|	|	|	|	1.19
24.417	0.00	0.01	0.592	O	|	|	|	|	1.19	29.417	0.00	0.01	0.588	O	|	|	|	|	1.19
24.500	0.00	0.01	0.592	O	|	|	|	|	1.19	29.500	0.00	0.01	0.588	O	|	|	|	|	1.19
24.583	0.00	0.01	0.592	O	|	|	|	|	1.19	29.583	0.00	0.01	0.588	O	|	|	|	|	1.19
24.667	0.00	0.01	0.592	O	|	|	|	|	1.19	29.667	0.00	0.01	0.588	O	|	|	|	|	1.19
24.750	0.00	0.01	0.592	O	|	|	|	|	1.19	29.750	0.00	0.01	0.588	O	|	|	|	|	1.19
24.833	0.00	0.01	0.592	O	|	|	|	|	1.19	29.833	0.00	0.01	0.588	O	|	|	|	|	1.18
24.917	0.00	0.01	0.592	O	|	|	|	|	1.19	29.917	0.00	0.01	0.588	O	|	|	|	|	1.18
25.000	0.00	0.01	0.592	O	|	|	|	|	1.19	30.000	0.00	0.01	0.588	O	|	|	|	|	1.18
25.083	0.00	0.01	0.591	O	|	|	|	|	1.19	30.083	0.00	0.01	0.588	O	|	|	|	|	1.18
25.167	0.00	0.01	0.591	O	|	|	|	|	1.19	30.167	0.00	0.01	0.587	O	|	|	|	|	1.18
25.250	0.00	0.01	0.591	O	|	|	|	|	1.19	30.250	0.00	0.01	0.587	O	|	|	|	|	1.18
25.333	0.00	0.01	0.591	O	|	|	|	|	1.19	30.333	0.00	0.01	0.587	O	|	|	|	|	1.18
25.417	0.00	0.01	0.591	O	|	|	|	|	1.19	30.417	0.00	0.01	0.587	O	|	|	|	|	1.18
25.500	0.00	0.01	0.591	O	|	|	|	|	1.19	30.500	0.00	0.01	0.587	O	|	|	|	|	1.18
25.583	0.00	0.01	0.591	O	|	|	|	|	1.19	30.583	0.00	0.01	0.587	O	|	|	|	|	1.18
25.667	0.00	0.01	0.591	O	|	|	|	|	1.19	30.667	0.00	0.01	0.587	O	|	|	|	|	1.18
25.750	0.00	0.01	0.591	O	|	|	|	|	1.19	30.750	0.00	0.01	0.587	O	|	|	|	|	1.18
25.833	0.00	0.01	0.591	O	|	|	|	|	1.19	30.833	0.00	0.01	0.587	O	|	|	|	|	1.18
25.917	0.00	0.01	0.591	O	|	|	|	|	1.19	30.917	0.00	0.01	0.587	O	|	|	|	|	1.18
26.000	0.00	0.01	0.591	O	|	|	|	|	1.19	31.000	0.00	0.01	0.587	O	|	|	|	|	1.18
26.083	0.00	0.01	0.591	O	|	|	|	|	1.19	31.083	0.00	0.01	0.587	O	|	|	|	|	1.18
26.167	0.00	0.01	0.591	O	|	|	|	|	1.19	31.167	0.00	0.01	0.587	O	|	|	|	|	1.18
26.250	0.00	0.01	0.591	O	|	|	|	|	1.19	31.250	0.00	0.01	0.587	O	|	|	|	|	1.18
26.333	0.00	0.01	0.590	O	|	|	|	|	1.19	31.333	0.00	0.01	0.587	O	|	|	|	|	1.18
26.417	0.00	0.01	0.590	O	|	|	|	|	1.19	31.417	0.00	0.01	0.586	O	|	|	|	|	1.18
26.500	0.00	0.01	0.590	O	|	|	|	|	1.19	31.500	0.00	0.01	0.586	O	|	|	|	|	1.18
26.583	0.00	0.01	0.590	O	|	|	|	|	1.19	31.583	0.00	0.01	0.586	O	|	|	|	|	1.18
26.667	0.00	0.01	0.590	O	|	|	|	|	1.19	31.667	0.00	0.01	0.586	O	|	|	|	|	1.18
26.750	0.00	0.01	0.590	O	|	|	|	|	1.19	31.750	0.00	0.01	0.586	O	|	|	|	|	1.18
26.833	0.00	0.01	0.590	O	|	|	|	|	1.19	31.833	0.00	0.01	0.586	O	|	|	|	|	1.18
26.917	0.00	0.01	0.590	O	|	|	|	|	1.19	31.917	0.00	0.01	0.586	O	|	|	|	|	1.18
27.000	0.00	0.01	0.590	O	|	|	|	|	1.19	32.000	0.00	0.01	0.586	O	|	|	|	|	1.18
27.083	0.00	0.01	0.590	O	|	|	|	|	1.19	32.083	0.00	0.01	0.586	O	|	|	|	|	1.18
27.167	0.00	0.01	0.590	O	|	|	|	|	1.19	32.167	0.00	0.01	0.586	O	|	|	|	|	1.18
27.250	0.00	0.01	0.590	O	|	|	|	|	1.19	32.250	0.00	0.01	0.586	O	|	|	|	|	1.18
27.333	0.00	0.01	0.590	O	|	|	|	|	1.19	32.333	0.00	0.01	0.586	O	|	|	|	|	1.18
27.417	0.00	0.01	0.590	O	|	|	|	|	1.19	32.417	0.00	0.01	0.586	O	|	|	|	|	1.18
27.500	0.00	0.01	0.590	O	|	|	|	|	1.19	32.500	0.00	0.01	0.586	O	|	|	|	|	1.18
27.583	0.00	0.01	0.589	O	|	|	|	|	1.19	32.583	0.00	0.01	0.586	O	|	|	|	|	1.18
27.667	0.00	0.01	0.589	O	|	|	|	|	1.19	32.667	0.00	0.01	0.586	O	|	|	|	|	1.18
27.750	0.00	0.01	0.589	O	|	|	|	|	1.19	32.750	0.00	0.01	0.585	O	|	|	|	|	1.18
27.833	0.00	0.01	0.589	O	|	|	|	|	1.19	32.833	0.00	0.01	0.585	O	|	|	|	|	1.18
27.917	0.00	0.01	0.589	O	|	|	|	|	1.19	32.917	0.00	0.01	0.585	O	|	|	|	|	1.18
28.000	0.00	0.01	0.589	O	|	|	|	|	1.19	33.000	0.00	0.01	0.585	O	|	|	|	|	1.18
28.083	0.00	0.01	0.589	O	|	|	|	|	1.19	33.083	0.00	0.01	0.585	O	|	|	|	|	1.18
28.167	0.00	0.01	0.589	O	|	|	|	|	1.19	33.167	0.00	0.01	0.585	O	|	|	|	|	1.18
28.250	0.00	0.01	0.589	O	|	|	|	|	1.19	33.250	0.00	0.01	0.585	O	|	|	|	|	1.18
28.333	0.00	0.01	0.589	O	|	|	|	|	1.19	33.333	0.00	0.01	0.585	O	|	|	|	|	1.18
28.417	0.00	0.01	0.589	O	|	|	|	|	1.19	33.417	0.00	0.01	0.585	O	|	|	|	|	1.18
28.500	0.00	0.01	0.589	O	|	|	|	|	1.19	33.500	0.00	0.01	0.585	O	|	|	|	|	1.18
28.583	0.00	0.01	0.589	O	|	|	|	|	1.19	33.583	0.00	0.01	0.585	O	|	|	|	|	1.18
28.667	0.00	0.01	0.589	O	|	|	|	|	1.19	33.667	0.00	0.01	0.585	O	|	|	|	|	1.18
28.750	0.00	0.01	0.589	O	|	|	|	|	1.19	33.750	0.00	0.01	0.585	O	|	|	|	|	1.18
28.833	0.00	0.01	0.589	O	|	|	|	|	1.19	33.833	0.00	0.01	0.585	O	|	|	|	|	1.18

33.917	0.00	0.01	0.585	O	|	|	|	|	1.18	38.917	0.00	0.01	0.581	O	|	|	|	|	1.17
34.000	0.00	0.01	0.584	O	|	|	|	|	1.18	39.000	0.00	0.01	0.581	O	|	|	|	|	1.17
34.083	0.00	0.01	0.584	O	|	|	|	|	1.18	39.083	0.00	0.01	0.581	O	|	|	|	|	1.17
34.167	0.00	0.01	0.584	O	|	|	|	|	1.18	39.167	0.00	0.01	0.580	O	|	|	|	|	1.17
34.250	0.00	0.01	0.584	O	|	|	|	|	1.18	39.250	0.00	0.01	0.580	O	|	|	|	|	1.17
34.333	0.00	0.01	0.584	O	|	|	|	|	1.18	39.333	0.00	0.01	0.580	O	|	|	|	|	1.17
34.417	0.00	0.01	0.584	O	|	|	|	|	1.18	39.417	0.00	0.01	0.580	O	|	|	|	|	1.17
34.500	0.00	0.01	0.584	O	|	|	|	|	1.18	39.500	0.00	0.01	0.580	O	|	|	|	|	1.17
34.583	0.00	0.01	0.584	O	|	|	|	|	1.18	39.583	0.00	0.01	0.580	O	|	|	|	|	1.17
34.667	0.00	0.01	0.584	O	|	|	|	|	1.18	39.667	0.00	0.01	0.580	O	|	|	|	|	1.17
34.750	0.00	0.01	0.584	O	|	|	|	|	1.18	39.750	0.00	0.01	0.580	O	|	|	|	|	1.17
34.833	0.00	0.01	0.584	O	|	|	|	|	1.18	39.833	0.00	0.01	0.580	O	|	|	|	|	1.17
34.917	0.00	0.01	0.584	O	|	|	|	|	1.18	39.917	0.00	0.01	0.580	O	|	|	|	|	1.17
35.000	0.00	0.01	0.584	O	|	|	|	|	1.18	40.000	0.00	0.01	0.580	O	|	|	|	|	1.17
35.083	0.00	0.01	0.584	O	|	|	|	|	1.18	40.083	0.00	0.01	0.580	O	|	|	|	|	1.17
35.167	0.00	0.01	0.584	O	|	|	|	|	1.18	40.167	0.00	0.01	0.580	O	|	|	|	|	1.17
35.250	0.00	0.01	0.583	O	|	|	|	|	1.18	40.250	0.00	0.01	0.580	O	|	|	|	|	1.17
35.333	0.00	0.01	0.583	O	|	|	|	|	1.18	40.333	0.00	0.01	0.580	O	|	|	|	|	1.17
35.417	0.00	0.01	0.583	O	|	|	|	|	1.18	40.417	0.00	0.01	0.579	O	|	|	|	|	1.17
35.500	0.00	0.01	0.583	O	|	|	|	|	1.18	40.500	0.00	0.01	0.579	O	|	|	|	|	1.17
35.583	0.00	0.01	0.583	O	|	|	|	|	1.18	40.583	0.00	0.01	0.579	O	|	|	|	|	1.17
35.667	0.00	0.01	0.583	O	|	|	|	|	1.18	40.667	0.00	0.01	0.579	O	|	|	|	|	1.17
35.750	0.00	0.01	0.583	O	|	|	|	|	1.18	40.750	0.00	0.01	0.579	O	|	|	|	|	1.17
35.833	0.00	0.01	0.583	O	|	|	|	|	1.18	40.833	0.00	0.01	0.579	O	|	|	|	|	1.17
35.917	0.00	0.01	0.583	O	|	|	|	|	1.18	40.917	0.00	0.01	0.579	O	|	|	|	|	1.17
36.000	0.00	0.01	0.583	O	|	|	|	|	1.18	41.000	0.00	0.01	0.579	O	|	|	|	|	1.17
36.083	0.00	0.01	0.583	O	|	|	|	|	1.18	41.083	0.00	0.01	0.579	O	|	|	|	|	1.17
36.167	0.00	0.01	0.583	O	|	|	|	|	1.17	41.167	0.00	0.01	0.579	O	|	|	|	|	1.17
36.250	0.00	0.01	0.583	O	|	|	|	|	1.17	41.250	0.00	0.01	0.579	O	|	|	|	|	1.17
36.333	0.00	0.01	0.583	O	|	|	|	|	1.17	41.333	0.00	0.01	0.579	O	|	|	|	|	1.17
36.417	0.00	0.01	0.583	O	|	|	|	|	1.17	41.417	0.00	0.01	0.579	O	|	|	|	|	1.17
36.500	0.00	0.01	0.583	O	|	|	|	|	1.17	41.500	0.00	0.01	0.579	O	|	|	|	|	1.17
36.583	0.00	0.01	0.582	O	|	|	|	|	1.17	41.583	0.00	0.01	0.579	O	|	|	|	|	1.17
36.667	0.00	0.01	0.582	O	|	|	|	|	1.17	41.667	0.00	0.01	0.579	O	|	|	|	|	1.17
36.750	0.00	0.01	0.582	O	|	|	|	|	1.17	41.750	0.00	0.01	0.578	O	|	|	|	|	1.17
36.833	0.00	0.01	0.582	O	|	|	|	|	1.17	41.833	0.00	0.01	0.578	O	|	|	|	|	1.17
36.917	0.00	0.01	0.582	O	|	|	|	|	1.17	41.917	0.00	0.01	0.578	O	|	|	|	|	1.17
37.000	0.00	0.01	0.582	O	|	|	|	|	1.17	42.000	0.00	0.01	0.578	O	|	|	|	|	1.17
37.083	0.00	0.01	0.582	O	|	|	|	|	1.17	42.083	0.00	0.01	0.578	O	|	|	|	|	1.17
37.167	0.00	0.01	0.582	O	|	|	|	|	1.17	42.167	0.00	0.01	0.578	O	|	|	|	|	1.17
37.250	0.00	0.01	0.582	O	|	|	|	|	1.17	42.250	0.00	0.01	0.578	O	|	|	|	|	1.17
37.333	0.00	0.01	0.582	O	|	|	|	|	1.17	42.333	0.00	0.01	0.578	O	|	|	|	|	1.17
37.417	0.00	0.01	0.582	O	|	|	|	|	1.17	42.417	0.00	0.01	0.578	O	|	|	|	|	1.17
37.500	0.00	0.01	0.582	O	|	|	|	|	1.17	42.500	0.00	0.01	0.578	O	|	|	|	|	1.17
37.583	0.00	0.01	0.582	O	|	|	|	|	1.17	42.583	0.00	0.01	0.578	O	|	|	|	|	1.16
37.667	0.00	0.01	0.582	O	|	|	|	|	1.17	42.667	0.00	0.01	0.578	O	|	|	|	|	1.16
37.750	0.00	0.01	0.582	O	|	|	|	|	1.17	42.750	0.00	0.01	0.578	O	|	|	|	|	1.16
37.833	0.00	0.01	0.581	O	|	|	|	|	1.17	42.833	0.00	0.01	0.578	O	|	|	|	|	1.16
37.917	0.00	0.01	0.581	O	|	|	|	|	1.17	42.917	0.00	0.01	0.578	O	|	|	|	|	1.16
38.000	0.00	0.01	0.581	O	|	|	|	|	1.17	43.000	0.00	0.01	0.577	O	|	|	|	|	1.16
38.083	0.00	0.01	0.581	O	|	|	|	|	1.17	43.083	0.00	0.01	0.577	O	|	|	|	|	1.16
38.167	0.00	0.01	0.581	O	|	|	|	|	1.17	43.167	0.00	0.01	0.577	O	|	|	|	|	1.16
38.250	0.00	0.01	0.581	O	|	|	|	|	1.17	43.250	0.00	0.01	0.577	O	|	|	|	|	1.16
38.333	0.00	0.01	0.581	O	|	|	|	|	1.17	43.333	0.00	0.01	0.577	O	|	|	|	|	1.16
38.417	0.00	0.01	0.581	O	|	|	|	|	1.17	43.417	0.00	0.01	0.577	O	|	|	|	|	1.16
38.500	0.00	0.01	0.581	O	|	|	|	|	1.17	43.500	0.00	0.01	0.577	O	|	|	|	|	1.16
38.583	0.00	0.01	0.581	O	|	|	|	|	1.17	43.583	0.00	0.01	0.577	O	|	|	|	|	1.16
38.667	0.00	0.01	0.581	O	|	|	|	|	1.17	43.667	0.00	0.01	0.577	O	|	|	|	|	1.16
38.750	0.00	0.01	0.581	O	|	|	|	|	1.17	43.750	0.00	0.01	0.577	O	|	|	|	|	1.16
38.833	0.00	0.01	0.581	O	|	|	|	|	1.17	43.833	0.00	0.01	0.577	O	|	|	|	|	1.16

43.917	0.00	0.01	0.577	O	|	|	|	|	1.16	48.917	0.00	0.01	0.573	O	|	|	|	|	1.16
44.000	0.00	0.01	0.577	O	|	|	|	|	1.16	49.000	0.00	0.01	0.573	O	|	|	|	|	1.16
44.083	0.00	0.01	0.577	O	|	|	|	|	1.16	49.083	0.00	0.01	0.573	O	|	|	|	|	1.15
44.167	0.00	0.01	0.577	O	|	|	|	|	1.16	49.167	0.00	0.01	0.573	O	|	|	|	|	1.15
44.250	0.00	0.01	0.577	O	|	|	|	|	1.16	49.250	0.00	0.01	0.573	O	|	|	|	|	1.15
44.333	0.00	0.01	0.576	O	|	|	|	|	1.16	49.333	0.00	0.01	0.573	O	|	|	|	|	1.15
44.417	0.00	0.01	0.576	O	|	|	|	|	1.16	49.417	0.00	0.01	0.573	O	|	|	|	|	1.15
44.500	0.00	0.01	0.576	O	|	|	|	|	1.16	49.500	0.00	0.01	0.573	O	|	|	|	|	1.15
44.583	0.00	0.01	0.576	O	|	|	|	|	1.16	49.583	0.00	0.01	0.572	O	|	|	|	|	1.15
44.667	0.00	0.01	0.576	O	|	|	|	|	1.16	49.667	0.00	0.01	0.572	O	|	|	|	|	1.15
44.750	0.00	0.01	0.576	O	|	|	|	|	1.16	49.750	0.00	0.01	0.572	O	|	|	|	|	1.15
44.833	0.00	0.01	0.576	O	|	|	|	|	1.16	49.833	0.00	0.01	0.572	O	|	|	|	|	1.15
44.917	0.00	0.01	0.576	O	|	|	|	|	1.16	49.917	0.00	0.01	0.572	O	|	|	|	|	1.15
45.000	0.00	0.01	0.576	O	|	|	|	|	1.16	50.000	0.00	0.01	0.572	O	|	|	|	|	1.15
45.083	0.00	0.01	0.576	O	|	|	|	|	1.16	50.083	0.00	0.01	0.572	O	|	|	|	|	1.15
45.167	0.00	0.01	0.576	O	|	|	|	|	1.16	50.167	0.00	0.01	0.572	O	|	|	|	|	1.15
45.250	0.00	0.01	0.576	O	|	|	|	|	1.16	50.250	0.00	0.01	0.572	O	|	|	|	|	1.15
45.333	0.00	0.01	0.576	O	|	|	|	|	1.16	50.333	0.00	0.01	0.572	O	|	|	|	|	1.15
45.417	0.00	0.01	0.576	O	|	|	|	|	1.16	50.417	0.00	0.01	0.572	O	|	|	|	|	1.15
45.500	0.00	0.01	0.576	O	|	|	|	|	1.16	50.500	0.00	0.01	0.572	O	|	|	|	|	1.15
45.583	0.00	0.01	0.576	O	|	|	|	|	1.16	50.583	0.00	0.01	0.572	O	|	|	|	|	1.15
45.667	0.00	0.01	0.575	O	|	|	|	|	1.16	50.667	0.00	0.01	0.572	O	|	|	|	|	1.15
45.750	0.00	0.01	0.575	O	|	|	|	|	1.16	50.750	0.00	0.01	0.572	O	|	|	|	|	1.15
45.833	0.00	0.01	0.575	O	|	|	|	|	1.16	50.833	0.00	0.01	0.571	O	|	|	|	|	1.15
45.917	0.00	0.01	0.575	O	|	|	|	|	1.16	50.917	0.00	0.01	0.571	O	|	|	|	|	1.15
46.000	0.00	0.01	0.575	O	|	|	|	|	1.16	51.000	0.00	0.01	0.571	O	|	|	|	|	1.15
46.083	0.00	0.01	0.575	O	|	|	|	|	1.16	51.083	0.00	0.01	0.571	O	|	|	|	|	1.15
46.167	0.00	0.01	0.575	O	|	|	|	|	1.16	51.167	0.00	0.01	0.571	O	|	|	|	|	1.15
46.250	0.00	0.01	0.575	O	|	|	|	|	1.16	51.250	0.00	0.01	0.571	O	|	|	|	|	1.15
46.333	0.00	0.01	0.575	O	|	|	|	|	1.16	51.333	0.00	0.01	0.571	O	|	|	|	|	1.15
46.417	0.00	0.01	0.575	O	|	|	|	|	1.16	51.417	0.00	0.01	0.571	O	|	|	|	|	1.15
46.500	0.00	0.01	0.575	O	|	|	|	|	1.16	51.500	0.00	0.01	0.571	O	|	|	|	|	1.15
46.583	0.00	0.01	0.575	O	|	|	|	|	1.16	51.583	0.00	0.01	0.571	O	|	|	|	|	1.15
46.667	0.00	0.01	0.575	O	|	|	|	|	1.16	51.667	0.00	0.01	0.571	O	|	|	|	|	1.15
46.750	0.00	0.01	0.575	O	|	|	|	|	1.16	51.750	0.00	0.01	0.571	O	|	|	|	|	1.15
46.833	0.00	0.01	0.575	O	|	|	|	|	1.16	51.833	0.00	0.01	0.571	O	|	|	|	|	1.15
46.917	0.00	0.01	0.574	O	|	|	|	|	1.16	51.917	0.00	0.01	0.571	O	|	|	|	|	1.15
47.000	0.00	0.01	0.574	O	|	|	|	|	1.16	52.000	0.00	0.01	0.571	O	|	|	|	|	1.15
47.083	0.00	0.01	0.574	O	|	|	|	|	1.16	52.083	0.00	0.01	0.571	O	|	|	|	|	1.15
47.167	0.00	0.01	0.574	O	|	|	|	|	1.16	52.167	0.00	0.01	0.570	O	|	|	|	|	1.15
47.250	0.00	0.01	0.574	O	|	|	|	|	1.16	52.250	0.00	0.01	0.570	O	|	|	|	|	1.15
47.333	0.00	0.01	0.574	O	|	|	|	|	1.16	52.333	0.00	0.01	0.570	O	|	|	|	|	1.15
47.417	0.00	0.01	0.574	O	|	|	|	|	1.16	52.417	0.00	0.01	0.570	O	|	|	|	|	1.15
47.500	0.00	0.01	0.574	O	|	|	|	|	1.16	52.500	0.00	0.01	0.570	O	|	|	|	|	1.15
47.583	0.00	0.01	0.574	O	|	|	|	|	1.16	52.583	0.00	0.01	0.570	O	|	|	|	|	1.15
47.667	0.00	0.01	0.574	O	|	|	|	|	1.16	52.667	0.00	0.01	0.570	O	|	|	|	|	1.15
47.750	0.00	0.01	0.574	O	|	|	|	|	1.16	52.750	0.00	0.01	0.570	O	|	|	|	|	1.15
47.833	0.00	0.01	0.574	O	|	|	|	|	1.16	52.833	0.00	0.01	0.570	O	|	|	|	|	1.15
47.917	0.00	0.01	0.574	O	|	|	|	|	1.16	52.917	0.00	0.01	0.570	O	|	|	|	|	1.15
48.000	0.00	0.01	0.574	O	|	|	|	|	1.16	53.000	0.00	0.01	0.570	O	|	|	|	|	1.15
48.083	0.00	0.01	0.574	O	|	|	|	|	1.16	53.083	0.00	0.01	0.570	O	|	|	|	|	1.15
48.167	0.00	0.01	0.574	O	|	|	|	|	1.16	53.167	0.00	0.01	0.570	O	|	|	|	|	1.15
48.250	0.00	0.01	0.573	O	|	|	|	|	1.16	53.250	0.00	0.01	0.570	O	|	|	|	|	1.15
48.333	0.00	0.01	0.573	O	|	|	|	|	1.16	53.333	0.00	0.01	0.570	O	|	|	|	|	1.15
48.417	0.00	0.01	0.573	O	|	|	|	|	1.16	53.417	0.00	0.01	0.570	O	|	|	|	|	1.15
48.500	0.00	0.01	0.573	O	|	|	|	|	1.16	53.500	0.00	0.01	0.569	O	|	|	|	|	1.15
48.583	0.00	0.01	0.573	O	|	|	|	|	1.16	53.583	0.00	0.01	0.569	O	|	|	|	|	1.15
48.667	0.00	0.01	0.573	O	|	|	|	|	1.16	53.667	0.00	0.01	0.569	O	|	|	|	|	1.15
48.750	0.00	0.01	0.573	O	|	|	|	|	1.16	53.750	0.00	0.01	0.569	O	|	|	|	|	1.15
48.833	0.00	0.01	0.573	O	|	|	|	|	1.16	53.833	0.00	0.01	0.569	O	|	|	|	|	1.15

53.917	0.00	0.01	0.569	O	|	|	|	|	1.15	58.917	0.00	0.01	0.565	O	|	|	|	|	1.14
54.000	0.00	0.01	0.569	O	|	|	|	|	1.15	59.000	0.00	0.01	0.565	O	|	|	|	|	1.14
54.083	0.00	0.01	0.569	O	|	|	|	|	1.15	59.083	0.00	0.01	0.565	O	|	|	|	|	1.14
54.167	0.00	0.01	0.569	O	|	|	|	|	1.15	59.167	0.00	0.01	0.565	O	|	|	|	|	1.14
54.250	0.00	0.01	0.569	O	|	|	|	|	1.15	59.250	0.00	0.01	0.565	O	|	|	|	|	1.14
54.333	0.00	0.01	0.569	O	|	|	|	|	1.15	59.333	0.00	0.01	0.565	O	|	|	|	|	1.14
54.417	0.00	0.01	0.569	O	|	|	|	|	1.15	59.417	0.00	0.01	0.565	O	|	|	|	|	1.14
54.500	0.00	0.01	0.569	O	|	|	|	|	1.15	59.500	0.00	0.01	0.565	O	|	|	|	|	1.14
54.583	0.00	0.01	0.569	O	|	|	|	|	1.15	59.583	0.00	0.01	0.565	O	|	|	|	|	1.14
54.667	0.00	0.01	0.569	O	|	|	|	|	1.15	59.667	0.00	0.01	0.565	O	|	|	|	|	1.14
54.750	0.00	0.01	0.569	O	|	|	|	|	1.15	59.750	0.00	0.01	0.565	O	|	|	|	|	1.14
54.833	0.00	0.01	0.568	O	|	|	|	|	1.15	59.833	0.00	0.01	0.565	O	|	|	|	|	1.14
54.917	0.00	0.01	0.568	O	|	|	|	|	1.15	59.917	0.00	0.01	0.565	O	|	|	|	|	1.14
55.000	0.00	0.01	0.568	O	|	|	|	|	1.15	60.000	0.00	0.01	0.565	O	|	|	|	|	1.14
55.083	0.00	0.01	0.568	O	|	|	|	|	1.15	60.083	0.00	0.01	0.564	O	|	|	|	|	1.14
55.167	0.00	0.01	0.568	O	|	|	|	|	1.15	60.167	0.00	0.01	0.564	O	|	|	|	|	1.14
55.250	0.00	0.01	0.568	O	|	|	|	|	1.15	60.250	0.00	0.01	0.564	O	|	|	|	|	1.14
55.333	0.00	0.01	0.568	O	|	|	|	|	1.15	60.333	0.00	0.01	0.564	O	|	|	|	|	1.14
55.417	0.00	0.01	0.568	O	|	|	|	|	1.15	60.417	0.00	0.01	0.564	O	|	|	|	|	1.14
55.500	0.00	0.01	0.568	O	|	|	|	|	1.15	60.500	0.00	0.01	0.564	O	|	|	|	|	1.14
55.583	0.00	0.01	0.568	O	|	|	|	|	1.14	60.583	0.00	0.01	0.564	O	|	|	|	|	1.14
55.667	0.00	0.01	0.568	O	|	|	|	|	1.14	60.667	0.00	0.01	0.564	O	|	|	|	|	1.14
55.750	0.00	0.01	0.568	O	|	|	|	|	1.14	60.750	0.00	0.01	0.564	O	|	|	|	|	1.14
55.833	0.00	0.01	0.568	O	|	|	|	|	1.14	60.833	0.00	0.01	0.564	O	|	|	|	|	1.14
55.917	0.00	0.01	0.568	O	|	|	|	|	1.14	60.917	0.00	0.01	0.564	O	|	|	|	|	1.14
56.000	0.00	0.01	0.568	O	|	|	|	|	1.14	61.000	0.00	0.01	0.564	O	|	|	|	|	1.14
56.083	0.00	0.01	0.568	O	|	|	|	|	1.14	61.083	0.00	0.01	0.564	O	|	|	|	|	1.14
56.167	0.00	0.01	0.567	O	|	|	|	|	1.14	61.167	0.00	0.01	0.564	O	|	|	|	|	1.14
56.250	0.00	0.01	0.567	O	|	|	|	|	1.14	61.250	0.00	0.01	0.564	O	|	|	|	|	1.14
56.333	0.00	0.01	0.567	O	|	|	|	|	1.14	61.333	0.00	0.01	0.564	O	|	|	|	|	1.14
56.417	0.00	0.01	0.567	O	|	|	|	|	1.14	61.417	0.00	0.01	0.563	O	|	|	|	|	1.14
56.500	0.00	0.01	0.567	O	|	|	|	|	1.14	61.500	0.00	0.01	0.563	O	|	|	|	|	1.14
56.583	0.00	0.01	0.567	O	|	|	|	|	1.14	61.583	0.00	0.01	0.563	O	|	|	|	|	1.14
56.667	0.00	0.01	0.567	O	|	|	|	|	1.14	61.667	0.00	0.01	0.563	O	|	|	|	|	1.14
56.750	0.00	0.01	0.567	O	|	|	|	|	1.14	61.750	0.00	0.01	0.563	O	|	|	|	|	1.14
56.833	0.00	0.01	0.567	O	|	|	|	|	1.14	61.833	0.00	0.01	0.563	O	|	|	|	|	1.14
56.917	0.00	0.01	0.567	O	|	|	|	|	1.14	61.917	0.00	0.01	0.563	O	|	|	|	|	1.14
57.000	0.00	0.01	0.567	O	|	|	|	|	1.14	62.000	0.00	0.01	0.563	O	|	|	|	|	1.14
57.083	0.00	0.01	0.567	O	|	|	|	|	1.14	62.083	0.00	0.01	0.563	O	|	|	|	|	1.14
57.167	0.00	0.01	0.567	O	|	|	|	|	1.14	62.167	0.00	0.01	0.563	O	|	|	|	|	1.13
57.250	0.00	0.01	0.567	O	|	|	|	|	1.14	62.250	0.00	0.01	0.563	O	|	|	|	|	1.13
57.333	0.00	0.01	0.567	O	|	|	|	|	1.14	62.333	0.00	0.01	0.563	O	|	|	|	|	1.13
57.417	0.00	0.01	0.567	O	|	|	|	|	1.14	62.417	0.00	0.01	0.563	O	|	|	|	|	1.13
57.500	0.00	0.01	0.566	O	|	|	|	|	1.14	62.500	0.00	0.01	0.563	O	|	|	|	|	1.13
57.583	0.00	0.01	0.566	O	|	|	|	|	1.14	62.583	0.00	0.01	0.563	O	|	|	|	|	1.13
57.667	0.00	0.01	0.566	O	|	|	|	|	1.14	62.667	0.00	0.01	0.563	O	|	|	|	|	1.13
57.750	0.00	0.01	0.566	O	|	|	|	|	1.14	62.750	0.00	0.01	0.562	O	|	|	|	|	1.13
57.833	0.00	0.01	0.566	O	|	|	|	|	1.14	62.833	0.00	0.01	0.562	O	|	|	|	|	1.13
57.917	0.00	0.01	0.566	O	|	|	|	|	1.14	62.917	0.00	0.01	0.562	O	|	|	|	|	1.13
58.000	0.00	0.01	0.566	O	|	|	|	|	1.14	63.000	0.00	0.01	0.562	O	|	|	|	|	1.13
58.083	0.00	0.01	0.566	O	|	|	|	|	1.14	63.083	0.00	0.01	0.562	O	|	|	|	|	1.13
58.167	0.00	0.01	0.566	O	|	|	|	|	1.14	63.167	0.00	0.01	0.562	O	|	|	|	|	1.13
58.250	0.00	0.01	0.566	O	|	|	|	|	1.14	63.250	0.00	0.01	0.562	O	|	|	|	|	1.13
58.333	0.00	0.01	0.566	O	|	|	|	|	1.14	63.333	0.00	0.01	0.562	O	|	|	|	|	1.13
58.417	0.00	0.01	0.566	O	|	|	|	|	1.14	63.417	0.00	0.01	0.562	O	|	|	|	|	1.13
58.500	0.00	0.01	0.566	O	|	|	|	|	1.14	63.500	0.00	0.01	0.562	O	|	|	|	|	1.13
58.583	0.00	0.01	0.566	O	|	|	|	|	1.14	63.583	0.00	0.01	0.562	O	|	|	|	|	1.13
58.667	0.00	0.01	0.566	O	|	|	|	|	1.14	63.667	0.00	0.01	0.562	O	|	|	|	|	1.13
58.750	0.00	0.01	0.566	O	|	|	|	|	1.14	63.750	0.00	0.01	0.562	O	|	|	|	|	1.13
58.833	0.00	0.01	0.565	O	|	|	|	|	1.14	63.833	0.00	0.01	0.562	O	|	|	|	|	1.13

63.917	0.00	0.01	0.562	O	|	|	|	|	1.13	68.917	0.00	0.01	0.558	O	|	|	|	|	1.12
64.000	0.00	0.01	0.562	O	|	|	|	|	1.13	69.000	0.00	0.01	0.558	O	|	|	|	|	1.12
64.083	0.00	0.01	0.561	O	|	|	|	|	1.13	69.083	0.00	0.01	0.558	O	|	|	|	|	1.12
64.167	0.00	0.01	0.561	O	|	|	|	|	1.13	69.167	0.00	0.01	0.558	O	|	|	|	|	1.12
64.250	0.00	0.01	0.561	O	|	|	|	|	1.13	69.250	0.00	0.01	0.558	O	|	|	|	|	1.12
64.333	0.00	0.01	0.561	O	|	|	|	|	1.13	69.333	0.00	0.01	0.558	O	|	|	|	|	1.12
64.417	0.00	0.01	0.561	O	|	|	|	|	1.13	69.417	0.00	0.01	0.558	O	|	|	|	|	1.12
64.500	0.00	0.01	0.561	O	|	|	|	|	1.13	69.500	0.00	0.01	0.557	O	|	|	|	|	1.12
64.583	0.00	0.01	0.561	O	|	|	|	|	1.13	69.583	0.00	0.01	0.557	O	|	|	|	|	1.12
64.667	0.00	0.01	0.561	O	|	|	|	|	1.13	69.667	0.00	0.01	0.557	O	|	|	|	|	1.12
64.750	0.00	0.01	0.561	O	|	|	|	|	1.13	69.750	0.00	0.01	0.557	O	|	|	|	|	1.12
64.833	0.00	0.01	0.561	O	|	|	|	|	1.13	69.833	0.00	0.01	0.557	O	|	|	|	|	1.12
64.917	0.00	0.01	0.561	O	|	|	|	|	1.13	69.917	0.00	0.01	0.557	O	|	|	|	|	1.12
65.000	0.00	0.01	0.561	O	|	|	|	|	1.13	70.000	0.00	0.01	0.557	O	|	|	|	|	1.12
65.083	0.00	0.01	0.561	O	|	|	|	|	1.13	70.083	0.00	0.01	0.557	O	|	|	|	|	1.12
65.167	0.00	0.01	0.561	O	|	|	|	|	1.13	70.167	0.00	0.01	0.557	O	|	|	|	|	1.12
65.250	0.00	0.01	0.561	O	|	|	|	|	1.13	70.250	0.00	0.01	0.557	O	|	|	|	|	1.12
65.333	0.00	0.01	0.561	O	|	|	|	|	1.13	70.333	0.00	0.01	0.557	O	|	|	|	|	1.12
65.417	0.00	0.01	0.560	O	|	|	|	|	1.13	70.417	0.00	0.01	0.557	O	|	|	|	|	1.12
65.500	0.00	0.01	0.560	O	|	|	|	|	1.13	70.500	0.00	0.01	0.557	O	|	|	|	|	1.12
65.583	0.00	0.01	0.560	O	|	|	|	|	1.13	70.583	0.00	0.01	0.557	O	|	|	|	|	1.12
65.667	0.00	0.01	0.560	O	|	|	|	|	1.13	70.667	0.00	0.01	0.557	O	|	|	|	|	1.12
65.750	0.00	0.01	0.560	O	|	|	|	|	1.13	70.750	0.00	0.01	0.557	O	|	|	|	|	1.12
65.833	0.00	0.01	0.560	O	|	|	|	|	1.13	70.833	0.00	0.01	0.556	O	|	|	|	|	1.12
65.917	0.00	0.01	0.560	O	|	|	|	|	1.13	70.917	0.00	0.01	0.556	O	|	|	|	|	1.12
66.000	0.00	0.01	0.560	O	|	|	|	|	1.13	71.000	0.00	0.01	0.556	O	|	|	|	|	1.12
66.083	0.00	0.01	0.560	O	|	|	|	|	1.13	71.083	0.00	0.01	0.556	O	|	|	|	|	1.12
66.167	0.00	0.01	0.560	O	|	|	|	|	1.13	71.167	0.00	0.01	0.556	O	|	|	|	|	1.12
66.250	0.00	0.01	0.560	O	|	|	|	|	1.13	71.250	0.00	0.01	0.556	O	|	|	|	|	1.12
66.333	0.00	0.01	0.560	O	|	|	|	|	1.13	71.333	0.00	0.01	0.556	O	|	|	|	|	1.12
66.417	0.00	0.01	0.560	O	|	|	|	|	1.13	71.417	0.00	0.01	0.556	O	|	|	|	|	1.12
66.500	0.00	0.01	0.560	O	|	|	|	|	1.13	71.500	0.00	0.01	0.556	O	|	|	|	|	1.12
66.583	0.00	0.01	0.560	O	|	|	|	|	1.13	71.583	0.00	0.01	0.556	O	|	|	|	|	1.12
66.667	0.00	0.01	0.560	O	|	|	|	|	1.13	71.667	0.00	0.01	0.556	O	|	|	|	|	1.12
66.750	0.00	0.01	0.560	O	|	|	|	|	1.13	71.750	0.00	0.01	0.556	O	|	|	|	|	1.12
66.833	0.00	0.01	0.559	O	|	|	|	|	1.13	71.833	0.00	0.01	0.556	O	|	|	|	|	1.12
66.917	0.00	0.01	0.559	O	|	|	|	|	1.13	71.917	0.00	0.01	0.556	O	|	|	|	|	1.12
67.000	0.00	0.01	0.559	O	|	|	|	|	1.13	72.000	0.00	0.01	0.556	O	|	|	|	|	1.12
67.083	0.00	0.01	0.559	O	|	|	|	|	1.13	72.083	0.00	0.01	0.556	O	|	|	|	|	1.12
67.167	0.00	0.01	0.559	O	|	|	|	|	1.13	72.167	0.00	0.01	0.555	O	|	|	|	|	1.12
67.250	0.00	0.01	0.559	O	|	|	|	|	1.13	72.250	0.00	0.01	0.555	O	|	|	|	|	1.12
67.333	0.00	0.01	0.559	O	|	|	|	|	1.13	72.333	0.00	0.01	0.555	O	|	|	|	|	1.12
67.417	0.00	0.01	0.559	O	|	|	|	|	1.13	72.417	0.00	0.01	0.555	O	|	|	|	|	1.12
67.500	0.00	0.01	0.559	O	|	|	|	|	1.13	72.500	0.00	0.01	0.555	O	|	|	|	|	1.12
67.583	0.00	0.01	0.559	O	|	|	|	|	1.13	72.583	0.00	0.01	0.555	O	|	|	|	|	1.12
67.667	0.00	0.01	0.559	O	|	|	|	|	1.13	72.667	0.00	0.01	0.555	O	|	|	|	|	1.12
67.750	0.00	0.01	0.559	O	|	|	|	|	1.13	72.750	0.00	0.01	0.555	O	|	|	|	|	1.12
67.833	0.00	0.01	0.559	O	|	|	|	|	1.13	72.833	0.00	0.01	0.555	O	|	|	|	|	1.12
67.917	0.00	0.01	0.559	O	|	|	|	|	1.13	72.917	0.00	0.01	0.555	O	|	|	|	|	1.12
68.000	0.00	0.01	0.559	O	|	|	|	|	1.13	73.000	0.00	0.01	0.555	O	|	|	|	|	1.12
68.083	0.00	0.01	0.559	O	|	|	|	|	1.13	73.083	0.00	0.01	0.555	O	|	|	|	|	1.12
68.167	0.00	0.01	0.558	O	|	|	|	|	1.13	73.167	0.00	0.01	0.555	O	|	|	|	|	1.12
68.250	0.00	0.01	0.558	O	|	|	|	|	1.13	73.250	0.00	0.01	0.555	O	|	|	|	|	1.12
68.333	0.00	0.01	0.558	O	|	|	|	|	1.13	73.333	0.00	0.01	0.555	O	|	|	|	|	1.12
68.417	0.00	0.01	0.558	O	|	|	|	|	1.13	73.417	0.00	0.01	0.555	O	|	|	|	|	1.12
68.500	0.00	0.01	0.558	O	|	|	|	|	1.13	73.500	0.00	0.01	0.554	O	|	|	|	|	1.12
68.583	0.00	0.01	0.558	O	|	|	|	|	1.13	73.583	0.00	0.01	0.554	O	|	|	|	|	1.12
68.667	0.00	0.01	0.558	O	|	|	|	|	1.13	73.667	0.00	0.01	0.554	O	|	|	|	|	1.12
68.750	0.00	0.01	0.558	O	|	|	|	|	1.13	73.750	0.00	0.01	0.554	O	|	|	|	|	1.12
68.833	0.00	0.01	0.558	O	|	|	|	|	1.12	73.833	0.00	0.01	0.554	O	|	|	|	|	1.12

73.917	0.00	0.01	0.554	O	|	|	|	|	1.12	78.917	0.00	0.01	0.551	O	|	|	|	|	1.11
74.000	0.00	0.01	0.554	O	|	|	|	|	1.12	79.000	0.00	0.01	0.550	O	|	|	|	|	1.11
74.083	0.00	0.01	0.554	O	|	|	|	|	1.12	79.083	0.00	0.01	0.550	O	|	|	|	|	1.11
74.167	0.00	0.01	0.554	O	|	|	|	|	1.12	79.167	0.00	0.01	0.550	O	|	|	|	|	1.11
74.250	0.00	0.01	0.554	O	|	|	|	|	1.12	79.250	0.00	0.01	0.550	O	|	|	|	|	1.11
74.333	0.00	0.01	0.554	O	|	|	|	|	1.12	79.333	0.00	0.01	0.550	O	|	|	|	|	1.11
74.417	0.00	0.01	0.554	O	|	|	|	|	1.12	79.417	0.00	0.01	0.550	O	|	|	|	|	1.11
74.500	0.00	0.01	0.554	O	|	|	|	|	1.12	79.500	0.00	0.01	0.550	O	|	|	|	|	1.11
74.583	0.00	0.01	0.554	O	|	|	|	|	1.12	79.583	0.00	0.01	0.550	O	|	|	|	|	1.11
74.667	0.00	0.01	0.554	O	|	|	|	|	1.12	79.667	0.00	0.01	0.550	O	|	|	|	|	1.11
74.750	0.00	0.01	0.554	O	|	|	|	|	1.12	79.750	0.00	0.01	0.550	O	|	|	|	|	1.11
74.833	0.00	0.01	0.554	O	|	|	|	|	1.12	79.833	0.00	0.01	0.550	O	|	|	|	|	1.11
74.917	0.00	0.01	0.553	O	|	|	|	|	1.12	79.917	0.00	0.01	0.550	O	|	|	|	|	1.11
75.000	0.00	0.01	0.553	O	|	|	|	|	1.12	80.000	0.00	0.01	0.550	O	|	|	|	|	1.11
75.083	0.00	0.01	0.553	O	|	|	|	|	1.12	80.083	0.00	0.01	0.550	O	|	|	|	|	1.11
75.167	0.00	0.01	0.553	O	|	|	|	|	1.12	80.167	0.00	0.01	0.550	O	|	|	|	|	1.11
75.250	0.00	0.01	0.553	O	|	|	|	|	1.12	80.250	0.00	0.01	0.550	O	|	|	|	|	1.11
75.333	0.00	0.01	0.553	O	|	|	|	|	1.12	80.333	0.00	0.01	0.549	O	|	|	|	|	1.11
75.417	0.00	0.01	0.553	O	|	|	|	|	1.12	80.417	0.00	0.01	0.549	O	|	|	|	|	1.11
75.500	0.00	0.01	0.553	O	|	|	|	|	1.11	80.500	0.00	0.01	0.549	O	|	|	|	|	1.11
75.583	0.00	0.01	0.553	O	|	|	|	|	1.11	80.583	0.00	0.01	0.549	O	|	|	|	|	1.11
75.667	0.00	0.01	0.553	O	|	|	|	|	1.11	80.667	0.00	0.01	0.549	O	|	|	|	|	1.11
75.750	0.00	0.01	0.553	O	|	|	|	|	1.11	80.750	0.00	0.01	0.549	O	|	|	|	|	1.11
75.833	0.00	0.01	0.553	O	|	|	|	|	1.11	80.833	0.00	0.01	0.549	O	|	|	|	|	1.11
75.917	0.00	0.01	0.553	O	|	|	|	|	1.11	80.917	0.00	0.01	0.549	O	|	|	|	|	1.11
76.000	0.00	0.01	0.553	O	|	|	|	|	1.11	81.000	0.00	0.01	0.549	O	|	|	|	|	1.11
76.083	0.00	0.01	0.553	O	|	|	|	|	1.11	81.083	0.00	0.01	0.549	O	|	|	|	|	1.11
76.167	0.00	0.01	0.553	O	|	|	|	|	1.11	81.167	0.00	0.01	0.549	O	|	|	|	|	1.11
76.250	0.00	0.01	0.552	O	|	|	|	|	1.11	81.250	0.00	0.01	0.549	O	|	|	|	|	1.11
76.333	0.00	0.01	0.552	O	|	|	|	|	1.11	81.333	0.00	0.01	0.549	O	|	|	|	|	1.11
76.417	0.00	0.01	0.552	O	|	|	|	|	1.11	81.417	0.00	0.01	0.549	O	|	|	|	|	1.11
76.500	0.00	0.01	0.552	O	|	|	|	|	1.11	81.500	0.00	0.01	0.549	O	|	|	|	|	1.11
76.583	0.00	0.01	0.552	O	|	|	|	|	1.11	81.583	0.00	0.01	0.549	O	|	|	|	|	1.11
76.667	0.00	0.01	0.552	O	|	|	|	|	1.11	81.667	0.00	0.01	0.548	O	|	|	|	|	1.11
76.750	0.00	0.01	0.552	O	|	|	|	|	1.11	81.750	0.00	0.01	0.548	O	|	|	|	|	1.11
76.833	0.00	0.01	0.552	O	|	|	|	|	1.11	81.833	0.00	0.01	0.548	O	|	|	|	|	1.11
76.917	0.00	0.01	0.552	O	|	|	|	|	1.11	81.917	0.00	0.01	0.548	O	|	|	|	|	1.11
77.000	0.00	0.01	0.552	O	|	|	|	|	1.11	82.000	0.00	0.01	0.548	O	|	|	|	|	1.11
77.083	0.00	0.01	0.552	O	|	|	|	|	1.11	82.083	0.00	0.01	0.548	O	|	|	|	|	1.11
77.167	0.00	0.01	0.552	O	|	|	|	|	1.11	82.167	0.00	0.01	0.548	O	|	|	|	|	1.11
77.250	0.00	0.01	0.552	O	|	|	|	|	1.11	82.250	0.00	0.01	0.548	O	|	|	|	|	1.10
77.333	0.00	0.01	0.552	O	|	|	|	|	1.11	82.333	0.00	0.01	0.548	O	|	|	|	|	1.10
77.417	0.00	0.01	0.552	O	|	|	|	|	1.11	82.417	0.00	0.01	0.548	O	|	|	|	|	1.10
77.500	0.00	0.01	0.552	O	|	|	|	|	1.11	82.500	0.00	0.01	0.548	O	|	|	|	|	1.10
77.583	0.00	0.01	0.551	O	|	|	|	|	1.11	82.583	0.00	0.01	0.548	O	|	|	|	|	1.10
77.667	0.00	0.01	0.551	O	|	|	|	|	1.11	82.667	0.00	0.01	0.548	O	|	|	|	|	1.10
77.750	0.00	0.01	0.551	O	|	|	|	|	1.11	82.750	0.00	0.01	0.548	O	|	|	|	|	1.10
77.833	0.00	0.01	0.551	O	|	|	|	|	1.11	82.833	0.00	0.01	0.548	O	|	|	|	|	1.10
77.917	0.00	0.01	0.551	O	|	|	|	|	1.11	82.917	0.00	0.01	0.548	O	|	|	|	|	1.10
78.000	0.00	0.01	0.551	O	|	|	|	|	1.11	83.000	0.00	0.01	0.548	O	|	|	|	|	1.10
78.083	0.00	0.01	0.551	O	|	|	|	|	1.11	83.083	0.00	0.01	0.547	O	|	|	|	|	1.10
78.167	0.00	0.01	0.551	O	|	|	|	|	1.11	83.167	0.00	0.01	0.547	O	|	|	|	|	1.10
78.250	0.00	0.01	0.551	O	|	|	|	|	1.11	83.250	0.00	0.01	0.547	O	|	|	|	|	1.10
78.333	0.00	0.01	0.551	O	|	|	|	|	1.11	83.333	0.00	0.01	0.547	O	|	|	|	|	1.10
78.417	0.00	0.01	0.551	O	|	|	|	|	1.11	83.417	0.00	0.01	0.547	O	|	|	|	|	1.10
78.500	0.00	0.01	0.551	O	|	|	|	|	1.11	83.500	0.00	0.01	0.547	O	|	|	|	|	1.10
78.583	0.00	0.01	0.551	O	|	|	|	|	1.11	83.583	0.00	0.01	0.547	O	|	|	|	|	1.10
78.667	0.00	0.01	0.551	O	|	|	|	|	1.11	83.667	0.00	0.01	0.547	O	|	|	|	|	1.10
78.750	0.00	0.01	0.551	O	|	|	|	|	1.11	83.750	0.00	0.01	0.547	O	|	|	|	|	1.10
78.833	0.00	0.01	0.551	O	|	|	|	|	1.11	83.833	0.00	0.01	0.547	O	|	|	|	|	1.10

Left Blank Intentionally

413.917	0.00	0.01	0.352	O	|	|	|	0.71
414.000	0.00	0.01	0.352	O	|	|	|	0.71
414.083	0.00	0.01	0.352	O	|	|	|	0.71
414.167	0.00	0.01	0.352	O	|	|	|	0.71
414.250	0.00	0.01	0.352	O	|	|	|	0.71
414.333	0.00	0.01	0.352	O	|	|	|	0.71
414.417	0.00	0.01	0.352	O	|	|	|	0.71
414.500	0.00	0.01	0.352	O	|	|	|	0.71
414.583	0.00	0.01	0.352	O	|	|	|	0.71
414.667	0.00	0.01	0.352	O	|	|	|	0.71
414.750	0.00	0.01	0.352	O	|	|	|	0.71
414.833	0.00	0.01	0.352	O	|	|	|	0.71
414.917	0.00	0.01	0.352	O	|	|	|	0.71
415.000	0.00	0.01	0.352	O	|	|	|	0.71
415.083	0.00	0.01	0.352	O	|	|	|	0.71
415.167	0.00	0.01	0.352	O	|	|	|	0.71
415.250	0.00	0.01	0.352	O	|	|	|	0.71
415.333	0.00	0.01	0.352	O	|	|	|	0.71
415.417	0.00	0.01	0.352	O	|	|	|	0.71
415.500	0.00	0.01	0.351	O	|	|	|	0.71
415.583	0.00	0.01	0.351	O	|	|	|	0.71
415.667	0.00	0.01	0.351	O	|	|	|	0.71
415.750	0.00	0.01	0.351	O	|	|	|	0.71
415.833	0.00	0.01	0.351	O	|	|	|	0.71
415.917	0.00	0.01	0.351	O	|	|	|	0.71
416.000	0.00	0.01	0.351	O	|	|	|	0.71
416.083	0.00	0.01	0.351	O	|	|	|	0.71
416.167	0.00	0.01	0.351	O	|	|	|	0.71
416.250	0.00	0.01	0.351	O	|	|	|	0.71
416.333	0.00	0.01	0.351	O	|	|	|	0.71
416.417	0.00	0.01	0.351	O	|	|	|	0.71
416.500	0.00	0.01	0.351	O	|	|	|	0.71
416.583	0.00	0.01	0.351	O	|	|	|	0.71
416.667	0.00	0.01	0.351	O	|	|	|	0.71

Remaining water in basin = 0.35 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.010 (CFS)
Total volume = 0.260 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

-----------------------------------------------------------------------


TR 37036, PARCEL 1
BASIN M
2Y 3H STORM

-----------------------------------------------------------------------


Program License Serial Number 6406

-----------------------------------------------------------------------
******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR32.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    40
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       11.322 (CFS)
                Total volume =       1.028 (Ac.Ft)
        Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
***********************************************************************



+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
_______________________________________________________________________

User entry of depth-outflow-storage data
-----------------------------------------------------------------------
Total number of inflow hydrograph intervals = 40
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
-----------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
-----------------------------------------------------------------------
                  Hydrograph Detention Basin Routing
-----------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
-----------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       2.8    5.66    8.49   11.32 (Ft.)
 0.083   0.80    0.00      0.003  O I      |       |       |       |     0.01
 0.167   1.65    0.00      0.011  O   I    |       |       |       |     0.02
 0.250   1.71    0.00      0.023  O   I    |       |       |       |     0.05
 0.333   1.90    0.00      0.035  O    I   |       |       |       |     0.07
 0.417   2.16    0.00      0.049  O     I  |       |       |       |     0.10
 0.500   2.39    0.00      0.065  O     I  |       |       |       |     0.13
 0.583   2.42    0.00      0.081  O     I  |       |       |       |     0.16
 0.667   2.46    0.00      0.098  O     I  |       |       |       |     0.20
 0.750   2.63    0.00      0.116  O      I|       |       |       |     0.23
 0.833   2.48    0.00      0.133  O     I  |       |       |       |     0.27
 0.917   2.35    0.00      0.150  O     I  |       |       |       |     0.30
 1.000   2.51    0.00      0.167  O      I|       |       |       |     0.34
 1.083   2.88    0.00      0.185  O       I       |       |       |     0.37
 1.167   3.17    0.00      0.206  O       I       |       |       |     0.42
 1.250   3.24    0.00      0.228  O       |I      |       |       |     0.46
 1.333   3.14    0.00      0.250  O       I       |       |       |     0.50
 1.417   3.39    0.00      0.272  O       |I      |       |       |     0.55
 1.500   3.82    0.00      0.297  O       | I     |       |       |     0.60
 1.583   3.77    0.01      0.323  O       | I     |       |       |     0.65
 1.667   3.80    0.01      0.349  O       | I     |       |       |     0.70
 1.750   4.34    0.01      0.377  O       |   I   |       |       |     0.76
 1.833   4.64    0.01      0.408  O       |    I  |       |       |     0.82
 1.917   4.48    0.01      0.439  O       |   I   |       |       |     0.89
 2.000   4.42    0.01      0.470  O       |   I   |       |       |     0.95
 2.083   4.52    0.01      0.501  O       |   I   |       |       |     1.01
 2.167   5.26    0.01      0.534  O       |     I |       |       |     1.08
 2.250   6.50    0.01      0.575  O       |       | I     |       |     1.16
 2.333   6.26    0.01      0.619  O       |       |I      |       |     1.25
 2.417   7.48    0.04      0.666  O       |       |    I  |       |     1.33
 2.500   9.81    0.08      0.725  O       |       |       |  I    |     1.43
 2.583  11.32    0.12      0.797  O       |       |       |      I|     1.56
 2.667  10.73    0.17      0.872  O       |       |       |     I |     1.69
 2.750   6.84    0.21      0.931  O       |       |  I    |       |     1.79
 2.833   3.87    0.23      0.967  O       | I     |       |       |     1.85
 2.917   3.08    0.24      0.989  O       I       |       |       |     1.89
 3.000   2.04    0.25      1.005  O    I  |       |       |       |     1.92
 3.083   0.78    0.26      1.013  O I     |       |       |       |     1.94
 3.167   0.22    0.26      1.015  O       |       |       |       |     1.94
 3.250   0.07    0.26      1.014  O       |       |       |       |     1.94
 3.333   0.01    0.26      1.012  O       |       |       |       |     1.93
 3.417   0.00    0.26      1.011  O       |       |       |       |     1.93
 3.500   0.00    0.25      1.009  O       |       |       |       |     1.93
 3.583   0.00    0.25      1.007  O       |       |       |       |     1.93
 3.667   0.00    0.25      1.005  O       |       |       |       |     1.92
 3.750   0.00    0.25      1.004  O       |       |       |       |     1.92
 3.833   0.00    0.25      1.002  O       |       |       |       |     1.92
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3.917	0.00	0.25	1.000	O	|	|	|	|	1.91	8.917	0.00	0.19	0.910	O	|	|	|	|	1.76
4.000	0.00	0.25	0.998	O	|	|	|	|	1.91	9.000	0.00	0.19	0.908	O	|	|	|	|	1.75
4.083	0.00	0.25	0.997	O	|	|	|	|	1.91	9.083	0.00	0.19	0.907	O	|	|	|	|	1.75
4.167	0.00	0.25	0.995	O	|	|	|	|	1.90	9.167	0.00	0.19	0.906	O	|	|	|	|	1.75
4.250	0.00	0.24	0.993	O	|	|	|	|	1.90	9.250	0.00	0.19	0.904	O	|	|	|	|	1.75
4.333	0.00	0.24	0.992	O	|	|	|	|	1.90	9.333	0.00	0.19	0.903	O	|	|	|	|	1.74
4.417	0.00	0.24	0.990	O	|	|	|	|	1.90	9.417	0.00	0.19	0.902	O	|	|	|	|	1.74
4.500	0.00	0.24	0.988	O	|	|	|	|	1.89	9.500	0.00	0.19	0.901	O	|	|	|	|	1.74
4.583	0.00	0.24	0.987	O	|	|	|	|	1.89	9.583	0.00	0.19	0.899	O	|	|	|	|	1.74
4.667	0.00	0.24	0.985	O	|	|	|	|	1.89	9.667	0.00	0.18	0.898	O	|	|	|	|	1.73
4.750	0.00	0.24	0.983	O	|	|	|	|	1.88	9.750	0.00	0.18	0.897	O	|	|	|	|	1.73
4.833	0.00	0.24	0.982	O	|	|	|	|	1.88	9.833	0.00	0.18	0.895	O	|	|	|	|	1.73
4.917	0.00	0.24	0.980	O	|	|	|	|	1.88	9.917	0.00	0.18	0.894	O	|	|	|	|	1.73
5.000	0.00	0.24	0.979	O	|	|	|	|	1.88	10.000	0.00	0.18	0.893	O	|	|	|	|	1.73
5.083	0.00	0.23	0.977	O	|	|	|	|	1.87	10.083	0.00	0.18	0.892	O	|	|	|	|	1.72
5.167	0.00	0.23	0.975	O	|	|	|	|	1.87	10.167	0.00	0.18	0.890	O	|	|	|	|	1.72
5.250	0.00	0.23	0.974	O	|	|	|	|	1.87	10.250	0.00	0.18	0.889	O	|	|	|	|	1.72
5.333	0.00	0.23	0.972	O	|	|	|	|	1.86	10.333	0.00	0.18	0.888	O	|	|	|	|	1.72
5.417	0.00	0.23	0.971	O	|	|	|	|	1.86	10.417	0.00	0.18	0.887	O	|	|	|	|	1.72
5.500	0.00	0.23	0.969	O	|	|	|	|	1.86	10.500	0.00	0.18	0.886	O	|	|	|	|	1.71
5.583	0.00	0.23	0.967	O	|	|	|	|	1.86	10.583	0.00	0.18	0.884	O	|	|	|	|	1.71
5.667	0.00	0.23	0.966	O	|	|	|	|	1.85	10.667	0.00	0.18	0.883	O	|	|	|	|	1.71
5.750	0.00	0.23	0.964	O	|	|	|	|	1.85	10.750	0.00	0.17	0.882	O	|	|	|	|	1.71
5.833	0.00	0.23	0.963	O	|	|	|	|	1.85	10.833	0.00	0.17	0.881	O	|	|	|	|	1.70
5.917	0.00	0.22	0.961	O	|	|	|	|	1.84	10.917	0.00	0.17	0.880	O	|	|	|	|	1.70
6.000	0.00	0.22	0.960	O	|	|	|	|	1.84	11.000	0.00	0.17	0.878	O	|	|	|	|	1.70
6.083	0.00	0.22	0.958	O	|	|	|	|	1.84	11.083	0.00	0.17	0.877	O	|	|	|	|	1.70
6.167	0.00	0.22	0.957	O	|	|	|	|	1.84	11.167	0.00	0.17	0.876	O	|	|	|	|	1.70
6.250	0.00	0.22	0.955	O	|	|	|	|	1.83	11.250	0.00	0.17	0.875	O	|	|	|	|	1.69
6.333	0.00	0.22	0.953	O	|	|	|	|	1.83	11.333	0.00	0.17	0.874	O	|	|	|	|	1.69
6.417	0.00	0.22	0.952	O	|	|	|	|	1.83	11.417	0.00	0.17	0.872	O	|	|	|	|	1.69
6.500	0.00	0.22	0.950	O	|	|	|	|	1.83	11.500	0.00	0.17	0.871	O	|	|	|	|	1.69
6.583	0.00	0.22	0.949	O	|	|	|	|	1.82	11.583	0.00	0.17	0.870	O	|	|	|	|	1.69
6.667	0.00	0.22	0.947	O	|	|	|	|	1.82	11.667	0.00	0.17	0.869	O	|	|	|	|	1.68
6.750	0.00	0.21	0.946	O	|	|	|	|	1.82	11.750	0.00	0.17	0.868	O	|	|	|	|	1.68
6.833	0.00	0.21	0.945	O	|	|	|	|	1.82	11.833	0.00	0.16	0.867	O	|	|	|	|	1.68
6.917	0.00	0.21	0.943	O	|	|	|	|	1.81	11.917	0.00	0.16	0.866	O	|	|	|	|	1.68
7.000	0.00	0.21	0.942	O	|	|	|	|	1.81	12.000	0.00	0.16	0.864	O	|	|	|	|	1.68
7.083	0.00	0.21	0.940	O	|	|	|	|	1.81	12.083	0.00	0.16	0.863	O	|	|	|	|	1.67
7.167	0.00	0.21	0.939	O	|	|	|	|	1.81	12.167	0.00	0.16	0.862	O	|	|	|	|	1.67
7.250	0.00	0.21	0.937	O	|	|	|	|	1.80	12.250	0.00	0.16	0.861	O	|	|	|	|	1.67
7.333	0.00	0.21	0.936	O	|	|	|	|	1.80	12.333	0.00	0.16	0.860	O	|	|	|	|	1.67
7.417	0.00	0.21	0.934	O	|	|	|	|	1.80	12.417	0.00	0.16	0.859	O	|	|	|	|	1.67
7.500	0.00	0.21	0.933	O	|	|	|	|	1.80	12.500	0.00	0.16	0.858	O	|	|	|	|	1.66
7.583	0.00	0.21	0.932	O	|	|	|	|	1.79	12.583	0.00	0.16	0.857	O	|	|	|	|	1.66
7.667	0.00	0.20	0.930	O	|	|	|	|	1.79	12.667	0.00	0.16	0.856	O	|	|	|	|	1.66
7.750	0.00	0.20	0.929	O	|	|	|	|	1.79	12.750	0.00	0.16	0.855	O	|	|	|	|	1.66
7.833	0.00	0.20	0.927	O	|	|	|	|	1.79	12.833	0.00	0.16	0.853	O	|	|	|	|	1.66
7.917	0.00	0.20	0.926	O	|	|	|	|	1.78	12.917	0.00	0.16	0.852	O	|	|	|	|	1.66
8.000	0.00	0.20	0.925	O	|	|	|	|	1.78	13.000	0.00	0.16	0.851	O	|	|	|	|	1.65
8.083	0.00	0.20	0.923	O	|	|	|	|	1.78	13.083	0.00	0.15	0.850	O	|	|	|	|	1.65
8.167	0.00	0.20	0.922	O	|	|	|	|	1.78	13.167	0.00	0.15	0.849	O	|	|	|	|	1.65
8.250	0.00	0.20	0.920	O	|	|	|	|	1.77	13.250	0.00	0.15	0.848	O	|	|	|	|	1.65
8.333	0.00	0.20	0.919	O	|	|	|	|	1.77	13.333	0.00	0.15	0.847	O	|	|	|	|	1.65
8.417	0.00	0.20	0.918	O	|	|	|	|	1.77	13.417	0.00	0.15	0.846	O	|	|	|	|	1.64
8.500	0.00	0.20	0.916	O	|	|	|	|	1.77	13.500	0.00	0.15	0.845	O	|	|	|	|	1.64
8.583	0.00	0.20	0.915	O	|	|	|	|	1.76	13.583	0.00	0.15	0.844	O	|	|	|	|	1.64
8.667	0.00	0.19	0.914	O	|	|	|	|	1.76	13.667	0.00	0.15	0.843	O	|	|	|	|	1.64
8.750	0.00	0.19	0.912	O	|	|	|	|	1.76	13.750	0.00	0.15	0.842	O	|	|	|	|	1.64
8.833	0.00	0.19	0.911	O	|	|	|	|	1.76	13.833	0.00	0.15	0.841	O	|	|	|	|	1.64

13.917	0.00	0.15	0.840	O	|	|	|	|	1.63	18.917	0.00	0.11	0.786	O	|	|	|	|	1.54
14.000	0.00	0.15	0.839	O	|	|	|	|	1.63	19.000	0.00	0.11	0.785	O	|	|	|	|	1.54
14.083	0.00	0.15	0.838	O	|	|	|	|	1.63	19.083	0.00	0.11	0.784	O	|	|	|	|	1.54
14.167	0.00	0.15	0.837	O	|	|	|	|	1.63	19.167	0.00	0.11	0.784	O	|	|	|	|	1.54
14.250	0.00	0.15	0.836	O	|	|	|	|	1.63	19.250	0.00	0.11	0.783	O	|	|	|	|	1.53
14.333	0.00	0.14	0.835	O	|	|	|	|	1.62	19.333	0.00	0.11	0.782	O	|	|	|	|	1.53
14.417	0.00	0.14	0.834	O	|	|	|	|	1.62	19.417	0.00	0.11	0.781	O	|	|	|	|	1.53
14.500	0.00	0.14	0.833	O	|	|	|	|	1.62	19.500	0.00	0.11	0.781	O	|	|	|	|	1.53
14.583	0.00	0.14	0.832	O	|	|	|	|	1.62	19.583	0.00	0.11	0.780	O	|	|	|	|	1.53
14.667	0.00	0.14	0.831	O	|	|	|	|	1.62	19.667	0.00	0.11	0.779	O	|	|	|	|	1.53
14.750	0.00	0.14	0.830	O	|	|	|	|	1.62	19.750	0.00	0.11	0.778	O	|	|	|	|	1.53
14.833	0.00	0.14	0.829	O	|	|	|	|	1.61	19.833	0.00	0.11	0.777	O	|	|	|	|	1.52
14.917	0.00	0.14	0.828	O	|	|	|	|	1.61	19.917	0.00	0.11	0.777	O	|	|	|	|	1.52
15.000	0.00	0.14	0.827	O	|	|	|	|	1.61	20.000	0.00	0.11	0.776	O	|	|	|	|	1.52
15.083	0.00	0.14	0.826	O	|	|	|	|	1.61	20.083	0.00	0.11	0.775	O	|	|	|	|	1.52
15.167	0.00	0.14	0.825	O	|	|	|	|	1.61	20.167	0.00	0.11	0.775	O	|	|	|	|	1.52
15.250	0.00	0.14	0.824	O	|	|	|	|	1.61	20.250	0.00	0.11	0.774	O	|	|	|	|	1.52
15.333	0.00	0.14	0.823	O	|	|	|	|	1.60	20.333	0.00	0.11	0.773	O	|	|	|	|	1.52
15.417	0.00	0.14	0.822	O	|	|	|	|	1.60	20.417	0.00	0.11	0.772	O	|	|	|	|	1.52
15.500	0.00	0.14	0.821	O	|	|	|	|	1.60	20.500	0.00	0.11	0.772	O	|	|	|	|	1.51
15.583	0.00	0.14	0.820	O	|	|	|	|	1.60	20.583	0.00	0.10	0.771	O	|	|	|	|	1.51
15.667	0.00	0.14	0.819	O	|	|	|	|	1.60	20.667	0.00	0.10	0.770	O	|	|	|	|	1.51
15.750	0.00	0.13	0.818	O	|	|	|	|	1.60	20.750	0.00	0.10	0.769	O	|	|	|	|	1.51
15.833	0.00	0.13	0.817	O	|	|	|	|	1.59	20.833	0.00	0.10	0.769	O	|	|	|	|	1.51
15.917	0.00	0.13	0.817	O	|	|	|	|	1.59	20.917	0.00	0.10	0.768	O	|	|	|	|	1.51
16.000	0.00	0.13	0.816	O	|	|	|	|	1.59	21.000	0.00	0.10	0.767	O	|	|	|	|	1.51
16.083	0.00	0.13	0.815	O	|	|	|	|	1.59	21.083	0.00	0.10	0.767	O	|	|	|	|	1.51
16.167	0.00	0.13	0.814	O	|	|	|	|	1.59	21.167	0.00	0.10	0.766	O	|	|	|	|	1.50
16.250	0.00	0.13	0.813	O	|	|	|	|	1.59	21.250	0.00	0.10	0.765	O	|	|	|	|	1.50
16.333	0.00	0.13	0.812	O	|	|	|	|	1.58	21.333	0.00	0.10	0.765	O	|	|	|	|	1.50
16.417	0.00	0.13	0.811	O	|	|	|	|	1.58	21.417	0.00	0.10	0.764	O	|	|	|	|	1.50
16.500	0.00	0.13	0.810	O	|	|	|	|	1.58	21.500	0.00	0.10	0.763	O	|	|	|	|	1.50
16.583	0.00	0.13	0.809	O	|	|	|	|	1.58	21.583	0.00	0.10	0.762	O	|	|	|	|	1.50
16.667	0.00	0.13	0.808	O	|	|	|	|	1.58	21.667	0.00	0.10	0.762	O	|	|	|	|	1.50
16.750	0.00	0.13	0.808	O	|	|	|	|	1.58	21.750	0.00	0.10	0.761	O	|	|	|	|	1.50
16.833	0.00	0.13	0.807	O	|	|	|	|	1.58	21.833	0.00	0.10	0.760	O	|	|	|	|	1.49
16.917	0.00	0.13	0.806	O	|	|	|	|	1.57	21.917	0.00	0.10	0.760	O	|	|	|	|	1.49
17.000	0.00	0.13	0.805	O	|	|	|	|	1.57	22.000	0.00	0.10	0.759	O	|	|	|	|	1.49
17.083	0.00	0.13	0.804	O	|	|	|	|	1.57	22.083	0.00	0.10	0.758	O	|	|	|	|	1.49
17.167	0.00	0.13	0.803	O	|	|	|	|	1.57	22.167	0.00	0.10	0.758	O	|	|	|	|	1.49
17.250	0.00	0.12	0.802	O	|	|	|	|	1.57	22.250	0.00	0.10	0.757	O	|	|	|	|	1.49
17.333	0.00	0.12	0.802	O	|	|	|	|	1.57	22.333	0.00	0.10	0.756	O	|	|	|	|	1.49
17.417	0.00	0.12	0.801	O	|	|	|	|	1.57	22.417	0.00	0.10	0.756	O	|	|	|	|	1.49
17.500	0.00	0.12	0.800	O	|	|	|	|	1.56	22.500	0.00	0.09	0.755	O	|	|	|	|	1.49
17.583	0.00	0.12	0.799	O	|	|	|	|	1.56	22.583	0.00	0.09	0.754	O	|	|	|	|	1.48
17.667	0.00	0.12	0.798	O	|	|	|	|	1.56	22.667	0.00	0.09	0.754	O	|	|	|	|	1.48
17.750	0.00	0.12	0.797	O	|	|	|	|	1.56	22.750	0.00	0.09	0.753	O	|	|	|	|	1.48
17.833	0.00	0.12	0.796	O	|	|	|	|	1.56	22.833	0.00	0.09	0.752	O	|	|	|	|	1.48
17.917	0.00	0.12	0.796	O	|	|	|	|	1.56	22.917	0.00	0.09	0.752	O	|	|	|	|	1.48
18.000	0.00	0.12	0.795	O	|	|	|	|	1.55	23.000	0.00	0.09	0.751	O	|	|	|	|	1.48
18.083	0.00	0.12	0.794	O	|	|	|	|	1.55	23.083	0.00	0.09	0.751	O	|	|	|	|	1.48
18.167	0.00	0.12	0.793	O	|	|	|	|	1.55	23.167	0.00	0.09	0.750	O	|	|	|	|	1.48
18.250	0.00	0.12	0.792	O	|	|	|	|	1.55	23.250	0.00	0.09	0.749	O	|	|	|	|	1.48
18.333	0.00	0.12	0.792	O	|	|	|	|	1.55	23.333	0.00	0.09	0.749	O	|	|	|	|	1.47
18.417	0.00	0.12	0.791	O	|	|	|	|	1.55	23.417	0.00	0.09	0.748	O	|	|	|	|	1.47
18.500	0.00	0.12	0.790	O	|	|	|	|	1.55	23.500	0.00	0.09	0.747	O	|	|	|	|	1.47
18.583	0.00	0.12	0.789	O	|	|	|	|	1.54	23.583	0.00	0.09	0.747	O	|	|	|	|	1.47
18.667	0.00	0.12	0.788	O	|	|	|	|	1.54	23.667	0.00	0.09	0.746	O	|	|	|	|	1.47
18.750	0.00	0.12	0.788	O	|	|	|	|	1.54	23.750	0.00	0.09	0.746	O	|	|	|	|	1.47
18.833	0.00	0.11	0.787	O	|	|	|	|	1.54	23.833	0.00	0.09	0.745	O	|	|	|	|	1.47

23.917	0.00	0.09	0.744	O	|	|	|	|	1.47	28.917	0.00	0.07	0.712	O	|	|	|	|	1.41
24.000	0.00	0.09	0.744	O	|	|	|	|	1.47	29.000	0.00	0.07	0.712	O	|	|	|	|	1.41
24.083	0.00	0.09	0.743	O	|	|	|	|	1.46	29.083	0.00	0.07	0.711	O	|	|	|	|	1.41
24.167	0.00	0.09	0.743	O	|	|	|	|	1.46	29.167	0.00	0.07	0.711	O	|	|	|	|	1.41
24.250	0.00	0.09	0.742	O	|	|	|	|	1.46	29.250	0.00	0.07	0.710	O	|	|	|	|	1.41
24.333	0.00	0.09	0.741	O	|	|	|	|	1.46	29.333	0.00	0.07	0.710	O	|	|	|	|	1.41
24.417	0.00	0.09	0.741	O	|	|	|	|	1.46	29.417	0.00	0.07	0.710	O	|	|	|	|	1.41
24.500	0.00	0.09	0.740	O	|	|	|	|	1.46	29.500	0.00	0.07	0.709	O	|	|	|	|	1.41
24.583	0.00	0.09	0.740	O	|	|	|	|	1.46	29.583	0.00	0.07	0.709	O	|	|	|	|	1.40
24.667	0.00	0.08	0.739	O	|	|	|	|	1.46	29.667	0.00	0.07	0.708	O	|	|	|	|	1.40
24.750	0.00	0.08	0.738	O	|	|	|	|	1.46	29.750	0.00	0.07	0.708	O	|	|	|	|	1.40
24.833	0.00	0.08	0.738	O	|	|	|	|	1.46	29.833	0.00	0.06	0.707	O	|	|	|	|	1.40
24.917	0.00	0.08	0.737	O	|	|	|	|	1.45	29.917	0.00	0.06	0.707	O	|	|	|	|	1.40
25.000	0.00	0.08	0.737	O	|	|	|	|	1.45	30.000	0.00	0.06	0.706	O	|	|	|	|	1.40
25.083	0.00	0.08	0.736	O	|	|	|	|	1.45	30.083	0.00	0.06	0.706	O	|	|	|	|	1.40
25.167	0.00	0.08	0.736	O	|	|	|	|	1.45	30.167	0.00	0.06	0.706	O	|	|	|	|	1.40
25.250	0.00	0.08	0.735	O	|	|	|	|	1.45	30.250	0.00	0.06	0.705	O	|	|	|	|	1.40
25.333	0.00	0.08	0.734	O	|	|	|	|	1.45	30.333	0.00	0.06	0.705	O	|	|	|	|	1.40
25.417	0.00	0.08	0.734	O	|	|	|	|	1.45	30.417	0.00	0.06	0.704	O	|	|	|	|	1.40
25.500	0.00	0.08	0.733	O	|	|	|	|	1.45	30.500	0.00	0.06	0.704	O	|	|	|	|	1.40
25.583	0.00	0.08	0.733	O	|	|	|	|	1.45	30.583	0.00	0.06	0.703	O	|	|	|	|	1.40
25.667	0.00	0.08	0.732	O	|	|	|	|	1.45	30.667	0.00	0.06	0.703	O	|	|	|	|	1.39
25.750	0.00	0.08	0.732	O	|	|	|	|	1.44	30.750	0.00	0.06	0.702	O	|	|	|	|	1.39
25.833	0.00	0.08	0.731	O	|	|	|	|	1.44	30.833	0.00	0.06	0.702	O	|	|	|	|	1.39
25.917	0.00	0.08	0.731	O	|	|	|	|	1.44	30.917	0.00	0.06	0.702	O	|	|	|	|	1.39
26.000	0.00	0.08	0.730	O	|	|	|	|	1.44	31.000	0.00	0.06	0.701	O	|	|	|	|	1.39
26.083	0.00	0.08	0.729	O	|	|	|	|	1.44	31.083	0.00	0.06	0.701	O	|	|	|	|	1.39
26.167	0.00	0.08	0.729	O	|	|	|	|	1.44	31.167	0.00	0.06	0.700	O	|	|	|	|	1.39
26.250	0.00	0.08	0.728	O	|	|	|	|	1.44	31.250	0.00	0.06	0.700	O	|	|	|	|	1.39
26.333	0.00	0.08	0.728	O	|	|	|	|	1.44	31.333	0.00	0.06	0.700	O	|	|	|	|	1.39
26.417	0.00	0.08	0.727	O	|	|	|	|	1.44	31.417	0.00	0.06	0.699	O	|	|	|	|	1.39
26.500	0.00	0.08	0.727	O	|	|	|	|	1.44	31.500	0.00	0.06	0.699	O	|	|	|	|	1.39
26.583	0.00	0.08	0.726	O	|	|	|	|	1.44	31.583	0.00	0.06	0.698	O	|	|	|	|	1.39
26.667	0.00	0.08	0.726	O	|	|	|	|	1.43	31.667	0.00	0.06	0.698	O	|	|	|	|	1.39
26.750	0.00	0.08	0.725	O	|	|	|	|	1.43	31.750	0.00	0.06	0.698	O	|	|	|	|	1.39
26.833	0.00	0.08	0.725	O	|	|	|	|	1.43	31.833	0.00	0.06	0.697	O	|	|	|	|	1.38
26.917	0.00	0.08	0.724	O	|	|	|	|	1.43	31.917	0.00	0.06	0.697	O	|	|	|	|	1.38
27.000	0.00	0.08	0.724	O	|	|	|	|	1.43	32.000	0.00	0.06	0.696	O	|	|	|	|	1.38
27.083	0.00	0.07	0.723	O	|	|	|	|	1.43	32.083	0.00	0.06	0.696	O	|	|	|	|	1.38
27.167	0.00	0.07	0.723	O	|	|	|	|	1.43	32.167	0.00	0.06	0.696	O	|	|	|	|	1.38
27.250	0.00	0.07	0.722	O	|	|	|	|	1.43	32.250	0.00	0.06	0.695	O	|	|	|	|	1.38
27.333	0.00	0.07	0.722	O	|	|	|	|	1.43	32.333	0.00	0.06	0.695	O	|	|	|	|	1.38
27.417	0.00	0.07	0.721	O	|	|	|	|	1.43	32.417	0.00	0.06	0.694	O	|	|	|	|	1.38
27.500	0.00	0.07	0.721	O	|	|	|	|	1.43	32.500	0.00	0.06	0.694	O	|	|	|	|	1.38
27.583	0.00	0.07	0.720	O	|	|	|	|	1.42	32.583	0.00	0.06	0.694	O	|	|	|	|	1.38
27.667	0.00	0.07	0.720	O	|	|	|	|	1.42	32.667	0.00	0.06	0.693	O	|	|	|	|	1.38
27.750	0.00	0.07	0.719	O	|	|	|	|	1.42	32.750	0.00	0.06	0.693	O	|	|	|	|	1.38
27.833	0.00	0.07	0.719	O	|	|	|	|	1.42	32.833	0.00	0.06	0.692	O	|	|	|	|	1.38
27.917	0.00	0.07	0.718	O	|	|	|	|	1.42	32.917	0.00	0.06	0.692	O	|	|	|	|	1.38
28.000	0.00	0.07	0.718	O	|	|	|	|	1.42	33.000	0.00	0.05	0.692	O	|	|	|	|	1.37
28.083	0.00	0.07	0.717	O	|	|	|	|	1.42	33.083	0.00	0.05	0.691	O	|	|	|	|	1.37
28.167	0.00	0.07	0.717	O	|	|	|	|	1.42	33.167	0.00	0.05	0.691	O	|	|	|	|	1.37
28.250	0.00	0.07	0.716	O	|	|	|	|	1.42	33.250	0.00	0.05	0.691	O	|	|	|	|	1.37
28.333	0.00	0.07	0.716	O	|	|	|	|	1.42	33.333	0.00	0.05	0.690	O	|	|	|	|	1.37
28.417	0.00	0.07	0.715	O	|	|	|	|	1.42	33.417	0.00	0.05	0.690	O	|	|	|	|	1.37
28.500	0.00	0.07	0.715	O	|	|	|	|	1.42	33.500	0.00	0.05	0.689	O	|	|	|	|	1.37
28.583	0.00	0.07	0.714	O	|	|	|	|	1.41	33.583	0.00	0.05	0.689	O	|	|	|	|	1.37
28.667	0.00	0.07	0.714	O	|	|	|	|	1.41	33.667	0.00	0.05	0.689	O	|	|	|	|	1.37
28.750	0.00	0.07	0.713	O	|	|	|	|	1.41	33.750	0.00	0.05	0.688	O	|	|	|	|	1.37
28.833	0.00	0.07	0.713	O	|	|	|	|	1.41	33.833	0.00	0.05	0.688	O	|	|	|	|	1.37

33.917	0.00	0.05	0.688	O	|	|	|	|	1.37	38.917	0.00	0.04	0.668	O	|	|	|	|	1.33
34.000	0.00	0.05	0.687	O	|	|	|	|	1.37	39.000	0.00	0.04	0.668	O	|	|	|	|	1.33
34.083	0.00	0.05	0.687	O	|	|	|	|	1.37	39.083	0.00	0.04	0.668	O	|	|	|	|	1.33
34.167	0.00	0.05	0.686	O	|	|	|	|	1.37	39.167	0.00	0.04	0.668	O	|	|	|	|	1.33
34.250	0.00	0.05	0.686	O	|	|	|	|	1.37	39.250	0.00	0.04	0.667	O	|	|	|	|	1.33
34.333	0.00	0.05	0.686	O	|	|	|	|	1.36	39.333	0.00	0.04	0.667	O	|	|	|	|	1.33
34.417	0.00	0.05	0.685	O	|	|	|	|	1.36	39.417	0.00	0.04	0.667	O	|	|	|	|	1.33
34.500	0.00	0.05	0.685	O	|	|	|	|	1.36	39.500	0.00	0.04	0.667	O	|	|	|	|	1.33
34.583	0.00	0.05	0.685	O	|	|	|	|	1.36	39.583	0.00	0.04	0.666	O	|	|	|	|	1.33
34.667	0.00	0.05	0.684	O	|	|	|	|	1.36	39.667	0.00	0.04	0.666	O	|	|	|	|	1.33
34.750	0.00	0.05	0.684	O	|	|	|	|	1.36	39.750	0.00	0.04	0.666	O	|	|	|	|	1.33
34.833	0.00	0.05	0.684	O	|	|	|	|	1.36	39.833	0.00	0.04	0.665	O	|	|	|	|	1.33
34.917	0.00	0.05	0.683	O	|	|	|	|	1.36	39.917	0.00	0.04	0.665	O	|	|	|	|	1.33
35.000	0.00	0.05	0.683	O	|	|	|	|	1.36	40.000	0.00	0.04	0.665	O	|	|	|	|	1.33
35.083	0.00	0.05	0.683	O	|	|	|	|	1.36	40.083	0.00	0.04	0.665	O	|	|	|	|	1.33
35.167	0.00	0.05	0.682	O	|	|	|	|	1.36	40.167	0.00	0.04	0.664	O	|	|	|	|	1.33
35.250	0.00	0.05	0.682	O	|	|	|	|	1.36	40.250	0.00	0.04	0.664	O	|	|	|	|	1.33
35.333	0.00	0.05	0.682	O	|	|	|	|	1.36	40.333	0.00	0.04	0.664	O	|	|	|	|	1.33
35.417	0.00	0.05	0.681	O	|	|	|	|	1.36	40.417	0.00	0.04	0.664	O	|	|	|	|	1.33
35.500	0.00	0.05	0.681	O	|	|	|	|	1.36	40.500	0.00	0.04	0.663	O	|	|	|	|	1.33
35.583	0.00	0.05	0.681	O	|	|	|	|	1.36	40.583	0.00	0.04	0.663	O	|	|	|	|	1.33
35.667	0.00	0.05	0.680	O	|	|	|	|	1.36	40.667	0.00	0.04	0.663	O	|	|	|	|	1.32
35.750	0.00	0.05	0.680	O	|	|	|	|	1.35	40.750	0.00	0.04	0.663	O	|	|	|	|	1.32
35.833	0.00	0.05	0.680	O	|	|	|	|	1.35	40.833	0.00	0.04	0.662	O	|	|	|	|	1.32
35.917	0.00	0.05	0.679	O	|	|	|	|	1.35	40.917	0.00	0.04	0.662	O	|	|	|	|	1.32
36.000	0.00	0.05	0.679	O	|	|	|	|	1.35	41.000	0.00	0.04	0.662	O	|	|	|	|	1.32
36.083	0.00	0.05	0.679	O	|	|	|	|	1.35	41.083	0.00	0.04	0.662	O	|	|	|	|	1.32
36.167	0.00	0.05	0.678	O	|	|	|	|	1.35	41.167	0.00	0.04	0.661	O	|	|	|	|	1.32
36.250	0.00	0.05	0.678	O	|	|	|	|	1.35	41.250	0.00	0.04	0.661	O	|	|	|	|	1.32
36.333	0.00	0.05	0.678	O	|	|	|	|	1.35	41.333	0.00	0.04	0.661	O	|	|	|	|	1.32
36.417	0.00	0.05	0.677	O	|	|	|	|	1.35	41.417	0.00	0.04	0.661	O	|	|	|	|	1.32
36.500	0.00	0.05	0.677	O	|	|	|	|	1.35	41.500	0.00	0.04	0.660	O	|	|	|	|	1.32
36.583	0.00	0.05	0.677	O	|	|	|	|	1.35	41.583	0.00	0.04	0.660	O	|	|	|	|	1.32
36.667	0.00	0.05	0.676	O	|	|	|	|	1.35	41.667	0.00	0.04	0.660	O	|	|	|	|	1.32
36.750	0.00	0.05	0.676	O	|	|	|	|	1.35	41.750	0.00	0.03	0.660	O	|	|	|	|	1.32
36.833	0.00	0.05	0.676	O	|	|	|	|	1.35	41.833	0.00	0.03	0.659	O	|	|	|	|	1.32
36.917	0.00	0.04	0.676	O	|	|	|	|	1.35	41.917	0.00	0.03	0.659	O	|	|	|	|	1.32
37.000	0.00	0.04	0.675	O	|	|	|	|	1.35	42.000	0.00	0.03	0.659	O	|	|	|	|	1.32
37.083	0.00	0.04	0.675	O	|	|	|	|	1.35	42.083	0.00	0.03	0.659	O	|	|	|	|	1.32
37.167	0.00	0.04	0.675	O	|	|	|	|	1.35	42.167	0.00	0.03	0.658	O	|	|	|	|	1.32
37.250	0.00	0.04	0.674	O	|	|	|	|	1.34	42.250	0.00	0.03	0.658	O	|	|	|	|	1.32
37.333	0.00	0.04	0.674	O	|	|	|	|	1.34	42.333	0.00	0.03	0.658	O	|	|	|	|	1.32
37.417	0.00	0.04	0.674	O	|	|	|	|	1.34	42.417	0.00	0.03	0.658	O	|	|	|	|	1.32
37.500	0.00	0.04	0.673	O	|	|	|	|	1.34	42.500	0.00	0.03	0.658	O	|	|	|	|	1.32
37.583	0.00	0.04	0.673	O	|	|	|	|	1.34	42.583	0.00	0.03	0.657	O	|	|	|	|	1.32
37.667	0.00	0.04	0.673	O	|	|	|	|	1.34	42.667	0.00	0.03	0.657	O	|	|	|	|	1.31
37.750	0.00	0.04	0.673	O	|	|	|	|	1.34	42.750	0.00	0.03	0.657	O	|	|	|	|	1.31
37.833	0.00	0.04	0.672	O	|	|	|	|	1.34	42.833	0.00	0.03	0.657	O	|	|	|	|	1.31
37.917	0.00	0.04	0.672	O	|	|	|	|	1.34	42.917	0.00	0.03	0.656	O	|	|	|	|	1.31
38.000	0.00	0.04	0.672	O	|	|	|	|	1.34	43.000	0.00	0.03	0.656	O	|	|	|	|	1.31
38.083	0.00	0.04	0.671	O	|	|	|	|	1.34	43.083	0.00	0.03	0.656	O	|	|	|	|	1.31
38.167	0.00	0.04	0.671	O	|	|	|	|	1.34	43.167	0.00	0.03	0.656	O	|	|	|	|	1.31
38.250	0.00	0.04	0.671	O	|	|	|	|	1.34	43.250	0.00	0.03	0.656	O	|	|	|	|	1.31
38.333	0.00	0.04	0.670	O	|	|	|	|	1.34	43.333	0.00	0.03	0.655	O	|	|	|	|	1.31
38.417	0.00	0.04	0.670	O	|	|	|	|	1.34	43.417	0.00	0.03	0.655	O	|	|	|	|	1.31
38.500	0.00	0.04	0.670	O	|	|	|	|	1.34	43.500	0.00	0.03	0.655	O	|	|	|	|	1.31
38.583	0.00	0.04	0.670	O	|	|	|	|	1.34	43.583	0.00	0.03	0.655	O	|	|	|	|	1.31
38.667	0.00	0.04	0.669	O	|	|	|	|	1.34	43.667	0.00	0.03	0.654	O	|	|	|	|	1.31
38.750	0.00	0.04	0.669	O	|	|	|	|	1.34	43.750	0.00	0.03	0.654	O	|	|	|	|	1.31
38.833	0.00	0.04	0.669	O	|	|	|	|	1.34	43.833	0.00	0.03	0.654	O	|	|	|	|	1.31

43.917	0.00	0.03	0.654	O	|	|	|	|	1.31	48.917	0.00	0.02	0.642	O	|	|	|	|	1.29
44.000	0.00	0.03	0.654	O	|	|	|	|	1.31	49.000	0.00	0.02	0.642	O	|	|	|	|	1.29
44.083	0.00	0.03	0.653	O	|	|	|	|	1.31	49.083	0.00	0.02	0.642	O	|	|	|	|	1.29
44.167	0.00	0.03	0.653	O	|	|	|	|	1.31	49.167	0.00	0.02	0.642	O	|	|	|	|	1.29
44.250	0.00	0.03	0.653	O	|	|	|	|	1.31	49.250	0.00	0.02	0.642	O	|	|	|	|	1.29
44.333	0.00	0.03	0.653	O	|	|	|	|	1.31	49.333	0.00	0.02	0.642	O	|	|	|	|	1.29
44.417	0.00	0.03	0.652	O	|	|	|	|	1.31	49.417	0.00	0.02	0.641	O	|	|	|	|	1.29
44.500	0.00	0.03	0.652	O	|	|	|	|	1.31	49.500	0.00	0.02	0.641	O	|	|	|	|	1.29
44.583	0.00	0.03	0.652	O	|	|	|	|	1.31	49.583	0.00	0.02	0.641	O	|	|	|	|	1.29
44.667	0.00	0.03	0.652	O	|	|	|	|	1.31	49.667	0.00	0.02	0.641	O	|	|	|	|	1.29
44.750	0.00	0.03	0.652	O	|	|	|	|	1.31	49.750	0.00	0.02	0.641	O	|	|	|	|	1.29
44.833	0.00	0.03	0.651	O	|	|	|	|	1.30	49.833	0.00	0.02	0.641	O	|	|	|	|	1.29
44.917	0.00	0.03	0.651	O	|	|	|	|	1.30	49.917	0.00	0.02	0.640	O	|	|	|	|	1.29
45.000	0.00	0.03	0.651	O	|	|	|	|	1.30	50.000	0.00	0.02	0.640	O	|	|	|	|	1.29
45.083	0.00	0.03	0.651	O	|	|	|	|	1.30	50.083	0.00	0.02	0.640	O	|	|	|	|	1.29
45.167	0.00	0.03	0.651	O	|	|	|	|	1.30	50.167	0.00	0.02	0.640	O	|	|	|	|	1.28
45.250	0.00	0.03	0.650	O	|	|	|	|	1.30	50.250	0.00	0.02	0.640	O	|	|	|	|	1.28
45.333	0.00	0.03	0.650	O	|	|	|	|	1.30	50.333	0.00	0.02	0.640	O	|	|	|	|	1.28
45.417	0.00	0.03	0.650	O	|	|	|	|	1.30	50.417	0.00	0.02	0.640	O	|	|	|	|	1.28
45.500	0.00	0.03	0.650	O	|	|	|	|	1.30	50.500	0.00	0.02	0.639	O	|	|	|	|	1.28
45.583	0.00	0.03	0.650	O	|	|	|	|	1.30	50.583	0.00	0.02	0.639	O	|	|	|	|	1.28
45.667	0.00	0.03	0.649	O	|	|	|	|	1.30	50.667	0.00	0.02	0.639	O	|	|	|	|	1.28
45.750	0.00	0.03	0.649	O	|	|	|	|	1.30	50.750	0.00	0.02	0.639	O	|	|	|	|	1.28
45.833	0.00	0.03	0.649	O	|	|	|	|	1.30	50.833	0.00	0.02	0.639	O	|	|	|	|	1.28
45.917	0.00	0.03	0.649	O	|	|	|	|	1.30	50.917	0.00	0.02	0.639	O	|	|	|	|	1.28
46.000	0.00	0.03	0.649	O	|	|	|	|	1.30	51.000	0.00	0.02	0.638	O	|	|	|	|	1.28
46.083	0.00	0.03	0.648	O	|	|	|	|	1.30	51.083	0.00	0.02	0.638	O	|	|	|	|	1.28
46.167	0.00	0.03	0.648	O	|	|	|	|	1.30	51.167	0.00	0.02	0.638	O	|	|	|	|	1.28
46.250	0.00	0.03	0.648	O	|	|	|	|	1.30	51.250	0.00	0.02	0.638	O	|	|	|	|	1.28
46.333	0.00	0.03	0.648	O	|	|	|	|	1.30	51.333	0.00	0.02	0.638	O	|	|	|	|	1.28
46.417	0.00	0.03	0.648	O	|	|	|	|	1.30	51.417	0.00	0.02	0.638	O	|	|	|	|	1.28
46.500	0.00	0.03	0.648	O	|	|	|	|	1.30	51.500	0.00	0.02	0.638	O	|	|	|	|	1.28
46.583	0.00	0.03	0.647	O	|	|	|	|	1.30	51.583	0.00	0.02	0.637	O	|	|	|	|	1.28
46.667	0.00	0.03	0.647	O	|	|	|	|	1.30	51.667	0.00	0.02	0.637	O	|	|	|	|	1.28
46.750	0.00	0.03	0.647	O	|	|	|	|	1.30	51.750	0.00	0.02	0.637	O	|	|	|	|	1.28
46.833	0.00	0.03	0.647	O	|	|	|	|	1.30	51.833	0.00	0.02	0.637	O	|	|	|	|	1.28
46.917	0.00	0.03	0.647	O	|	|	|	|	1.30	51.917	0.00	0.02	0.637	O	|	|	|	|	1.28
47.000	0.00	0.03	0.646	O	|	|	|	|	1.30	52.000	0.00	0.02	0.637	O	|	|	|	|	1.28
47.083	0.00	0.03	0.646	O	|	|	|	|	1.30	52.083	0.00	0.02	0.637	O	|	|	|	|	1.28
47.167	0.00	0.03	0.646	O	|	|	|	|	1.30	52.167	0.00	0.02	0.636	O	|	|	|	|	1.28
47.250	0.00	0.03	0.646	O	|	|	|	|	1.30	52.250	0.00	0.02	0.636	O	|	|	|	|	1.28
47.333	0.00	0.03	0.646	O	|	|	|	|	1.29	52.333	0.00	0.02	0.636	O	|	|	|	|	1.28
47.417	0.00	0.03	0.646	O	|	|	|	|	1.29	52.417	0.00	0.02	0.636	O	|	|	|	|	1.28
47.500	0.00	0.03	0.645	O	|	|	|	|	1.29	52.500	0.00	0.02	0.636	O	|	|	|	|	1.28
47.583	0.00	0.03	0.645	O	|	|	|	|	1.29	52.583	0.00	0.02	0.636	O	|	|	|	|	1.28
47.667	0.00	0.03	0.645	O	|	|	|	|	1.29	52.667	0.00	0.02	0.636	O	|	|	|	|	1.28
47.750	0.00	0.03	0.645	O	|	|	|	|	1.29	52.750	0.00	0.02	0.635	O	|	|	|	|	1.28
47.833	0.00	0.03	0.645	O	|	|	|	|	1.29	52.833	0.00	0.02	0.635	O	|	|	|	|	1.28
47.917	0.00	0.03	0.644	O	|	|	|	|	1.29	52.917	0.00	0.02	0.635	O	|	|	|	|	1.28
48.000	0.00	0.03	0.644	O	|	|	|	|	1.29	53.000	0.00	0.02	0.635	O	|	|	|	|	1.28
48.083	0.00	0.03	0.644	O	|	|	|	|	1.29	53.083	0.00	0.02	0.635	O	|	|	|	|	1.28
48.167	0.00	0.03	0.644	O	|	|	|	|	1.29	53.167	0.00	0.02	0.635	O	|	|	|	|	1.28
48.250	0.00	0.02	0.644	O	|	|	|	|	1.29	53.250	0.00	0.02	0.635	O	|	|	|	|	1.28
48.333	0.00	0.02	0.644	O	|	|	|	|	1.29	53.333	0.00	0.02	0.635	O	|	|	|	|	1.28
48.417	0.00	0.02	0.643	O	|	|	|	|	1.29	53.417	0.00	0.02	0.634	O	|	|	|	|	1.28
48.500	0.00	0.02	0.643	O	|	|	|	|	1.29	53.500	0.00	0.02	0.634	O	|	|	|	|	1.27
48.583	0.00	0.02	0.643	O	|	|	|	|	1.29	53.583	0.00	0.02	0.634	O	|	|	|	|	1.27
48.667	0.00	0.02	0.643	O	|	|	|	|	1.29	53.667	0.00	0.02	0.634	O	|	|	|	|	1.27
48.750	0.00	0.02	0.643	O	|	|	|	|	1.29	53.750	0.00	0.02	0.634	O	|	|	|	|	1.27
48.833	0.00	0.02	0.643	O	|	|	|	|	1.29	53.833	0.00	0.02	0.634	O	|	|	|	|	1.27

53.917	0.00	0.02	0.634	O	|	|	|	|	1.27	58.917	0.00	0.01	0.627	O	|	|	|	|	1.26
54.000	0.00	0.02	0.634	O	|	|	|	|	1.27	59.000	0.00	0.01	0.627	O	|	|	|	|	1.26
54.083	0.00	0.02	0.633	O	|	|	|	|	1.27	59.083	0.00	0.01	0.627	O	|	|	|	|	1.26
54.167	0.00	0.02	0.633	O	|	|	|	|	1.27	59.167	0.00	0.01	0.627	O	|	|	|	|	1.26
54.250	0.00	0.02	0.633	O	|	|	|	|	1.27	59.250	0.00	0.01	0.627	O	|	|	|	|	1.26
54.333	0.00	0.02	0.633	O	|	|	|	|	1.27	59.333	0.00	0.01	0.626	O	|	|	|	|	1.26
54.417	0.00	0.02	0.633	O	|	|	|	|	1.27	59.417	0.00	0.01	0.626	O	|	|	|	|	1.26
54.500	0.00	0.02	0.633	O	|	|	|	|	1.27	59.500	0.00	0.01	0.626	O	|	|	|	|	1.26
54.583	0.00	0.02	0.633	O	|	|	|	|	1.27	59.583	0.00	0.01	0.626	O	|	|	|	|	1.26
54.667	0.00	0.02	0.633	O	|	|	|	|	1.27	59.667	0.00	0.01	0.626	O	|	|	|	|	1.26
54.750	0.00	0.02	0.632	O	|	|	|	|	1.27	59.750	0.00	0.01	0.626	O	|	|	|	|	1.26
54.833	0.00	0.02	0.632	O	|	|	|	|	1.27	59.833	0.00	0.01	0.626	O	|	|	|	|	1.26
54.917	0.00	0.02	0.632	O	|	|	|	|	1.27	59.917	0.00	0.01	0.626	O	|	|	|	|	1.26
55.000	0.00	0.02	0.632	O	|	|	|	|	1.27	60.000	0.00	0.01	0.626	O	|	|	|	|	1.26
55.083	0.00	0.02	0.632	O	|	|	|	|	1.27	60.083	0.00	0.01	0.626	O	|	|	|	|	1.26
55.167	0.00	0.02	0.632	O	|	|	|	|	1.27	60.167	0.00	0.01	0.625	O	|	|	|	|	1.26
55.250	0.00	0.02	0.632	O	|	|	|	|	1.27	60.250	0.00	0.01	0.625	O	|	|	|	|	1.26
55.333	0.00	0.02	0.632	O	|	|	|	|	1.27	60.333	0.00	0.01	0.625	O	|	|	|	|	1.26
55.417	0.00	0.02	0.631	O	|	|	|	|	1.27	60.417	0.00	0.01	0.625	O	|	|	|	|	1.26
55.500	0.00	0.02	0.631	O	|	|	|	|	1.27	60.500	0.00	0.01	0.625	O	|	|	|	|	1.26
55.583	0.00	0.02	0.631	O	|	|	|	|	1.27	60.583	0.00	0.01	0.625	O	|	|	|	|	1.26
55.667	0.00	0.02	0.631	O	|	|	|	|	1.27	60.667	0.00	0.01	0.625	O	|	|	|	|	1.26
55.750	0.00	0.02	0.631	O	|	|	|	|	1.27	60.750	0.00	0.01	0.625	O	|	|	|	|	1.26
55.833	0.00	0.02	0.631	O	|	|	|	|	1.27	60.833	0.00	0.01	0.625	O	|	|	|	|	1.26
55.917	0.00	0.02	0.631	O	|	|	|	|	1.27	60.917	0.00	0.01	0.625	O	|	|	|	|	1.26
56.000	0.00	0.02	0.631	O	|	|	|	|	1.27	61.000	0.00	0.01	0.625	O	|	|	|	|	1.26
56.083	0.00	0.02	0.631	O	|	|	|	|	1.27	61.083	0.00	0.01	0.624	O	|	|	|	|	1.26
56.167	0.00	0.02	0.630	O	|	|	|	|	1.27	61.167	0.00	0.01	0.624	O	|	|	|	|	1.26
56.250	0.00	0.02	0.630	O	|	|	|	|	1.27	61.250	0.00	0.01	0.624	O	|	|	|	|	1.26
56.333	0.00	0.02	0.630	O	|	|	|	|	1.27	61.333	0.00	0.01	0.624	O	|	|	|	|	1.26
56.417	0.00	0.02	0.630	O	|	|	|	|	1.27	61.417	0.00	0.01	0.624	O	|	|	|	|	1.26
56.500	0.00	0.02	0.630	O	|	|	|	|	1.27	61.500	0.00	0.01	0.624	O	|	|	|	|	1.26
56.583	0.00	0.02	0.630	O	|	|	|	|	1.27	61.583	0.00	0.01	0.624	O	|	|	|	|	1.26
56.667	0.00	0.02	0.630	O	|	|	|	|	1.27	61.667	0.00	0.01	0.624	O	|	|	|	|	1.26
56.750	0.00	0.02	0.630	O	|	|	|	|	1.27	61.750	0.00	0.01	0.624	O	|	|	|	|	1.26
56.833	0.00	0.02	0.629	O	|	|	|	|	1.27	61.833	0.00	0.01	0.624	O	|	|	|	|	1.26
56.917	0.00	0.02	0.629	O	|	|	|	|	1.27	61.917	0.00	0.01	0.624	O	|	|	|	|	1.26
57.000	0.00	0.02	0.629	O	|	|	|	|	1.27	62.000	0.00	0.01	0.624	O	|	|	|	|	1.26
57.083	0.00	0.02	0.629	O	|	|	|	|	1.27	62.083	0.00	0.01	0.623	O	|	|	|	|	1.26
57.167	0.00	0.02	0.629	O	|	|	|	|	1.27	62.167	0.00	0.01	0.623	O	|	|	|	|	1.26
57.250	0.00	0.02	0.629	O	|	|	|	|	1.27	62.250	0.00	0.01	0.623	O	|	|	|	|	1.26
57.333	0.00	0.02	0.629	O	|	|	|	|	1.27	62.333	0.00	0.01	0.623	O	|	|	|	|	1.26
57.417	0.00	0.02	0.629	O	|	|	|	|	1.27	62.417	0.00	0.01	0.623	O	|	|	|	|	1.26
57.500	0.00	0.02	0.629	O	|	|	|	|	1.27	62.500	0.00	0.01	0.623	O	|	|	|	|	1.26
57.583	0.00	0.02	0.629	O	|	|	|	|	1.26	62.583	0.00	0.01	0.623	O	|	|	|	|	1.26
57.667	0.00	0.02	0.628	O	|	|	|	|	1.26	62.667	0.00	0.01	0.623	O	|	|	|	|	1.25
57.750	0.00	0.02	0.628	O	|	|	|	|	1.26	62.750	0.00	0.01	0.623	O	|	|	|	|	1.25
57.833	0.00	0.02	0.628	O	|	|	|	|	1.26	62.833	0.00	0.01	0.623	O	|	|	|	|	1.25
57.917	0.00	0.02	0.628	O	|	|	|	|	1.26	62.917	0.00	0.01	0.623	O	|	|	|	|	1.25
58.000	0.00	0.02	0.628	O	|	|	|	|	1.26	63.000	0.00	0.01	0.623	O	|	|	|	|	1.25
58.083	0.00	0.01	0.628	O	|	|	|	|	1.26	63.083	0.00	0.01	0.622	O	|	|	|	|	1.25
58.167	0.00	0.01	0.628	O	|	|	|	|	1.26	63.167	0.00	0.01	0.622	O	|	|	|	|	1.25
58.250	0.00	0.01	0.628	O	|	|	|	|	1.26	63.250	0.00	0.01	0.622	O	|	|	|	|	1.25
58.333	0.00	0.01	0.628	O	|	|	|	|	1.26	63.333	0.00	0.01	0.622	O	|	|	|	|	1.25
58.417	0.00	0.01	0.627	O	|	|	|	|	1.26	63.417	0.00	0.01	0.622	O	|	|	|	|	1.25
58.500	0.00	0.01	0.627	O	|	|	|	|	1.26	63.500	0.00	0.01	0.622	O	|	|	|	|	1.25
58.583	0.00	0.01	0.627	O	|	|	|	|	1.26	63.583	0.00	0.01	0.622	O	|	|	|	|	1.25
58.667	0.00	0.01	0.627	O	|	|	|	|	1.26	63.667	0.00	0.01	0.622	O	|	|	|	|	1.25
58.750	0.00	0.01	0.627	O	|	|	|	|	1.26	63.750	0.00	0.01	0.622	O	|	|	|	|	1.25
58.833	0.00	0.01	0.627	O	|	|	|	|	1.26	63.833	0.00	0.01	0.622	O	|	|	|	|	1.25

63.917	0.00	0.01	0.622	O	|	|	|	|	1.25	68.917	0.00	0.01	0.617	O	|	|	|	|	1.24
64.000	0.00	0.01	0.622	O	|	|	|	|	1.25	69.000	0.00	0.01	0.617	O	|	|	|	|	1.24
64.083	0.00	0.01	0.622	O	|	|	|	|	1.25	69.083	0.00	0.01	0.617	O	|	|	|	|	1.24
64.167	0.00	0.01	0.621	O	|	|	|	|	1.25	69.167	0.00	0.01	0.617	O	|	|	|	|	1.24
64.250	0.00	0.01	0.621	O	|	|	|	|	1.25	69.250	0.00	0.01	0.617	O	|	|	|	|	1.24
64.333	0.00	0.01	0.621	O	|	|	|	|	1.25	69.333	0.00	0.01	0.617	O	|	|	|	|	1.24
64.417	0.00	0.01	0.621	O	|	|	|	|	1.25	69.417	0.00	0.01	0.617	O	|	|	|	|	1.24
64.500	0.00	0.01	0.621	O	|	|	|	|	1.25	69.500	0.00	0.01	0.617	O	|	|	|	|	1.24
64.583	0.00	0.01	0.621	O	|	|	|	|	1.25	69.583	0.00	0.01	0.617	O	|	|	|	|	1.24
64.667	0.00	0.01	0.621	O	|	|	|	|	1.25	69.667	0.00	0.01	0.617	O	|	|	|	|	1.24
64.750	0.00	0.01	0.621	O	|	|	|	|	1.25	69.750	0.00	0.01	0.617	O	|	|	|	|	1.24
64.833	0.00	0.01	0.621	O	|	|	|	|	1.25	69.833	0.00	0.01	0.617	O	|	|	|	|	1.24
64.917	0.00	0.01	0.621	O	|	|	|	|	1.25	69.917	0.00	0.01	0.617	O	|	|	|	|	1.24
65.000	0.00	0.01	0.621	O	|	|	|	|	1.25	70.000	0.00	0.01	0.617	O	|	|	|	|	1.24
65.083	0.00	0.01	0.621	O	|	|	|	|	1.25	70.083	0.00	0.01	0.617	O	|	|	|	|	1.24
65.167	0.00	0.01	0.621	O	|	|	|	|	1.25	70.167	0.00	0.01	0.616	O	|	|	|	|	1.24
65.250	0.00	0.01	0.621	O	|	|	|	|	1.25	70.250	0.00	0.01	0.616	O	|	|	|	|	1.24
65.333	0.00	0.01	0.620	O	|	|	|	|	1.25	70.333	0.00	0.01	0.616	O	|	|	|	|	1.24
65.417	0.00	0.01	0.620	O	|	|	|	|	1.25	70.417	0.00	0.01	0.616	O	|	|	|	|	1.24
65.500	0.00	0.01	0.620	O	|	|	|	|	1.25	70.500	0.00	0.01	0.616	O	|	|	|	|	1.24
65.583	0.00	0.01	0.620	O	|	|	|	|	1.25	70.583	0.00	0.01	0.616	O	|	|	|	|	1.24
65.667	0.00	0.01	0.620	O	|	|	|	|	1.25	70.667	0.00	0.01	0.616	O	|	|	|	|	1.24
65.750	0.00	0.01	0.620	O	|	|	|	|	1.25	70.750	0.00	0.01	0.616	O	|	|	|	|	1.24
65.833	0.00	0.01	0.620	O	|	|	|	|	1.25	70.833	0.00	0.01	0.616	O	|	|	|	|	1.24
65.917	0.00	0.01	0.620	O	|	|	|	|	1.25	70.917	0.00	0.01	0.616	O	|	|	|	|	1.24
66.000	0.00	0.01	0.620	O	|	|	|	|	1.25	71.000	0.00	0.01	0.616	O	|	|	|	|	1.24
66.083	0.00	0.01	0.620	O	|	|	|	|	1.25	71.083	0.00	0.01	0.616	O	|	|	|	|	1.24
66.167	0.00	0.01	0.620	O	|	|	|	|	1.25	71.167	0.00	0.01	0.616	O	|	|	|	|	1.24
66.250	0.00	0.01	0.620	O	|	|	|	|	1.25	71.250	0.00	0.01	0.616	O	|	|	|	|	1.24
66.333	0.00	0.01	0.620	O	|	|	|	|	1.25	71.333	0.00	0.01	0.615	O	|	|	|	|	1.24
66.417	0.00	0.01	0.620	O	|	|	|	|	1.25	71.417	0.00	0.01	0.615	O	|	|	|	|	1.24
66.500	0.00	0.01	0.619	O	|	|	|	|	1.25	71.500	0.00	0.01	0.615	O	|	|	|	|	1.24
66.583	0.00	0.01	0.619	O	|	|	|	|	1.25	71.583	0.00	0.01	0.615	O	|	|	|	|	1.24
66.667	0.00	0.01	0.619	O	|	|	|	|	1.25	71.667	0.00	0.01	0.615	O	|	|	|	|	1.24
66.750	0.00	0.01	0.619	O	|	|	|	|	1.25	71.750	0.00	0.01	0.615	O	|	|	|	|	1.24
66.833	0.00	0.01	0.619	O	|	|	|	|	1.25	71.833	0.00	0.01	0.615	O	|	|	|	|	1.24
66.917	0.00	0.01	0.619	O	|	|	|	|	1.25	71.917	0.00	0.01	0.615	O	|	|	|	|	1.24
67.000	0.00	0.01	0.619	O	|	|	|	|	1.25	72.000	0.00	0.01	0.615	O	|	|	|	|	1.24
67.083	0.00	0.01	0.619	O	|	|	|	|	1.25	72.083	0.00	0.01	0.615	O	|	|	|	|	1.24
67.167	0.00	0.01	0.619	O	|	|	|	|	1.25	72.167	0.00	0.01	0.615	O	|	|	|	|	1.24
67.250	0.00	0.01	0.619	O	|	|	|	|	1.25	72.250	0.00	0.01	0.615	O	|	|	|	|	1.24
67.333	0.00	0.01	0.619	O	|	|	|	|	1.25	72.333	0.00	0.01	0.615	O	|	|	|	|	1.24
67.417	0.00	0.01	0.619	O	|	|	|	|	1.25	72.417	0.00	0.01	0.615	O	|	|	|	|	1.24
67.500	0.00	0.01	0.619	O	|	|	|	|	1.25	72.500	0.00	0.01	0.615	O	|	|	|	|	1.24
67.583	0.00	0.01	0.619	O	|	|	|	|	1.25	72.583	0.00	0.01	0.614	O	|	|	|	|	1.24
67.667	0.00	0.01	0.618	O	|	|	|	|	1.25	72.667	0.00	0.01	0.614	O	|	|	|	|	1.24
67.750	0.00	0.01	0.618	O	|	|	|	|	1.25	72.750	0.00	0.01	0.614	O	|	|	|	|	1.24
67.833	0.00	0.01	0.618	O	|	|	|	|	1.25	72.833	0.00	0.01	0.614	O	|	|	|	|	1.24
67.917	0.00	0.01	0.618	O	|	|	|	|	1.25	72.917	0.00	0.01	0.614	O	|	|	|	|	1.24
68.000	0.00	0.01	0.618	O	|	|	|	|	1.25	73.000	0.00	0.01	0.614	O	|	|	|	|	1.24
68.083	0.00	0.01	0.618	O	|	|	|	|	1.25	73.083	0.00	0.01	0.614	O	|	|	|	|	1.24
68.167	0.00	0.01	0.618	O	|	|	|	|	1.25	73.167	0.00	0.01	0.614	O	|	|	|	|	1.24
68.250	0.00	0.01	0.618	O	|	|	|	|	1.25	73.250	0.00	0.01	0.614	O	|	|	|	|	1.24
68.333	0.00	0.01	0.618	O	|	|	|	|	1.25	73.333	0.00	0.01	0.614	O	|	|	|	|	1.24
68.417	0.00	0.01	0.618	O	|	|	|	|	1.25	73.417	0.00	0.01	0.614	O	|	|	|	|	1.24
68.500	0.00	0.01	0.618	O	|	|	|	|	1.25	73.500	0.00	0.01	0.614	O	|	|	|	|	1.24
68.583	0.00	0.01	0.618	O	|	|	|	|	1.25	73.583	0.00	0.01	0.614	O	|	|	|	|	1.24
68.667	0.00	0.01	0.618	O	|	|	|	|	1.25	73.667	0.00	0.01	0.614	O	|	|	|	|	1.24
68.750	0.00	0.01	0.618	O	|	|	|	|	1.25	73.750	0.00	0.01	0.614	O	|	|	|	|	1.24
68.833	0.00	0.01	0.618	O	|	|	|	|	1.25	73.833	0.00	0.01	0.613	O	|	|	|	|	1.24

73.917	0.00	0.01	0.613	O	|	|	|	|	1.24	78.917	0.00	0.01	0.609	O	|	|	|	|	1.23
74.000	0.00	0.01	0.613	O	|	|	|	|	1.24	79.000	0.00	0.01	0.609	O	|	|	|	|	1.23
74.083	0.00	0.01	0.613	O	|	|	|	|	1.24	79.083	0.00	0.01	0.609	O	|	|	|	|	1.23
74.167	0.00	0.01	0.613	O	|	|	|	|	1.24	79.167	0.00	0.01	0.609	O	|	|	|	|	1.23
74.250	0.00	0.01	0.613	O	|	|	|	|	1.24	79.250	0.00	0.01	0.609	O	|	|	|	|	1.23
74.333	0.00	0.01	0.613	O	|	|	|	|	1.24	79.333	0.00	0.01	0.609	O	|	|	|	|	1.23
74.417	0.00	0.01	0.613	O	|	|	|	|	1.24	79.417	0.00	0.01	0.609	O	|	|	|	|	1.23
74.500	0.00	0.01	0.613	O	|	|	|	|	1.24	79.500	0.00	0.01	0.609	O	|	|	|	|	1.23
74.583	0.00	0.01	0.613	O	|	|	|	|	1.24	79.583	0.00	0.01	0.609	O	|	|	|	|	1.23
74.667	0.00	0.01	0.613	O	|	|	|	|	1.24	79.667	0.00	0.01	0.609	O	|	|	|	|	1.23
74.750	0.00	0.01	0.613	O	|	|	|	|	1.24	79.750	0.00	0.01	0.609	O	|	|	|	|	1.23
74.833	0.00	0.01	0.613	O	|	|	|	|	1.24	79.833	0.00	0.01	0.609	O	|	|	|	|	1.23
74.917	0.00	0.01	0.613	O	|	|	|	|	1.23	79.917	0.00	0.01	0.608	O	|	|	|	|	1.23
75.000	0.00	0.01	0.612	O	|	|	|	|	1.23	80.000	0.00	0.01	0.608	O	|	|	|	|	1.23
75.083	0.00	0.01	0.612	O	|	|	|	|	1.23	80.083	0.00	0.01	0.608	O	|	|	|	|	1.23
75.167	0.00	0.01	0.612	O	|	|	|	|	1.23	80.167	0.00	0.01	0.608	O	|	|	|	|	1.23
75.250	0.00	0.01	0.612	O	|	|	|	|	1.23	80.250	0.00	0.01	0.608	O	|	|	|	|	1.23
75.333	0.00	0.01	0.612	O	|	|	|	|	1.23	80.333	0.00	0.01	0.608	O	|	|	|	|	1.23
75.417	0.00	0.01	0.612	O	|	|	|	|	1.23	80.417	0.00	0.01	0.608	O	|	|	|	|	1.23
75.500	0.00	0.01	0.612	O	|	|	|	|	1.23	80.500	0.00	0.01	0.608	O	|	|	|	|	1.23
75.583	0.00	0.01	0.612	O	|	|	|	|	1.23	80.583	0.00	0.01	0.608	O	|	|	|	|	1.23
75.667	0.00	0.01	0.612	O	|	|	|	|	1.23	80.667	0.00	0.01	0.608	O	|	|	|	|	1.23
75.750	0.00	0.01	0.612	O	|	|	|	|	1.23	80.750	0.00	0.01	0.608	O	|	|	|	|	1.23
75.833	0.00	0.01	0.612	O	|	|	|	|	1.23	80.833	0.00	0.01	0.608	O	|	|	|	|	1.23
75.917	0.00	0.01	0.612	O	|	|	|	|	1.23	80.917	0.00	0.01	0.608	O	|	|	|	|	1.23
76.000	0.00	0.01	0.612	O	|	|	|	|	1.23	81.000	0.00	0.01	0.608	O	|	|	|	|	1.23
76.083	0.00	0.01	0.612	O	|	|	|	|	1.23	81.083	0.00	0.01	0.608	O	|	|	|	|	1.22
76.167	0.00	0.01	0.612	O	|	|	|	|	1.23	81.167	0.00	0.01	0.607	O	|	|	|	|	1.22
76.250	0.00	0.01	0.611	O	|	|	|	|	1.23	81.250	0.00	0.01	0.607	O	|	|	|	|	1.22
76.333	0.00	0.01	0.611	O	|	|	|	|	1.23	81.333	0.00	0.01	0.607	O	|	|	|	|	1.22
76.417	0.00	0.01	0.611	O	|	|	|	|	1.23	81.417	0.00	0.01	0.607	O	|	|	|	|	1.22
76.500	0.00	0.01	0.611	O	|	|	|	|	1.23	81.500	0.00	0.01	0.607	O	|	|	|	|	1.22
76.583	0.00	0.01	0.611	O	|	|	|	|	1.23	81.583	0.00	0.01	0.607	O	|	|	|	|	1.22
76.667	0.00	0.01	0.611	O	|	|	|	|	1.23	81.667	0.00	0.01	0.607	O	|	|	|	|	1.22
76.750	0.00	0.01	0.611	O	|	|	|	|	1.23	81.750	0.00	0.01	0.607	O	|	|	|	|	1.22
76.833	0.00	0.01	0.611	O	|	|	|	|	1.23	81.833	0.00	0.01	0.607	O	|	|	|	|	1.22
76.917	0.00	0.01	0.611	O	|	|	|	|	1.23	81.917	0.00	0.01	0.607	O	|	|	|	|	1.22
77.000	0.00	0.01	0.611	O	|	|	|	|	1.23	82.000	0.00	0.01	0.607	O	|	|	|	|	1.22
77.083	0.00	0.01	0.611	O	|	|	|	|	1.23	82.083	0.00	0.01	0.607	O	|	|	|	|	1.22
77.167	0.00	0.01	0.611	O	|	|	|	|	1.23	82.167	0.00	0.01	0.607	O	|	|	|	|	1.22
77.250	0.00	0.01	0.611	O	|	|	|	|	1.23	82.250	0.00	0.01	0.607	O	|	|	|	|	1.22
77.333	0.00	0.01	0.611	O	|	|	|	|	1.23	82.333	0.00	0.01	0.607	O	|	|	|	|	1.22
77.417	0.00	0.01	0.611	O	|	|	|	|	1.23	82.417	0.00	0.01	0.606	O	|	|	|	|	1.22
77.500	0.00	0.01	0.610	O	|	|	|	|	1.23	82.500	0.00	0.01	0.606	O	|	|	|	|	1.22
77.583	0.00	0.01	0.610	O	|	|	|	|	1.23	82.583	0.00	0.01	0.606	O	|	|	|	|	1.22
77.667	0.00	0.01	0.610	O	|	|	|	|	1.23	82.667	0.00	0.01	0.606	O	|	|	|	|	1.22
77.750	0.00	0.01	0.610	O	|	|	|	|	1.23	82.750	0.00	0.01	0.606	O	|	|	|	|	1.22
77.833	0.00	0.01	0.610	O	|	|	|	|	1.23	82.833	0.00	0.01	0.606	O	|	|	|	|	1.22
77.917	0.00	0.01	0.610	O	|	|	|	|	1.23	82.917	0.00	0.01	0.606	O	|	|	|	|	1.22
78.000	0.00	0.01	0.610	O	|	|	|	|	1.23	83.000	0.00	0.01	0.606	O	|	|	|	|	1.22
78.083	0.00	0.01	0.610	O	|	|	|	|	1.23	83.083	0.00	0.01	0.606	O	|	|	|	|	1.22
78.167	0.00	0.01	0.610	O	|	|	|	|	1.23	83.167	0.00	0.01	0.606	O	|	|	|	|	1.22
78.250	0.00	0.01	0.610	O	|	|	|	|	1.23	83.250	0.00	0.01	0.606	O	|	|	|	|	1.22
78.333	0.00	0.01	0.610	O	|	|	|	|	1.23	83.333	0.00	0.01	0.606	O	|	|	|	|	1.22
78.417	0.00	0.01	0.610	O	|	|	|	|	1.23	83.417	0.00	0.01	0.606	O	|	|	|	|	1.22
78.500	0.00	0.01	0.610	O	|	|	|	|	1.23	83.500	0.00	0.01	0.606	O	|	|	|	|	1.22
78.583	0.00	0.01	0.610	O	|	|	|	|	1.23	83.583	0.00	0.01	0.606	O	|	|	|	|	1.22
78.667	0.00	0.01	0.609	O	|	|	|	|	1.23	83.667	0.00	0.01	0.605	O	|	|	|	|	1.22
78.750	0.00	0.01	0.609	O	|	|	|	|	1.23	83.750	0.00	0.01	0.605	O	|	|	|	|	1.22
78.833	0.00	0.01	0.609	O	|	|	|	|	1.23	83.833	0.00	0.01	0.605	O	|	|	|	|	1.22

83.917	0.00	0.01	0.605	O	|	|	|	|	1.22	88.917	0.00	0.01	0.601	O	|	|	|	|	1.21
84.000	0.00	0.01	0.605	O	|	|	|	|	1.22	89.000	0.00	0.01	0.601	O	|	|	|	|	1.21
84.083	0.00	0.01	0.605	O	|	|	|	|	1.22	89.083	0.00	0.01	0.601	O	|	|	|	|	1.21
84.167	0.00	0.01	0.605	O	|	|	|	|	1.22	89.167	0.00	0.01	0.601	O	|	|	|	|	1.21
84.250	0.00	0.01	0.605	O	|	|	|	|	1.22	89.250	0.00	0.01	0.601	O	|	|	|	|	1.21
84.333	0.00	0.01	0.605	O	|	|	|	|	1.22	89.333	0.00	0.01	0.601	O	|	|	|	|	1.21
84.417	0.00	0.01	0.605	O	|	|	|	|	1.22	89.417	0.00	0.01	0.601	O	|	|	|	|	1.21
84.500	0.00	0.01	0.605	O	|	|	|	|	1.22	89.500	0.00	0.01	0.601	O	|	|	|	|	1.21
84.583	0.00	0.01	0.605	O	|	|	|	|	1.22	89.583	0.00	0.01	0.601	O	|	|	|	|	1.21
84.667	0.00	0.01	0.605	O	|	|	|	|	1.22	89.667	0.00	0.01	0.601	O	|	|	|	|	1.21
84.750	0.00	0.01	0.605	O	|	|	|	|	1.22	89.750	0.00	0.01	0.601	O	|	|	|	|	1.21
84.833	0.00	0.01	0.605	O	|	|	|	|	1.22	89.833	0.00	0.01	0.600	O	|	|	|	|	1.21
84.917	0.00	0.01	0.604	O	|	|	|	|	1.22	89.917	0.00	0.01	0.600	O	|	|	|	|	1.21
85.000	0.00	0.01	0.604	O	|	|	|	|	1.22	90.000	0.00	0.01	0.600	O	|	|	|	|	1.21
85.083	0.00	0.01	0.604	O	|	|	|	|	1.22	90.083	0.00	0.01	0.600	O	|	|	|	|	1.21
85.167	0.00	0.01	0.604	O	|	|	|	|	1.22	90.167	0.00	0.01	0.600	O	|	|	|	|	1.21
85.250	0.00	0.01	0.604	O	|	|	|	|	1.22	90.250	0.00	0.01	0.600	O	|	|	|	|	1.21
85.333	0.00	0.01	0.604	O	|	|	|	|	1.22	90.333	0.00	0.01	0.600	O	|	|	|	|	1.21
85.417	0.00	0.01	0.604	O	|	|	|	|	1.22	90.417	0.00	0.01	0.600	O	|	|	|	|	1.21
85.500	0.00	0.01	0.604	O	|	|	|	|	1.22	90.500	0.00	0.01	0.600	O	|	|	|	|	1.21
85.583	0.00	0.01	0.604	O	|	|	|	|	1.22	90.583	0.00	0.01	0.600	O	|	|	|	|	1.21
85.667	0.00	0.01	0.604	O	|	|	|	|	1.22	90.667	0.00	0.01	0.600	O	|	|	|	|	1.21
85.750	0.00	0.01	0.604	O	|	|	|	|	1.22	90.750	0.00	0.01	0.600	O	|	|	|	|	1.21
85.833	0.00	0.01	0.604	O	|	|	|	|	1.22	90.833	0.00	0.01	0.600	O	|	|	|	|	1.21
85.917	0.00	0.01	0.604	O	|	|	|	|	1.22	90.917	0.00	0.01	0.600	O	|	|	|	|	1.21
86.000	0.00	0.01	0.604	O	|	|	|	|	1.22	91.000	0.00	0.01	0.600	O	|	|	|	|	1.21
86.083	0.00	0.01	0.603	O	|	|	|	|	1.22	91.083	0.00	0.01	0.599	O	|	|	|	|	1.21
86.167	0.00	0.01	0.603	O	|	|	|	|	1.22	91.167	0.00	0.01	0.599	O	|	|	|	|	1.21
86.250	0.00	0.01	0.603	O	|	|	|	|	1.22	91.250	0.00	0.01	0.599	O	|	|	|	|	1.21
86.333	0.00	0.01	0.603	O	|	|	|	|	1.22	91.333	0.00	0.01	0.599	O	|	|	|	|	1.21
86.417	0.00	0.01	0.603	O	|	|	|	|	1.22	91.417	0.00	0.01	0.599	O	|	|	|	|	1.21
86.500	0.00	0.01	0.603	O	|	|	|	|	1.22	91.500	0.00	0.01	0.599	O	|	|	|	|	1.21
86.583	0.00	0.01	0.603	O	|	|	|	|	1.22	91.583	0.00	0.01	0.599	O	|	|	|	|	1.21
86.667	0.00	0.01	0.603	O	|	|	|	|	1.22	91.667	0.00	0.01	0.599	O	|	|	|	|	1.21
86.750	0.00	0.01	0.603	O	|	|	|	|	1.22	91.750	0.00	0.01	0.599	O	|	|	|	|	1.21
86.833	0.00	0.01	0.603	O	|	|	|	|	1.22	91.833	0.00	0.01	0.599	O	|	|	|	|	1.21
86.917	0.00	0.01	0.603	O	|	|	|	|	1.22	91.917	0.00	0.01	0.599	O	|	|	|	|	1.21
87.000	0.00	0.01	0.603	O	|	|	|	|	1.22	92.000	0.00	0.01	0.599	O	|	|	|	|	1.21
87.083	0.00	0.01	0.603	O	|	|	|	|	1.22	92.083	0.00	0.01	0.599	O	|	|	|	|	1.21
87.167	0.00	0.01	0.603	O	|	|	|	|	1.21	92.167	0.00	0.01	0.599	O	|	|	|	|	1.21
87.250	0.00	0.01	0.603	O	|	|	|	|	1.21	92.250	0.00	0.01	0.599	O	|	|	|	|	1.21
87.333	0.00	0.01	0.602	O	|	|	|	|	1.21	92.333	0.00	0.01	0.598	O	|	|	|	|	1.21
87.417	0.00	0.01	0.602	O	|	|	|	|	1.21	92.417	0.00	0.01	0.598	O	|	|	|	|	1.21
87.500	0.00	0.01	0.602	O	|	|	|	|	1.21	92.500	0.00	0.01	0.598	O	|	|	|	|	1.21
87.583	0.00	0.01	0.602	O	|	|	|	|	1.21	92.583	0.00	0.01	0.598	O	|	|	|	|	1.21
87.667	0.00	0.01	0.602	O	|	|	|	|	1.21	92.667	0.00	0.01	0.598	O	|	|	|	|	1.21
87.750	0.00	0.01	0.602	O	|	|	|	|	1.21	92.750	0.00	0.01	0.598	O	|	|	|	|	1.21
87.833	0.00	0.01	0.602	O	|	|	|	|	1.21	92.833	0.00	0.01	0.598	O	|	|	|	|	1.21
87.917	0.00	0.01	0.602	O	|	|	|	|	1.21	92.917	0.00	0.01	0.598	O	|	|	|	|	1.21
88.000	0.00	0.01	0.602	O	|	|	|	|	1.21	93.000	0.00	0.01	0.598	O	|	|	|	|	1.21
88.083	0.00	0.01	0.602	O	|	|	|	|	1.21	93.083	0.00	0.01	0.598	O	|	|	|	|	1.21
88.167	0.00	0.01	0.602	O	|	|	|	|	1.21	93.167	0.00	0.01	0.598	O	|	|	|	|	1.21
88.250	0.00	0.01	0.602	O	|	|	|	|	1.21	93.250	0.00	0.01	0.598	O	|	|	|	|	1.21
88.333	0.00	0.01	0.602	O	|	|	|	|	1.21	93.333	0.00	0.01	0.598	O	|	|	|	|	1.21
88.417	0.00	0.01	0.602	O	|	|	|	|	1.21	93.417	0.00	0.01	0.598	O	|	|	|	|	1.20
88.500	0.00	0.01	0.602	O	|	|	|	|	1.21	93.500	0.00	0.01	0.598	O	|	|	|	|	1.20
88.583	0.00	0.01	0.601	O	|	|	|	|	1.21	93.583	0.00	0.01	0.597	O	|	|	|	|	1.20
88.667	0.00	0.01	0.601	O	|	|	|	|	1.21	93.667	0.00	0.01	0.597	O	|	|	|	|	1.20
88.750	0.00	0.01	0.601	O	|	|	|	|	1.21	93.750	0.00	0.01	0.597	O	|	|	|	|	1.20
88.833	0.00	0.01	0.601	O	|	|	|	|	1.21	93.833	0.00	0.01	0.597	O	|	|	|	|	1.20

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413.917    0.00    0.01      0.390  O       |       |       |       |     0.79
414.000    0.00    0.01      0.390  O       |       |       |       |     0.79
414.083    0.00    0.01      0.390  O       |       |       |       |     0.79
414.167    0.00    0.01      0.390  O       |       |       |       |     0.79
414.250    0.00    0.01      0.390  O       |       |       |       |     0.79
414.333    0.00    0.01      0.390  O       |       |       |       |     0.79
414.417    0.00    0.01      0.390  O       |       |       |       |     0.79
414.500    0.00    0.01      0.390  O       |       |       |       |     0.79
414.583    0.00    0.01      0.389  O       |       |       |       |     0.79
414.667    0.00    0.01      0.389  O       |       |       |       |     0.79
414.750    0.00    0.01      0.389  O       |       |       |       |     0.79
414.833    0.00    0.01      0.389  O       |       |       |       |     0.79
414.917    0.00    0.01      0.389  O       |       |       |       |     0.78
415.000    0.00    0.01      0.389  O       |       |       |       |     0.78
415.083    0.00    0.01      0.389  O       |       |       |       |     0.78
415.167    0.00    0.01      0.389  O       |       |       |       |     0.78
415.250    0.00    0.01      0.389  O       |       |       |       |     0.78
415.333    0.00    0.01      0.389  O       |       |       |       |     0.78
415.417    0.00    0.01      0.389  O       |       |       |       |     0.78
415.500    0.00    0.01      0.389  O       |       |       |       |     0.78
415.583    0.00    0.01      0.389  O       |       |       |       |     0.78
415.667    0.00    0.01      0.389  O       |       |       |       |     0.78
415.750    0.00    0.01      0.389  O       |       |       |       |     0.78
415.833    0.00    0.01      0.389  O       |       |       |       |     0.78
415.917    0.00    0.01      0.389  O       |       |       |       |     0.78
416.000    0.00    0.01      0.389  O       |       |       |       |     0.78
416.083    0.00    0.01      0.389  O       |       |       |       |     0.78
416.167    0.00    0.01      0.389  O       |       |       |       |     0.78
416.250    0.00    0.01      0.389  O       |       |       |       |     0.78
416.333    0.00    0.01      0.389  O       |       |       |       |     0.78
416.417    0.00    0.01      0.389  O       |       |       |       |     0.78
416.500    0.00    0.01      0.389  O       |       |       |       |     0.78
416.583    0.00    0.01      0.388  O       |       |       |       |     0.78
416.667    0.00    0.01      0.388  O       |       |       |       |     0.78

        Remaining water in basin =    0.39 (Ac.Ft)

        ****************************HYDROGRAPH DATA****************************
                       Number of intervals =  5001
                       Time interval =    5.0 (Min.)
                       Maximum/Peak flow rate =        0.258 (CFS)
                       Total volume =       0.640 (Ac.Ft)
                Status of hydrographs being held in storage
                          Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
                Peak (CFS)      0.000     0.000     0.000     0.000     0.000
                Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
        ***********************************************************************

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

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TR 37036, PARCEL 1
BASIN M
2Y 6H STORM

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Program License Serial Number 6406

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******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR62.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    76
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       10.449 (CFS)
                Total volume =       1.436 (Ac.Ft)
        Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 76
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
------------------------------------------------------------------------
------------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
------------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
------------------------------------------------------------------------
                    Hydrograph Detention Basin Routing
------------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
------------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       2.6    5.22    7.84   10.45 (Ft.)
 0.083   0.43    0.00      0.001  OI      |       |       |       |     0.00
 0.167   0.98    0.00      0.006  O I     |       |       |       |     0.01
 0.250   1.17    0.00      0.014  O  I    |       |       |       |     0.03
 0.333   1.22    0.00      0.022  O  I    |       |       |       |     0.04
 0.417   1.25    0.00      0.030  O  I    |       |       |       |     0.06
 0.500   1.34    0.00      0.039  O   I   |       |       |       |     0.08
 0.583   1.43    0.00      0.049  O   I   |       |       |       |     0.10
 0.667   1.45    0.00      0.059  O   I   |       |       |       |     0.12
 0.750   1.45    0.00      0.069  O   I   |       |       |       |     0.14
 0.833   1.46    0.00      0.079  O   I   |       |       |       |     0.16
 0.917   1.46    0.00      0.089  O   I   |       |       |       |     0.18
 1.000   1.54    0.00      0.099  O   I   |       |       |       |     0.20
 1.083   1.64    0.00      0.110  O    I  |       |       |       |     0.22
 1.167   1.66    0.00      0.121  O    I  |       |       |       |     0.24
 1.250   1.66    0.00      0.133  O    I  |       |       |       |     0.27
 1.333   1.67    0.00      0.144  O    I  |       |       |       |     0.29
 1.417   1.67    0.00      0.156  O    I  |       |       |       |     0.31
 1.500   1.67    0.00      0.167  O    I  |       |       |       |     0.34
 1.583   1.67    0.00      0.179  O    I  |       |       |       |     0.36
 1.667   1.67    0.00      0.190  O    I  |       |       |       |     0.38
 1.750   1.67    0.00      0.202  O    I  |       |       |       |     0.41
 1.833   1.67    0.00      0.213  O    I  |       |       |       |     0.43
 1.917   1.67    0.00      0.224  O    I  |       |       |       |     0.45
 2.000   1.75    0.00      0.236  O    I  |       |       |       |     0.48
 2.083   1.76    0.00      0.248  O    I  |       |       |       |     0.50
 2.167   1.77    0.00      0.260  O    I  |       |       |       |     0.52
 2.250   1.85    0.00      0.273  O    I  |       |       |       |     0.55
 2.333   1.87    0.00      0.286  O    I  |       |       |       |     0.58
 2.417   1.87    0.00      0.298  O    I  |       |       |       |     0.60
 2.500   1.87    0.01      0.311  O    I  |       |       |       |     0.63
 2.583   1.87    0.01      0.324  O    I  |       |       |       |     0.65
 2.667   1.87    0.01      0.337  O    I  |       |       |       |     0.68
 2.750   1.96    0.01      0.350  O     I |       |       |       |     0.71
 2.833   2.05    0.01      0.364  O     I |       |       |       |     0.73
 2.917   2.07    0.01      0.378  O     I |       |       |       |     0.76
 3.000   2.08    0.01      0.392  O     I |       |       |       |     0.79
 3.083   2.08    0.01      0.407  O     I |       |       |       |     0.82
 3.167   2.17    0.01      0.421  O     I |       |       |       |     0.85
 3.250   2.26    0.01      0.436  O     I |       |       |       |     0.88
 3.333   2.28    0.01      0.452  O     I |       |       |       |     0.91
 3.417   2.37    0.01      0.468  O      I|       |       |       |     0.94
 3.500   2.56    0.01      0.485  O      I|       |       |       |     0.98
 3.583   2.75    0.01      0.503  O       I       |       |       |     1.01
 3.667   2.87    0.01      0.523  O       I       |       |       |     1.05
 3.750   2.99    0.01      0.543  O       |I      |       |       |     1.09
 3.833   3.09    0.01      0.564  O       |I      |       |       |     1.14
```

3.917	3.20	0.01	0.585	O	|I	|	|	|	1.18	8.917	0.00	0.35	1.311	IO	|	|	|	|	2.43
4.000	3.30	0.01	0.607	O	| I	|	|	|	1.22	9.000	0.00	0.35	1.309	IO	|	|	|	|	2.42
4.083	3.41	0.02	0.630	O	| I	|	|	|	1.27	9.083	0.00	0.35	1.306	IO	|	|	|	|	2.42
4.167	3.59	0.03	0.654	O	| I	|	|	|	1.31	9.167	0.00	0.35	1.304	IO	|	|	|	|	2.42
4.250	3.79	0.05	0.680	O	| I	|	|	|	1.35	9.250	0.00	0.35	1.301	IO	|	|	|	|	2.41
4.333	4.00	0.06	0.706	O	| I	|	|	|	1.40	9.333	0.00	0.35	1.299	IO	|	|	|	|	2.41
4.417	4.21	0.08	0.734	O	| I	|	|	|	1.45	9.417	0.00	0.35	1.297	IO	|	|	|	|	2.40
4.500	4.33	0.10	0.763	O	| I	|	|	|	1.50	9.500	0.00	0.35	1.294	IO	|	|	|	|	2.40
4.583	4.45	0.12	0.792	O	| I	|	|	|	1.55	9.583	0.00	0.35	1.292	IO	|	|	|	|	2.40
4.667	4.64	0.14	0.822	O	| I	|	|	|	1.60	9.667	0.00	0.35	1.289	IO	|	|	|	|	2.39
4.750	4.84	0.16	0.854	O	| I	|	|	|	1.66	9.750	0.00	0.35	1.287	IO	|	|	|	|	2.39
4.833	4.95	0.18	0.887	O	| I|	|	|	1.71	9.833	0.00	0.35	1.285	IO	|	|	|	|	2.38
4.917	5.07	0.20	0.920	O	| I|	|	|	1.77	9.917	0.00	0.34	1.282	IO	|	|	|	|	2.38
5.000	5.26	0.22	0.954	O	| I	|	|	1.83	10.000	0.00	0.34	1.280	IO	|	|	|	|	2.38
5.083	5.81	0.24	0.990	O	| |I	|	|	1.90	10.083	0.00	0.34	1.277	IO	|	|	|	|	2.37
5.167	6.72	0.27	1.032	O	| | I	|	|	1.97	10.167	0.00	0.34	1.275	IO	|	|	|	|	2.37
5.250	7.55	0.29	1.079	O	| | I|	|	2.05	10.250	0.00	0.34	1.273	IO	|	|	|	|	2.37
5.333	8.22	0.30	1.131	O	| | |I	|	2.13	10.333	0.00	0.34	1.270	IO	|	|	|	|	2.36
5.417	9.04	0.32	1.189	O	| | | I	|	2.23	10.417	0.00	0.34	1.268	IO	|	|	|	|	2.36
5.500	10.45	0.34	1.254	|O	| | | I	2.33	10.500	0.00	0.34	1.266	IO	|	|	|	|	2.35
5.583	8.22	0.35	1.315	|O	| | |I	|	2.44	10.583	0.00	0.34	1.263	IO	|	|	|	|	2.35
5.667	4.11	0.37	1.355	|O	| I	|	|	2.50	10.667	0.00	0.34	1.261	IO	|	|	|	|	2.35
5.750	2.29	0.37	1.375	|O I|	|	|	2.53	10.750	0.00	0.34	1.259	IO	|	|	|	|	2.34
5.833	1.48	0.37	1.385	|O I	|	|	|	2.55	10.833	0.00	0.34	1.256	IO	|	|	|	|	2.34
5.917	0.96	0.38	1.391	|OI	|	|	|	2.56	10.917	0.00	0.34	1.254	IO	|	|	|	|	2.33
6.000	0.62	0.38	1.394	|O	|	|	|	2.56	11.000	0.00	0.34	1.252	IO	|	|	|	|	2.33
6.083	0.30	0.38	1.395	IO	|	|	|	|	2.56	11.083	0.00	0.34	1.249	IO	|	|	|	|	2.33
6.167	0.08	0.38	1.393	IO	|	|	|	|	2.56	11.167	0.00	0.33	1.247	IO	|	|	|	|	2.32
6.250	0.02	0.38	1.391	IO	|	|	|	|	2.56	11.250	0.00	0.33	1.245	IO	|	|	|	|	2.32
6.333	0.01	0.37	1.389	IO	|	|	|	|	2.56	11.333	0.00	0.33	1.242	IO	|	|	|	|	2.32
6.417	0.00	0.37	1.386	IO	|	|	|	|	2.55	11.417	0.00	0.33	1.240	IO	|	|	|	|	2.31
6.500	0.00	0.37	1.383	IO	|	|	|	|	2.55	11.500	0.00	0.33	1.238	IO	|	|	|	|	2.31
6.583	0.00	0.37	1.381	IO	|	|	|	|	2.54	11.583	0.00	0.33	1.236	IO	|	|	|	|	2.30
6.667	0.00	0.37	1.378	IO	|	|	|	|	2.54	11.667	0.00	0.33	1.233	IO	|	|	|	|	2.30
6.750	0.00	0.37	1.376	IO	|	|	|	|	2.53	11.750	0.00	0.33	1.231	IO	|	|	|	|	2.30
6.833	0.00	0.37	1.373	IO	|	|	|	|	2.53	11.833	0.00	0.33	1.229	IO	|	|	|	|	2.29
6.917	0.00	0.37	1.371	IO	|	|	|	|	2.53	11.917	0.00	0.33	1.227	IO	|	|	|	|	2.29
7.000	0.00	0.37	1.368	IO	|	|	|	|	2.52	12.000	0.00	0.33	1.224	IO	|	|	|	|	2.29
7.083	0.00	0.37	1.366	IO	|	|	|	|	2.52	12.083	0.00	0.33	1.222	IO	|	|	|	|	2.28
7.167	0.00	0.37	1.363	IO	|	|	|	|	2.51	12.167	0.00	0.33	1.220	IO	|	|	|	|	2.28
7.250	0.00	0.37	1.361	IO	|	|	|	|	2.51	12.250	0.00	0.33	1.217	IO	|	|	|	|	2.27
7.333	0.00	0.37	1.358	IO	|	|	|	|	2.50	12.333	0.00	0.33	1.215	O	|	|	|	|	2.27
7.417	0.00	0.37	1.355	IO	|	|	|	|	2.50	12.417	0.00	0.33	1.213	O	|	|	|	|	2.27
7.500	0.00	0.36	1.353	IO	|	|	|	|	2.50	12.500	0.00	0.32	1.211	O	|	|	|	|	2.26
7.583	0.00	0.36	1.350	IO	|	|	|	|	2.49	12.583	0.00	0.32	1.209	O	|	|	|	|	2.26
7.667	0.00	0.36	1.348	IO	|	|	|	|	2.49	12.667	0.00	0.32	1.206	O	|	|	|	|	2.26
7.750	0.00	0.36	1.345	IO	|	|	|	|	2.48	12.750	0.00	0.32	1.204	O	|	|	|	|	2.25
7.833	0.00	0.36	1.343	IO	|	|	|	|	2.48	12.833	0.00	0.32	1.202	O	|	|	|	|	2.25
7.917	0.00	0.36	1.340	IO	|	|	|	|	2.48	12.917	0.00	0.32	1.200	O	|	|	|	|	2.25
8.000	0.00	0.36	1.338	IO	|	|	|	|	2.47	13.000	0.00	0.32	1.197	O	|	|	|	|	2.24
8.083	0.00	0.36	1.336	IO	|	|	|	|	2.47	13.083	0.00	0.32	1.195	O	|	|	|	|	2.24
8.167	0.00	0.36	1.333	IO	|	|	|	|	2.46	13.167	0.00	0.32	1.193	O	|	|	|	|	2.23
8.250	0.00	0.36	1.331	IO	|	|	|	|	2.46	13.250	0.00	0.32	1.191	O	|	|	|	|	2.23
8.333	0.00	0.36	1.328	IO	|	|	|	|	2.46	13.333	0.00	0.32	1.189	O	|	|	|	|	2.23
8.417	0.00	0.36	1.326	IO	|	|	|	|	2.45	13.417	0.00	0.32	1.186	O	|	|	|	|	2.22
8.500	0.00	0.36	1.323	IO	|	|	|	|	2.45	13.500	0.00	0.32	1.184	O	|	|	|	|	2.22
8.583	0.00	0.36	1.321	IO	|	|	|	|	2.44	13.583	0.00	0.32	1.182	O	|	|	|	|	2.22
8.667	0.00	0.35	1.318	IO	|	|	|	|	2.44	13.667	0.00	0.32	1.180	O	|	|	|	|	2.21
8.750	0.00	0.35	1.316	IO	|	|	|	|	2.44	13.750	0.00	0.32	1.178	O	|	|	|	|	2.21
8.833	0.00	0.35	1.313	IO	|	|	|	|	2.43	13.833	0.00	0.31	1.175	O	|	|	|	|	2.21

13.917	0.00	0.31	1.173	O	|	|	|	|	2.20	18.917	0.00	0.28	1.051	O	|	|	|	|	2.00
14.000	0.00	0.31	1.171	O	|	|	|	|	2.20	19.000	0.00	0.28	1.049	O	|	|	|	|	2.00
14.083	0.00	0.31	1.169	O	|	|	|	|	2.20	19.083	0.00	0.28	1.047	O	|	|	|	|	1.99
14.167	0.00	0.31	1.167	O	|	|	|	|	2.19	19.167	0.00	0.28	1.045	O	|	|	|	|	1.99
14.250	0.00	0.31	1.165	O	|	|	|	|	2.19	19.250	0.00	0.28	1.043	O	|	|	|	|	1.99
14.333	0.00	0.31	1.163	O	|	|	|	|	2.18	19.333	0.00	0.27	1.041	O	|	|	|	|	1.98
14.417	0.00	0.31	1.160	O	|	|	|	|	2.18	19.417	0.00	0.27	1.039	O	|	|	|	|	1.98
14.500	0.00	0.31	1.158	O	|	|	|	|	2.18	19.500	0.00	0.27	1.037	O	|	|	|	|	1.98
14.583	0.00	0.31	1.156	O	|	|	|	|	2.17	19.583	0.00	0.27	1.035	O	|	|	|	|	1.97
14.667	0.00	0.31	1.154	O	|	|	|	|	2.17	19.667	0.00	0.27	1.034	O	|	|	|	|	1.97
14.750	0.00	0.31	1.152	O	|	|	|	|	2.17	19.750	0.00	0.27	1.032	O	|	|	|	|	1.97
14.833	0.00	0.31	1.150	O	|	|	|	|	2.16	19.833	0.00	0.27	1.030	O	|	|	|	|	1.96
14.917	0.00	0.31	1.148	O	|	|	|	|	2.16	19.917	0.00	0.27	1.028	O	|	|	|	|	1.96
15.000	0.00	0.31	1.146	O	|	|	|	|	2.16	20.000	0.00	0.27	1.026	O	|	|	|	|	1.96
15.083	0.00	0.31	1.143	O	|	|	|	|	2.15	20.083	0.00	0.26	1.024	O	|	|	|	|	1.96
15.167	0.00	0.31	1.141	O	|	|	|	|	2.15	20.167	0.00	0.26	1.023	O	|	|	|	|	1.95
15.250	0.00	0.30	1.139	O	|	|	|	|	2.15	20.250	0.00	0.26	1.021	O	|	|	|	|	1.95
15.333	0.00	0.30	1.137	O	|	|	|	|	2.14	20.333	0.00	0.26	1.019	O	|	|	|	|	1.95
15.417	0.00	0.30	1.135	O	|	|	|	|	2.14	20.417	0.00	0.26	1.017	O	|	|	|	|	1.94
15.500	0.00	0.30	1.133	O	|	|	|	|	2.14	20.500	0.00	0.26	1.015	O	|	|	|	|	1.94
15.583	0.00	0.30	1.131	O	|	|	|	|	2.13	20.583	0.00	0.26	1.014	O	|	|	|	|	1.94
15.667	0.00	0.30	1.129	O	|	|	|	|	2.13	20.667	0.00	0.26	1.012	O	|	|	|	|	1.93
15.750	0.00	0.30	1.127	O	|	|	|	|	2.13	20.750	0.00	0.25	1.010	O	|	|	|	|	1.93
15.833	0.00	0.30	1.125	O	|	|	|	|	2.12	20.833	0.00	0.25	1.008	O	|	|	|	|	1.93
15.917	0.00	0.30	1.123	O	|	|	|	|	2.12	20.917	0.00	0.25	1.007	O	|	|	|	|	1.92
16.000	0.00	0.30	1.120	O	|	|	|	|	2.12	21.000	0.00	0.25	1.005	O	|	|	|	|	1.92
16.083	0.00	0.30	1.118	O	|	|	|	|	2.11	21.083	0.00	0.25	1.003	O	|	|	|	|	1.92
16.167	0.00	0.30	1.116	O	|	|	|	|	2.11	21.167	0.00	0.25	1.001	O	|	|	|	|	1.92
16.250	0.00	0.30	1.114	O	|	|	|	|	2.11	21.250	0.00	0.25	1.000	O	|	|	|	|	1.91
16.333	0.00	0.30	1.112	O	|	|	|	|	2.10	21.333	0.00	0.25	0.998	O	|	|	|	|	1.91
16.417	0.00	0.30	1.110	O	|	|	|	|	2.10	21.417	0.00	0.25	0.996	O	|	|	|	|	1.91
16.500	0.00	0.30	1.108	O	|	|	|	|	2.10	21.500	0.00	0.25	0.995	O	|	|	|	|	1.90
16.583	0.00	0.30	1.106	O	|	|	|	|	2.09	21.583	0.00	0.24	0.993	O	|	|	|	|	1.90
16.667	0.00	0.30	1.104	O	|	|	|	|	2.09	21.667	0.00	0.24	0.991	O	|	|	|	|	1.90
16.750	0.00	0.29	1.102	O	|	|	|	|	2.09	21.750	0.00	0.24	0.990	O	|	|	|	|	1.89
16.833	0.00	0.29	1.100	O	|	|	|	|	2.08	21.833	0.00	0.24	0.988	O	|	|	|	|	1.89
16.917	0.00	0.29	1.098	O	|	|	|	|	2.08	21.917	0.00	0.24	0.986	O	|	|	|	|	1.89
17.000	0.00	0.29	1.096	O	|	|	|	|	2.08	22.000	0.00	0.24	0.985	O	|	|	|	|	1.89
17.083	0.00	0.29	1.094	O	|	|	|	|	2.07	22.083	0.00	0.24	0.983	O	|	|	|	|	1.88
17.167	0.00	0.29	1.092	O	|	|	|	|	2.07	22.167	0.00	0.24	0.981	O	|	|	|	|	1.88
17.250	0.00	0.29	1.090	O	|	|	|	|	2.07	22.250	0.00	0.24	0.980	O	|	|	|	|	1.88
17.333	0.00	0.29	1.088	O	|	|	|	|	2.06	22.333	0.00	0.23	0.978	O	|	|	|	|	1.87
17.417	0.00	0.29	1.086	O	|	|	|	|	2.06	22.417	0.00	0.23	0.976	O	|	|	|	|	1.87
17.500	0.00	0.29	1.084	O	|	|	|	|	2.06	22.500	0.00	0.23	0.975	O	|	|	|	|	1.87
17.583	0.00	0.29	1.082	O	|	|	|	|	2.05	22.583	0.00	0.23	0.973	O	|	|	|	|	1.87
17.667	0.00	0.29	1.080	O	|	|	|	|	2.05	22.667	0.00	0.23	0.972	O	|	|	|	|	1.86
17.750	0.00	0.29	1.078	O	|	|	|	|	2.05	22.750	0.00	0.23	0.970	O	|	|	|	|	1.86
17.833	0.00	0.29	1.076	O	|	|	|	|	2.04	22.833	0.00	0.23	0.968	O	|	|	|	|	1.86
17.917	0.00	0.29	1.074	O	|	|	|	|	2.04	22.917	0.00	0.23	0.967	O	|	|	|	|	1.86
18.000	0.00	0.29	1.072	O	|	|	|	|	2.04	23.000	0.00	0.23	0.965	O	|	|	|	|	1.85
18.083	0.00	0.29	1.070	O	|	|	|	|	2.03	23.083	0.00	0.23	0.964	O	|	|	|	|	1.85
18.167	0.00	0.29	1.068	O	|	|	|	|	2.03	23.167	0.00	0.22	0.962	O	|	|	|	|	1.85
18.250	0.00	0.28	1.066	O	|	|	|	|	2.03	23.250	0.00	0.22	0.961	O	|	|	|	|	1.84
18.333	0.00	0.28	1.064	O	|	|	|	|	2.02	23.333	0.00	0.22	0.959	O	|	|	|	|	1.84
18.417	0.00	0.28	1.062	O	|	|	|	|	2.02	23.417	0.00	0.22	0.958	O	|	|	|	|	1.84
18.500	0.00	0.28	1.060	O	|	|	|	|	2.02	23.500	0.00	0.22	0.956	O	|	|	|	|	1.84
18.583	0.00	0.28	1.058	O	|	|	|	|	2.01	23.583	0.00	0.22	0.955	O	|	|	|	|	1.83
18.667	0.00	0.28	1.056	O	|	|	|	|	2.01	23.667	0.00	0.22	0.953	O	|	|	|	|	1.83
18.750	0.00	0.28	1.054	O	|	|	|	|	2.01	23.750	0.00	0.22	0.952	O	|	|	|	|	1.83
18.833	0.00	0.28	1.053	O	|	|	|	|	2.00	23.833	0.00	0.22	0.950	O	|	|	|	|	1.83

23.917	0.00	0.22	0.949	O	|	|	|	|	1.82	28.917	0.00	0.17	0.870	O	|	|	|	|	1.69
24.000	0.00	0.22	0.947	O	|	|	|	|	1.82	29.000	0.00	0.17	0.869	O	|	|	|	|	1.68
24.083	0.00	0.21	0.946	O	|	|	|	|	1.82	29.083	0.00	0.17	0.868	O	|	|	|	|	1.68
24.167	0.00	0.21	0.944	O	|	|	|	|	1.82	29.167	0.00	0.16	0.866	O	|	|	|	|	1.68
24.250	0.00	0.21	0.943	O	|	|	|	|	1.81	29.250	0.00	0.16	0.865	O	|	|	|	|	1.68
24.333	0.00	0.21	0.941	O	|	|	|	|	1.81	29.333	0.00	0.16	0.864	O	|	|	|	|	1.68
24.417	0.00	0.21	0.940	O	|	|	|	|	1.81	29.417	0.00	0.16	0.863	O	|	|	|	|	1.67
24.500	0.00	0.21	0.938	O	|	|	|	|	1.81	29.500	0.00	0.16	0.862	O	|	|	|	|	1.67
24.583	0.00	0.21	0.937	O	|	|	|	|	1.80	29.583	0.00	0.16	0.861	O	|	|	|	|	1.67
24.667	0.00	0.21	0.935	O	|	|	|	|	1.80	29.667	0.00	0.16	0.860	O	|	|	|	|	1.67
24.750	0.00	0.21	0.934	O	|	|	|	|	1.80	29.750	0.00	0.16	0.859	O	|	|	|	|	1.67
24.833	0.00	0.21	0.933	O	|	|	|	|	1.80	29.833	0.00	0.16	0.857	O	|	|	|	|	1.66
24.917	0.00	0.21	0.931	O	|	|	|	|	1.79	29.917	0.00	0.16	0.856	O	|	|	|	|	1.66
25.000	0.00	0.20	0.930	O	|	|	|	|	1.79	30.000	0.00	0.16	0.855	O	|	|	|	|	1.66
25.083	0.00	0.20	0.928	O	|	|	|	|	1.79	30.083	0.00	0.16	0.854	O	|	|	|	|	1.66
25.167	0.00	0.20	0.927	O	|	|	|	|	1.79	30.167	0.00	0.16	0.853	O	|	|	|	|	1.66
25.250	0.00	0.20	0.926	O	|	|	|	|	1.78	30.250	0.00	0.16	0.852	O	|	|	|	|	1.65
25.333	0.00	0.20	0.924	O	|	|	|	|	1.78	30.333	0.00	0.16	0.851	O	|	|	|	|	1.65
25.417	0.00	0.20	0.923	O	|	|	|	|	1.78	30.417	0.00	0.15	0.850	O	|	|	|	|	1.65
25.500	0.00	0.20	0.921	O	|	|	|	|	1.78	30.500	0.00	0.15	0.849	O	|	|	|	|	1.65
25.583	0.00	0.20	0.920	O	|	|	|	|	1.77	30.583	0.00	0.15	0.848	O	|	|	|	|	1.65
25.667	0.00	0.20	0.919	O	|	|	|	|	1.77	30.667	0.00	0.15	0.847	O	|	|	|	|	1.65
25.750	0.00	0.20	0.917	O	|	|	|	|	1.77	30.750	0.00	0.15	0.846	O	|	|	|	|	1.64
25.833	0.00	0.20	0.916	O	|	|	|	|	1.77	30.833	0.00	0.15	0.845	O	|	|	|	|	1.64
25.917	0.00	0.19	0.915	O	|	|	|	|	1.76	30.917	0.00	0.15	0.844	O	|	|	|	|	1.64
26.000	0.00	0.19	0.913	O	|	|	|	|	1.76	31.000	0.00	0.15	0.843	O	|	|	|	|	1.64
26.083	0.00	0.19	0.912	O	|	|	|	|	1.76	31.083	0.00	0.15	0.842	O	|	|	|	|	1.64
26.167	0.00	0.19	0.911	O	|	|	|	|	1.76	31.167	0.00	0.15	0.841	O	|	|	|	|	1.63
26.250	0.00	0.19	0.909	O	|	|	|	|	1.75	31.250	0.00	0.15	0.840	O	|	|	|	|	1.63
26.333	0.00	0.19	0.908	O	|	|	|	|	1.75	31.333	0.00	0.15	0.839	O	|	|	|	|	1.63
26.417	0.00	0.19	0.907	O	|	|	|	|	1.75	31.417	0.00	0.15	0.838	O	|	|	|	|	1.63
26.500	0.00	0.19	0.905	O	|	|	|	|	1.75	31.500	0.00	0.15	0.836	O	|	|	|	|	1.63
26.583	0.00	0.19	0.904	O	|	|	|	|	1.75	31.583	0.00	0.15	0.835	O	|	|	|	|	1.63
26.667	0.00	0.19	0.903	O	|	|	|	|	1.74	31.667	0.00	0.14	0.834	O	|	|	|	|	1.62
26.750	0.00	0.19	0.901	O	|	|	|	|	1.74	31.750	0.00	0.14	0.834	O	|	|	|	|	1.62
26.833	0.00	0.19	0.900	O	|	|	|	|	1.74	31.833	0.00	0.14	0.833	O	|	|	|	|	1.62
26.917	0.00	0.19	0.899	O	|	|	|	|	1.74	31.917	0.00	0.14	0.832	O	|	|	|	|	1.62
27.000	0.00	0.18	0.898	O	|	|	|	|	1.73	32.000	0.00	0.14	0.831	O	|	|	|	|	1.62
27.083	0.00	0.18	0.896	O	|	|	|	|	1.73	32.083	0.00	0.14	0.830	O	|	|	|	|	1.62
27.167	0.00	0.18	0.895	O	|	|	|	|	1.73	32.167	0.00	0.14	0.829	O	|	|	|	|	1.61
27.250	0.00	0.18	0.894	O	|	|	|	|	1.73	32.250	0.00	0.14	0.828	O	|	|	|	|	1.61
27.333	0.00	0.18	0.893	O	|	|	|	|	1.73	32.333	0.00	0.14	0.827	O	|	|	|	|	1.61
27.417	0.00	0.18	0.891	O	|	|	|	|	1.72	32.417	0.00	0.14	0.826	O	|	|	|	|	1.61
27.500	0.00	0.18	0.890	O	|	|	|	|	1.72	32.500	0.00	0.14	0.825	O	|	|	|	|	1.61
27.583	0.00	0.18	0.889	O	|	|	|	|	1.72	32.583	0.00	0.14	0.824	O	|	|	|	|	1.61
27.667	0.00	0.18	0.888	O	|	|	|	|	1.72	32.667	0.00	0.14	0.823	O	|	|	|	|	1.60
27.750	0.00	0.18	0.886	O	|	|	|	|	1.71	32.750	0.00	0.14	0.822	O	|	|	|	|	1.60
27.833	0.00	0.18	0.885	O	|	|	|	|	1.71	32.833	0.00	0.14	0.821	O	|	|	|	|	1.60
27.917	0.00	0.18	0.884	O	|	|	|	|	1.71	32.917	0.00	0.14	0.820	O	|	|	|	|	1.60
28.000	0.00	0.18	0.883	O	|	|	|	|	1.71	33.000	0.00	0.14	0.819	O	|	|	|	|	1.60
28.083	0.00	0.17	0.882	O	|	|	|	|	1.71	33.083	0.00	0.13	0.818	O	|	|	|	|	1.60
28.167	0.00	0.17	0.880	O	|	|	|	|	1.70	33.167	0.00	0.13	0.817	O	|	|	|	|	1.59
28.250	0.00	0.17	0.879	O	|	|	|	|	1.70	33.250	0.00	0.13	0.816	O	|	|	|	|	1.59
28.333	0.00	0.17	0.878	O	|	|	|	|	1.70	33.333	0.00	0.13	0.815	O	|	|	|	|	1.59
28.417	0.00	0.17	0.877	O	|	|	|	|	1.70	33.417	0.00	0.13	0.814	O	|	|	|	|	1.59
28.500	0.00	0.17	0.876	O	|	|	|	|	1.70	33.500	0.00	0.13	0.814	O	|	|	|	|	1.59
28.583	0.00	0.17	0.874	O	|	|	|	|	1.69	33.583	0.00	0.13	0.813	O	|	|	|	|	1.59
28.667	0.00	0.17	0.873	O	|	|	|	|	1.69	33.667	0.00	0.13	0.812	O	|	|	|	|	1.58
28.750	0.00	0.17	0.872	O	|	|	|	|	1.69	33.750	0.00	0.13	0.811	O	|	|	|	|	1.58
28.833	0.00	0.17	0.871	O	|	|	|	|	1.69	33.833	0.00	0.13	0.810	O	|	|	|	|	1.58

33.917	0.00	0.13	0.809	O	|	|	|	|	1.58	38.917	0.00	0.10	0.762	O	|	|	|	|	1.50
34.000	0.00	0.13	0.808	O	|	|	|	|	1.58	39.000	0.00	0.10	0.762	O	|	|	|	|	1.50
34.083	0.00	0.13	0.807	O	|	|	|	|	1.58	39.083	0.00	0.10	0.761	O	|	|	|	|	1.50
34.167	0.00	0.13	0.806	O	|	|	|	|	1.58	39.167	0.00	0.10	0.760	O	|	|	|	|	1.49
34.250	0.00	0.13	0.806	O	|	|	|	|	1.57	39.250	0.00	0.10	0.760	O	|	|	|	|	1.49
34.333	0.00	0.13	0.805	O	|	|	|	|	1.57	39.333	0.00	0.10	0.759	O	|	|	|	|	1.49
34.417	0.00	0.13	0.804	O	|	|	|	|	1.57	39.417	0.00	0.10	0.758	O	|	|	|	|	1.49
34.500	0.00	0.12	0.803	O	|	|	|	|	1.57	39.500	0.00	0.10	0.758	O	|	|	|	|	1.49
34.583	0.00	0.12	0.802	O	|	|	|	|	1.57	39.583	0.00	0.10	0.757	O	|	|	|	|	1.49
34.667	0.00	0.12	0.801	O	|	|	|	|	1.57	39.667	0.00	0.10	0.756	O	|	|	|	|	1.49
34.750	0.00	0.12	0.800	O	|	|	|	|	1.56	39.750	0.00	0.10	0.756	O	|	|	|	|	1.49
34.833	0.00	0.12	0.800	O	|	|	|	|	1.56	39.833	0.00	0.09	0.755	O	|	|	|	|	1.49
34.917	0.00	0.12	0.799	O	|	|	|	|	1.56	39.917	0.00	0.09	0.754	O	|	|	|	|	1.48
35.000	0.00	0.12	0.798	O	|	|	|	|	1.56	40.000	0.00	0.09	0.754	O	|	|	|	|	1.48
35.083	0.00	0.12	0.797	O	|	|	|	|	1.56	40.083	0.00	0.09	0.753	O	|	|	|	|	1.48
35.167	0.00	0.12	0.796	O	|	|	|	|	1.56	40.167	0.00	0.09	0.752	O	|	|	|	|	1.48
35.250	0.00	0.12	0.795	O	|	|	|	|	1.56	40.250	0.00	0.09	0.752	O	|	|	|	|	1.48
35.333	0.00	0.12	0.795	O	|	|	|	|	1.55	40.333	0.00	0.09	0.751	O	|	|	|	|	1.48
35.417	0.00	0.12	0.794	O	|	|	|	|	1.55	40.417	0.00	0.09	0.750	O	|	|	|	|	1.48
35.500	0.00	0.12	0.793	O	|	|	|	|	1.55	40.500	0.00	0.09	0.750	O	|	|	|	|	1.48
35.583	0.00	0.12	0.792	O	|	|	|	|	1.55	40.583	0.00	0.09	0.749	O	|	|	|	|	1.48
35.667	0.00	0.12	0.791	O	|	|	|	|	1.55	40.667	0.00	0.09	0.749	O	|	|	|	|	1.47
35.750	0.00	0.12	0.790	O	|	|	|	|	1.55	40.750	0.00	0.09	0.748	O	|	|	|	|	1.47
35.833	0.00	0.12	0.790	O	|	|	|	|	1.55	40.833	0.00	0.09	0.747	O	|	|	|	|	1.47
35.917	0.00	0.12	0.789	O	|	|	|	|	1.54	40.917	0.00	0.09	0.747	O	|	|	|	|	1.47
36.000	0.00	0.12	0.788	O	|	|	|	|	1.54	41.000	0.00	0.09	0.746	O	|	|	|	|	1.47
36.083	0.00	0.12	0.787	O	|	|	|	|	1.54	41.083	0.00	0.09	0.745	O	|	|	|	|	1.47
36.167	0.00	0.11	0.787	O	|	|	|	|	1.54	41.167	0.00	0.09	0.745	O	|	|	|	|	1.47
36.250	0.00	0.11	0.786	O	|	|	|	|	1.54	41.250	0.00	0.09	0.744	O	|	|	|	|	1.47
36.333	0.00	0.11	0.785	O	|	|	|	|	1.54	41.333	0.00	0.09	0.744	O	|	|	|	|	1.47
36.417	0.00	0.11	0.784	O	|	|	|	|	1.54	41.417	0.00	0.09	0.743	O	|	|	|	|	1.46
36.500	0.00	0.11	0.783	O	|	|	|	|	1.53	41.500	0.00	0.09	0.742	O	|	|	|	|	1.46
36.583	0.00	0.11	0.783	O	|	|	|	|	1.53	41.583	0.00	0.09	0.742	O	|	|	|	|	1.46
36.667	0.00	0.11	0.782	O	|	|	|	|	1.53	41.667	0.00	0.09	0.741	O	|	|	|	|	1.46
36.750	0.00	0.11	0.781	O	|	|	|	|	1.53	41.750	0.00	0.09	0.741	O	|	|	|	|	1.46
36.833	0.00	0.11	0.780	O	|	|	|	|	1.53	41.833	0.00	0.09	0.740	O	|	|	|	|	1.46
36.917	0.00	0.11	0.780	O	|	|	|	|	1.53	41.917	0.00	0.08	0.739	O	|	|	|	|	1.46
37.000	0.00	0.11	0.779	O	|	|	|	|	1.53	42.000	0.00	0.08	0.739	O	|	|	|	|	1.46
37.083	0.00	0.11	0.778	O	|	|	|	|	1.53	42.083	0.00	0.08	0.738	O	|	|	|	|	1.46
37.167	0.00	0.11	0.777	O	|	|	|	|	1.52	42.167	0.00	0.08	0.738	O	|	|	|	|	1.46
37.250	0.00	0.11	0.777	O	|	|	|	|	1.52	42.250	0.00	0.08	0.737	O	|	|	|	|	1.45
37.333	0.00	0.11	0.776	O	|	|	|	|	1.52	42.333	0.00	0.08	0.737	O	|	|	|	|	1.45
37.417	0.00	0.11	0.775	O	|	|	|	|	1.52	42.417	0.00	0.08	0.736	O	|	|	|	|	1.45
37.500	0.00	0.11	0.774	O	|	|	|	|	1.52	42.500	0.00	0.08	0.735	O	|	|	|	|	1.45
37.583	0.00	0.11	0.774	O	|	|	|	|	1.52	42.583	0.00	0.08	0.735	O	|	|	|	|	1.45
37.667	0.00	0.11	0.773	O	|	|	|	|	1.52	42.667	0.00	0.08	0.734	O	|	|	|	|	1.45
37.750	0.00	0.11	0.772	O	|	|	|	|	1.52	42.750	0.00	0.08	0.734	O	|	|	|	|	1.45
37.833	0.00	0.11	0.771	O	|	|	|	|	1.51	42.833	0.00	0.08	0.733	O	|	|	|	|	1.45
37.917	0.00	0.10	0.771	O	|	|	|	|	1.51	42.917	0.00	0.08	0.733	O	|	|	|	|	1.45
38.000	0.00	0.10	0.770	O	|	|	|	|	1.51	43.000	0.00	0.08	0.732	O	|	|	|	|	1.45
38.083	0.00	0.10	0.769	O	|	|	|	|	1.51	43.083	0.00	0.08	0.731	O	|	|	|	|	1.44
38.167	0.00	0.10	0.769	O	|	|	|	|	1.51	43.167	0.00	0.08	0.731	O	|	|	|	|	1.44
38.250	0.00	0.10	0.768	O	|	|	|	|	1.51	43.250	0.00	0.08	0.730	O	|	|	|	|	1.44
38.333	0.00	0.10	0.767	O	|	|	|	|	1.51	43.333	0.00	0.08	0.730	O	|	|	|	|	1.44
38.417	0.00	0.10	0.766	O	|	|	|	|	1.51	43.417	0.00	0.08	0.729	O	|	|	|	|	1.44
38.500	0.00	0.10	0.766	O	|	|	|	|	1.50	43.500	0.00	0.08	0.729	O	|	|	|	|	1.44
38.583	0.00	0.10	0.765	O	|	|	|	|	1.50	43.583	0.00	0.08	0.728	O	|	|	|	|	1.44
38.667	0.00	0.10	0.764	O	|	|	|	|	1.50	43.667	0.00	0.08	0.728	O	|	|	|	|	1.44
38.750	0.00	0.10	0.764	O	|	|	|	|	1.50	43.750	0.00	0.08	0.727	O	|	|	|	|	1.44
38.833	0.00	0.10	0.763	O	|	|	|	|	1.50	43.833	0.00	0.08	0.727	O	|	|	|	|	1.44

43.917	0.00	0.08	0.726	O	|	|	|	|	1.44	48.917	0.00	0.06	0.698	O	|	|	|	|	1.39
44.000	0.00	0.08	0.726	O	|	|	|	|	1.43	49.000	0.00	0.06	0.698	O	|	|	|	|	1.39
44.083	0.00	0.08	0.725	O	|	|	|	|	1.43	49.083	0.00	0.06	0.697	O	|	|	|	|	1.39
44.167	0.00	0.08	0.725	O	|	|	|	|	1.43	49.167	0.00	0.06	0.697	O	|	|	|	|	1.38
44.250	0.00	0.08	0.724	O	|	|	|	|	1.43	49.250	0.00	0.06	0.697	O	|	|	|	|	1.38
44.333	0.00	0.07	0.723	O	|	|	|	|	1.43	49.333	0.00	0.06	0.696	O	|	|	|	|	1.38
44.417	0.00	0.07	0.723	O	|	|	|	|	1.43	49.417	0.00	0.06	0.696	O	|	|	|	|	1.38
44.500	0.00	0.07	0.722	O	|	|	|	|	1.43	49.500	0.00	0.06	0.695	O	|	|	|	|	1.38
44.583	0.00	0.07	0.722	O	|	|	|	|	1.43	49.583	0.00	0.06	0.695	O	|	|	|	|	1.38
44.667	0.00	0.07	0.721	O	|	|	|	|	1.43	49.667	0.00	0.06	0.695	O	|	|	|	|	1.38
44.750	0.00	0.07	0.721	O	|	|	|	|	1.43	49.750	0.00	0.06	0.694	O	|	|	|	|	1.38
44.833	0.00	0.07	0.720	O	|	|	|	|	1.43	49.833	0.00	0.06	0.694	O	|	|	|	|	1.38
44.917	0.00	0.07	0.720	O	|	|	|	|	1.42	49.917	0.00	0.06	0.693	O	|	|	|	|	1.38
45.000	0.00	0.07	0.719	O	|	|	|	|	1.42	50.000	0.00	0.06	0.693	O	|	|	|	|	1.38
45.083	0.00	0.07	0.719	O	|	|	|	|	1.42	50.083	0.00	0.06	0.693	O	|	|	|	|	1.38
45.167	0.00	0.07	0.718	O	|	|	|	|	1.42	50.167	0.00	0.06	0.692	O	|	|	|	|	1.38
45.250	0.00	0.07	0.718	O	|	|	|	|	1.42	50.250	0.00	0.06	0.692	O	|	|	|	|	1.38
45.333	0.00	0.07	0.717	O	|	|	|	|	1.42	50.333	0.00	0.05	0.692	O	|	|	|	|	1.37
45.417	0.00	0.07	0.717	O	|	|	|	|	1.42	50.417	0.00	0.05	0.691	O	|	|	|	|	1.37
45.500	0.00	0.07	0.716	O	|	|	|	|	1.42	50.500	0.00	0.05	0.691	O	|	|	|	|	1.37
45.583	0.00	0.07	0.716	O	|	|	|	|	1.42	50.583	0.00	0.05	0.690	O	|	|	|	|	1.37
45.667	0.00	0.07	0.716	O	|	|	|	|	1.42	50.667	0.00	0.05	0.690	O	|	|	|	|	1.37
45.750	0.00	0.07	0.715	O	|	|	|	|	1.42	50.750	0.00	0.05	0.690	O	|	|	|	|	1.37
45.833	0.00	0.07	0.715	O	|	|	|	|	1.41	50.833	0.00	0.05	0.689	O	|	|	|	|	1.37
45.917	0.00	0.07	0.714	O	|	|	|	|	1.41	50.917	0.00	0.05	0.689	O	|	|	|	|	1.37
46.000	0.00	0.07	0.714	O	|	|	|	|	1.41	51.000	0.00	0.05	0.689	O	|	|	|	|	1.37
46.083	0.00	0.07	0.713	O	|	|	|	|	1.41	51.083	0.00	0.05	0.688	O	|	|	|	|	1.37
46.167	0.00	0.07	0.713	O	|	|	|	|	1.41	51.167	0.00	0.05	0.688	O	|	|	|	|	1.37
46.250	0.00	0.07	0.712	O	|	|	|	|	1.41	51.250	0.00	0.05	0.687	O	|	|	|	|	1.37
46.333	0.00	0.07	0.712	O	|	|	|	|	1.41	51.333	0.00	0.05	0.687	O	|	|	|	|	1.37
46.417	0.00	0.07	0.711	O	|	|	|	|	1.41	51.417	0.00	0.05	0.687	O	|	|	|	|	1.37
46.500	0.00	0.07	0.711	O	|	|	|	|	1.41	51.500	0.00	0.05	0.686	O	|	|	|	|	1.37
46.583	0.00	0.07	0.710	O	|	|	|	|	1.41	51.583	0.00	0.05	0.686	O	|	|	|	|	1.37
46.667	0.00	0.07	0.710	O	|	|	|	|	1.41	51.667	0.00	0.05	0.686	O	|	|	|	|	1.36
46.750	0.00	0.07	0.709	O	|	|	|	|	1.41	51.750	0.00	0.05	0.685	O	|	|	|	|	1.36
46.833	0.00	0.07	0.709	O	|	|	|	|	1.41	51.833	0.00	0.05	0.685	O	|	|	|	|	1.36
46.917	0.00	0.07	0.709	O	|	|	|	|	1.40	51.917	0.00	0.05	0.685	O	|	|	|	|	1.36
47.000	0.00	0.07	0.708	O	|	|	|	|	1.40	52.000	0.00	0.05	0.684	O	|	|	|	|	1.36
47.083	0.00	0.07	0.708	O	|	|	|	|	1.40	52.083	0.00	0.05	0.684	O	|	|	|	|	1.36
47.167	0.00	0.06	0.707	O	|	|	|	|	1.40	52.167	0.00	0.05	0.684	O	|	|	|	|	1.36
47.250	0.00	0.06	0.707	O	|	|	|	|	1.40	52.250	0.00	0.05	0.683	O	|	|	|	|	1.36
47.333	0.00	0.06	0.706	O	|	|	|	|	1.40	52.333	0.00	0.05	0.683	O	|	|	|	|	1.36
47.417	0.00	0.06	0.706	O	|	|	|	|	1.40	52.417	0.00	0.05	0.683	O	|	|	|	|	1.36
47.500	0.00	0.06	0.705	O	|	|	|	|	1.40	52.500	0.00	0.05	0.682	O	|	|	|	|	1.36
47.583	0.00	0.06	0.705	O	|	|	|	|	1.40	52.583	0.00	0.05	0.682	O	|	|	|	|	1.36
47.667	0.00	0.06	0.705	O	|	|	|	|	1.40	52.667	0.00	0.05	0.682	O	|	|	|	|	1.36
47.750	0.00	0.06	0.704	O	|	|	|	|	1.40	52.750	0.00	0.05	0.681	O	|	|	|	|	1.36
47.833	0.00	0.06	0.704	O	|	|	|	|	1.40	52.833	0.00	0.05	0.681	O	|	|	|	|	1.36
47.917	0.00	0.06	0.703	O	|	|	|	|	1.40	52.917	0.00	0.05	0.681	O	|	|	|	|	1.36
48.000	0.00	0.06	0.703	O	|	|	|	|	1.39	53.000	0.00	0.05	0.680	O	|	|	|	|	1.36
48.083	0.00	0.06	0.702	O	|	|	|	|	1.39	53.083	0.00	0.05	0.680	O	|	|	|	|	1.35
48.167	0.00	0.06	0.702	O	|	|	|	|	1.39	53.167	0.00	0.05	0.680	O	|	|	|	|	1.35
48.250	0.00	0.06	0.702	O	|	|	|	|	1.39	53.250	0.00	0.05	0.679	O	|	|	|	|	1.35
48.333	0.00	0.06	0.701	O	|	|	|	|	1.39	53.333	0.00	0.05	0.679	O	|	|	|	|	1.35
48.417	0.00	0.06	0.701	O	|	|	|	|	1.39	53.417	0.00	0.05	0.679	O	|	|	|	|	1.35
48.500	0.00	0.06	0.700	O	|	|	|	|	1.39	53.500	0.00	0.05	0.678	O	|	|	|	|	1.35
48.583	0.00	0.06	0.700	O	|	|	|	|	1.39	53.583	0.00	0.05	0.678	O	|	|	|	|	1.35
48.667	0.00	0.06	0.699	O	|	|	|	|	1.39	53.667	0.00	0.05	0.678	O	|	|	|	|	1.35
48.750	0.00	0.06	0.699	O	|	|	|	|	1.39	53.750	0.00	0.05	0.677	O	|	|	|	|	1.35
48.833	0.00	0.06	0.699	O	|	|	|	|	1.39	53.833	0.00	0.05	0.677	O	|	|	|	|	1.35

53.917	0.00	0.05	0.677	O	|	|	|	|	1.35	58.917	0.00	0.04	0.660	O	|	|	|	|	1.32
54.000	0.00	0.05	0.676	O	|	|	|	|	1.35	59.000	0.00	0.04	0.660	O	|	|	|	|	1.32
54.083	0.00	0.05	0.676	O	|	|	|	|	1.35	59.083	0.00	0.03	0.660	O	|	|	|	|	1.32
54.167	0.00	0.05	0.676	O	|	|	|	|	1.35	59.167	0.00	0.03	0.659	O	|	|	|	|	1.32
54.250	0.00	0.04	0.675	O	|	|	|	|	1.35	59.250	0.00	0.03	0.659	O	|	|	|	|	1.32
54.333	0.00	0.04	0.675	O	|	|	|	|	1.35	59.333	0.00	0.03	0.659	O	|	|	|	|	1.32
54.417	0.00	0.04	0.675	O	|	|	|	|	1.35	59.417	0.00	0.03	0.659	O	|	|	|	|	1.32
54.500	0.00	0.04	0.675	O	|	|	|	|	1.35	59.500	0.00	0.03	0.658	O	|	|	|	|	1.32
54.583	0.00	0.04	0.674	O	|	|	|	|	1.34	59.583	0.00	0.03	0.658	O	|	|	|	|	1.32
54.667	0.00	0.04	0.674	O	|	|	|	|	1.34	59.667	0.00	0.03	0.658	O	|	|	|	|	1.32
54.750	0.00	0.04	0.674	O	|	|	|	|	1.34	59.750	0.00	0.03	0.658	O	|	|	|	|	1.32
54.833	0.00	0.04	0.673	O	|	|	|	|	1.34	59.833	0.00	0.03	0.657	O	|	|	|	|	1.32
54.917	0.00	0.04	0.673	O	|	|	|	|	1.34	59.917	0.00	0.03	0.657	O	|	|	|	|	1.32
55.000	0.00	0.04	0.673	O	|	|	|	|	1.34	60.000	0.00	0.03	0.657	O	|	|	|	|	1.31
55.083	0.00	0.04	0.672	O	|	|	|	|	1.34	60.083	0.00	0.03	0.657	O	|	|	|	|	1.31
55.167	0.00	0.04	0.672	O	|	|	|	|	1.34	60.167	0.00	0.03	0.657	O	|	|	|	|	1.31
55.250	0.00	0.04	0.672	O	|	|	|	|	1.34	60.250	0.00	0.03	0.656	O	|	|	|	|	1.31
55.333	0.00	0.04	0.672	O	|	|	|	|	1.34	60.333	0.00	0.03	0.656	O	|	|	|	|	1.31
55.417	0.00	0.04	0.671	O	|	|	|	|	1.34	60.417	0.00	0.03	0.656	O	|	|	|	|	1.31
55.500	0.00	0.04	0.671	O	|	|	|	|	1.34	60.500	0.00	0.03	0.656	O	|	|	|	|	1.31
55.583	0.00	0.04	0.671	O	|	|	|	|	1.34	60.583	0.00	0.03	0.655	O	|	|	|	|	1.31
55.667	0.00	0.04	0.670	O	|	|	|	|	1.34	60.667	0.00	0.03	0.655	O	|	|	|	|	1.31
55.750	0.00	0.04	0.670	O	|	|	|	|	1.34	60.750	0.00	0.03	0.655	O	|	|	|	|	1.31
55.833	0.00	0.04	0.670	O	|	|	|	|	1.34	60.833	0.00	0.03	0.655	O	|	|	|	|	1.31
55.917	0.00	0.04	0.670	O	|	|	|	|	1.34	60.917	0.00	0.03	0.655	O	|	|	|	|	1.31
56.000	0.00	0.04	0.669	O	|	|	|	|	1.34	61.000	0.00	0.03	0.654	O	|	|	|	|	1.31
56.083	0.00	0.04	0.669	O	|	|	|	|	1.34	61.083	0.00	0.03	0.654	O	|	|	|	|	1.31
56.167	0.00	0.04	0.669	O	|	|	|	|	1.33	61.167	0.00	0.03	0.654	O	|	|	|	|	1.31
56.250	0.00	0.04	0.668	O	|	|	|	|	1.33	61.250	0.00	0.03	0.654	O	|	|	|	|	1.31
56.333	0.00	0.04	0.668	O	|	|	|	|	1.33	61.333	0.00	0.03	0.653	O	|	|	|	|	1.31
56.417	0.00	0.04	0.668	O	|	|	|	|	1.33	61.417	0.00	0.03	0.653	O	|	|	|	|	1.31
56.500	0.00	0.04	0.668	O	|	|	|	|	1.33	61.500	0.00	0.03	0.653	O	|	|	|	|	1.31
56.583	0.00	0.04	0.667	O	|	|	|	|	1.33	61.583	0.00	0.03	0.653	O	|	|	|	|	1.31
56.667	0.00	0.04	0.667	O	|	|	|	|	1.33	61.667	0.00	0.03	0.653	O	|	|	|	|	1.31
56.750	0.00	0.04	0.667	O	|	|	|	|	1.33	61.750	0.00	0.03	0.652	O	|	|	|	|	1.31
56.833	0.00	0.04	0.666	O	|	|	|	|	1.33	61.833	0.00	0.03	0.652	O	|	|	|	|	1.31
56.917	0.00	0.04	0.666	O	|	|	|	|	1.33	61.917	0.00	0.03	0.652	O	|	|	|	|	1.31
57.000	0.00	0.04	0.666	O	|	|	|	|	1.33	62.000	0.00	0.03	0.652	O	|	|	|	|	1.31
57.083	0.00	0.04	0.666	O	|	|	|	|	1.33	62.083	0.00	0.03	0.652	O	|	|	|	|	1.31
57.167	0.00	0.04	0.665	O	|	|	|	|	1.33	62.167	0.00	0.03	0.651	O	|	|	|	|	1.30
57.250	0.00	0.04	0.665	O	|	|	|	|	1.33	62.250	0.00	0.03	0.651	O	|	|	|	|	1.30
57.333	0.00	0.04	0.665	O	|	|	|	|	1.33	62.333	0.00	0.03	0.651	O	|	|	|	|	1.30
57.417	0.00	0.04	0.665	O	|	|	|	|	1.33	62.417	0.00	0.03	0.651	O	|	|	|	|	1.30
57.500	0.00	0.04	0.664	O	|	|	|	|	1.33	62.500	0.00	0.03	0.651	O	|	|	|	|	1.30
57.583	0.00	0.04	0.664	O	|	|	|	|	1.33	62.583	0.00	0.03	0.650	O	|	|	|	|	1.30
57.667	0.00	0.04	0.664	O	|	|	|	|	1.33	62.667	0.00	0.03	0.650	O	|	|	|	|	1.30
57.750	0.00	0.04	0.664	O	|	|	|	|	1.33	62.750	0.00	0.03	0.650	O	|	|	|	|	1.30
57.833	0.00	0.04	0.663	O	|	|	|	|	1.33	62.833	0.00	0.03	0.650	O	|	|	|	|	1.30
57.917	0.00	0.04	0.663	O	|	|	|	|	1.33	62.917	0.00	0.03	0.650	O	|	|	|	|	1.30
58.000	0.00	0.04	0.663	O	|	|	|	|	1.32	63.000	0.00	0.03	0.649	O	|	|	|	|	1.30
58.083	0.00	0.04	0.663	O	|	|	|	|	1.32	63.083	0.00	0.03	0.649	O	|	|	|	|	1.30
58.167	0.00	0.04	0.662	O	|	|	|	|	1.32	63.167	0.00	0.03	0.649	O	|	|	|	|	1.30
58.250	0.00	0.04	0.662	O	|	|	|	|	1.32	63.250	0.00	0.03	0.649	O	|	|	|	|	1.30
58.333	0.00	0.04	0.662	O	|	|	|	|	1.32	63.333	0.00	0.03	0.649	O	|	|	|	|	1.30
58.417	0.00	0.04	0.662	O	|	|	|	|	1.32	63.417	0.00	0.03	0.648	O	|	|	|	|	1.30
58.500	0.00	0.04	0.661	O	|	|	|	|	1.32	63.500	0.00	0.03	0.648	O	|	|	|	|	1.30
58.583	0.00	0.04	0.661	O	|	|	|	|	1.32	63.583	0.00	0.03	0.648	O	|	|	|	|	1.30
58.667	0.00	0.04	0.661	O	|	|	|	|	1.32	63.667	0.00	0.03	0.648	O	|	|	|	|	1.30
58.750	0.00	0.04	0.661	O	|	|	|	|	1.32	63.750	0.00	0.03	0.648	O	|	|	|	|	1.30
58.833	0.00	0.04	0.660	O	|	|	|	|	1.32	63.833	0.00	0.03	0.647	O	|	|	|	|	1.30

63.917	0.00	0.03	0.647	O	|	|	|	|	1.30	68.917	0.00	0.02	0.637	O	|	|	|	|	1.28
64.000	0.00	0.03	0.647	O	|	|	|	|	1.30	69.000	0.00	0.02	0.637	O	|	|	|	|	1.28
64.083	0.00	0.03	0.647	O	|	|	|	|	1.30	69.083	0.00	0.02	0.637	O	|	|	|	|	1.28
64.167	0.00	0.03	0.647	O	|	|	|	|	1.30	69.167	0.00	0.02	0.637	O	|	|	|	|	1.28
64.250	0.00	0.03	0.647	O	|	|	|	|	1.30	69.250	0.00	0.02	0.637	O	|	|	|	|	1.28
64.333	0.00	0.03	0.646	O	|	|	|	|	1.30	69.333	0.00	0.02	0.637	O	|	|	|	|	1.28
64.417	0.00	0.03	0.646	O	|	|	|	|	1.30	69.417	0.00	0.02	0.637	O	|	|	|	|	1.28
64.500	0.00	0.03	0.646	O	|	|	|	|	1.30	69.500	0.00	0.02	0.636	O	|	|	|	|	1.28
64.583	0.00	0.03	0.646	O	|	|	|	|	1.30	69.583	0.00	0.02	0.636	O	|	|	|	|	1.28
64.667	0.00	0.03	0.646	O	|	|	|	|	1.29	69.667	0.00	0.02	0.636	O	|	|	|	|	1.28
64.750	0.00	0.03	0.645	O	|	|	|	|	1.29	69.750	0.00	0.02	0.636	O	|	|	|	|	1.28
64.833	0.00	0.03	0.645	O	|	|	|	|	1.29	69.833	0.00	0.02	0.636	O	|	|	|	|	1.28
64.917	0.00	0.03	0.645	O	|	|	|	|	1.29	69.917	0.00	0.02	0.636	O	|	|	|	|	1.28
65.000	0.00	0.03	0.645	O	|	|	|	|	1.29	70.000	0.00	0.02	0.636	O	|	|	|	|	1.28
65.083	0.00	0.03	0.645	O	|	|	|	|	1.29	70.083	0.00	0.02	0.635	O	|	|	|	|	1.28
65.167	0.00	0.03	0.645	O	|	|	|	|	1.29	70.167	0.00	0.02	0.635	O	|	|	|	|	1.28
65.250	0.00	0.03	0.644	O	|	|	|	|	1.29	70.250	0.00	0.02	0.635	O	|	|	|	|	1.28
65.333	0.00	0.03	0.644	O	|	|	|	|	1.29	70.333	0.00	0.02	0.635	O	|	|	|	|	1.28
65.417	0.00	0.03	0.644	O	|	|	|	|	1.29	70.417	0.00	0.02	0.635	O	|	|	|	|	1.28
65.500	0.00	0.02	0.644	O	|	|	|	|	1.29	70.500	0.00	0.02	0.635	O	|	|	|	|	1.28
65.583	0.00	0.02	0.644	O	|	|	|	|	1.29	70.583	0.00	0.02	0.635	O	|	|	|	|	1.28
65.667	0.00	0.02	0.644	O	|	|	|	|	1.29	70.667	0.00	0.02	0.635	O	|	|	|	|	1.28
65.750	0.00	0.02	0.643	O	|	|	|	|	1.29	70.750	0.00	0.02	0.634	O	|	|	|	|	1.28
65.833	0.00	0.02	0.643	O	|	|	|	|	1.29	70.833	0.00	0.02	0.634	O	|	|	|	|	1.27
65.917	0.00	0.02	0.643	O	|	|	|	|	1.29	70.917	0.00	0.02	0.634	O	|	|	|	|	1.27
66.000	0.00	0.02	0.643	O	|	|	|	|	1.29	71.000	0.00	0.02	0.634	O	|	|	|	|	1.27
66.083	0.00	0.02	0.643	O	|	|	|	|	1.29	71.083	0.00	0.02	0.634	O	|	|	|	|	1.27
66.167	0.00	0.02	0.643	O	|	|	|	|	1.29	71.167	0.00	0.02	0.634	O	|	|	|	|	1.27
66.250	0.00	0.02	0.642	O	|	|	|	|	1.29	71.250	0.00	0.02	0.634	O	|	|	|	|	1.27
66.333	0.00	0.02	0.642	O	|	|	|	|	1.29	71.333	0.00	0.02	0.633	O	|	|	|	|	1.27
66.417	0.00	0.02	0.642	O	|	|	|	|	1.29	71.417	0.00	0.02	0.633	O	|	|	|	|	1.27
66.500	0.00	0.02	0.642	O	|	|	|	|	1.29	71.500	0.00	0.02	0.633	O	|	|	|	|	1.27
66.583	0.00	0.02	0.642	O	|	|	|	|	1.29	71.583	0.00	0.02	0.633	O	|	|	|	|	1.27
66.667	0.00	0.02	0.642	O	|	|	|	|	1.29	71.667	0.00	0.02	0.633	O	|	|	|	|	1.27
66.750	0.00	0.02	0.641	O	|	|	|	|	1.29	71.750	0.00	0.02	0.633	O	|	|	|	|	1.27
66.833	0.00	0.02	0.641	O	|	|	|	|	1.29	71.833	0.00	0.02	0.633	O	|	|	|	|	1.27
66.917	0.00	0.02	0.641	O	|	|	|	|	1.29	71.917	0.00	0.02	0.633	O	|	|	|	|	1.27
67.000	0.00	0.02	0.641	O	|	|	|	|	1.29	72.000	0.00	0.02	0.632	O	|	|	|	|	1.27
67.083	0.00	0.02	0.641	O	|	|	|	|	1.29	72.083	0.00	0.02	0.632	O	|	|	|	|	1.27
67.167	0.00	0.02	0.641	O	|	|	|	|	1.29	72.167	0.00	0.02	0.632	O	|	|	|	|	1.27
67.250	0.00	0.02	0.640	O	|	|	|	|	1.29	72.250	0.00	0.02	0.632	O	|	|	|	|	1.27
67.333	0.00	0.02	0.640	O	|	|	|	|	1.29	72.333	0.00	0.02	0.632	O	|	|	|	|	1.27
67.417	0.00	0.02	0.640	O	|	|	|	|	1.29	72.417	0.00	0.02	0.632	O	|	|	|	|	1.27
67.500	0.00	0.02	0.640	O	|	|	|	|	1.28	72.500	0.00	0.02	0.632	O	|	|	|	|	1.27
67.583	0.00	0.02	0.640	O	|	|	|	|	1.28	72.583	0.00	0.02	0.632	O	|	|	|	|	1.27
67.667	0.00	0.02	0.640	O	|	|	|	|	1.28	72.667	0.00	0.02	0.632	O	|	|	|	|	1.27
67.750	0.00	0.02	0.639	O	|	|	|	|	1.28	72.750	0.00	0.02	0.631	O	|	|	|	|	1.27
67.833	0.00	0.02	0.639	O	|	|	|	|	1.28	72.833	0.00	0.02	0.631	O	|	|	|	|	1.27
67.917	0.00	0.02	0.639	O	|	|	|	|	1.28	72.917	0.00	0.02	0.631	O	|	|	|	|	1.27
68.000	0.00	0.02	0.639	O	|	|	|	|	1.28	73.000	0.00	0.02	0.631	O	|	|	|	|	1.27
68.083	0.00	0.02	0.639	O	|	|	|	|	1.28	73.083	0.00	0.02	0.631	O	|	|	|	|	1.27
68.167	0.00	0.02	0.639	O	|	|	|	|	1.28	73.167	0.00	0.02	0.631	O	|	|	|	|	1.27
68.250	0.00	0.02	0.639	O	|	|	|	|	1.28	73.250	0.00	0.02	0.631	O	|	|	|	|	1.27
68.333	0.00	0.02	0.638	O	|	|	|	|	1.28	73.333	0.00	0.02	0.631	O	|	|	|	|	1.27
68.417	0.00	0.02	0.638	O	|	|	|	|	1.28	73.417	0.00	0.02	0.630	O	|	|	|	|	1.27
68.500	0.00	0.02	0.638	O	|	|	|	|	1.28	73.500	0.00	0.02	0.630	O	|	|	|	|	1.27
68.583	0.00	0.02	0.638	O	|	|	|	|	1.28	73.583	0.00	0.02	0.630	O	|	|	|	|	1.27
68.667	0.00	0.02	0.638	O	|	|	|	|	1.28	73.667	0.00	0.02	0.630	O	|	|	|	|	1.27
68.750	0.00	0.02	0.638	O	|	|	|	|	1.28	73.750	0.00	0.02	0.630	O	|	|	|	|	1.27
68.833	0.00	0.02	0.638	O	|	|	|	|	1.28	73.833	0.00	0.02	0.630	O	|	|	|	|	1.27

73.917	0.00	0.02	0.630	O	|	|	|	|	1.27	78.917	0.00	0.01	0.624	O	|	|	|	|	1.26
74.000	0.00	0.02	0.630	O	|	|	|	|	1.27	79.000	0.00	0.01	0.624	O	|	|	|	|	1.26
74.083	0.00	0.02	0.630	O	|	|	|	|	1.27	79.083	0.00	0.01	0.624	O	|	|	|	|	1.26
74.167	0.00	0.02	0.629	O	|	|	|	|	1.27	79.167	0.00	0.01	0.624	O	|	|	|	|	1.26
74.250	0.00	0.02	0.629	O	|	|	|	|	1.27	79.250	0.00	0.01	0.624	O	|	|	|	|	1.26
74.333	0.00	0.02	0.629	O	|	|	|	|	1.27	79.333	0.00	0.01	0.623	O	|	|	|	|	1.26
74.417	0.00	0.02	0.629	O	|	|	|	|	1.27	79.417	0.00	0.01	0.623	O	|	|	|	|	1.26
74.500	0.00	0.02	0.629	O	|	|	|	|	1.27	79.500	0.00	0.01	0.623	O	|	|	|	|	1.26
74.583	0.00	0.02	0.629	O	|	|	|	|	1.27	79.583	0.00	0.01	0.623	O	|	|	|	|	1.26
74.667	0.00	0.02	0.629	O	|	|	|	|	1.27	79.667	0.00	0.01	0.623	O	|	|	|	|	1.26
74.750	0.00	0.02	0.629	O	|	|	|	|	1.27	79.750	0.00	0.01	0.623	O	|	|	|	|	1.26
74.833	0.00	0.02	0.629	O	|	|	|	|	1.27	79.833	0.00	0.01	0.623	O	|	|	|	|	1.26
74.917	0.00	0.02	0.628	O	|	|	|	|	1.26	79.917	0.00	0.01	0.623	O	|	|	|	|	1.26
75.000	0.00	0.02	0.628	O	|	|	|	|	1.26	80.000	0.00	0.01	0.623	O	|	|	|	|	1.25
75.083	0.00	0.02	0.628	O	|	|	|	|	1.26	80.083	0.00	0.01	0.623	O	|	|	|	|	1.25
75.167	0.00	0.02	0.628	O	|	|	|	|	1.26	80.167	0.00	0.01	0.623	O	|	|	|	|	1.25
75.250	0.00	0.02	0.628	O	|	|	|	|	1.26	80.250	0.00	0.01	0.623	O	|	|	|	|	1.25
75.333	0.00	0.02	0.628	O	|	|	|	|	1.26	80.333	0.00	0.01	0.623	O	|	|	|	|	1.25
75.417	0.00	0.01	0.628	O	|	|	|	|	1.26	80.417	0.00	0.01	0.622	O	|	|	|	|	1.25
75.500	0.00	0.01	0.628	O	|	|	|	|	1.26	80.500	0.00	0.01	0.622	O	|	|	|	|	1.25
75.583	0.00	0.01	0.628	O	|	|	|	|	1.26	80.583	0.00	0.01	0.622	O	|	|	|	|	1.25
75.667	0.00	0.01	0.628	O	|	|	|	|	1.26	80.667	0.00	0.01	0.622	O	|	|	|	|	1.25
75.750	0.00	0.01	0.627	O	|	|	|	|	1.26	80.750	0.00	0.01	0.622	O	|	|	|	|	1.25
75.833	0.00	0.01	0.627	O	|	|	|	|	1.26	80.833	0.00	0.01	0.622	O	|	|	|	|	1.25
75.917	0.00	0.01	0.627	O	|	|	|	|	1.26	80.917	0.00	0.01	0.622	O	|	|	|	|	1.25
76.000	0.00	0.01	0.627	O	|	|	|	|	1.26	81.000	0.00	0.01	0.622	O	|	|	|	|	1.25
76.083	0.00	0.01	0.627	O	|	|	|	|	1.26	81.083	0.00	0.01	0.622	O	|	|	|	|	1.25
76.167	0.00	0.01	0.627	O	|	|	|	|	1.26	81.167	0.00	0.01	0.622	O	|	|	|	|	1.25
76.250	0.00	0.01	0.627	O	|	|	|	|	1.26	81.250	0.00	0.01	0.622	O	|	|	|	|	1.25
76.333	0.00	0.01	0.627	O	|	|	|	|	1.26	81.333	0.00	0.01	0.622	O	|	|	|	|	1.25
76.417	0.00	0.01	0.627	O	|	|	|	|	1.26	81.417	0.00	0.01	0.622	O	|	|	|	|	1.25
76.500	0.00	0.01	0.627	O	|	|	|	|	1.26	81.500	0.00	0.01	0.621	O	|	|	|	|	1.25
76.583	0.00	0.01	0.626	O	|	|	|	|	1.26	81.583	0.00	0.01	0.621	O	|	|	|	|	1.25
76.667	0.00	0.01	0.626	O	|	|	|	|	1.26	81.667	0.00	0.01	0.621	O	|	|	|	|	1.25
76.750	0.00	0.01	0.626	O	|	|	|	|	1.26	81.750	0.00	0.01	0.621	O	|	|	|	|	1.25
76.833	0.00	0.01	0.626	O	|	|	|	|	1.26	81.833	0.00	0.01	0.621	O	|	|	|	|	1.25
76.917	0.00	0.01	0.626	O	|	|	|	|	1.26	81.917	0.00	0.01	0.621	O	|	|	|	|	1.25
77.000	0.00	0.01	0.626	O	|	|	|	|	1.26	82.000	0.00	0.01	0.621	O	|	|	|	|	1.25
77.083	0.00	0.01	0.626	O	|	|	|	|	1.26	82.083	0.00	0.01	0.621	O	|	|	|	|	1.25
77.167	0.00	0.01	0.626	O	|	|	|	|	1.26	82.167	0.00	0.01	0.621	O	|	|	|	|	1.25
77.250	0.00	0.01	0.626	O	|	|	|	|	1.26	82.250	0.00	0.01	0.621	O	|	|	|	|	1.25
77.333	0.00	0.01	0.626	O	|	|	|	|	1.26	82.333	0.00	0.01	0.621	O	|	|	|	|	1.25
77.417	0.00	0.01	0.626	O	|	|	|	|	1.26	82.417	0.00	0.01	0.621	O	|	|	|	|	1.25
77.500	0.00	0.01	0.625	O	|	|	|	|	1.26	82.500	0.00	0.01	0.621	O	|	|	|	|	1.25
77.583	0.00	0.01	0.625	O	|	|	|	|	1.26	82.583	0.00	0.01	0.620	O	|	|	|	|	1.25
77.667	0.00	0.01	0.625	O	|	|	|	|	1.26	82.667	0.00	0.01	0.620	O	|	|	|	|	1.25
77.750	0.00	0.01	0.625	O	|	|	|	|	1.26	82.750	0.00	0.01	0.620	O	|	|	|	|	1.25
77.833	0.00	0.01	0.625	O	|	|	|	|	1.26	82.833	0.00	0.01	0.620	O	|	|	|	|	1.25
77.917	0.00	0.01	0.625	O	|	|	|	|	1.26	82.917	0.00	0.01	0.620	O	|	|	|	|	1.25
78.000	0.00	0.01	0.625	O	|	|	|	|	1.26	83.000	0.00	0.01	0.620	O	|	|	|	|	1.25
78.083	0.00	0.01	0.625	O	|	|	|	|	1.26	83.083	0.00	0.01	0.620	O	|	|	|	|	1.25
78.167	0.00	0.01	0.625	O	|	|	|	|	1.26	83.167	0.00	0.01	0.620	O	|	|	|	|	1.25
78.250	0.00	0.01	0.625	O	|	|	|	|	1.26	83.250	0.00	0.01	0.620	O	|	|	|	|	1.25
78.333	0.00	0.01	0.625	O	|	|	|	|	1.26	83.333	0.00	0.01	0.620	O	|	|	|	|	1.25
78.417	0.00	0.01	0.624	O	|	|	|	|	1.26	83.417	0.00	0.01	0.620	O	|	|	|	|	1.25
78.500	0.00	0.01	0.624	O	|	|	|	|	1.26	83.500	0.00	0.01	0.620	O	|	|	|	|	1.25
78.583	0.00	0.01	0.624	O	|	|	|	|	1.26	83.583	0.00	0.01	0.620	O	|	|	|	|	1.25
78.667	0.00	0.01	0.624	O	|	|	|	|	1.26	83.667	0.00	0.01	0.620	O	|	|	|	|	1.25
78.750	0.00	0.01	0.624	O	|	|	|	|	1.26	83.750	0.00	0.01	0.620	O	|	|	|	|	1.25
78.833	0.00	0.01	0.624	O	|	|	|	|	1.26	83.833	0.00	0.01	0.619	O	|	|	|	|	1.25

83.917	0.00	0.01	0.619	O	|	|	|	|	1.25	88.917	0.00	0.01	0.615	O	|	|	|	|	1.24
84.000	0.00	0.01	0.619	O	|	|	|	|	1.25	89.000	0.00	0.01	0.615	O	|	|	|	|	1.24
84.083	0.00	0.01	0.619	O	|	|	|	|	1.25	89.083	0.00	0.01	0.615	O	|	|	|	|	1.24
84.167	0.00	0.01	0.619	O	|	|	|	|	1.25	89.167	0.00	0.01	0.615	O	|	|	|	|	1.24
84.250	0.00	0.01	0.619	O	|	|	|	|	1.25	89.250	0.00	0.01	0.615	O	|	|	|	|	1.24
84.333	0.00	0.01	0.619	O	|	|	|	|	1.25	89.333	0.00	0.01	0.615	O	|	|	|	|	1.24
84.417	0.00	0.01	0.619	O	|	|	|	|	1.25	89.417	0.00	0.01	0.615	O	|	|	|	|	1.24
84.500	0.00	0.01	0.619	O	|	|	|	|	1.25	89.500	0.00	0.01	0.615	O	|	|	|	|	1.24
84.583	0.00	0.01	0.619	O	|	|	|	|	1.25	89.583	0.00	0.01	0.615	O	|	|	|	|	1.24
84.667	0.00	0.01	0.619	O	|	|	|	|	1.25	89.667	0.00	0.01	0.615	O	|	|	|	|	1.24
84.750	0.00	0.01	0.619	O	|	|	|	|	1.25	89.750	0.00	0.01	0.615	O	|	|	|	|	1.24
84.833	0.00	0.01	0.619	O	|	|	|	|	1.25	89.833	0.00	0.01	0.615	O	|	|	|	|	1.24
84.917	0.00	0.01	0.619	O	|	|	|	|	1.25	89.917	0.00	0.01	0.614	O	|	|	|	|	1.24
85.000	0.00	0.01	0.618	O	|	|	|	|	1.25	90.000	0.00	0.01	0.614	O	|	|	|	|	1.24
85.083	0.00	0.01	0.618	O	|	|	|	|	1.25	90.083	0.00	0.01	0.614	O	|	|	|	|	1.24
85.167	0.00	0.01	0.618	O	|	|	|	|	1.25	90.167	0.00	0.01	0.614	O	|	|	|	|	1.24
85.250	0.00	0.01	0.618	O	|	|	|	|	1.25	90.250	0.00	0.01	0.614	O	|	|	|	|	1.24
85.333	0.00	0.01	0.618	O	|	|	|	|	1.25	90.333	0.00	0.01	0.614	O	|	|	|	|	1.24
85.417	0.00	0.01	0.618	O	|	|	|	|	1.25	90.417	0.00	0.01	0.614	O	|	|	|	|	1.24
85.500	0.00	0.01	0.618	O	|	|	|	|	1.25	90.500	0.00	0.01	0.614	O	|	|	|	|	1.24
85.583	0.00	0.01	0.618	O	|	|	|	|	1.25	90.583	0.00	0.01	0.614	O	|	|	|	|	1.24
85.667	0.00	0.01	0.618	O	|	|	|	|	1.25	90.667	0.00	0.01	0.614	O	|	|	|	|	1.24
85.750	0.00	0.01	0.618	O	|	|	|	|	1.25	90.750	0.00	0.01	0.614	O	|	|	|	|	1.24
85.833	0.00	0.01	0.618	O	|	|	|	|	1.25	90.833	0.00	0.01	0.614	O	|	|	|	|	1.24
85.917	0.00	0.01	0.618	O	|	|	|	|	1.25	90.917	0.00	0.01	0.614	O	|	|	|	|	1.24
86.000	0.00	0.01	0.618	O	|	|	|	|	1.25	91.000	0.00	0.01	0.614	O	|	|	|	|	1.24
86.083	0.00	0.01	0.618	O	|	|	|	|	1.25	91.083	0.00	0.01	0.613	O	|	|	|	|	1.24
86.167	0.00	0.01	0.618	O	|	|	|	|	1.24	91.167	0.00	0.01	0.613	O	|	|	|	|	1.24
86.250	0.00	0.01	0.617	O	|	|	|	|	1.24	91.250	0.00	0.01	0.613	O	|	|	|	|	1.24
86.333	0.00	0.01	0.617	O	|	|	|	|	1.24	91.333	0.00	0.01	0.613	O	|	|	|	|	1.24
86.417	0.00	0.01	0.617	O	|	|	|	|	1.24	91.417	0.00	0.01	0.613	O	|	|	|	|	1.24
86.500	0.00	0.01	0.617	O	|	|	|	|	1.24	91.500	0.00	0.01	0.613	O	|	|	|	|	1.24
86.583	0.00	0.01	0.617	O	|	|	|	|	1.24	91.583	0.00	0.01	0.613	O	|	|	|	|	1.24
86.667	0.00	0.01	0.617	O	|	|	|	|	1.24	91.667	0.00	0.01	0.613	O	|	|	|	|	1.24
86.750	0.00	0.01	0.617	O	|	|	|	|	1.24	91.750	0.00	0.01	0.613	O	|	|	|	|	1.24
86.833	0.00	0.01	0.617	O	|	|	|	|	1.24	91.833	0.00	0.01	0.613	O	|	|	|	|	1.24
86.917	0.00	0.01	0.617	O	|	|	|	|	1.24	91.917	0.00	0.01	0.613	O	|	|	|	|	1.24
87.000	0.00	0.01	0.617	O	|	|	|	|	1.24	92.000	0.00	0.01	0.613	O	|	|	|	|	1.24
87.083	0.00	0.01	0.617	O	|	|	|	|	1.24	92.083	0.00	0.01	0.613	O	|	|	|	|	1.24
87.167	0.00	0.01	0.617	O	|	|	|	|	1.24	92.167	0.00	0.01	0.613	O	|	|	|	|	1.24
87.250	0.00	0.01	0.617	O	|	|	|	|	1.24	92.250	0.00	0.01	0.613	O	|	|	|	|	1.23
87.333	0.00	0.01	0.617	O	|	|	|	|	1.24	92.333	0.00	0.01	0.612	O	|	|	|	|	1.23
87.417	0.00	0.01	0.616	O	|	|	|	|	1.24	92.417	0.00	0.01	0.612	O	|	|	|	|	1.23
87.500	0.00	0.01	0.616	O	|	|	|	|	1.24	92.500	0.00	0.01	0.612	O	|	|	|	|	1.23
87.583	0.00	0.01	0.616	O	|	|	|	|	1.24	92.583	0.00	0.01	0.612	O	|	|	|	|	1.23
87.667	0.00	0.01	0.616	O	|	|	|	|	1.24	92.667	0.00	0.01	0.612	O	|	|	|	|	1.23
87.750	0.00	0.01	0.616	O	|	|	|	|	1.24	92.750	0.00	0.01	0.612	O	|	|	|	|	1.23
87.833	0.00	0.01	0.616	O	|	|	|	|	1.24	92.833	0.00	0.01	0.612	O	|	|	|	|	1.23
87.917	0.00	0.01	0.616	O	|	|	|	|	1.24	92.917	0.00	0.01	0.612	O	|	|	|	|	1.23
88.000	0.00	0.01	0.616	O	|	|	|	|	1.24	93.000	0.00	0.01	0.612	O	|	|	|	|	1.23
88.083	0.00	0.01	0.616	O	|	|	|	|	1.24	93.083	0.00	0.01	0.612	O	|	|	|	|	1.23
88.167	0.00	0.01	0.616	O	|	|	|	|	1.24	93.167	0.00	0.01	0.612	O	|	|	|	|	1.23
88.250	0.00	0.01	0.616	O	|	|	|	|	1.24	93.250	0.00	0.01	0.612	O	|	|	|	|	1.23
88.333	0.00	0.01	0.616	O	|	|	|	|	1.24	93.333	0.00	0.01	0.612	O	|	|	|	|	1.23
88.417	0.00	0.01	0.616	O	|	|	|	|	1.24	93.417	0.00	0.01	0.612	O	|	|	|	|	1.23
88.500	0.00	0.01	0.616	O	|	|	|	|	1.24	93.500	0.00	0.01	0.612	O	|	|	|	|	1.23
88.583	0.00	0.01	0.616	O	|	|	|	|	1.24	93.583	0.00	0.01	0.611	O	|	|	|	|	1.23
88.667	0.00	0.01	0.615	O	|	|	|	|	1.24	93.667	0.00	0.01	0.611	O	|	|	|	|	1.23
88.750	0.00	0.01	0.615	O	|	|	|	|	1.24	93.750	0.00	0.01	0.611	O	|	|	|	|	1.23
88.833	0.00	0.01	0.615	O	|	|	|	|	1.24	93.833	0.00	0.01	0.611	O	|	|	|	|	1.23

Left Blank Intentionally

413.917	0.00	0.01	0.399	O	|	|	|	|	0.80
414.000	0.00	0.01	0.399	O	|	|	|	|	0.80
414.083	0.00	0.01	0.399	O	|	|	|	|	0.80
414.167	0.00	0.01	0.399	O	|	|	|	|	0.80
414.250	0.00	0.01	0.399	O	|	|	|	|	0.80
414.333	0.00	0.01	0.399	O	|	|	|	|	0.80
414.417	0.00	0.01	0.399	O	|	|	|	|	0.80
414.500	0.00	0.01	0.399	O	|	|	|	|	0.80
414.583	0.00	0.01	0.399	O	|	|	|	|	0.80
414.667	0.00	0.01	0.399	O	|	|	|	|	0.80
414.750	0.00	0.01	0.399	O	|	|	|	|	0.80
414.833	0.00	0.01	0.398	O	|	|	|	|	0.80
414.917	0.00	0.01	0.398	O	|	|	|	|	0.80
415.000	0.00	0.01	0.398	O	|	|	|	|	0.80
415.083	0.00	0.01	0.398	O	|	|	|	|	0.80
415.167	0.00	0.01	0.398	O	|	|	|	|	0.80
415.250	0.00	0.01	0.398	O	|	|	|	|	0.80
415.333	0.00	0.01	0.398	O	|	|	|	|	0.80
415.417	0.00	0.01	0.398	O	|	|	|	|	0.80
415.500	0.00	0.01	0.398	O	|	|	|	|	0.80
415.583	0.00	0.01	0.398	O	|	|	|	|	0.80
415.667	0.00	0.01	0.398	O	|	|	|	|	0.80
415.750	0.00	0.01	0.398	O	|	|	|	|	0.80
415.833	0.00	0.01	0.398	O	|	|	|	|	0.80
415.917	0.00	0.01	0.398	O	|	|	|	|	0.80
416.000	0.00	0.01	0.398	O	|	|	|	|	0.80
416.083	0.00	0.01	0.398	O	|	|	|	|	0.80
416.167	0.00	0.01	0.398	O	|	|	|	|	0.80
416.250	0.00	0.01	0.398	O	|	|	|	|	0.80
416.333	0.00	0.01	0.398	O	|	|	|	|	0.80
416.417	0.00	0.01	0.398	O	|	|	|	|	0.80
416.500	0.00	0.01	0.398	O	|	|	|	|	0.80
416.583	0.00	0.01	0.398	O	|	|	|	|	0.80
416.667	0.00	0.01	0.397	O	|	|	|	|	0.80

Remaining water in basin = 0.40 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.376 (CFS)
Total volume = 1.038 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

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TR 37036, PARCEL 1
BASIN M
2Y 24H STORM

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Program License Serial Number 6406

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******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR242.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =   292
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =        4.215 (CFS)
                Total volume =       2.562 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 292
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
------------------------------------------------------------------------
------------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
------------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
------------------------------------------------------------------------
                  Hydrograph Detention Basin Routing
------------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
------------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       1.1    2.11    3.16    4.22 (Ft.)
 0.083    0.10    0.00      0.000  O       |       |       |       |     0.00
 0.167    0.21    0.00      0.001  OI      |       |       |       |     0.00
 0.250    0.24    0.00      0.003  OI      |       |       |       |     0.01
 0.333    0.30    0.00      0.005  O I     |       |       |       |     0.01
 0.417    0.35    0.00      0.007  O I     |       |       |       |     0.01
 0.500    0.37    0.00      0.010  O I     |       |       |       |     0.02
 0.583    0.37    0.00      0.012  O I     |       |       |       |     0.02
 0.667    0.37    0.00      0.015  O I     |       |       |       |     0.03
 0.750    0.37    0.00      0.017  O I     |       |       |       |     0.03
 0.833    0.42    0.00      0.020  O  I    |       |       |       |     0.04
 0.917    0.48    0.00      0.023  O  I    |       |       |       |     0.05
 1.000    0.49    0.00      0.026  O  I    |       |       |       |     0.05
 1.083    0.44    0.00      0.030  O  I    |       |       |       |     0.06
 1.167    0.39    0.00      0.032  O I     |       |       |       |     0.07
 1.250    0.38    0.00      0.035  O I     |       |       |       |     0.07
 1.333    0.37    0.00      0.038  O I     |       |       |       |     0.08
 1.417    0.37    0.00      0.040  O I     |       |       |       |     0.08
 1.500    0.37    0.00      0.043  O I     |       |       |       |     0.09
 1.583    0.37    0.00      0.045  O I     |       |       |       |     0.09
 1.667    0.37    0.00      0.048  O I     |       |       |       |     0.10
 1.750    0.37    0.00      0.050  O I     |       |       |       |     0.10
 1.833    0.42    0.00      0.053  O  I    |       |       |       |     0.11
 1.917    0.48    0.00      0.056  O  I    |       |       |       |     0.11
 2.000    0.49    0.00      0.060  O  I    |       |       |       |     0.12
 2.083    0.49    0.00      0.063  O  I    |       |       |       |     0.13
 2.167    0.50    0.00      0.066  O  I    |       |       |       |     0.13
 2.250    0.50    0.00      0.070  O  I    |       |       |       |     0.14
 2.333    0.50    0.00      0.073  O  I    |       |       |       |     0.15
 2.417    0.50    0.00      0.077  O  I    |       |       |       |     0.15
 2.500    0.50    0.00      0.080  O  I    |       |       |       |     0.16
 2.583    0.55    0.00      0.084  O   I   |       |       |       |     0.17
 2.667    0.60    0.00      0.088  O   I   |       |       |       |     0.18
 2.750    0.61    0.00      0.092  O   I   |       |       |       |     0.18
 2.833    0.62    0.00      0.096  O   I   |       |       |       |     0.19
 2.917    0.62    0.00      0.100  O   I   |       |       |       |     0.20
 3.000    0.62    0.00      0.104  O   I   |       |       |       |     0.21
 3.083    0.62    0.00      0.109  O   I   |       |       |       |     0.22
 3.167    0.62    0.00      0.113  O   I   |       |       |       |     0.23
 3.250    0.62    0.00      0.117  O   I   |       |       |       |     0.24
 3.333    0.62    0.00      0.121  O   I   |       |       |       |     0.24
 3.417    0.62    0.00      0.126  O   I   |       |       |       |     0.25
 3.500    0.62    0.00      0.130  O   I   |       |       |       |     0.26
 3.583    0.62    0.00      0.134  O   I   |       |       |       |     0.27
 3.667    0.62    0.00      0.138  O   I   |       |       |       |     0.28
 3.750    0.62    0.00      0.143  O   I   |       |       |       |     0.29
 3.833    0.67    0.00      0.147  O    I  |       |       |       |     0.30
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3.917	0.73	0.00	0.152	O	I	|	|	|	|	0.31	8.917	2.09	0.03	0.650	O	|	I|	|	|	1.30
4.000	0.74	0.00	0.157	O	I	|	|	|	|	0.32	9.000	2.10	0.04	0.665	O	|	I|	|	|	1.33
4.083	0.74	0.00	0.162	O	I	|	|	|	|	0.33	9.083	2.21	0.05	0.679	O	|	I	|	|	1.35
4.167	0.74	0.00	0.167	O	I	|	|	|	|	0.34	9.167	2.32	0.06	0.694	O	|	|I	|	|	1.38
4.250	0.74	0.00	0.172	O	I	|	|	|	|	0.35	9.250	2.34	0.07	0.710	O	|	|I	|	|	1.41
4.333	0.80	0.00	0.178	O	I	|	|	|	|	0.36	9.333	2.40	0.08	0.726	O	|	| I	|	|	1.43
4.417	0.85	0.00	0.183	O	I	|	|	|	|	0.37	9.417	2.46	0.09	0.742	O	|	| I	|	|	1.46
4.500	0.86	0.00	0.189	O	I	|	|	|	|	0.38	9.500	2.47	0.10	0.758	O	|	| I	|	|	1.49
4.583	0.87	0.00	0.195	O	I	|	|	|	|	0.39	9.583	2.53	0.11	0.775	O	|	| I	|	|	1.52
4.667	0.87	0.00	0.201	O	I	|	|	|	|	0.41	9.667	2.59	0.12	0.792	O	|	| I	|	|	1.55
4.750	0.87	0.00	0.207	O	I	|	|	|	|	0.42	9.750	2.60	0.13	0.809	O	|	| I	|	|	1.58
4.833	0.92	0.00	0.213	O	I	|	|	|	|	0.43	9.833	2.65	0.14	0.826	|O	|	| I	|	|	1.61
4.917	0.97	0.00	0.220	O	I|	|	|	|	|	0.44	9.917	2.71	0.15	0.843	|O	|	| I	|	|	1.64
5.000	0.99	0.00	0.226	O	I|	|	|	|	|	0.46	10.000	2.72	0.16	0.861	|O	|	| I	|	|	1.67
5.083	0.89	0.00	0.233	O	I	|	|	|	|	0.47	10.083	2.37	0.17	0.877	|O	|	|I	|	|	1.70
5.167	0.78	0.00	0.238	O	I	|	|	|	|	0.48	10.167	1.98	0.18	0.891	|O	|	I|	|	|	1.72
5.250	0.76	0.00	0.244	O	I	|	|	|	|	0.49	10.250	1.90	0.19	0.903	|O	|	I |	|	|	1.74
5.333	0.80	0.00	0.249	O	I	|	|	|	|	0.50	10.333	1.87	0.20	0.915	|O	|	I |	|	|	1.76
5.417	0.85	0.00	0.255	O	I	|	|	|	|	0.51	10.417	1.86	0.20	0.926	|O	|	I |	|	|	1.78
5.500	0.86	0.00	0.260	O	I	|	|	|	|	0.53	10.500	1.86	0.21	0.938	|O	|	I |	|	|	1.80
5.583	0.92	0.00	0.267	O	I	|	|	|	|	0.54	10.583	2.12	0.22	0.950	|O	|	I	|	|	1.83
5.667	0.97	0.00	0.273	O	I|	|	|	|	|	0.55	10.667	2.39	0.23	0.964	|O	|	| I	|	|	1.85
5.750	0.99	0.00	0.280	O	I|	|	|	|	|	0.56	10.750	2.45	0.24	0.979	|O	|	| I	|	|	1.88
5.833	0.99	0.00	0.287	O	I|	|	|	|	|	0.58	10.833	2.47	0.25	0.994	|O	|	| I	|	|	1.90
5.917	0.99	0.00	0.293	O	I|	|	|	|	|	0.59	10.917	2.48	0.25	1.010	|O	|	| I	|	|	1.93
6.000	0.99	0.00	0.300	O	I|	|	|	|	|	0.61	11.000	2.48	0.26	1.025	| O	|	| I	|	|	1.96
6.083	1.04	0.00	0.307	O	I|	|	|	|	|	0.62	11.083	2.43	0.27	1.040	| O	|	| I	|	|	1.98
6.167	1.10	0.01	0.314	O	I	|	|	|	|	0.63	11.167	2.37	0.28	1.055	| O	|	| I	|	|	2.01
6.250	1.11	0.01	0.322	O	I	|	|	|	|	0.65	11.250	2.36	0.29	1.069	| O	|	|I	|	|	2.03
6.333	1.11	0.01	0.330	O	I	|	|	|	|	0.66	11.333	2.36	0.29	1.083	| O	|	|I	|	|	2.05
6.417	1.12	0.01	0.337	O	I	|	|	|	|	0.68	11.417	2.36	0.29	1.098	| O	|	|I	|	|	2.08
6.500	1.12	0.01	0.345	O	I	|	|	|	|	0.70	11.500	2.36	0.30	1.112	| O	|	|I	|	|	2.10
6.583	1.17	0.01	0.353	O	I	|	|	|	|	0.71	11.583	2.25	0.30	1.126	| O	|	|I	|	|	2.12
6.667	1.22	0.01	0.361	O	|I	|	|	|	|	0.73	11.667	2.14	0.30	1.139	| O	|	I	|	|	2.15
6.750	1.23	0.01	0.369	O	|I	|	|	|	|	0.74	11.750	2.12	0.31	1.151	| O	|	I	|	|	2.17
6.833	1.24	0.01	0.378	O	|I	|	|	|	|	0.76	11.833	2.16	0.31	1.164	| O	|	I	|	|	2.19
6.917	1.24	0.01	0.386	O	|I	|	|	|	|	0.78	11.917	2.21	0.32	1.177	| O	|	I	|	|	2.21
7.000	1.24	0.01	0.395	O	|I	|	|	|	|	0.80	12.000	2.23	0.32	1.190	| O	|	I	|	|	2.23
7.083	1.24	0.01	0.403	O	|I	|	|	|	|	0.81	12.083	2.59	0.32	1.204	| O	|	| I	|	|	2.25
7.167	1.24	0.01	0.412	O	|I	|	|	|	|	0.83	12.167	2.97	0.33	1.221	| O	|	| I	|	|	2.28
7.250	1.24	0.01	0.420	O	|I	|	|	|	|	0.85	12.250	3.05	0.33	1.240	| O	|	| I	|	|	2.31
7.333	1.29	0.01	0.429	O	|I	|	|	|	|	0.86	12.333	3.14	0.34	1.259	| O	|	| I	|	|	2.34
7.417	1.35	0.01	0.438	O	| I	|	|	|	|	0.88	12.417	3.21	0.34	1.278	| O	|	| I	|	|	2.37
7.500	1.36	0.01	0.447	O	| I	|	|	|	|	0.90	12.500	3.22	0.35	1.298	| O	|	| I	|	|	2.41
7.583	1.41	0.01	0.457	O	| I	|	|	|	|	0.92	12.583	3.32	0.35	1.318	| O	|	|I	|	|	2.44
7.667	1.47	0.01	0.467	O	| I	|	|	|	|	0.94	12.667	3.44	0.36	1.339	| O	|	| I	|	|	2.47
7.750	1.48	0.01	0.477	O	| I	|	|	|	|	0.96	12.750	3.46	0.37	1.360	| O	|	| I	|	|	2.51
7.833	1.54	0.01	0.487	O	| I	|	|	|	|	0.98	12.833	3.52	0.37	1.381	| O	|	| I	|	|	2.54
7.917	1.59	0.01	0.498	O	| I	|	|	|	|	1.00	12.917	3.58	0.38	1.403	| O	|	| I	|	|	2.58
8.000	1.61	0.01	0.509	O	| I	|	|	|	|	1.03	13.000	3.59	0.38	1.425	| O	|	| I	|	|	2.62
8.083	1.71	0.01	0.520	O	| I	|	|	|	|	1.05	13.083	3.85	0.39	1.448	| O	|	|	I |	|	2.65
8.167	1.82	0.01	0.532	O	| I	|	|	|	|	1.07	13.167	4.13	0.40	1.473	| O	|	|	| I|	|	2.69
8.250	1.85	0.01	0.545	O	| I	|	|	|	|	1.10	13.250	4.18	0.41	1.499	| O	|	|	| I|	|	2.74
8.333	1.86	0.01	0.558	O	| I	|	|	|	|	1.12	13.333	4.21	0.41	1.525	| O	|	|	| I|	|	2.78
8.417	1.86	0.01	0.570	O	| I	|	|	|	|	1.15	13.417	4.22	0.42	1.551	| O	|	|	| | I	|	2.82
8.500	1.86	0.01	0.583	O	| I	|	|	|	|	1.18	13.500	4.22	0.43	1.577	| O	|	|	| | I	|	2.86
8.583	1.91	0.01	0.596	O	| I	|	|	|	|	1.20	13.583	3.65	0.43	1.601	| O	|	|	| I |	|	2.90
8.667	1.97	0.01	0.609	O	| I	|	|	|	|	1.23	13.667	3.05	0.44	1.621	| O	|	|	I|	|	2.94
8.750	1.98	0.01	0.623	O	| I|	|	|	|	|	1.25	13.750	2.92	0.44	1.639	| O	|	|	I |	|	2.97
8.833	2.03	0.02	0.636	O	| I|	|	|	|	|	1.28	13.833	2.87	0.45	1.656	| O	|	|	I |	|	2.99

13.917	2.85	0.46	1.672	O			I			3.02	18.917	0.27	0.65	2.058	I O						3.59
14.000	2.85	0.46	1.689	O			I			3.04	19.000	0.25	0.65	2.055	I O						3.59
14.083	3.06	0.47	1.706	O			I			3.07	19.083	0.30	0.65	2.053	I O						3.59
14.167	3.28	0.48	1.725	O			I			3.10	19.167	0.35	0.65	2.050	I O						3.58
14.250	3.32	0.49	1.744	O			I			3.13	19.250	0.37	0.65	2.049	I O						3.58
14.333	3.29	0.50	1.763	O			I			3.15	19.333	0.42	0.65	2.047	IO						3.58
14.417	3.24	0.51	1.782	O			I			3.18	19.417	0.48	0.65	2.045	IO						3.58
14.500	3.23	0.52	1.801	O			I			3.21	19.500	0.49	0.65	2.044	IO						3.57
14.583	3.23	0.53	1.820	O			I			3.24	19.583	0.44	0.64	2.043	IO						3.57
14.667	3.22	0.54	1.838	O			I			3.27	19.667	0.39	0.64	2.042	I O						3.57
14.750	3.22	0.55	1.857	O			I			3.29	19.750	0.38	0.64	2.040	I O						3.57
14.833	3.17	0.56	1.875	O			I			3.32	19.833	0.32	0.64	2.038	I O						3.56
14.917	3.12	0.57	1.892	O			I			3.35	19.917	0.27	0.64	2.035	I O						3.56
15.000	3.11	0.58	1.910	O			I			3.37	20.000	0.25	0.64	2.033	I O						3.56
15.083	3.05	0.59	1.927	O			I			3.40	20.083	0.30	0.64	2.030	I O						3.55
15.167	2.99	0.59	1.944	O			I			3.42	20.167	0.35	0.64	2.028	I O						3.55
15.250	2.98	0.60	1.960	O			I			3.45	20.250	0.37	0.64	2.026	I O						3.55
15.333	2.93	0.61	1.977	O			I			3.47	20.333	0.37	0.63	2.024	I O						3.54
15.417	2.87	0.62	1.992	O			I			3.50	20.417	0.37	0.63	2.023	I O						3.54
15.500	2.86	0.63	2.008	O			I			3.52	20.500	0.37	0.63	2.021	I O						3.54
15.583	2.65	0.63	2.022	O			I			3.54	20.583	0.37	0.63	2.019	I O						3.54
15.667	2.43	0.64	2.035	O		I				3.56	20.667	0.37	0.63	2.017	I O						3.53
15.750	2.38	0.65	2.048	O		I				3.58	20.750	0.37	0.63	2.015	I O						3.53
15.833	2.36	0.65	2.059	O		I				3.60	20.833	0.32	0.63	2.013	I O						3.53
15.917	2.36	0.66	2.071	O		I				3.61	20.917	0.27	0.63	2.011	I O						3.52
16.000	2.36	0.66	2.083	O		I				3.63	21.000	0.25	0.63	2.009	I O						3.52
16.083	1.59	0.67	2.092	O	I					3.64	21.083	0.30	0.63	2.006	I O						3.52
16.167	0.76	0.67	2.095	O						3.65	21.167	0.35	0.62	2.004	I O						3.51
16.250	0.59	0.67	2.095	IO						3.65	21.250	0.37	0.62	2.002	I O						3.51
16.333	**0.52**	**0.67**	**2.095**	**I O**						**3.65**	21.333	0.32	0.62	2.000	I O						3.51
16.417	0.50	0.67	2.093	I O						3.65	21.417	0.27	0.62	1.998	I O						3.50
16.500	0.50	0.67	2.092	I O						3.65	21.500	0.25	0.62	1.996	I O						3.50
16.583	0.44	0.67	2.091	I O						3.64	21.583	0.30	0.62	1.993	I O						3.50
16.667	0.39	0.67	2.089	I O						3.64	21.667	0.35	0.62	1.991	I O						3.49
16.750	0.38	0.67	2.087	I O						3.64	21.750	0.37	0.62	1.989	I O						3.49
16.833	0.37	0.67	2.085	I O						3.63	21.833	0.32	0.62	1.988	I O						3.49
16.917	0.37	0.66	2.083	I O						3.63	21.917	0.27	0.62	1.985	I O						3.49
17.000	0.37	0.66	2.081	I O						3.63	22.000	0.25	0.61	1.983	I O						3.48
17.083	0.47	0.66	2.079	I O						3.63	22.083	0.30	0.61	1.981	I O						3.48
17.167	0.58	0.66	2.079	IO						3.62	22.167	0.35	0.61	1.979	I O						3.48
17.250	0.61	0.66	2.078	IO						3.62	22.250	0.37	0.61	1.977	I O						3.47
17.333	0.62	0.66	2.078	IO						3.62	22.333	0.32	0.61	1.975	I O						3.47
17.417	0.62	0.66	2.077	IO						3.62	22.417	0.27	0.61	1.973	I O						3.47
17.500	0.62	0.66	2.077	IO						3.62	22.500	0.25	0.61	1.970	I O						3.46
17.583	0.62	0.66	2.077	IO						3.62	22.583	0.25	0.61	1.968	I O						3.46
17.667	0.62	0.66	2.077	IO						3.62	22.667	0.25	0.61	1.966	I O						3.46
17.750	0.62	0.66	2.076	IO						3.62	22.750	0.25	0.60	1.963	I O						3.45
17.833	0.57	0.66	2.076	IO						3.62	22.833	0.25	0.60	1.961	I O						3.45
17.917	0.51	0.66	2.075	I O						3.62	22.917	0.25	0.60	1.958	I O						3.45
18.000	0.50	0.66	2.074	I O						3.62	23.000	0.25	0.60	1.956	I O						3.44
18.083	0.50	0.66	2.073	I O						3.62	23.083	0.25	0.60	1.953	I O						3.44
18.167	0.50	0.66	2.072	I O						3.61	23.167	0.25	0.60	1.951	I O						3.43
18.250	0.50	0.66	2.071	IO						3.61	23.250	0.25	0.60	1.949	I O						3.43
18.333	0.50	0.66	2.070	IO						3.61	23.333	0.25	0.60	1.946	I O						3.43
18.417	0.50	0.66	2.068	IO						3.61	23.417	0.25	0.59	1.944	I O						3.42
18.500	0.50	0.66	2.067	IO						3.61	23.500	0.25	0.59	1.941	I O						3.42
18.583	0.44	0.66	2.066	IO						3.61	23.583	0.25	0.59	1.939	I O						3.42
18.667	0.39	0.66	2.064	I O						3.60	23.667	0.25	0.59	1.937	I O						3.41
18.750	0.38	0.65	2.063	I O						3.60	23.750	0.25	0.59	1.934	I O						3.41
18.833	0.32	0.65	2.060	I O						3.60	23.833	0.25	0.59	1.932	I O						3.41

23.917	0.25	0.59	1.930	I	O					3.40	28.917	0.00	0.48	1.714	I	O					3.08
24.000	0.25	0.59	1.927	I	O					3.40	29.000	0.00	0.48	1.711	I	O					3.08
24.083	0.15	0.58	1.925	I	O					3.39	29.083	0.00	0.47	1.708	I	O					3.07
24.167	0.04	0.58	1.921	I	O					3.39	29.167	0.00	0.47	1.704	I	O					3.07
24.250	0.01	0.58	1.917	I	O					3.38	29.250	0.00	0.47	1.701	I	O					3.06
24.333	0.00	0.58	1.913	I	O					3.38	29.333	0.00	0.47	1.698	I	O					3.06
24.417	0.00	0.58	1.909	I	O					3.37	29.417	0.00	0.47	1.695	I	O					3.05
24.500	0.00	0.57	1.906	I	O					3.37	29.500	0.00	0.47	1.691	I	O					3.05
24.583	0.00	0.57	1.902	I	O					3.36	29.583	0.00	0.46	1.688	I	O					3.04
24.667	0.00	0.57	1.898	I	O					3.35	29.667	0.00	0.46	1.685	I	O					3.04
24.750	0.00	0.57	1.894	I	O					3.35	29.750	0.00	0.46	1.682	I	O					3.03
24.833	0.00	0.57	1.890	I	O					3.34	29.833	0.00	0.46	1.679	I	O					3.03
24.917	0.00	0.56	1.886	I	O					3.34	29.917	0.00	0.46	1.675	I	O					3.02
25.000	0.00	0.56	1.882	I	O					3.33	30.000	0.00	0.46	1.672	I	O					3.02
25.083	0.00	0.56	1.878	I	O					3.33	30.083	0.00	0.45	1.669	I	O					3.01
25.167	0.00	0.56	1.874	I	O					3.32	30.167	0.00	0.45	1.666	I	O					3.01
25.250	0.00	0.56	1.870	I	O					3.31	30.250	0.00	0.45	1.663	I	O					3.00
25.333	0.00	0.55	1.867	I	O					3.31	30.333	0.00	0.45	1.660	I	O					3.00
25.417	0.00	0.55	1.863	I	O					3.30	30.417	0.00	0.45	1.657	I	O					2.99
25.500	0.00	0.55	1.859	I	O					3.30	30.500	0.00	0.45	1.654	I	O					2.99
25.583	0.00	0.55	1.855	I	O					3.29	30.583	0.00	0.45	1.651	I	O					2.98
25.667	0.00	0.55	1.851	I	O					3.29	30.667	0.00	0.45	1.647	I	O					2.98
25.750	0.00	0.55	1.848	I	O					3.28	30.750	0.00	0.45	1.644	I	O					2.97
25.833	0.00	0.54	1.844	I	O					3.27	30.833	0.00	0.44	1.641	I	O					2.97
25.917	0.00	0.54	1.840	I	O					3.27	30.917	0.00	0.44	1.638	I	O					2.96
26.000	0.00	0.54	1.836	I	O					3.26	31.000	0.00	0.44	1.635	I	O					2.96
26.083	0.00	0.54	1.833	I	O					3.26	31.083	0.00	0.44	1.632	I	O					2.95
26.167	0.00	0.54	1.829	I	O					3.25	31.167	0.00	0.44	1.629	I	O					2.95
26.250	0.00	0.53	1.825	I	O					3.25	31.250	0.00	0.44	1.626	I	O					2.94
26.333	0.00	0.53	1.822	I	O					3.24	31.333	0.00	0.44	1.623	I	O					2.94
26.417	0.00	0.53	1.818	I	O					3.24	31.417	0.00	0.44	1.620	I	O					2.93
26.500	0.00	0.53	1.814	I	O					3.23	31.500	0.00	0.44	1.617	I	O					2.93
26.583	0.00	0.53	1.811	I	O					3.23	31.583	0.00	0.44	1.614	I	O					2.92
26.667	0.00	0.52	1.807	I	O					3.22	31.667	0.00	0.44	1.611	I	O					2.92
26.750	0.00	0.52	1.804	I	O					3.21	31.750	0.00	0.44	1.608	I	O					2.91
26.833	0.00	0.52	1.800	I	O					3.21	31.833	0.00	0.43	1.605	I	O					2.91
26.917	0.00	0.52	1.796	I	O					3.20	31.917	0.00	0.43	1.602	I	O					2.90
27.000	0.00	0.52	1.793	I	O					3.20	32.000	0.00	0.43	1.599	I	O					2.90
27.083	0.00	0.52	1.789	I	O					3.19	32.083	0.00	0.43	1.596	I	O					2.90
27.167	0.00	0.51	1.786	I	O					3.19	32.167	0.00	0.43	1.593	I	O					2.89
27.250	0.00	0.51	1.782	I	O					3.18	32.250	0.00	0.43	1.590	I	O					2.89
27.333	0.00	0.51	1.779	I	O					3.18	32.333	0.00	0.43	1.587	I	O					2.88
27.417	0.00	0.51	1.775	I	O					3.17	32.417	0.00	0.43	1.584	I	O					2.88
27.500	0.00	0.51	1.772	I	O					3.17	32.500	0.00	0.43	1.581	I	O					2.87
27.583	0.00	0.50	1.768	I	O					3.16	32.583	0.00	0.43	1.578	I	O					2.87
27.667	0.00	0.50	1.765	I	O					3.16	32.667	0.00	0.43	1.575	I	O					2.86
27.750	0.00	0.50	1.761	I	O					3.15	32.750	0.00	0.43	1.572	I	O					2.86
27.833	0.00	0.50	1.758	I	O					3.15	32.833	0.00	0.42	1.569	I	O					2.85
27.917	0.00	0.50	1.754	I	O					3.14	32.917	0.00	0.42	1.567	I	O					2.85
28.000	0.00	0.50	1.751	I	O					3.14	33.000	0.00	0.42	1.564	I	O					2.84
28.083	0.00	0.49	1.748	I	O					3.13	33.083	0.00	0.42	1.561	I	O					2.84
28.167	0.00	0.49	1.744	I	O					3.13	33.167	0.00	0.42	1.558	I	O					2.83
28.250	0.00	0.49	1.741	I	O					3.12	33.250	0.00	0.42	1.555	I	O					2.83
28.333	0.00	0.49	1.737	I	O					3.12	33.333	0.00	0.42	1.552	I	O					2.82
28.417	0.00	0.49	1.734	I	O					3.11	33.417	0.00	0.42	1.549	I	O					2.82
28.500	0.00	0.49	1.731	I	O					3.11	33.500	0.00	0.42	1.546	I	O					2.81
28.583	0.00	0.48	1.727	I	O					3.10	33.583	0.00	0.42	1.543	I	O					2.81
28.667	0.00	0.48	1.724	I	O					3.10	33.667	0.00	0.42	1.540	I	O					2.80
28.750	0.00	0.48	1.721	I	O					3.09	33.750	0.00	0.42	1.538	I	O					2.80
28.833	0.00	0.48	1.717	I	O					3.09	33.833	0.00	0.42	1.535	I	O					2.79

33.917	0.00	0.41	1.532	I	O	|	|	|	|	2.79	38.917	0.00	0.37	1.370	I	O	|	|	|	|	2.52
34.000	0.00	0.41	1.529	I	O	|	|	|	|	2.79	39.000	0.00	0.37	1.368	I	O	|	|	|	|	2.52
34.083	0.00	0.41	1.526	I	O	|	|	|	|	2.78	39.083	0.00	0.37	1.365	I	O	|	|	|	|	2.52
34.167	0.00	0.41	1.523	I	O	|	|	|	|	2.78	39.167	0.00	0.37	1.363	I	O	|	|	|	|	2.51
34.250	0.00	0.41	1.521	I	O	|	|	|	|	2.77	39.250	0.00	0.37	1.360	I	O	|	|	|	|	2.51
34.333	0.00	0.41	1.518	I	O	|	|	|	|	2.77	39.333	0.00	0.37	1.358	I	O	|	|	|	|	2.50
34.417	0.00	0.41	1.515	I	O	|	|	|	|	2.76	39.417	0.00	0.37	1.355	I	O	|	|	|	|	2.50
34.500	0.00	0.41	1.512	I	O	|	|	|	|	2.76	39.500	0.00	0.36	1.353	I	O	|	|	|	|	2.50
34.583	0.00	0.41	1.509	I	O	|	|	|	|	2.75	39.583	0.00	0.36	1.350	I	O	|	|	|	|	2.49
34.667	0.00	0.41	1.506	I	O	|	|	|	|	2.75	39.667	0.00	0.36	1.348	I	O	|	|	|	|	2.49
34.750	0.00	0.41	1.504	I	O	|	|	|	|	2.74	39.750	0.00	0.36	1.345	I	O	|	|	|	|	2.48
34.833	0.00	0.41	1.501	I	O	|	|	|	|	2.74	39.833	0.00	0.36	1.343	I	O	|	|	|	|	2.48
34.917	0.00	0.40	1.498	I	O	|	|	|	|	2.73	39.917	0.00	0.36	1.340	I	O	|	|	|	|	2.48
35.000	0.00	0.40	1.495	I	O	|	|	|	|	2.73	40.000	0.00	0.36	1.338	I	O	|	|	|	|	2.47
35.083	0.00	0.40	1.492	I	O	|	|	|	|	2.73	40.083	0.00	0.36	1.335	I	O	|	|	|	|	2.47
35.167	0.00	0.40	1.490	I	O	|	|	|	|	2.72	40.167	0.00	0.36	1.333	I	O	|	|	|	|	2.46
35.250	0.00	0.40	1.487	I	O	|	|	|	|	2.72	40.250	0.00	0.36	1.330	I	O	|	|	|	|	2.46
35.333	0.00	0.40	1.484	I	O	|	|	|	|	2.71	40.333	0.00	0.36	1.328	I	O	|	|	|	|	2.46
35.417	0.00	0.40	1.481	I	O	|	|	|	|	2.71	40.417	0.00	0.36	1.325	I	O	|	|	|	|	2.45
35.500	0.00	0.40	1.479	I	O	|	|	|	|	2.70	40.500	0.00	0.36	1.323	I	O	|	|	|	|	2.45
35.583	0.00	0.40	1.476	I	O	|	|	|	|	2.70	40.583	0.00	0.36	1.320	I	O	|	|	|	|	2.44
35.667	0.00	0.40	1.473	I	O	|	|	|	|	2.69	40.667	0.00	0.35	1.318	I	O	|	|	|	|	2.44
35.750	0.00	0.40	1.470	I	O	|	|	|	|	2.69	40.750	0.00	0.35	1.315	I	O	|	|	|	|	2.44
35.833	0.00	0.40	1.468	I	O	|	|	|	|	2.68	40.833	0.00	0.35	1.313	I	O	|	|	|	|	2.43
35.917	0.00	0.40	1.465	I	O	|	|	|	|	2.68	40.917	0.00	0.35	1.311	I	O	|	|	|	|	2.43
36.000	0.00	0.39	1.462	I	O	|	|	|	|	2.68	41.000	0.00	0.35	1.308	I	O	|	|	|	|	2.42
36.083	0.00	0.39	1.460	I	O	|	|	|	|	2.67	41.083	0.00	0.35	1.306	I	O	|	|	|	|	2.42
36.167	0.00	0.39	1.457	I	O	|	|	|	|	2.67	41.167	0.00	0.35	1.303	I	O	|	|	|	|	2.42
36.250	0.00	0.39	1.454	I	O	|	|	|	|	2.66	41.250	0.00	0.35	1.301	I	O	|	|	|	|	2.41
36.333	0.00	0.39	1.451	I	O	|	|	|	|	2.66	41.333	0.00	0.35	1.298	I	O	|	|	|	|	2.41
36.417	0.00	0.39	1.449	I	O	|	|	|	|	2.65	41.417	0.00	0.35	1.296	I	O	|	|	|	|	2.40
36.500	0.00	0.39	1.446	I	O	|	|	|	|	2.65	41.500	0.00	0.35	1.294	I	O	|	|	|	|	2.40
36.583	0.00	0.39	1.443	I	O	|	|	|	|	2.64	41.583	0.00	0.35	1.291	I	O	|	|	|	|	2.40
36.667	0.00	0.39	1.441	I	O	|	|	|	|	2.64	41.667	0.00	0.35	1.289	I	O	|	|	|	|	2.39
36.750	0.00	0.39	1.438	I	O	|	|	|	|	2.64	41.750	0.00	0.35	1.286	I	O	|	|	|	|	2.39
36.833	0.00	0.39	1.435	I	O	|	|	|	|	2.63	41.833	0.00	0.35	1.284	I	O	|	|	|	|	2.38
36.917	0.00	0.39	1.433	I	O	|	|	|	|	2.63	41.917	0.00	0.34	1.282	I	O	|	|	|	|	2.38
37.000	0.00	0.39	1.430	I	O	|	|	|	|	2.62	42.000	0.00	0.34	1.279	I	O	|	|	|	|	2.38
37.083	0.00	0.39	1.427	I	O	|	|	|	|	2.62	42.083	0.00	0.34	1.277	I	O	|	|	|	|	2.37
37.167	0.00	0.38	1.425	I	O	|	|	|	|	2.61	42.167	0.00	0.34	1.275	I	O	|	|	|	|	2.37
37.250	0.00	0.38	1.422	I	O	|	|	|	|	2.61	42.250	0.00	0.34	1.272	I	O	|	|	|	|	2.36
37.333	0.00	0.38	1.419	I	O	|	|	|	|	2.61	42.333	0.00	0.34	1.270	I	O	|	|	|	|	2.36
37.417	0.00	0.38	1.417	I	O	|	|	|	|	2.60	42.417	0.00	0.34	1.268	I	O	|	|	|	|	2.36
37.500	0.00	0.38	1.414	I	O	|	|	|	|	2.60	42.500	0.00	0.34	1.265	I	O	|	|	|	|	2.35
37.583	0.00	0.38	1.412	I	O	|	|	|	|	2.59	42.583	0.00	0.34	1.263	I	O	|	|	|	|	2.35
37.667	0.00	0.38	1.409	I	O	|	|	|	|	2.59	42.667	0.00	0.34	1.261	I	O	|	|	|	|	2.35
37.750	0.00	0.38	1.406	I	O	|	|	|	|	2.58	42.750	0.00	0.34	1.258	I	O	|	|	|	|	2.34
37.833	0.00	0.38	1.404	I	O	|	|	|	|	2.58	42.833	0.00	0.34	1.256	I	O	|	|	|	|	2.34
37.917	0.00	0.38	1.401	I	O	|	|	|	|	2.58	42.917	0.00	0.34	1.254	I	O	|	|	|	|	2.33
38.000	0.00	0.38	1.398	I	O	|	|	|	|	2.57	43.000	0.00	0.34	1.251	I	O	|	|	|	|	2.33
38.083	0.00	0.38	1.396	I	O	|	|	|	|	2.57	43.083	0.00	0.34	1.249	I	O	|	|	|	|	2.33
38.167	0.00	0.38	1.393	I	O	|	|	|	|	2.56	43.167	0.00	0.33	1.247	I	O	|	|	|	|	2.32
38.250	0.00	0.37	1.391	I	O	|	|	|	|	2.56	43.250	0.00	0.33	1.244	I	O	|	|	|	|	2.32
38.333	0.00	0.37	1.388	I	O	|	|	|	|	2.55	43.333	0.00	0.33	1.242	I	O	|	|	|	|	2.31
38.417	0.00	0.37	1.386	I	O	|	|	|	|	2.55	43.417	0.00	0.33	1.240	I	O	|	|	|	|	2.31
38.500	0.00	0.37	1.383	I	O	|	|	|	|	2.55	43.500	0.00	0.33	1.237	I	O	|	|	|	|	2.31
38.583	0.00	0.37	1.380	I	O	|	|	|	|	2.54	43.583	0.00	0.33	1.235	I	O	|	|	|	|	2.30
38.667	0.00	0.37	1.378	I	O	|	|	|	|	2.54	43.667	0.00	0.33	1.233	I	O	|	|	|	|	2.30
38.750	0.00	0.37	1.375	I	O	|	|	|	|	2.53	43.750	0.00	0.33	1.231	I	O	|	|	|	|	2.30
38.833	0.00	0.37	1.373	I	O	|	|	|	|	2.53	43.833	0.00	0.33	1.228	I	O	|	|	|	|	2.29

43.917	0.00	0.33	1.226	I	O				2.29	48.917	0.00	0.29	1.098	I	O				2.08
44.000	0.00	0.33	1.224	I	O				2.28	49.000	0.00	0.29	1.096	I	O				2.07
44.083	0.00	0.33	1.222	I	O				2.28	49.083	0.00	0.29	1.094	I	O				2.07
44.167	0.00	0.33	1.219	I	O				2.28	49.167	0.00	0.29	1.092	I	O				2.07
44.250	0.00	0.33	1.217	I	O				2.27	49.250	0.00	0.29	1.090	I	O				2.06
44.333	0.00	0.33	1.215	I	O				2.27	49.333	0.00	0.29	1.088	I	O				2.06
44.417	0.00	0.33	1.213	I	O				2.27	49.417	0.00	0.29	1.086	I	O				2.06
44.500	0.00	0.32	1.210	I	O				2.26	49.500	0.00	0.29	1.084	I	O				2.06
44.583	0.00	0.32	1.208	I	O				2.26	49.583	0.00	0.29	1.082	I	O				2.05
44.667	0.00	0.32	1.206	I	O				2.26	49.667	0.00	0.29	1.080	I	O				2.05
44.750	0.00	0.32	1.204	I	O				2.25	49.750	0.00	0.29	1.078	I	O				2.05
44.833	0.00	0.32	1.201	I	O				2.25	49.833	0.00	0.29	1.076	I	O				2.04
44.917	0.00	0.32	1.199	I	O				2.24	49.917	0.00	0.29	1.074	I	O				2.04
45.000	0.00	0.32	1.197	I	O				2.24	50.000	0.00	0.29	1.072	I	O				2.04
45.083	0.00	0.32	1.195	I	O				2.24	50.083	0.00	0.29	1.070	I	O				2.03
45.167	0.00	0.32	1.193	I	O				2.23	50.167	0.00	0.28	1.068	I	O				2.03
45.250	0.00	0.32	1.190	I	O				2.23	50.250	0.00	0.28	1.066	I	O				2.03
45.333	0.00	0.32	1.188	I	O				2.23	50.333	0.00	0.28	1.064	I	O				2.02
45.417	0.00	0.32	1.186	I	O				2.22	50.417	0.00	0.28	1.062	I	O				2.02
45.500	0.00	0.32	1.184	I	O				2.22	50.500	0.00	0.28	1.060	I	O				2.02
45.583	0.00	0.32	1.182	I	O				2.22	50.583	0.00	0.28	1.058	I	O				2.01
45.667	0.00	0.32	1.179	I	O				2.21	50.667	0.00	0.28	1.056	I	O				2.01
45.750	0.00	0.32	1.177	I	O				2.21	50.750	0.00	0.28	1.054	I	O				2.01
45.833	0.00	0.31	1.175	I	O				2.21	50.833	0.00	0.28	1.052	I	O				2.00
45.917	0.00	0.31	1.173	I	O				2.20	50.917	0.00	0.28	1.050	I	O				2.00
46.000	0.00	0.31	1.171	I	O				2.20	51.000	0.00	0.28	1.048	I	O				2.00
46.083	0.00	0.31	1.169	I	O				2.19	51.083	0.00	0.28	1.046	I	O				1.99
46.167	0.00	0.31	1.166	I	O				2.19	51.167	0.00	0.28	1.045	I	O				1.99
46.250	0.00	0.31	1.164	I	O				2.19	51.250	0.00	0.28	1.043	I	O				1.99
46.333	0.00	0.31	1.162	I	O				2.18	51.333	0.00	0.27	1.041	I	O				1.98
46.417	0.00	0.31	1.160	I	O				2.18	51.417	0.00	0.27	1.039	I	O				1.98
46.500	0.00	0.31	1.158	I	O				2.18	51.500	0.00	0.27	1.037	I	O				1.98
46.583	0.00	0.31	1.156	I	O				2.17	51.583	0.00	0.27	1.035	I	O				1.97
46.667	0.00	0.31	1.154	I	O				2.17	51.667	0.00	0.27	1.033	I	O				1.97
46.750	0.00	0.31	1.151	I	O				2.17	51.750	0.00	0.27	1.031	I	O				1.97
46.833	0.00	0.31	1.149	I	O				2.16	51.833	0.00	0.27	1.030	I	O				1.96
46.917	0.00	0.31	1.147	I	O				2.16	51.917	0.00	0.27	1.028	I	O				1.96
47.000	0.00	0.31	1.145	I	O				2.16	52.000	0.00	0.26	1.026	I	O				1.96
47.083	0.00	0.31	1.143	I	O				2.15	52.083	0.00	0.26	1.024	I	O				1.95
47.167	0.00	0.31	1.141	I	O				2.15	52.167	0.00	0.26	1.022	I	O				1.95
47.250	0.00	0.30	1.139	I	O				2.15	52.250	0.00	0.26	1.020	I	O				1.95
47.333	0.00	0.30	1.137	I	O				2.14	52.333	0.00	0.26	1.019	I	O				1.95
47.417	0.00	0.30	1.135	I	O				2.14	52.417	0.00	0.26	1.017	I	O				1.94
47.500	0.00	0.30	1.133	I	O				2.14	52.500	0.00	0.26	1.015	I	O				1.94
47.583	0.00	0.30	1.130	I	O				2.13	52.583	0.00	0.26	1.013	I	O				1.94
47.667	0.00	0.30	1.128	I	O				2.13	52.667	0.00	0.26	1.012	I	O				1.93
47.750	0.00	0.30	1.126	I	O				2.13	52.750	0.00	0.25	1.010	I	O				1.93
47.833	0.00	0.30	1.124	I	O				2.12	52.833	0.00	0.25	1.008	I	O				1.93
47.917	0.00	0.30	1.122	I	O				2.12	52.917	0.00	0.25	1.006	I	O				1.92
48.000	0.00	0.30	1.120	I	O				2.11	53.000	0.00	0.25	1.005	I	O				1.92
48.083	0.00	0.30	1.118	I	O				2.11	53.083	0.00	0.25	1.003	I	O				1.92
48.167	0.00	0.30	1.116	I	O				2.11	53.167	0.00	0.25	1.001	I	O				1.91
48.250	0.00	0.30	1.114	I	O				2.10	53.250	0.00	0.25	0.999	I	O				1.91
48.333	0.00	0.30	1.112	I	O				2.10	53.333	0.00	0.25	0.998	I	O				1.91
48.417	0.00	0.30	1.110	I	O				2.10	53.417	0.00	0.25	0.996	I	O				1.91
48.500	0.00	0.30	1.108	I	O				2.09	53.500	0.00	0.25	0.994	I	O				1.90
48.583	0.00	0.30	1.106	I	O				2.09	53.583	0.00	0.24	0.993	I	O				1.90
48.667	0.00	0.29	1.104	I	O				2.09	53.667	0.00	0.24	0.991	I	O				1.90
48.750	0.00	0.29	1.102	I	O				2.08	53.750	0.00	0.24	0.989	I	O				1.89
48.833	0.00	0.29	1.100	I	O				2.08	53.833	0.00	0.24	0.988	I	O				1.89

53.917	0.00	0.24	0.986	IO	|	|	|	|	1.89	58.917	0.00	0.18	0.899	IO	|	|	|	|	1.74
54.000	0.00	0.24	0.984	IO	|	|	|	|	1.89	59.000	0.00	0.18	0.897	IO	|	|	|	|	1.73
54.083	0.00	0.24	0.983	IO	|	|	|	|	1.88	59.083	0.00	0.18	0.896	IO	|	|	|	|	1.73
54.167	0.00	0.24	0.981	IO	|	|	|	|	1.88	59.167	0.00	0.18	0.895	IO	|	|	|	|	1.73
54.250	0.00	0.24	0.979	IO	|	|	|	|	1.88	59.250	0.00	0.18	0.894	IO	|	|	|	|	1.73
54.333	0.00	0.23	0.978	IO	|	|	|	|	1.87	59.333	0.00	0.18	0.892	IO	|	|	|	|	1.73
54.417	0.00	0.23	0.976	IO	|	|	|	|	1.87	59.417	0.00	0.18	0.891	IO	|	|	|	|	1.72
54.500	0.00	0.23	0.975	IO	|	|	|	|	1.87	59.500	0.00	0.18	0.890	IO	|	|	|	|	1.72
54.583	0.00	0.23	0.973	IO	|	|	|	|	1.87	59.583	0.00	0.18	0.889	IO	|	|	|	|	1.72
54.667	0.00	0.23	0.971	IO	|	|	|	|	1.86	59.667	0.00	0.18	0.887	IO	|	|	|	|	1.72
54.750	0.00	0.23	0.970	IO	|	|	|	|	1.86	59.750	0.00	0.18	0.886	IO	|	|	|	|	1.71
54.833	0.00	0.23	0.968	IO	|	|	|	|	1.86	59.833	0.00	0.18	0.885	IO	|	|	|	|	1.71
54.917	0.00	0.23	0.967	IO	|	|	|	|	1.85	59.917	0.00	0.18	0.884	IO	|	|	|	|	1.71
55.000	0.00	0.23	0.965	IO	|	|	|	|	1.85	60.000	0.00	0.17	0.883	IO	|	|	|	|	1.71
55.083	0.00	0.23	0.964	IO	|	|	|	|	1.85	60.083	0.00	0.17	0.881	IO	|	|	|	|	1.71
55.167	0.00	0.22	0.962	IO	|	|	|	|	1.85	60.167	0.00	0.17	0.880	IO	|	|	|	|	1.70
55.250	0.00	0.22	0.960	IO	|	|	|	|	1.84	60.250	0.00	0.17	0.879	IO	|	|	|	|	1.70
55.333	0.00	0.22	0.959	IO	|	|	|	|	1.84	60.333	0.00	0.17	0.878	IO	|	|	|	|	1.70
55.417	0.00	0.22	0.957	IO	|	|	|	|	1.84	60.417	0.00	0.17	0.877	IO	|	|	|	|	1.70
55.500	0.00	0.22	0.956	IO	|	|	|	|	1.84	60.500	0.00	0.17	0.875	IO	|	|	|	|	1.70
55.583	0.00	0.22	0.954	IO	|	|	|	|	1.83	60.583	0.00	0.17	0.874	IO	|	|	|	|	1.69
55.667	0.00	0.22	0.953	IO	|	|	|	|	1.83	60.667	0.00	0.17	0.873	IO	|	|	|	|	1.69
55.750	0.00	0.22	0.951	IO	|	|	|	|	1.83	60.750	0.00	0.17	0.872	IO	|	|	|	|	1.69
55.833	0.00	0.22	0.950	IO	|	|	|	|	1.83	60.833	0.00	0.17	0.871	IO	|	|	|	|	1.69
55.917	0.00	0.22	0.948	IO	|	|	|	|	1.82	60.917	0.00	0.17	0.870	IO	|	|	|	|	1.69
56.000	0.00	0.22	0.947	IO	|	|	|	|	1.82	61.000	0.00	0.17	0.868	IO	|	|	|	|	1.68
56.083	0.00	0.21	0.945	IO	|	|	|	|	1.82	61.083	0.00	0.17	0.867	IO	|	|	|	|	1.68
56.167	0.00	0.21	0.944	IO	|	|	|	|	1.81	61.167	0.00	0.16	0.866	IO	|	|	|	|	1.68
56.250	0.00	0.21	0.942	IO	|	|	|	|	1.81	61.250	0.00	0.16	0.865	IO	|	|	|	|	1.68
56.333	0.00	0.21	0.941	IO	|	|	|	|	1.81	61.333	0.00	0.16	0.864	IO	|	|	|	|	1.68
56.417	0.00	0.21	0.939	IO	|	|	|	|	1.81	61.417	0.00	0.16	0.863	IO	|	|	|	|	1.67
56.500	0.00	0.21	0.938	IO	|	|	|	|	1.80	61.500	0.00	0.16	0.862	IO	|	|	|	|	1.67
56.583	0.00	0.21	0.937	IO	|	|	|	|	1.80	61.583	0.00	0.16	0.861	IO	|	|	|	|	1.67
56.667	0.00	0.21	0.935	IO	|	|	|	|	1.80	61.667	0.00	0.16	0.859	IO	|	|	|	|	1.67
56.750	0.00	0.21	0.934	IO	|	|	|	|	1.80	61.750	0.00	0.16	0.858	IO	|	|	|	|	1.67
56.833	0.00	0.21	0.932	IO	|	|	|	|	1.79	61.833	0.00	0.16	0.857	IO	|	|	|	|	1.66
56.917	0.00	0.21	0.931	IO	|	|	|	|	1.79	61.917	0.00	0.16	0.856	IO	|	|	|	|	1.66
57.000	0.00	0.20	0.929	IO	|	|	|	|	1.79	62.000	0.00	0.16	0.855	IO	|	|	|	|	1.66
57.083	0.00	0.20	0.928	IO	|	|	|	|	1.79	62.083	0.00	0.16	0.854	IO	|	|	|	|	1.66
57.167	0.00	0.20	0.927	IO	|	|	|	|	1.78	62.167	0.00	0.16	0.853	IO	|	|	|	|	1.66
57.250	0.00	0.20	0.925	IO	|	|	|	|	1.78	62.250	0.00	0.16	0.852	IO	|	|	|	|	1.65
57.333	0.00	0.20	0.924	IO	|	|	|	|	1.78	62.333	0.00	0.15	0.851	IO	|	|	|	|	1.65
57.417	0.00	0.20	0.923	IO	|	|	|	|	1.78	62.417	0.00	0.15	0.850	IO	|	|	|	|	1.65
57.500	0.00	0.20	0.921	IO	|	|	|	|	1.78	62.500	0.00	0.15	0.849	IO	|	|	|	|	1.65
57.583	0.00	0.20	0.920	IO	|	|	|	|	1.77	62.583	0.00	0.15	0.848	IO	|	|	|	|	1.65
57.667	0.00	0.20	0.918	IO	|	|	|	|	1.77	62.667	0.00	0.15	0.847	IO	|	|	|	|	1.65
57.750	0.00	0.20	0.917	IO	|	|	|	|	1.77	62.750	0.00	0.15	0.846	IO	|	|	|	|	1.64
57.833	0.00	0.20	0.916	IO	|	|	|	|	1.77	62.833	0.00	0.15	0.844	IO	|	|	|	|	1.64
57.917	0.00	0.19	0.914	IO	|	|	|	|	1.76	62.917	0.00	0.15	0.843	IO	|	|	|	|	1.64
58.000	0.00	0.19	0.913	IO	|	|	|	|	1.76	63.000	0.00	0.15	0.842	IO	|	|	|	|	1.64
58.083	0.00	0.19	0.912	IO	|	|	|	|	1.76	63.083	0.00	0.15	0.841	IO	|	|	|	|	1.64
58.167	0.00	0.19	0.910	IO	|	|	|	|	1.76	63.167	0.00	0.15	0.840	IO	|	|	|	|	1.63
58.250	0.00	0.19	0.909	IO	|	|	|	|	1.75	63.250	0.00	0.15	0.839	IO	|	|	|	|	1.63
58.333	0.00	0.19	0.908	IO	|	|	|	|	1.75	63.333	0.00	0.15	0.838	IO	|	|	|	|	1.63
58.417	0.00	0.19	0.906	IO	|	|	|	|	1.75	63.417	0.00	0.15	0.837	IO	|	|	|	|	1.63
58.500	0.00	0.19	0.905	IO	|	|	|	|	1.75	63.500	0.00	0.15	0.836	IO	|	|	|	|	1.63
58.583	0.00	0.19	0.904	IO	|	|	|	|	1.75	63.583	0.00	0.15	0.835	IO	|	|	|	|	1.63
58.667	0.00	0.19	0.903	IO	|	|	|	|	1.74	63.667	0.00	0.14	0.834	IO	|	|	|	|	1.62
58.750	0.00	0.19	0.901	IO	|	|	|	|	1.74	63.750	0.00	0.14	0.833	IO	|	|	|	|	1.62
58.833	0.00	0.19	0.900	IO	|	|	|	|	1.74	63.833	0.00	0.14	0.832	IO	|	|	|	|	1.62

63.917	0.00	0.14	0.831	IO	|	|	|	|	1.62	68.917	0.00	0.11	0.779	O	|	|	|	|	1.53
64.000	0.00	0.14	0.830	IO	|	|	|	|	1.62	69.000	0.00	0.11	0.779	O	|	|	|	|	1.53
64.083	0.00	0.14	0.829	IO	|	|	|	|	1.62	69.083	0.00	0.11	0.778	O	|	|	|	|	1.53
64.167	0.00	0.14	0.828	IO	|	|	|	|	1.61	69.167	0.00	0.11	0.777	O	|	|	|	|	1.52
64.250	0.00	0.14	0.827	IO	|	|	|	|	1.61	69.250	0.00	0.11	0.776	O	|	|	|	|	1.52
64.333	0.00	0.14	0.826	IO	|	|	|	|	1.61	69.333	0.00	0.11	0.776	O	|	|	|	|	1.52
64.417	0.00	0.14	0.826	IO	|	|	|	|	1.61	69.417	0.00	0.11	0.775	O	|	|	|	|	1.52
64.500	0.00	0.14	0.825	IO	|	|	|	|	1.61	69.500	0.00	0.11	0.774	O	|	|	|	|	1.52
64.583	0.00	0.14	0.824	IO	|	|	|	|	1.61	69.583	0.00	0.11	0.773	O	|	|	|	|	1.52
64.667	0.00	0.14	0.823	IO	|	|	|	|	1.60	69.667	0.00	0.11	0.773	O	|	|	|	|	1.52
64.750	0.00	0.14	0.822	IO	|	|	|	|	1.60	69.750	0.00	0.11	0.772	O	|	|	|	|	1.52
64.833	0.00	0.14	0.821	IO	|	|	|	|	1.60	69.833	0.00	0.10	0.771	O	|	|	|	|	1.51
64.917	0.00	0.14	0.820	IO	|	|	|	|	1.60	69.917	0.00	0.10	0.771	O	|	|	|	|	1.51
65.000	0.00	0.13	0.819	IO	|	|	|	|	1.60	70.000	0.00	0.10	0.770	O	|	|	|	|	1.51
65.083	0.00	0.13	0.818	IO	|	|	|	|	1.60	70.083	0.00	0.10	0.769	O	|	|	|	|	1.51
65.167	0.00	0.13	0.817	IO	|	|	|	|	1.59	70.167	0.00	0.10	0.768	O	|	|	|	|	1.51
65.250	0.00	0.13	0.816	IO	|	|	|	|	1.59	70.250	0.00	0.10	0.768	O	|	|	|	|	1.51
65.333	0.00	0.13	0.815	IO	|	|	|	|	1.59	70.333	0.00	0.10	0.767	O	|	|	|	|	1.51
65.417	0.00	0.13	0.814	IO	|	|	|	|	1.59	70.417	0.00	0.10	0.766	O	|	|	|	|	1.51
65.500	0.00	0.13	0.813	O	|	|	|	|	1.59	70.500	0.00	0.10	0.766	O	|	|	|	|	1.50
65.583	0.00	0.13	0.813	O	|	|	|	|	1.59	70.583	0.00	0.10	0.765	O	|	|	|	|	1.50
65.667	0.00	0.13	0.812	O	|	|	|	|	1.58	70.667	0.00	0.10	0.764	O	|	|	|	|	1.50
65.750	0.00	0.13	0.811	O	|	|	|	|	1.58	70.750	0.00	0.10	0.763	O	|	|	|	|	1.50
65.833	0.00	0.13	0.810	O	|	|	|	|	1.58	70.833	0.00	0.10	0.763	O	|	|	|	|	1.50
65.917	0.00	0.13	0.809	O	|	|	|	|	1.58	70.917	0.00	0.10	0.762	O	|	|	|	|	1.50
66.000	0.00	0.13	0.808	O	|	|	|	|	1.58	71.000	0.00	0.10	0.761	O	|	|	|	|	1.50
66.083	0.00	0.13	0.807	O	|	|	|	|	1.58	71.083	0.00	0.10	0.761	O	|	|	|	|	1.50
66.167	0.00	0.13	0.806	O	|	|	|	|	1.57	71.167	0.00	0.10	0.760	O	|	|	|	|	1.49
66.250	0.00	0.13	0.805	O	|	|	|	|	1.57	71.250	0.00	0.10	0.759	O	|	|	|	|	1.49
66.333	0.00	0.13	0.805	O	|	|	|	|	1.57	71.333	0.00	0.10	0.759	O	|	|	|	|	1.49
66.417	0.00	0.13	0.804	O	|	|	|	|	1.57	71.417	0.00	0.10	0.758	O	|	|	|	|	1.49
66.500	0.00	0.12	0.803	O	|	|	|	|	1.57	71.500	0.00	0.10	0.757	O	|	|	|	|	1.49
66.583	0.00	0.12	0.802	O	|	|	|	|	1.57	71.583	0.00	0.10	0.757	O	|	|	|	|	1.49
66.667	0.00	0.12	0.801	O	|	|	|	|	1.57	71.667	0.00	0.10	0.756	O	|	|	|	|	1.49
66.750	0.00	0.12	0.800	O	|	|	|	|	1.56	71.750	0.00	0.10	0.755	O	|	|	|	|	1.49
66.833	0.00	0.12	0.799	O	|	|	|	|	1.56	71.833	0.00	0.09	0.755	O	|	|	|	|	1.49
66.917	0.00	0.12	0.799	O	|	|	|	|	1.56	71.917	0.00	0.09	0.754	O	|	|	|	|	1.48
67.000	0.00	0.12	0.798	O	|	|	|	|	1.56	72.000	0.00	0.09	0.753	O	|	|	|	|	1.48
67.083	0.00	0.12	0.797	O	|	|	|	|	1.56	72.083	0.00	0.09	0.753	O	|	|	|	|	1.48
67.167	0.00	0.12	0.796	O	|	|	|	|	1.56	72.167	0.00	0.09	0.752	O	|	|	|	|	1.48
67.250	0.00	0.12	0.795	O	|	|	|	|	1.56	72.250	0.00	0.09	0.752	O	|	|	|	|	1.48
67.333	0.00	0.12	0.794	O	|	|	|	|	1.55	72.333	0.00	0.09	0.751	O	|	|	|	|	1.48
67.417	0.00	0.12	0.794	O	|	|	|	|	1.55	72.417	0.00	0.09	0.750	O	|	|	|	|	1.48
67.500	0.00	0.12	0.793	O	|	|	|	|	1.55	72.500	0.00	0.09	0.750	O	|	|	|	|	1.48
67.583	0.00	0.12	0.792	O	|	|	|	|	1.55	72.583	0.00	0.09	0.749	O	|	|	|	|	1.48
67.667	0.00	0.12	0.791	O	|	|	|	|	1.55	72.667	0.00	0.09	0.748	O	|	|	|	|	1.47
67.750	0.00	0.12	0.790	O	|	|	|	|	1.55	72.750	0.00	0.09	0.748	O	|	|	|	|	1.47
67.833	0.00	0.12	0.790	O	|	|	|	|	1.55	72.833	0.00	0.09	0.747	O	|	|	|	|	1.47
67.917	0.00	0.12	0.789	O	|	|	|	|	1.54	72.917	0.00	0.09	0.747	O	|	|	|	|	1.47
68.000	0.00	0.12	0.788	O	|	|	|	|	1.54	73.000	0.00	0.09	0.746	O	|	|	|	|	1.47
68.083	0.00	0.11	0.787	O	|	|	|	|	1.54	73.083	0.00	0.09	0.745	O	|	|	|	|	1.47
68.167	0.00	0.11	0.786	O	|	|	|	|	1.54	73.167	0.00	0.09	0.745	O	|	|	|	|	1.47
68.250	0.00	0.11	0.786	O	|	|	|	|	1.54	73.250	0.00	0.09	0.744	O	|	|	|	|	1.47
68.333	0.00	0.11	0.785	O	|	|	|	|	1.54	73.333	0.00	0.09	0.743	O	|	|	|	|	1.47
68.417	0.00	0.11	0.784	O	|	|	|	|	1.54	73.417	0.00	0.09	0.743	O	|	|	|	|	1.46
68.500	0.00	0.11	0.783	O	|	|	|	|	1.53	73.500	0.00	0.09	0.742	O	|	|	|	|	1.46
68.583	0.00	0.11	0.782	O	|	|	|	|	1.53	73.583	0.00	0.09	0.742	O	|	|	|	|	1.46
68.667	0.00	0.11	0.782	O	|	|	|	|	1.53	73.667	0.00	0.09	0.741	O	|	|	|	|	1.46
68.750	0.00	0.11	0.781	O	|	|	|	|	1.53	73.750	0.00	0.09	0.741	O	|	|	|	|	1.46
68.833	0.00	0.11	0.780	O	|	|	|	|	1.53	73.833	0.00	0.09	0.740	O	|	|	|	|	1.46

73.917	0.00	0.08	0.739	O	|	|	|	|	1.46	78.917	0.00	0.07	0.708	O	|	|	|	|	1.40
74.000	0.00	0.08	0.739	O	|	|	|	|	1.46	79.000	0.00	0.07	0.708	O	|	|	|	|	1.40
74.083	0.00	0.08	0.738	O	|	|	|	|	1.46	79.083	0.00	0.06	0.708	O	|	|	|	|	1.40
74.167	0.00	0.08	0.738	O	|	|	|	|	1.46	79.167	0.00	0.06	0.707	O	|	|	|	|	1.40
74.250	0.00	0.08	0.737	O	|	|	|	|	1.45	79.250	0.00	0.06	0.707	O	|	|	|	|	1.40
74.333	0.00	0.08	0.736	O	|	|	|	|	1.45	79.333	0.00	0.06	0.706	O	|	|	|	|	1.40
74.417	0.00	0.08	0.736	O	|	|	|	|	1.45	79.417	0.00	0.06	0.706	O	|	|	|	|	1.40
74.500	0.00	0.08	0.735	O	|	|	|	|	1.45	79.500	0.00	0.06	0.705	O	|	|	|	|	1.40
74.583	0.00	0.08	0.735	O	|	|	|	|	1.45	79.583	0.00	0.06	0.705	O	|	|	|	|	1.40
74.667	0.00	0.08	0.734	O	|	|	|	|	1.45	79.667	0.00	0.06	0.704	O	|	|	|	|	1.40
74.750	0.00	0.08	0.734	O	|	|	|	|	1.45	79.750	0.00	0.06	0.704	O	|	|	|	|	1.40
74.833	0.00	0.08	0.733	O	|	|	|	|	1.45	79.833	0.00	0.06	0.704	O	|	|	|	|	1.40
74.917	0.00	0.08	0.732	O	|	|	|	|	1.45	79.917	0.00	0.06	0.703	O	|	|	|	|	1.40
75.000	0.00	0.08	0.732	O	|	|	|	|	1.45	80.000	0.00	0.06	0.703	O	|	|	|	|	1.39
75.083	0.00	0.08	0.731	O	|	|	|	|	1.44	80.083	0.00	0.06	0.702	O	|	|	|	|	1.39
75.167	0.00	0.08	0.731	O	|	|	|	|	1.44	80.167	0.00	0.06	0.702	O	|	|	|	|	1.39
75.250	0.00	0.08	0.730	O	|	|	|	|	1.44	80.250	0.00	0.06	0.701	O	|	|	|	|	1.39
75.333	0.00	0.08	0.730	O	|	|	|	|	1.44	80.333	0.00	0.06	0.701	O	|	|	|	|	1.39
75.417	0.00	0.08	0.729	O	|	|	|	|	1.44	80.417	0.00	0.06	0.701	O	|	|	|	|	1.39
75.500	0.00	0.08	0.729	O	|	|	|	|	1.44	80.500	0.00	0.06	0.700	O	|	|	|	|	1.39
75.583	0.00	0.08	0.728	O	|	|	|	|	1.44	80.583	0.00	0.06	0.700	O	|	|	|	|	1.39
75.667	0.00	0.08	0.728	O	|	|	|	|	1.44	80.667	0.00	0.06	0.699	O	|	|	|	|	1.39
75.750	0.00	0.08	0.727	O	|	|	|	|	1.44	80.750	0.00	0.06	0.699	O	|	|	|	|	1.39
75.833	0.00	0.08	0.727	O	|	|	|	|	1.44	80.833	0.00	0.06	0.699	O	|	|	|	|	1.39
75.917	0.00	0.08	0.726	O	|	|	|	|	1.43	80.917	0.00	0.06	0.698	O	|	|	|	|	1.39
76.000	0.00	0.08	0.725	O	|	|	|	|	1.43	81.000	0.00	0.06	0.698	O	|	|	|	|	1.39
76.083	0.00	0.08	0.725	O	|	|	|	|	1.43	81.083	0.00	0.06	0.697	O	|	|	|	|	1.38
76.167	0.00	0.08	0.724	O	|	|	|	|	1.43	81.167	0.00	0.06	0.697	O	|	|	|	|	1.38
76.250	0.00	0.08	0.724	O	|	|	|	|	1.43	81.250	0.00	0.06	0.697	O	|	|	|	|	1.38
76.333	0.00	0.07	0.723	O	|	|	|	|	1.43	81.333	0.00	0.06	0.696	O	|	|	|	|	1.38
76.417	0.00	0.07	0.723	O	|	|	|	|	1.43	81.417	0.00	0.06	0.696	O	|	|	|	|	1.38
76.500	0.00	0.07	0.722	O	|	|	|	|	1.43	81.500	0.00	0.06	0.695	O	|	|	|	|	1.38
76.583	0.00	0.07	0.722	O	|	|	|	|	1.43	81.583	0.00	0.06	0.695	O	|	|	|	|	1.38
76.667	0.00	0.07	0.721	O	|	|	|	|	1.43	81.667	0.00	0.06	0.695	O	|	|	|	|	1.38
76.750	0.00	0.07	0.721	O	|	|	|	|	1.43	81.750	0.00	0.06	0.694	O	|	|	|	|	1.38
76.833	0.00	0.07	0.720	O	|	|	|	|	1.43	81.833	0.00	0.06	0.694	O	|	|	|	|	1.38
76.917	0.00	0.07	0.720	O	|	|	|	|	1.42	81.917	0.00	0.06	0.693	O	|	|	|	|	1.38
77.000	0.00	0.07	0.719	O	|	|	|	|	1.42	82.000	0.00	0.06	0.693	O	|	|	|	|	1.38
77.083	0.00	0.07	0.719	O	|	|	|	|	1.42	82.083	0.00	0.06	0.693	O	|	|	|	|	1.38
77.167	0.00	0.07	0.718	O	|	|	|	|	1.42	82.167	0.00	0.06	0.692	O	|	|	|	|	1.38
77.250	0.00	0.07	0.718	O	|	|	|	|	1.42	82.250	0.00	0.06	0.692	O	|	|	|	|	1.38
77.333	0.00	0.07	0.717	O	|	|	|	|	1.42	82.333	0.00	0.05	0.691	O	|	|	|	|	1.37
77.417	0.00	0.07	0.717	O	|	|	|	|	1.42	82.417	0.00	0.05	0.691	O	|	|	|	|	1.37
77.500	0.00	0.07	0.716	O	|	|	|	|	1.42	82.500	0.00	0.05	0.691	O	|	|	|	|	1.37
77.583	0.00	0.07	0.716	O	|	|	|	|	1.42	82.583	0.00	0.05	0.690	O	|	|	|	|	1.37
77.667	0.00	0.07	0.715	O	|	|	|	|	1.42	82.667	0.00	0.05	0.690	O	|	|	|	|	1.37
77.750	0.00	0.07	0.715	O	|	|	|	|	1.42	82.750	0.00	0.05	0.690	O	|	|	|	|	1.37
77.833	0.00	0.07	0.714	O	|	|	|	|	1.41	82.833	0.00	0.05	0.689	O	|	|	|	|	1.37
77.917	0.00	0.07	0.714	O	|	|	|	|	1.41	82.917	0.00	0.05	0.689	O	|	|	|	|	1.37
78.000	0.00	0.07	0.714	O	|	|	|	|	1.41	83.000	0.00	0.05	0.688	O	|	|	|	|	1.37
78.083	0.00	0.07	0.713	O	|	|	|	|	1.41	83.083	0.00	0.05	0.688	O	|	|	|	|	1.37
78.167	0.00	0.07	0.713	O	|	|	|	|	1.41	83.167	0.00	0.05	0.688	O	|	|	|	|	1.37
78.250	0.00	0.07	0.712	O	|	|	|	|	1.41	83.250	0.00	0.05	0.687	O	|	|	|	|	1.37
78.333	0.00	0.07	0.712	O	|	|	|	|	1.41	83.333	0.00	0.05	0.687	O	|	|	|	|	1.37
78.417	0.00	0.07	0.711	O	|	|	|	|	1.41	83.417	0.00	0.05	0.687	O	|	|	|	|	1.37
78.500	0.00	0.07	0.711	O	|	|	|	|	1.41	83.500	0.00	0.05	0.686	O	|	|	|	|	1.37
78.583	0.00	0.07	0.710	O	|	|	|	|	1.41	83.583	0.00	0.05	0.686	O	|	|	|	|	1.37
78.667	0.00	0.07	0.710	O	|	|	|	|	1.41	83.667	0.00	0.05	0.686	O	|	|	|	|	1.36
78.750	0.00	0.07	0.709	O	|	|	|	|	1.41	83.750	0.00	0.05	0.685	O	|	|	|	|	1.36
78.833	0.00	0.07	0.709	O	|	|	|	|	1.41	83.833	0.00	0.05	0.685	O	|	|	|	|	1.36

83.917	0.00	0.05	0.685	O	|	|	|	|	1.36	88.917	0.00	0.04	0.666	O	|	|	|	|	1.33
84.000	0.00	0.05	0.684	O	|	|	|	|	1.36	89.000	0.00	0.04	0.666	O	|	|	|	|	1.33
84.083	0.00	0.05	0.684	O	|	|	|	|	1.36	89.083	0.00	0.04	0.666	O	|	|	|	|	1.33
84.167	0.00	0.05	0.684	O	|	|	|	|	1.36	89.167	0.00	0.04	0.665	O	|	|	|	|	1.33
84.250	0.00	0.05	0.683	O	|	|	|	|	1.36	89.250	0.00	0.04	0.665	O	|	|	|	|	1.33
84.333	0.00	0.05	0.683	O	|	|	|	|	1.36	89.333	0.00	0.04	0.665	O	|	|	|	|	1.33
84.417	0.00	0.05	0.683	O	|	|	|	|	1.36	89.417	0.00	0.04	0.665	O	|	|	|	|	1.33
84.500	0.00	0.05	0.682	O	|	|	|	|	1.36	89.500	0.00	0.04	0.664	O	|	|	|	|	1.33
84.583	0.00	0.05	0.682	O	|	|	|	|	1.36	89.583	0.00	0.04	0.664	O	|	|	|	|	1.33
84.667	0.00	0.05	0.682	O	|	|	|	|	1.36	89.667	0.00	0.04	0.664	O	|	|	|	|	1.33
84.750	0.00	0.05	0.681	O	|	|	|	|	1.36	89.750	0.00	0.04	0.664	O	|	|	|	|	1.33
84.833	0.00	0.05	0.681	O	|	|	|	|	1.36	89.833	0.00	0.04	0.663	O	|	|	|	|	1.33
84.917	0.00	0.05	0.681	O	|	|	|	|	1.36	89.917	0.00	0.04	0.663	O	|	|	|	|	1.33
85.000	0.00	0.05	0.680	O	|	|	|	|	1.35	90.000	0.00	0.04	0.663	O	|	|	|	|	1.32
85.083	0.00	0.05	0.680	O	|	|	|	|	1.35	90.083	0.00	0.04	0.663	O	|	|	|	|	1.32
85.167	0.00	0.05	0.680	O	|	|	|	|	1.35	90.167	0.00	0.04	0.662	O	|	|	|	|	1.32
85.250	0.00	0.05	0.679	O	|	|	|	|	1.35	90.250	0.00	0.04	0.662	O	|	|	|	|	1.32
85.333	0.00	0.05	0.679	O	|	|	|	|	1.35	90.333	0.00	0.04	0.662	O	|	|	|	|	1.32
85.417	0.00	0.05	0.679	O	|	|	|	|	1.35	90.417	0.00	0.04	0.662	O	|	|	|	|	1.32
85.500	0.00	0.05	0.678	O	|	|	|	|	1.35	90.500	0.00	0.04	0.661	O	|	|	|	|	1.32
85.583	0.00	0.05	0.678	O	|	|	|	|	1.35	90.583	0.00	0.04	0.661	O	|	|	|	|	1.32
85.667	0.00	0.05	0.678	O	|	|	|	|	1.35	90.667	0.00	0.04	0.661	O	|	|	|	|	1.32
85.750	0.00	0.05	0.677	O	|	|	|	|	1.35	90.750	0.00	0.04	0.661	O	|	|	|	|	1.32
85.833	0.00	0.05	0.677	O	|	|	|	|	1.35	90.833	0.00	0.04	0.660	O	|	|	|	|	1.32
85.917	0.00	0.05	0.677	O	|	|	|	|	1.35	90.917	0.00	0.04	0.660	O	|	|	|	|	1.32
86.000	0.00	0.05	0.676	O	|	|	|	|	1.35	91.000	0.00	0.03	0.660	O	|	|	|	|	1.32
86.083	0.00	0.05	0.676	O	|	|	|	|	1.35	91.083	0.00	0.03	0.660	O	|	|	|	|	1.32
86.167	0.00	0.04	0.676	O	|	|	|	|	1.35	91.167	0.00	0.03	0.659	O	|	|	|	|	1.32
86.250	0.00	0.04	0.675	O	|	|	|	|	1.35	91.250	0.00	0.03	0.659	O	|	|	|	|	1.32
86.333	0.00	0.04	0.675	O	|	|	|	|	1.35	91.333	0.00	0.03	0.659	O	|	|	|	|	1.32
86.417	0.00	0.04	0.675	O	|	|	|	|	1.35	91.417	0.00	0.03	0.659	O	|	|	|	|	1.32
86.500	0.00	0.04	0.674	O	|	|	|	|	1.35	91.500	0.00	0.03	0.658	O	|	|	|	|	1.32
86.583	0.00	0.04	0.674	O	|	|	|	|	1.34	91.583	0.00	0.03	0.658	O	|	|	|	|	1.32
86.667	0.00	0.04	0.674	O	|	|	|	|	1.34	91.667	0.00	0.03	0.658	O	|	|	|	|	1.32
86.750	0.00	0.04	0.674	O	|	|	|	|	1.34	91.750	0.00	0.03	0.658	O	|	|	|	|	1.32
86.833	0.00	0.04	0.673	O	|	|	|	|	1.34	91.833	0.00	0.03	0.657	O	|	|	|	|	1.32
86.917	0.00	0.04	0.673	O	|	|	|	|	1.34	91.917	0.00	0.03	0.657	O	|	|	|	|	1.31
87.000	0.00	0.04	0.673	O	|	|	|	|	1.34	92.000	0.00	0.03	0.657	O	|	|	|	|	1.31
87.083	0.00	0.04	0.672	O	|	|	|	|	1.34	92.083	0.00	0.03	0.657	O	|	|	|	|	1.31
87.167	0.00	0.04	0.672	O	|	|	|	|	1.34	92.167	0.00	0.03	0.657	O	|	|	|	|	1.31
87.250	0.00	0.04	0.672	O	|	|	|	|	1.34	92.250	0.00	0.03	0.656	O	|	|	|	|	1.31
87.333	0.00	0.04	0.671	O	|	|	|	|	1.34	92.333	0.00	0.03	0.656	O	|	|	|	|	1.31
87.417	0.00	0.04	0.671	O	|	|	|	|	1.34	92.417	0.00	0.03	0.656	O	|	|	|	|	1.31
87.500	0.00	0.04	0.671	O	|	|	|	|	1.34	92.500	0.00	0.03	0.656	O	|	|	|	|	1.31
87.583	0.00	0.04	0.671	O	|	|	|	|	1.34	92.583	0.00	0.03	0.655	O	|	|	|	|	1.31
87.667	0.00	0.04	0.670	O	|	|	|	|	1.34	92.667	0.00	0.03	0.655	O	|	|	|	|	1.31
87.750	0.00	0.04	0.670	O	|	|	|	|	1.34	92.750	0.00	0.03	0.655	O	|	|	|	|	1.31
87.833	0.00	0.04	0.670	O	|	|	|	|	1.34	92.833	0.00	0.03	0.655	O	|	|	|	|	1.31
87.917	0.00	0.04	0.669	O	|	|	|	|	1.34	92.917	0.00	0.03	0.655	O	|	|	|	|	1.31
88.000	0.00	0.04	0.669	O	|	|	|	|	1.34	93.000	0.00	0.03	0.654	O	|	|	|	|	1.31
88.083	0.00	0.04	0.669	O	|	|	|	|	1.34	93.083	0.00	0.03	0.654	O	|	|	|	|	1.31
88.167	0.00	0.04	0.669	O	|	|	|	|	1.33	93.167	0.00	0.03	0.654	O	|	|	|	|	1.31
88.250	0.00	0.04	0.668	O	|	|	|	|	1.33	93.250	0.00	0.03	0.654	O	|	|	|	|	1.31
88.333	0.00	0.04	0.668	O	|	|	|	|	1.33	93.333	0.00	0.03	0.653	O	|	|	|	|	1.31
88.417	0.00	0.04	0.668	O	|	|	|	|	1.33	93.417	0.00	0.03	0.653	O	|	|	|	|	1.31
88.500	0.00	0.04	0.668	O	|	|	|	|	1.33	93.500	0.00	0.03	0.653	O	|	|	|	|	1.31
88.583	0.00	0.04	0.667	O	|	|	|	|	1.33	93.583	0.00	0.03	0.653	O	|	|	|	|	1.31
88.667	0.00	0.04	0.667	O	|	|	|	|	1.33	93.667	0.00	0.03	0.653	O	|	|	|	|	1.31
88.750	0.00	0.04	0.667	O	|	|	|	|	1.33	93.750	0.00	0.03	0.652	O	|	|	|	|	1.31
88.833	0.00	0.04	0.666	O	|	|	|	|	1.33	93.833	0.00	0.03	0.652	O	|	|	|	|	1.31

Left Blank Intentionally

413.917	0.00	0.01	0.416	O	|	|	|	|	0.84
414.000	0.00	0.01	0.416	O	|	|	|	|	0.84
414.083	0.00	0.01	0.416	O	|	|	|	|	0.84
414.167	0.00	0.01	0.416	O	|	|	|	|	0.84
414.250	0.00	0.01	0.416	O	|	|	|	|	0.84
414.333	0.00	0.01	0.416	O	|	|	|	|	0.84
414.417	0.00	0.01	0.416	O	|	|	|	|	0.84
414.500	0.00	0.01	0.416	O	|	|	|	|	0.84
414.583	0.00	0.01	0.416	O	|	|	|	|	0.84
414.667	0.00	0.01	0.416	O	|	|	|	|	0.84
414.750	0.00	0.01	0.416	O	|	|	|	|	0.84
414.833	0.00	0.01	0.416	O	|	|	|	|	0.84
414.917	0.00	0.01	0.416	O	|	|	|	|	0.84
415.000	0.00	0.01	0.416	O	|	|	|	|	0.84
415.083	0.00	0.01	0.416	O	|	|	|	|	0.84
415.167	0.00	0.01	0.416	O	|	|	|	|	0.84
415.250	0.00	0.01	0.416	O	|	|	|	|	0.84
415.333	0.00	0.01	0.416	O	|	|	|	|	0.84
415.417	0.00	0.01	0.415	O	|	|	|	|	0.84
415.500	0.00	0.01	0.415	O	|	|	|	|	0.84
415.583	0.00	0.01	0.415	O	|	|	|	|	0.84
415.667	0.00	0.01	0.415	O	|	|	|	|	0.84
415.750	0.00	0.01	0.415	O	|	|	|	|	0.84
415.833	0.00	0.01	0.415	O	|	|	|	|	0.84
415.917	0.00	0.01	0.415	O	|	|	|	|	0.84
416.000	0.00	0.01	0.415	O	|	|	|	|	0.84
416.083	0.00	0.01	0.415	O	|	|	|	|	0.84
416.167	0.00	0.01	0.415	O	|	|	|	|	0.84
416.250	0.00	0.01	0.415	O	|	|	|	|	0.84
416.333	0.00	0.01	0.415	O	|	|	|	|	0.84
416.417	0.00	0.01	0.415	O	|	|	|	|	0.84
416.500	0.00	0.01	0.415	O	|	|	|	|	0.84
416.583	0.00	0.01	0.415	O	|	|	|	|	0.84
416.667	0.00	0.01	0.415	O	|	|	|	|	0.84

Remaining water in basin = 0.41 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.671 (CFS)
Total volume = 2.147 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

5-YR
1, 3, 6, 24-HR STORMS

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

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TR 37036, PARCEL 1
BASIN M
5Y 1H STORM

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Program License Serial Number 6406

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******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR15.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    16
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       25.119 (CFS)
                Total volume =       0.855 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 16
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
------------------------------------------------------------------------
------------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
------------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
------------------------------------------------------------------------
                  Hydrograph Detention Basin Routing
------------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
------------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       6.3    12.56   18.84   25.12 (Ft.)
 0.083    2.01    0.00      0.007  O I      |       |       |       |     0.01
 0.167    4.19    0.00      0.028  O    I   |       |       |       |     0.06
 0.250    5.10    0.00      0.060  O     I  |       |       |       |     0.12
 0.333    5.72    0.00      0.097  O      I |       |       |       |     0.20
 0.417    6.03    0.00      0.138  O      I |       |       |       |     0.28
 0.500    6.53    0.00      0.181  O       I       |       |       |     0.37
 0.583    7.60    0.00      0.230  O       |I      |       |       |     0.46
 0.667    8.96    0.00      0.287  O       |  I    |       |       |     0.58
 0.750   12.21    0.01      0.360  O       |      I|       |       |     0.72
 0.833   25.12    0.01      0.488  O       |       |       |       I     0.98
 0.917   23.37    0.03      0.655  O       |       |       |    I  |     1.31
 1.000   10.54    0.10      0.771  O       |    I  |       |       |     1.51
 1.083    4.91    0.14      0.824  O     I |       |       |       |     1.61
 1.167    1.41    0.15      0.844  OI      |       |       |       |     1.64
 1.250    0.33    0.15      0.849  O       |       |       |       |     1.65
 1.333    0.08    0.15      0.850  O       |       |       |       |     1.65
 1.417    0.00    0.15      0.849  O       |       |       |       |     1.65
 1.500    0.00    0.15      0.848  O       |       |       |       |     1.65
 1.583    0.00    0.15      0.847  O       |       |       |       |     1.65
 1.667    0.00    0.15      0.846  O       |       |       |       |     1.64
 1.750    0.00    0.15      0.845  O       |       |       |       |     1.64
 1.833    0.00    0.15      0.844  O       |       |       |       |     1.64
 1.917    0.00    0.15      0.843  O       |       |       |       |     1.64
 2.000    0.00    0.15      0.842  O       |       |       |       |     1.64
 2.083    0.00    0.15      0.841  O       |       |       |       |     1.63
 2.167    0.00    0.15      0.840  O       |       |       |       |     1.63
 2.250    0.00    0.15      0.839  O       |       |       |       |     1.63
 2.333    0.00    0.15      0.838  O       |       |       |       |     1.63
 2.417    0.00    0.15      0.837  O       |       |       |       |     1.63
 2.500    0.00    0.15      0.836  O       |       |       |       |     1.63
 2.583    0.00    0.14      0.835  O       |       |       |       |     1.62
 2.667    0.00    0.14      0.834  O       |       |       |       |     1.62
 2.750    0.00    0.14      0.833  O       |       |       |       |     1.62
 2.833    0.00    0.14      0.832  O       |       |       |       |     1.62
 2.917    0.00    0.14      0.831  O       |       |       |       |     1.62
 3.000    0.00    0.14      0.830  O       |       |       |       |     1.62
 3.083    0.00    0.14      0.829  O       |       |       |       |     1.61
 3.167    0.00    0.14      0.828  O       |       |       |       |     1.61
 3.250    0.00    0.14      0.827  O       |       |       |       |     1.61
 3.333    0.00    0.14      0.826  O       |       |       |       |     1.61
 3.417    0.00    0.14      0.825  O       |       |       |       |     1.61
 3.500    0.00    0.14      0.824  O       |       |       |       |     1.61
 3.583    0.00    0.14      0.823  O       |       |       |       |     1.60
 3.667    0.00    0.14      0.822  O       |       |       |       |     1.60
 3.750    0.00    0.14      0.821  O       |       |       |       |     1.60
 3.833    0.00    0.14      0.820  O       |       |       |       |     1.60
```

3.917	0.00	0.14	0.819	O	|	|	|	|	1.60	8.917	0.00	0.10	0.770	O	|	|	|	|	1.51
4.000	0.00	0.13	0.818	O	|	|	|	|	1.60	9.000	0.00	0.10	0.769	O	|	|	|	|	1.51
4.083	0.00	0.13	0.817	O	|	|	|	|	1.59	9.083	0.00	0.10	0.769	O	|	|	|	|	1.51
4.167	0.00	0.13	0.816	O	|	|	|	|	1.59	9.167	0.00	0.10	0.768	O	|	|	|	|	1.51
4.250	0.00	0.13	0.815	O	|	|	|	|	1.59	9.250	0.00	0.10	0.767	O	|	|	|	|	1.51
4.333	0.00	0.13	0.815	O	|	|	|	|	1.59	9.333	0.00	0.10	0.766	O	|	|	|	|	1.51
4.417	0.00	0.13	0.814	O	|	|	|	|	1.59	9.417	0.00	0.10	0.766	O	|	|	|	|	1.50
4.500	0.00	0.13	0.813	O	|	|	|	|	1.59	9.500	0.00	0.10	0.765	O	|	|	|	|	1.50
4.583	0.00	0.13	0.812	O	|	|	|	|	1.58	9.583	0.00	0.10	0.764	O	|	|	|	|	1.50
4.667	0.00	0.13	0.811	O	|	|	|	|	1.58	9.667	0.00	0.10	0.764	O	|	|	|	|	1.50
4.750	0.00	0.13	0.810	O	|	|	|	|	1.58	9.750	0.00	0.10	0.763	O	|	|	|	|	1.50
4.833	0.00	0.13	0.809	O	|	|	|	|	1.58	9.833	0.00	0.10	0.762	O	|	|	|	|	1.50
4.917	0.00	0.13	0.808	O	|	|	|	|	1.58	9.917	0.00	0.10	0.762	O	|	|	|	|	1.50
5.000	0.00	0.13	0.807	O	|	|	|	|	1.58	10.000	0.00	0.10	0.761	O	|	|	|	|	1.50
5.083	0.00	0.13	0.806	O	|	|	|	|	1.58	10.083	0.00	0.10	0.760	O	|	|	|	|	1.49
5.167	0.00	0.13	0.806	O	|	|	|	|	1.57	10.167	0.00	0.10	0.760	O	|	|	|	|	1.49
5.250	0.00	0.13	0.805	O	|	|	|	|	1.57	10.250	0.00	0.10	0.759	O	|	|	|	|	1.49
5.333	0.00	0.13	0.804	O	|	|	|	|	1.57	10.333	0.00	0.10	0.758	O	|	|	|	|	1.49
5.417	0.00	0.12	0.803	O	|	|	|	|	1.57	10.417	0.00	0.10	0.758	O	|	|	|	|	1.49
5.500	0.00	0.12	0.802	O	|	|	|	|	1.57	10.500	0.00	0.10	0.757	O	|	|	|	|	1.49
5.583	0.00	0.12	0.801	O	|	|	|	|	1.57	10.583	0.00	0.10	0.756	O	|	|	|	|	1.49
5.667	0.00	0.12	0.800	O	|	|	|	|	1.56	10.667	0.00	0.10	0.756	O	|	|	|	|	1.49
5.750	0.00	0.12	0.800	O	|	|	|	|	1.56	10.750	0.00	0.09	0.755	O	|	|	|	|	1.49
5.833	0.00	0.12	0.799	O	|	|	|	|	1.56	10.833	0.00	0.09	0.754	O	|	|	|	|	1.48
5.917	0.00	0.12	0.798	O	|	|	|	|	1.56	10.917	0.00	0.09	0.754	O	|	|	|	|	1.48
6.000	0.00	0.12	0.797	O	|	|	|	|	1.56	11.000	0.00	0.09	0.753	O	|	|	|	|	1.48
6.083	0.00	0.12	0.796	O	|	|	|	|	1.56	11.083	0.00	0.09	0.752	O	|	|	|	|	1.48
6.167	0.00	0.12	0.795	O	|	|	|	|	1.56	11.167	0.00	0.09	0.752	O	|	|	|	|	1.48
6.250	0.00	0.12	0.795	O	|	|	|	|	1.55	11.250	0.00	0.09	0.751	O	|	|	|	|	1.48
6.333	0.00	0.12	0.794	O	|	|	|	|	1.55	11.333	0.00	0.09	0.750	O	|	|	|	|	1.48
6.417	0.00	0.12	0.793	O	|	|	|	|	1.55	11.417	0.00	0.09	0.750	O	|	|	|	|	1.48
6.500	0.00	0.12	0.792	O	|	|	|	|	1.55	11.500	0.00	0.09	0.749	O	|	|	|	|	1.48
6.583	0.00	0.12	0.791	O	|	|	|	|	1.55	11.583	0.00	0.09	0.749	O	|	|	|	|	1.47
6.667	0.00	0.12	0.791	O	|	|	|	|	1.55	11.667	0.00	0.09	0.748	O	|	|	|	|	1.47
6.750	0.00	0.12	0.790	O	|	|	|	|	1.55	11.750	0.00	0.09	0.747	O	|	|	|	|	1.47
6.833	0.00	0.12	0.789	O	|	|	|	|	1.54	11.833	0.00	0.09	0.747	O	|	|	|	|	1.47
6.917	0.00	0.12	0.788	O	|	|	|	|	1.54	11.917	0.00	0.09	0.746	O	|	|	|	|	1.47
7.000	0.00	0.12	0.787	O	|	|	|	|	1.54	12.000	0.00	0.09	0.745	O	|	|	|	|	1.47
7.083	0.00	0.11	0.787	O	|	|	|	|	1.54	12.083	0.00	0.09	0.745	O	|	|	|	|	1.47
7.167	0.00	0.11	0.786	O	|	|	|	|	1.54	12.167	0.00	0.09	0.744	O	|	|	|	|	1.47
7.250	0.00	0.11	0.785	O	|	|	|	|	1.54	12.250	0.00	0.09	0.744	O	|	|	|	|	1.47
7.333	0.00	0.11	0.784	O	|	|	|	|	1.54	12.333	0.00	0.09	0.743	O	|	|	|	|	1.46
7.417	0.00	0.11	0.783	O	|	|	|	|	1.53	12.417	0.00	0.09	0.742	O	|	|	|	|	1.46
7.500	0.00	0.11	0.783	O	|	|	|	|	1.53	12.500	0.00	0.09	0.742	O	|	|	|	|	1.46
7.583	0.00	0.11	0.782	O	|	|	|	|	1.53	12.583	0.00	0.09	0.741	O	|	|	|	|	1.46
7.667	0.00	0.11	0.781	O	|	|	|	|	1.53	12.667	0.00	0.09	0.741	O	|	|	|	|	1.46
7.750	0.00	0.11	0.780	O	|	|	|	|	1.53	12.750	0.00	0.09	0.740	O	|	|	|	|	1.46
7.833	0.00	0.11	0.780	O	|	|	|	|	1.53	12.833	0.00	0.09	0.739	O	|	|	|	|	1.46
7.917	0.00	0.11	0.779	O	|	|	|	|	1.53	12.917	0.00	0.08	0.739	O	|	|	|	|	1.46
8.000	0.00	0.11	0.778	O	|	|	|	|	1.53	13.000	0.00	0.08	0.738	O	|	|	|	|	1.46
8.083	0.00	0.11	0.777	O	|	|	|	|	1.52	13.083	0.00	0.08	0.738	O	|	|	|	|	1.46
8.167	0.00	0.11	0.777	O	|	|	|	|	1.52	13.167	0.00	0.08	0.737	O	|	|	|	|	1.45
8.250	0.00	0.11	0.776	O	|	|	|	|	1.52	13.250	0.00	0.08	0.737	O	|	|	|	|	1.45
8.333	0.00	0.11	0.775	O	|	|	|	|	1.52	13.333	0.00	0.08	0.736	O	|	|	|	|	1.45
8.417	0.00	0.11	0.774	O	|	|	|	|	1.52	13.417	0.00	0.08	0.735	O	|	|	|	|	1.45
8.500	0.00	0.11	0.774	O	|	|	|	|	1.52	13.500	0.00	0.08	0.735	O	|	|	|	|	1.45
8.583	0.00	0.11	0.773	O	|	|	|	|	1.52	13.583	0.00	0.08	0.734	O	|	|	|	|	1.45
8.667	0.00	0.11	0.772	O	|	|	|	|	1.52	13.667	0.00	0.08	0.734	O	|	|	|	|	1.45
8.750	0.00	0.11	0.771	O	|	|	|	|	1.51	13.750	0.00	0.08	0.733	O	|	|	|	|	1.45
8.833	0.00	0.10	0.771	O	|	|	|	|	1.51	13.833	0.00	0.08	0.733	O	|	|	|	|	1.45

13.917	0.00	0.08	0.732	O	|	|	|	|	1.45	18.917	0.00	0.06	0.703	O	|	|	|	|	1.39
14.000	0.00	0.08	0.732	O	|	|	|	|	1.44	19.000	0.00	0.06	0.702	O	|	|	|	|	1.39
14.083	0.00	0.08	0.731	O	|	|	|	|	1.44	19.083	0.00	0.06	0.702	O	|	|	|	|	1.39
14.167	0.00	0.08	0.730	O	|	|	|	|	1.44	19.167	0.00	0.06	0.702	O	|	|	|	|	1.39
14.250	0.00	0.08	0.730	O	|	|	|	|	1.44	19.250	0.00	0.06	0.701	O	|	|	|	|	1.39
14.333	0.00	0.08	0.729	O	|	|	|	|	1.44	19.333	0.00	0.06	0.701	O	|	|	|	|	1.39
14.417	0.00	0.08	0.729	O	|	|	|	|	1.44	19.417	0.00	0.06	0.700	O	|	|	|	|	1.39
14.500	0.00	0.08	0.728	O	|	|	|	|	1.44	19.500	0.00	0.06	0.700	O	|	|	|	|	1.39
14.583	0.00	0.08	0.728	O	|	|	|	|	1.44	19.583	0.00	0.06	0.699	O	|	|	|	|	1.39
14.667	0.00	0.08	0.727	O	|	|	|	|	1.44	19.667	0.00	0.06	0.699	O	|	|	|	|	1.39
14.750	0.00	0.08	0.727	O	|	|	|	|	1.44	19.750	0.00	0.06	0.699	O	|	|	|	|	1.39
14.833	0.00	0.08	0.726	O	|	|	|	|	1.44	19.833	0.00	0.06	0.698	O	|	|	|	|	1.39
14.917	0.00	0.08	0.726	O	|	|	|	|	1.43	19.917	0.00	0.06	0.698	O	|	|	|	|	1.39
15.000	0.00	0.08	0.725	O	|	|	|	|	1.43	20.000	0.00	0.06	0.697	O	|	|	|	|	1.39
15.083	0.00	0.08	0.725	O	|	|	|	|	1.43	20.083	0.00	0.06	0.697	O	|	|	|	|	1.38
15.167	0.00	0.08	0.724	O	|	|	|	|	1.43	20.167	0.00	0.06	0.697	O	|	|	|	|	1.38
15.250	0.00	0.07	0.723	O	|	|	|	|	1.43	20.250	0.00	0.06	0.696	O	|	|	|	|	1.38
15.333	0.00	0.07	0.723	O	|	|	|	|	1.43	20.333	0.00	0.06	0.696	O	|	|	|	|	1.38
15.417	0.00	0.07	0.722	O	|	|	|	|	1.43	20.417	0.00	0.06	0.695	O	|	|	|	|	1.38
15.500	0.00	0.07	0.722	O	|	|	|	|	1.43	20.500	0.00	0.06	0.695	O	|	|	|	|	1.38
15.583	0.00	0.07	0.721	O	|	|	|	|	1.43	20.583	0.00	0.06	0.695	O	|	|	|	|	1.38
15.667	0.00	0.07	0.721	O	|	|	|	|	1.43	20.667	0.00	0.06	0.694	O	|	|	|	|	1.38
15.750	0.00	0.07	0.720	O	|	|	|	|	1.43	20.750	0.00	0.06	0.694	O	|	|	|	|	1.38
15.833	0.00	0.07	0.720	O	|	|	|	|	1.42	20.833	0.00	0.06	0.693	O	|	|	|	|	1.38
15.917	0.00	0.07	0.719	O	|	|	|	|	1.42	20.917	0.00	0.06	0.693	O	|	|	|	|	1.38
16.000	0.00	0.07	0.719	O	|	|	|	|	1.42	21.000	0.00	0.06	0.693	O	|	|	|	|	1.38
16.083	0.00	0.07	0.718	O	|	|	|	|	1.42	21.083	0.00	0.06	0.692	O	|	|	|	|	1.38
16.167	0.00	0.07	0.718	O	|	|	|	|	1.42	21.167	0.00	0.06	0.692	O	|	|	|	|	1.38
16.250	0.00	0.07	0.717	O	|	|	|	|	1.42	21.250	0.00	0.05	0.692	O	|	|	|	|	1.37
16.333	0.00	0.07	0.717	O	|	|	|	|	1.42	21.333	0.00	0.05	0.691	O	|	|	|	|	1.37
16.417	0.00	0.07	0.716	O	|	|	|	|	1.42	21.417	0.00	0.05	0.691	O	|	|	|	|	1.37
16.500	0.00	0.07	0.716	O	|	|	|	|	1.42	21.500	0.00	0.05	0.690	O	|	|	|	|	1.37
16.583	0.00	0.07	0.716	O	|	|	|	|	1.42	21.583	0.00	0.05	0.690	O	|	|	|	|	1.37
16.667	0.00	0.07	0.715	O	|	|	|	|	1.42	21.667	0.00	0.05	0.690	O	|	|	|	|	1.37
16.750	0.00	0.07	0.715	O	|	|	|	|	1.41	21.750	0.00	0.05	0.689	O	|	|	|	|	1.37
16.833	0.00	0.07	0.714	O	|	|	|	|	1.41	21.833	0.00	0.05	0.689	O	|	|	|	|	1.37
16.917	0.00	0.07	0.714	O	|	|	|	|	1.41	21.917	0.00	0.05	0.689	O	|	|	|	|	1.37
17.000	0.00	0.07	0.713	O	|	|	|	|	1.41	22.000	0.00	0.05	0.688	O	|	|	|	|	1.37
17.083	0.00	0.07	0.713	O	|	|	|	|	1.41	22.083	0.00	0.05	0.688	O	|	|	|	|	1.37
17.167	0.00	0.07	0.712	O	|	|	|	|	1.41	22.167	0.00	0.05	0.687	O	|	|	|	|	1.37
17.250	0.00	0.07	0.712	O	|	|	|	|	1.41	22.250	0.00	0.05	0.687	O	|	|	|	|	1.37
17.333	0.00	0.07	0.711	O	|	|	|	|	1.41	22.333	0.00	0.05	0.687	O	|	|	|	|	1.37
17.417	0.00	0.07	0.711	O	|	|	|	|	1.41	22.417	0.00	0.05	0.686	O	|	|	|	|	1.37
17.500	0.00	0.07	0.710	O	|	|	|	|	1.41	22.500	0.00	0.05	0.686	O	|	|	|	|	1.37
17.583	0.00	0.07	0.710	O	|	|	|	|	1.41	22.583	0.00	0.05	0.686	O	|	|	|	|	1.36
17.667	0.00	0.07	0.709	O	|	|	|	|	1.41	22.667	0.00	0.05	0.685	O	|	|	|	|	1.36
17.750	0.00	0.07	0.709	O	|	|	|	|	1.41	22.750	0.00	0.05	0.685	O	|	|	|	|	1.36
17.833	0.00	0.07	0.709	O	|	|	|	|	1.40	22.833	0.00	0.05	0.685	O	|	|	|	|	1.36
17.917	0.00	0.07	0.708	O	|	|	|	|	1.40	22.917	0.00	0.05	0.684	O	|	|	|	|	1.36
18.000	0.00	0.07	0.708	O	|	|	|	|	1.40	23.000	0.00	0.05	0.684	O	|	|	|	|	1.36
18.083	0.00	0.06	0.707	O	|	|	|	|	1.40	23.083	0.00	0.05	0.684	O	|	|	|	|	1.36
18.167	0.00	0.06	0.707	O	|	|	|	|	1.40	23.167	0.00	0.05	0.683	O	|	|	|	|	1.36
18.250	0.00	0.06	0.706	O	|	|	|	|	1.40	23.250	0.00	0.05	0.683	O	|	|	|	|	1.36
18.333	0.00	0.06	0.706	O	|	|	|	|	1.40	23.333	0.00	0.05	0.683	O	|	|	|	|	1.36
18.417	0.00	0.06	0.705	O	|	|	|	|	1.40	23.417	0.00	0.05	0.682	O	|	|	|	|	1.36
18.500	0.00	0.06	0.705	O	|	|	|	|	1.40	23.500	0.00	0.05	0.682	O	|	|	|	|	1.36
18.583	0.00	0.06	0.705	O	|	|	|	|	1.40	23.583	0.00	0.05	0.682	O	|	|	|	|	1.36
18.667	0.00	0.06	0.704	O	|	|	|	|	1.40	23.667	0.00	0.05	0.681	O	|	|	|	|	1.36
18.750	0.00	0.06	0.704	O	|	|	|	|	1.40	23.750	0.00	0.05	0.681	O	|	|	|	|	1.36
18.833	0.00	0.06	0.703	O	|	|	|	|	1.40	23.833	0.00	0.05	0.681	O	|	|	|	|	1.36

23.917	0.00	0.05	0.680	O	|	|	|	|	1.36	28.917	0.00	0.04	0.663	O	|	|	|	|	1.32
24.000	0.00	0.05	0.680	O	|	|	|	|	1.35	29.000	0.00	0.04	0.663	O	|	|	|	|	1.32
24.083	0.00	0.05	0.680	O	|	|	|	|	1.35	29.083	0.00	0.04	0.662	O	|	|	|	|	1.32
24.167	0.00	0.05	0.679	O	|	|	|	|	1.35	29.167	0.00	0.04	0.662	O	|	|	|	|	1.32
24.250	0.00	0.05	0.679	O	|	|	|	|	1.35	29.250	0.00	0.04	0.662	O	|	|	|	|	1.32
24.333	0.00	0.05	0.679	O	|	|	|	|	1.35	29.333	0.00	0.04	0.662	O	|	|	|	|	1.32
24.417	0.00	0.05	0.678	O	|	|	|	|	1.35	29.417	0.00	0.04	0.661	O	|	|	|	|	1.32
24.500	0.00	0.05	0.678	O	|	|	|	|	1.35	29.500	0.00	0.04	0.661	O	|	|	|	|	1.32
24.583	0.00	0.05	0.678	O	|	|	|	|	1.35	29.583	0.00	0.04	0.661	O	|	|	|	|	1.32
24.667	0.00	0.05	0.677	O	|	|	|	|	1.35	29.667	0.00	0.04	0.661	O	|	|	|	|	1.32
24.750	0.00	0.05	0.677	O	|	|	|	|	1.35	29.750	0.00	0.04	0.660	O	|	|	|	|	1.32
24.833	0.00	0.05	0.677	O	|	|	|	|	1.35	29.833	0.00	0.04	0.660	O	|	|	|	|	1.32
24.917	0.00	0.05	0.676	O	|	|	|	|	1.35	29.917	0.00	0.04	0.660	O	|	|	|	|	1.32
25.000	0.00	0.05	0.676	O	|	|	|	|	1.35	30.000	0.00	0.03	0.660	O	|	|	|	|	1.32
25.083	0.00	0.05	0.676	O	|	|	|	|	1.35	30.083	0.00	0.03	0.659	O	|	|	|	|	1.32
25.167	0.00	0.04	0.675	O	|	|	|	|	1.35	30.167	0.00	0.03	0.659	O	|	|	|	|	1.32
25.250	0.00	0.04	0.675	O	|	|	|	|	1.35	30.250	0.00	0.03	0.659	O	|	|	|	|	1.32
25.333	0.00	0.04	0.675	O	|	|	|	|	1.35	30.333	0.00	0.03	0.659	O	|	|	|	|	1.32
25.417	0.00	0.04	0.675	O	|	|	|	|	1.35	30.417	0.00	0.03	0.658	O	|	|	|	|	1.32
25.500	0.00	0.04	0.674	O	|	|	|	|	1.34	30.500	0.00	0.03	0.658	O	|	|	|	|	1.32
25.583	0.00	0.04	0.674	O	|	|	|	|	1.34	30.583	0.00	0.03	0.658	O	|	|	|	|	1.32
25.667	0.00	0.04	0.674	O	|	|	|	|	1.34	30.667	0.00	0.03	0.658	O	|	|	|	|	1.32
25.750	0.00	0.04	0.673	O	|	|	|	|	1.34	30.750	0.00	0.03	0.658	O	|	|	|	|	1.32
25.833	0.00	0.04	0.673	O	|	|	|	|	1.34	30.833	0.00	0.03	0.657	O	|	|	|	|	1.32
25.917	0.00	0.04	0.673	O	|	|	|	|	1.34	30.917	0.00	0.03	0.657	O	|	|	|	|	1.31
26.000	0.00	0.04	0.672	O	|	|	|	|	1.34	31.000	0.00	0.03	0.657	O	|	|	|	|	1.31
26.083	0.00	0.04	0.672	O	|	|	|	|	1.34	31.083	0.00	0.03	0.657	O	|	|	|	|	1.31
26.167	0.00	0.04	0.672	O	|	|	|	|	1.34	31.167	0.00	0.03	0.656	O	|	|	|	|	1.31
26.250	0.00	0.04	0.672	O	|	|	|	|	1.34	31.250	0.00	0.03	0.656	O	|	|	|	|	1.31
26.333	0.00	0.04	0.671	O	|	|	|	|	1.34	31.333	0.00	0.03	0.656	O	|	|	|	|	1.31
26.417	0.00	0.04	0.671	O	|	|	|	|	1.34	31.417	0.00	0.03	0.656	O	|	|	|	|	1.31
26.500	0.00	0.04	0.671	O	|	|	|	|	1.34	31.500	0.00	0.03	0.655	O	|	|	|	|	1.31
26.583	0.00	0.04	0.670	O	|	|	|	|	1.34	31.583	0.00	0.03	0.655	O	|	|	|	|	1.31
26.667	0.00	0.04	0.670	O	|	|	|	|	1.34	31.667	0.00	0.03	0.655	O	|	|	|	|	1.31
26.750	0.00	0.04	0.670	O	|	|	|	|	1.34	31.750	0.00	0.03	0.655	O	|	|	|	|	1.31
26.833	0.00	0.04	0.670	O	|	|	|	|	1.34	31.833	0.00	0.03	0.655	O	|	|	|	|	1.31
26.917	0.00	0.04	0.669	O	|	|	|	|	1.34	31.917	0.00	0.03	0.654	O	|	|	|	|	1.31
27.000	0.00	0.04	0.669	O	|	|	|	|	1.34	32.000	0.00	0.03	0.654	O	|	|	|	|	1.31
27.083	0.00	0.04	0.669	O	|	|	|	|	1.33	32.083	0.00	0.03	0.654	O	|	|	|	|	1.31
27.167	0.00	0.04	0.668	O	|	|	|	|	1.33	32.167	0.00	0.03	0.654	O	|	|	|	|	1.31
27.250	0.00	0.04	0.668	O	|	|	|	|	1.33	32.250	0.00	0.03	0.654	O	|	|	|	|	1.31
27.333	0.00	0.04	0.668	O	|	|	|	|	1.33	32.333	0.00	0.03	0.653	O	|	|	|	|	1.31
27.417	0.00	0.04	0.668	O	|	|	|	|	1.33	32.417	0.00	0.03	0.653	O	|	|	|	|	1.31
27.500	0.00	0.04	0.667	O	|	|	|	|	1.33	32.500	0.00	0.03	0.653	O	|	|	|	|	1.31
27.583	0.00	0.04	0.667	O	|	|	|	|	1.33	32.583	0.00	0.03	0.653	O	|	|	|	|	1.31
27.667	0.00	0.04	0.667	O	|	|	|	|	1.33	32.667	0.00	0.03	0.652	O	|	|	|	|	1.31
27.750	0.00	0.04	0.667	O	|	|	|	|	1.33	32.750	0.00	0.03	0.652	O	|	|	|	|	1.31
27.833	0.00	0.04	0.666	O	|	|	|	|	1.33	32.833	0.00	0.03	0.652	O	|	|	|	|	1.31
27.917	0.00	0.04	0.666	O	|	|	|	|	1.33	32.917	0.00	0.03	0.652	O	|	|	|	|	1.31
28.000	0.00	0.04	0.666	O	|	|	|	|	1.33	33.000	0.00	0.03	0.652	O	|	|	|	|	1.31
28.083	0.00	0.04	0.665	O	|	|	|	|	1.33	33.083	0.00	0.03	0.651	O	|	|	|	|	1.30
28.167	0.00	0.04	0.665	O	|	|	|	|	1.33	33.167	0.00	0.03	0.651	O	|	|	|	|	1.30
28.250	0.00	0.04	0.665	O	|	|	|	|	1.33	33.250	0.00	0.03	0.651	O	|	|	|	|	1.30
28.333	0.00	0.04	0.665	O	|	|	|	|	1.33	33.333	0.00	0.03	0.651	O	|	|	|	|	1.30
28.417	0.00	0.04	0.664	O	|	|	|	|	1.33	33.417	0.00	0.03	0.651	O	|	|	|	|	1.30
28.500	0.00	0.04	0.664	O	|	|	|	|	1.33	33.500	0.00	0.03	0.650	O	|	|	|	|	1.30
28.583	0.00	0.04	0.664	O	|	|	|	|	1.33	33.583	0.00	0.03	0.650	O	|	|	|	|	1.30
28.667	0.00	0.04	0.664	O	|	|	|	|	1.33	33.667	0.00	0.03	0.650	O	|	|	|	|	1.30
28.750	0.00	0.04	0.663	O	|	|	|	|	1.33	33.750	0.00	0.03	0.650	O	|	|	|	|	1.30
28.833	0.00	0.04	0.663	O	|	|	|	|	1.33	33.833	0.00	0.03	0.650	O	|	|	|	|	1.30

33.917	0.00	0.03	0.649	O	|	|	|	|	1.30	38.917	0.00	0.02	0.639	O	|	|	|	|	1.28
34.000	0.00	0.03	0.649	O	|	|	|	|	1.30	39.000	0.00	0.02	0.639	O	|	|	|	|	1.28
34.083	0.00	0.03	0.649	O	|	|	|	|	1.30	39.083	0.00	0.02	0.639	O	|	|	|	|	1.28
34.167	0.00	0.03	0.649	O	|	|	|	|	1.30	39.167	0.00	0.02	0.639	O	|	|	|	|	1.28
34.250	0.00	0.03	0.649	O	|	|	|	|	1.30	39.250	0.00	0.02	0.638	O	|	|	|	|	1.28
34.333	0.00	0.03	0.648	O	|	|	|	|	1.30	39.333	0.00	0.02	0.638	O	|	|	|	|	1.28
34.417	0.00	0.03	0.648	O	|	|	|	|	1.30	39.417	0.00	0.02	0.638	O	|	|	|	|	1.28
34.500	0.00	0.03	0.648	O	|	|	|	|	1.30	39.500	0.00	0.02	0.638	O	|	|	|	|	1.28
34.583	0.00	0.03	0.648	O	|	|	|	|	1.30	39.583	0.00	0.02	0.638	O	|	|	|	|	1.28
34.667	0.00	0.03	0.648	O	|	|	|	|	1.30	39.667	0.00	0.02	0.638	O	|	|	|	|	1.28
34.750	0.00	0.03	0.647	O	|	|	|	|	1.30	39.750	0.00	0.02	0.638	O	|	|	|	|	1.28
34.833	0.00	0.03	0.647	O	|	|	|	|	1.30	39.833	0.00	0.02	0.637	O	|	|	|	|	1.28
34.917	0.00	0.03	0.647	O	|	|	|	|	1.30	39.917	0.00	0.02	0.637	O	|	|	|	|	1.28
35.000	0.00	0.03	0.647	O	|	|	|	|	1.30	40.000	0.00	0.02	0.637	O	|	|	|	|	1.28
35.083	0.00	0.03	0.647	O	|	|	|	|	1.30	40.083	0.00	0.02	0.637	O	|	|	|	|	1.28
35.167	0.00	0.03	0.647	O	|	|	|	|	1.30	40.167	0.00	0.02	0.637	O	|	|	|	|	1.28
35.250	0.00	0.03	0.646	O	|	|	|	|	1.30	40.250	0.00	0.02	0.637	O	|	|	|	|	1.28
35.333	0.00	0.03	0.646	O	|	|	|	|	1.30	40.333	0.00	0.02	0.637	O	|	|	|	|	1.28
35.417	0.00	0.03	0.646	O	|	|	|	|	1.30	40.417	0.00	0.02	0.636	O	|	|	|	|	1.28
35.500	0.00	0.03	0.646	O	|	|	|	|	1.30	40.500	0.00	0.02	0.636	O	|	|	|	|	1.28
35.583	0.00	0.03	0.646	O	|	|	|	|	1.29	40.583	0.00	0.02	0.636	O	|	|	|	|	1.28
35.667	0.00	0.03	0.645	O	|	|	|	|	1.29	40.667	0.00	0.02	0.636	O	|	|	|	|	1.28
35.750	0.00	0.03	0.645	O	|	|	|	|	1.29	40.750	0.00	0.02	0.636	O	|	|	|	|	1.28
35.833	0.00	0.03	0.645	O	|	|	|	|	1.29	40.833	0.00	0.02	0.636	O	|	|	|	|	1.28
35.917	0.00	0.03	0.645	O	|	|	|	|	1.29	40.917	0.00	0.02	0.636	O	|	|	|	|	1.28
36.000	0.00	0.03	0.645	O	|	|	|	|	1.29	41.000	0.00	0.02	0.635	O	|	|	|	|	1.28
36.083	0.00	0.03	0.645	O	|	|	|	|	1.29	41.083	0.00	0.02	0.635	O	|	|	|	|	1.28
36.167	0.00	0.03	0.644	O	|	|	|	|	1.29	41.167	0.00	0.02	0.635	O	|	|	|	|	1.28
36.250	0.00	0.03	0.644	O	|	|	|	|	1.29	41.250	0.00	0.02	0.635	O	|	|	|	|	1.28
36.333	0.00	0.03	0.644	O	|	|	|	|	1.29	41.333	0.00	0.02	0.635	O	|	|	|	|	1.28
36.417	0.00	0.03	0.644	O	|	|	|	|	1.29	41.417	0.00	0.02	0.635	O	|	|	|	|	1.28
36.500	0.00	0.02	0.644	O	|	|	|	|	1.29	41.500	0.00	0.02	0.635	O	|	|	|	|	1.28
36.583	0.00	0.02	0.644	O	|	|	|	|	1.29	41.583	0.00	0.02	0.635	O	|	|	|	|	1.28
36.667	0.00	0.02	0.643	O	|	|	|	|	1.29	41.667	0.00	0.02	0.634	O	|	|	|	|	1.28
36.750	0.00	0.02	0.643	O	|	|	|	|	1.29	41.750	0.00	0.02	0.634	O	|	|	|	|	1.27
36.833	0.00	0.02	0.643	O	|	|	|	|	1.29	41.833	0.00	0.02	0.634	O	|	|	|	|	1.27
36.917	0.00	0.02	0.643	O	|	|	|	|	1.29	41.917	0.00	0.02	0.634	O	|	|	|	|	1.27
37.000	0.00	0.02	0.643	O	|	|	|	|	1.29	42.000	0.00	0.02	0.634	O	|	|	|	|	1.27
37.083	0.00	0.02	0.643	O	|	|	|	|	1.29	42.083	0.00	0.02	0.634	O	|	|	|	|	1.27
37.167	0.00	0.02	0.642	O	|	|	|	|	1.29	42.167	0.00	0.02	0.634	O	|	|	|	|	1.27
37.250	0.00	0.02	0.642	O	|	|	|	|	1.29	42.250	0.00	0.02	0.633	O	|	|	|	|	1.27
37.333	0.00	0.02	0.642	O	|	|	|	|	1.29	42.333	0.00	0.02	0.633	O	|	|	|	|	1.27
37.417	0.00	0.02	0.642	O	|	|	|	|	1.29	42.417	0.00	0.02	0.633	O	|	|	|	|	1.27
37.500	0.00	0.02	0.642	O	|	|	|	|	1.29	42.500	0.00	0.02	0.633	O	|	|	|	|	1.27
37.583	0.00	0.02	0.642	O	|	|	|	|	1.29	42.583	0.00	0.02	0.633	O	|	|	|	|	1.27
37.667	0.00	0.02	0.641	O	|	|	|	|	1.29	42.667	0.00	0.02	0.633	O	|	|	|	|	1.27
37.750	0.00	0.02	0.641	O	|	|	|	|	1.29	42.750	0.00	0.02	0.633	O	|	|	|	|	1.27
37.833	0.00	0.02	0.641	O	|	|	|	|	1.29	42.833	0.00	0.02	0.633	O	|	|	|	|	1.27
37.917	0.00	0.02	0.641	O	|	|	|	|	1.29	42.917	0.00	0.02	0.632	O	|	|	|	|	1.27
38.000	0.00	0.02	0.641	O	|	|	|	|	1.29	43.000	0.00	0.02	0.632	O	|	|	|	|	1.27
38.083	0.00	0.02	0.641	O	|	|	|	|	1.29	43.083	0.00	0.02	0.632	O	|	|	|	|	1.27
38.167	0.00	0.02	0.640	O	|	|	|	|	1.29	43.167	0.00	0.02	0.632	O	|	|	|	|	1.27
38.250	0.00	0.02	0.640	O	|	|	|	|	1.29	43.250	0.00	0.02	0.632	O	|	|	|	|	1.27
38.333	0.00	0.02	0.640	O	|	|	|	|	1.29	43.333	0.00	0.02	0.632	O	|	|	|	|	1.27
38.417	0.00	0.02	0.640	O	|	|	|	|	1.28	43.417	0.00	0.02	0.632	O	|	|	|	|	1.27
38.500	0.00	0.02	0.640	O	|	|	|	|	1.28	43.500	0.00	0.02	0.632	O	|	|	|	|	1.27
38.583	0.00	0.02	0.640	O	|	|	|	|	1.28	43.583	0.00	0.02	0.632	O	|	|	|	|	1.27
38.667	0.00	0.02	0.640	O	|	|	|	|	1.28	43.667	0.00	0.02	0.631	O	|	|	|	|	1.27
38.750	0.00	0.02	0.639	O	|	|	|	|	1.28	43.750	0.00	0.02	0.631	O	|	|	|	|	1.27
38.833	0.00	0.02	0.639	O	|	|	|	|	1.28	43.833	0.00	0.02	0.631	O	|	|	|	|	1.27

43.917	0.00	0.02	0.631	O	|	|	|	|	1.27	48.917	0.00	0.01	0.625	O	|	|	|	|	1.26
44.000	0.00	0.02	0.631	O	|	|	|	|	1.27	49.000	0.00	0.01	0.625	O	|	|	|	|	1.26
44.083	0.00	0.02	0.631	O	|	|	|	|	1.27	49.083	0.00	0.01	0.625	O	|	|	|	|	1.26
44.167	0.00	0.02	0.631	O	|	|	|	|	1.27	49.167	0.00	0.01	0.625	O	|	|	|	|	1.26
44.250	0.00	0.02	0.631	O	|	|	|	|	1.27	49.250	0.00	0.01	0.625	O	|	|	|	|	1.26
44.333	0.00	0.02	0.630	O	|	|	|	|	1.27	49.333	0.00	0.01	0.624	O	|	|	|	|	1.26
44.417	0.00	0.02	0.630	O	|	|	|	|	1.27	49.417	0.00	0.01	0.624	O	|	|	|	|	1.26
44.500	0.00	0.02	0.630	O	|	|	|	|	1.27	49.500	0.00	0.01	0.624	O	|	|	|	|	1.26
44.583	0.00	0.02	0.630	O	|	|	|	|	1.27	49.583	0.00	0.01	0.624	O	|	|	|	|	1.26
44.667	0.00	0.02	0.630	O	|	|	|	|	1.27	49.667	0.00	0.01	0.624	O	|	|	|	|	1.26
44.750	0.00	0.02	0.630	O	|	|	|	|	1.27	49.750	0.00	0.01	0.624	O	|	|	|	|	1.26
44.833	0.00	0.02	0.630	O	|	|	|	|	1.27	49.833	0.00	0.01	0.624	O	|	|	|	|	1.26
44.917	0.00	0.02	0.630	O	|	|	|	|	1.27	49.917	0.00	0.01	0.624	O	|	|	|	|	1.26
45.000	0.00	0.02	0.630	O	|	|	|	|	1.27	50.000	0.00	0.01	0.624	O	|	|	|	|	1.26
45.083	0.00	0.02	0.629	O	|	|	|	|	1.27	50.083	0.00	0.01	0.624	O	|	|	|	|	1.26
45.167	0.00	0.02	0.629	O	|	|	|	|	1.27	50.167	0.00	0.01	0.624	O	|	|	|	|	1.26
45.250	0.00	0.02	0.629	O	|	|	|	|	1.27	50.250	0.00	0.01	0.623	O	|	|	|	|	1.26
45.333	0.00	0.02	0.629	O	|	|	|	|	1.27	50.333	0.00	0.01	0.623	O	|	|	|	|	1.26
45.417	0.00	0.02	0.629	O	|	|	|	|	1.27	50.417	0.00	0.01	0.623	O	|	|	|	|	1.26
45.500	0.00	0.02	0.629	O	|	|	|	|	1.27	50.500	0.00	0.01	0.623	O	|	|	|	|	1.26
45.583	0.00	0.02	0.629	O	|	|	|	|	1.27	50.583	0.00	0.01	0.623	O	|	|	|	|	1.26
45.667	0.00	0.02	0.629	O	|	|	|	|	1.27	50.667	0.00	0.01	0.623	O	|	|	|	|	1.26
45.750	0.00	0.02	0.629	O	|	|	|	|	1.27	50.750	0.00	0.01	0.623	O	|	|	|	|	1.26
45.833	0.00	0.02	0.628	O	|	|	|	|	1.26	50.833	0.00	0.01	0.623	O	|	|	|	|	1.26
45.917	0.00	0.02	0.628	O	|	|	|	|	1.26	50.917	0.00	0.01	0.623	O	|	|	|	|	1.25
46.000	0.00	0.02	0.628	O	|	|	|	|	1.26	51.000	0.00	0.01	0.623	O	|	|	|	|	1.25
46.083	0.00	0.02	0.628	O	|	|	|	|	1.26	51.083	0.00	0.01	0.623	O	|	|	|	|	1.25
46.167	0.00	0.02	0.628	O	|	|	|	|	1.26	51.167	0.00	0.01	0.623	O	|	|	|	|	1.25
46.250	0.00	0.02	0.628	O	|	|	|	|	1.26	51.250	0.00	0.01	0.623	O	|	|	|	|	1.25
46.333	0.00	0.01	0.628	O	|	|	|	|	1.26	51.333	0.00	0.01	0.622	O	|	|	|	|	1.25
46.417	0.00	0.01	0.628	O	|	|	|	|	1.26	51.417	0.00	0.01	0.622	O	|	|	|	|	1.25
46.500	0.00	0.01	0.628	O	|	|	|	|	1.26	51.500	0.00	0.01	0.622	O	|	|	|	|	1.25
46.583	0.00	0.01	0.628	O	|	|	|	|	1.26	51.583	0.00	0.01	0.622	O	|	|	|	|	1.25
46.667	0.00	0.01	0.627	O	|	|	|	|	1.26	51.667	0.00	0.01	0.622	O	|	|	|	|	1.25
46.750	0.00	0.01	0.627	O	|	|	|	|	1.26	51.750	0.00	0.01	0.622	O	|	|	|	|	1.25
46.833	0.00	0.01	0.627	O	|	|	|	|	1.26	51.833	0.00	0.01	0.622	O	|	|	|	|	1.25
46.917	0.00	0.01	0.627	O	|	|	|	|	1.26	51.917	0.00	0.01	0.622	O	|	|	|	|	1.25
47.000	0.00	0.01	0.627	O	|	|	|	|	1.26	52.000	0.00	0.01	0.622	O	|	|	|	|	1.25
47.083	0.00	0.01	0.627	O	|	|	|	|	1.26	52.083	0.00	0.01	0.622	O	|	|	|	|	1.25
47.167	0.00	0.01	0.627	O	|	|	|	|	1.26	52.167	0.00	0.01	0.622	O	|	|	|	|	1.25
47.250	0.00	0.01	0.627	O	|	|	|	|	1.26	52.250	0.00	0.01	0.622	O	|	|	|	|	1.25
47.333	0.00	0.01	0.627	O	|	|	|	|	1.26	52.333	0.00	0.01	0.622	O	|	|	|	|	1.25
47.417	0.00	0.01	0.627	O	|	|	|	|	1.26	52.417	0.00	0.01	0.621	O	|	|	|	|	1.25
47.500	0.00	0.01	0.626	O	|	|	|	|	1.26	52.500	0.00	0.01	0.621	O	|	|	|	|	1.25
47.583	0.00	0.01	0.626	O	|	|	|	|	1.26	52.583	0.00	0.01	0.621	O	|	|	|	|	1.25
47.667	0.00	0.01	0.626	O	|	|	|	|	1.26	52.667	0.00	0.01	0.621	O	|	|	|	|	1.25
47.750	0.00	0.01	0.626	O	|	|	|	|	1.26	52.750	0.00	0.01	0.621	O	|	|	|	|	1.25
47.833	0.00	0.01	0.626	O	|	|	|	|	1.26	52.833	0.00	0.01	0.621	O	|	|	|	|	1.25
47.917	0.00	0.01	0.626	O	|	|	|	|	1.26	52.917	0.00	0.01	0.621	O	|	|	|	|	1.25
48.000	0.00	0.01	0.626	O	|	|	|	|	1.26	53.000	0.00	0.01	0.621	O	|	|	|	|	1.25
48.083	0.00	0.01	0.626	O	|	|	|	|	1.26	53.083	0.00	0.01	0.621	O	|	|	|	|	1.25
48.167	0.00	0.01	0.626	O	|	|	|	|	1.26	53.167	0.00	0.01	0.621	O	|	|	|	|	1.25
48.250	0.00	0.01	0.626	O	|	|	|	|	1.26	53.250	0.00	0.01	0.621	O	|	|	|	|	1.25
48.333	0.00	0.01	0.626	O	|	|	|	|	1.26	53.333	0.00	0.01	0.621	O	|	|	|	|	1.25
48.417	0.00	0.01	0.625	O	|	|	|	|	1.26	53.417	0.00	0.01	0.621	O	|	|	|	|	1.25
48.500	0.00	0.01	0.625	O	|	|	|	|	1.26	53.500	0.00	0.01	0.620	O	|	|	|	|	1.25
48.583	0.00	0.01	0.625	O	|	|	|	|	1.26	53.583	0.00	0.01	0.620	O	|	|	|	|	1.25
48.667	0.00	0.01	0.625	O	|	|	|	|	1.26	53.667	0.00	0.01	0.620	O	|	|	|	|	1.25
48.750	0.00	0.01	0.625	O	|	|	|	|	1.26	53.750	0.00	0.01	0.620	O	|	|	|	|	1.25
48.833	0.00	0.01	0.625	O	|	|	|	|	1.26	53.833	0.00	0.01	0.620	O	|	|	|	|	1.25

53.917	0.00	0.01	0.620	O	|	|	|	|	1.25	58.917	0.00	0.01	0.616	O	|	|	|	|	1.24
54.000	0.00	0.01	0.620	O	|	|	|	|	1.25	59.000	0.00	0.01	0.616	O	|	|	|	|	1.24
54.083	0.00	0.01	0.620	O	|	|	|	|	1.25	59.083	0.00	0.01	0.616	O	|	|	|	|	1.24
54.167	0.00	0.01	0.620	O	|	|	|	|	1.25	59.167	0.00	0.01	0.616	O	|	|	|	|	1.24
54.250	0.00	0.01	0.620	O	|	|	|	|	1.25	59.250	0.00	0.01	0.616	O	|	|	|	|	1.24
54.333	0.00	0.01	0.620	O	|	|	|	|	1.25	59.333	0.00	0.01	0.616	O	|	|	|	|	1.24
54.417	0.00	0.01	0.620	O	|	|	|	|	1.25	59.417	0.00	0.01	0.616	O	|	|	|	|	1.24
54.500	0.00	0.01	0.620	O	|	|	|	|	1.25	59.500	0.00	0.01	0.616	O	|	|	|	|	1.24
54.583	0.00	0.01	0.620	O	|	|	|	|	1.25	59.583	0.00	0.01	0.615	O	|	|	|	|	1.24
54.667	0.00	0.01	0.620	O	|	|	|	|	1.25	59.667	0.00	0.01	0.615	O	|	|	|	|	1.24
54.750	0.00	0.01	0.619	O	|	|	|	|	1.25	59.750	0.00	0.01	0.615	O	|	|	|	|	1.24
54.833	0.00	0.01	0.619	O	|	|	|	|	1.25	59.833	0.00	0.01	0.615	O	|	|	|	|	1.24
54.917	0.00	0.01	0.619	O	|	|	|	|	1.25	59.917	0.00	0.01	0.615	O	|	|	|	|	1.24
55.000	0.00	0.01	0.619	O	|	|	|	|	1.25	60.000	0.00	0.01	0.615	O	|	|	|	|	1.24
55.083	0.00	0.01	0.619	O	|	|	|	|	1.25	60.083	0.00	0.01	0.615	O	|	|	|	|	1.24
55.167	0.00	0.01	0.619	O	|	|	|	|	1.25	60.167	0.00	0.01	0.615	O	|	|	|	|	1.24
55.250	0.00	0.01	0.619	O	|	|	|	|	1.25	60.250	0.00	0.01	0.615	O	|	|	|	|	1.24
55.333	0.00	0.01	0.619	O	|	|	|	|	1.25	60.333	0.00	0.01	0.615	O	|	|	|	|	1.24
55.417	0.00	0.01	0.619	O	|	|	|	|	1.25	60.417	0.00	0.01	0.615	O	|	|	|	|	1.24
55.500	0.00	0.01	0.619	O	|	|	|	|	1.25	60.500	0.00	0.01	0.615	O	|	|	|	|	1.24
55.583	0.00	0.01	0.619	O	|	|	|	|	1.25	60.583	0.00	0.01	0.615	O	|	|	|	|	1.24
55.667	0.00	0.01	0.619	O	|	|	|	|	1.25	60.667	0.00	0.01	0.615	O	|	|	|	|	1.24
55.750	0.00	0.01	0.619	O	|	|	|	|	1.25	60.750	0.00	0.01	0.615	O	|	|	|	|	1.24
55.833	0.00	0.01	0.619	O	|	|	|	|	1.25	60.833	0.00	0.01	0.614	O	|	|	|	|	1.24
55.917	0.00	0.01	0.618	O	|	|	|	|	1.25	60.917	0.00	0.01	0.614	O	|	|	|	|	1.24
56.000	0.00	0.01	0.618	O	|	|	|	|	1.25	61.000	0.00	0.01	0.614	O	|	|	|	|	1.24
56.083	0.00	0.01	0.618	O	|	|	|	|	1.25	61.083	0.00	0.01	0.614	O	|	|	|	|	1.24
56.167	0.00	0.01	0.618	O	|	|	|	|	1.25	61.167	0.00	0.01	0.614	O	|	|	|	|	1.24
56.250	0.00	0.01	0.618	O	|	|	|	|	1.25	61.250	0.00	0.01	0.614	O	|	|	|	|	1.24
56.333	0.00	0.01	0.618	O	|	|	|	|	1.25	61.333	0.00	0.01	0.614	O	|	|	|	|	1.24
56.417	0.00	0.01	0.618	O	|	|	|	|	1.25	61.417	0.00	0.01	0.614	O	|	|	|	|	1.24
56.500	0.00	0.01	0.618	O	|	|	|	|	1.25	61.500	0.00	0.01	0.614	O	|	|	|	|	1.24
56.583	0.00	0.01	0.618	O	|	|	|	|	1.25	61.583	0.00	0.01	0.614	O	|	|	|	|	1.24
56.667	0.00	0.01	0.618	O	|	|	|	|	1.25	61.667	0.00	0.01	0.614	O	|	|	|	|	1.24
56.750	0.00	0.01	0.618	O	|	|	|	|	1.25	61.750	0.00	0.01	0.614	O	|	|	|	|	1.24
56.833	0.00	0.01	0.618	O	|	|	|	|	1.25	61.833	0.00	0.01	0.614	O	|	|	|	|	1.24
56.917	0.00	0.01	0.618	O	|	|	|	|	1.25	61.917	0.00	0.01	0.614	O	|	|	|	|	1.24
57.000	0.00	0.01	0.618	O	|	|	|	|	1.25	62.000	0.00	0.01	0.613	O	|	|	|	|	1.24
57.083	0.00	0.01	0.618	O	|	|	|	|	1.24	62.083	0.00	0.01	0.613	O	|	|	|	|	1.24
57.167	0.00	0.01	0.617	O	|	|	|	|	1.24	62.167	0.00	0.01	0.613	O	|	|	|	|	1.24
57.250	0.00	0.01	0.617	O	|	|	|	|	1.24	62.250	0.00	0.01	0.613	O	|	|	|	|	1.24
57.333	0.00	0.01	0.617	O	|	|	|	|	1.24	62.333	0.00	0.01	0.613	O	|	|	|	|	1.24
57.417	0.00	0.01	0.617	O	|	|	|	|	1.24	62.417	0.00	0.01	0.613	O	|	|	|	|	1.24
57.500	0.00	0.01	0.617	O	|	|	|	|	1.24	62.500	0.00	0.01	0.613	O	|	|	|	|	1.24
57.583	0.00	0.01	0.617	O	|	|	|	|	1.24	62.583	0.00	0.01	0.613	O	|	|	|	|	1.24
57.667	0.00	0.01	0.617	O	|	|	|	|	1.24	62.667	0.00	0.01	0.613	O	|	|	|	|	1.24
57.750	0.00	0.01	0.617	O	|	|	|	|	1.24	62.750	0.00	0.01	0.613	O	|	|	|	|	1.24
57.833	0.00	0.01	0.617	O	|	|	|	|	1.24	62.833	0.00	0.01	0.613	O	|	|	|	|	1.24
57.917	0.00	0.01	0.617	O	|	|	|	|	1.24	62.917	0.00	0.01	0.613	O	|	|	|	|	1.24
58.000	0.00	0.01	0.617	O	|	|	|	|	1.24	63.000	0.00	0.01	0.613	O	|	|	|	|	1.24
58.083	0.00	0.01	0.617	O	|	|	|	|	1.24	63.083	0.00	0.01	0.613	O	|	|	|	|	1.24
58.167	0.00	0.01	0.617	O	|	|	|	|	1.24	63.167	0.00	0.01	0.613	O	|	|	|	|	1.23
58.250	0.00	0.01	0.617	O	|	|	|	|	1.24	63.250	0.00	0.01	0.612	O	|	|	|	|	1.23
58.333	0.00	0.01	0.616	O	|	|	|	|	1.24	63.333	0.00	0.01	0.612	O	|	|	|	|	1.23
58.417	0.00	0.01	0.616	O	|	|	|	|	1.24	63.417	0.00	0.01	0.612	O	|	|	|	|	1.23
58.500	0.00	0.01	0.616	O	|	|	|	|	1.24	63.500	0.00	0.01	0.612	O	|	|	|	|	1.23
58.583	0.00	0.01	0.616	O	|	|	|	|	1.24	63.583	0.00	0.01	0.612	O	|	|	|	|	1.23
58.667	0.00	0.01	0.616	O	|	|	|	|	1.24	63.667	0.00	0.01	0.612	O	|	|	|	|	1.23
58.750	0.00	0.01	0.616	O	|	|	|	|	1.24	63.750	0.00	0.01	0.612	O	|	|	|	|	1.23
58.833	0.00	0.01	0.616	O	|	|	|	|	1.24	63.833	0.00	0.01	0.612	O	|	|	|	|	1.23

63.917	0.00	0.01	0.612	O	|	|	|	|	1.23	68.917	0.00	0.01	0.608	O	|	|	|	|	1.23
64.000	0.00	0.01	0.612	O	|	|	|	|	1.23	69.000	0.00	0.01	0.608	O	|	|	|	|	1.23
64.083	0.00	0.01	0.612	O	|	|	|	|	1.23	69.083	0.00	0.01	0.608	O	|	|	|	|	1.23
64.167	0.00	0.01	0.612	O	|	|	|	|	1.23	69.167	0.00	0.01	0.608	O	|	|	|	|	1.23
64.250	0.00	0.01	0.612	O	|	|	|	|	1.23	69.250	0.00	0.01	0.608	O	|	|	|	|	1.22
64.333	0.00	0.01	0.612	O	|	|	|	|	1.23	69.333	0.00	0.01	0.608	O	|	|	|	|	1.22
64.417	0.00	0.01	0.612	O	|	|	|	|	1.23	69.417	0.00	0.01	0.607	O	|	|	|	|	1.22
64.500	0.00	0.01	0.611	O	|	|	|	|	1.23	69.500	0.00	0.01	0.607	O	|	|	|	|	1.22
64.583	0.00	0.01	0.611	O	|	|	|	|	1.23	69.583	0.00	0.01	0.607	O	|	|	|	|	1.22
64.667	0.00	0.01	0.611	O	|	|	|	|	1.23	69.667	0.00	0.01	0.607	O	|	|	|	|	1.22
64.750	0.00	0.01	0.611	O	|	|	|	|	1.23	69.750	0.00	0.01	0.607	O	|	|	|	|	1.22
64.833	0.00	0.01	0.611	O	|	|	|	|	1.23	69.833	0.00	0.01	0.607	O	|	|	|	|	1.22
64.917	0.00	0.01	0.611	O	|	|	|	|	1.23	69.917	0.00	0.01	0.607	O	|	|	|	|	1.22
65.000	0.00	0.01	0.611	O	|	|	|	|	1.23	70.000	0.00	0.01	0.607	O	|	|	|	|	1.22
65.083	0.00	0.01	0.611	O	|	|	|	|	1.23	70.083	0.00	0.01	0.607	O	|	|	|	|	1.22
65.167	0.00	0.01	0.611	O	|	|	|	|	1.23	70.167	0.00	0.01	0.607	O	|	|	|	|	1.22
65.250	0.00	0.01	0.611	O	|	|	|	|	1.23	70.250	0.00	0.01	0.607	O	|	|	|	|	1.22
65.333	0.00	0.01	0.611	O	|	|	|	|	1.23	70.333	0.00	0.01	0.607	O	|	|	|	|	1.22
65.417	0.00	0.01	0.611	O	|	|	|	|	1.23	70.417	0.00	0.01	0.607	O	|	|	|	|	1.22
65.500	0.00	0.01	0.611	O	|	|	|	|	1.23	70.500	0.00	0.01	0.607	O	|	|	|	|	1.22
65.583	0.00	0.01	0.611	O	|	|	|	|	1.23	70.583	0.00	0.01	0.607	O	|	|	|	|	1.22
65.667	0.00	0.01	0.610	O	|	|	|	|	1.23	70.667	0.00	0.01	0.606	O	|	|	|	|	1.22
65.750	0.00	0.01	0.610	O	|	|	|	|	1.23	70.750	0.00	0.01	0.606	O	|	|	|	|	1.22
65.833	0.00	0.01	0.610	O	|	|	|	|	1.23	70.833	0.00	0.01	0.606	O	|	|	|	|	1.22
65.917	0.00	0.01	0.610	O	|	|	|	|	1.23	70.917	0.00	0.01	0.606	O	|	|	|	|	1.22
66.000	0.00	0.01	0.610	O	|	|	|	|	1.23	71.000	0.00	0.01	0.606	O	|	|	|	|	1.22
66.083	0.00	0.01	0.610	O	|	|	|	|	1.23	71.083	0.00	0.01	0.606	O	|	|	|	|	1.22
66.167	0.00	0.01	0.610	O	|	|	|	|	1.23	71.167	0.00	0.01	0.606	O	|	|	|	|	1.22
66.250	0.00	0.01	0.610	O	|	|	|	|	1.23	71.250	0.00	0.01	0.606	O	|	|	|	|	1.22
66.333	0.00	0.01	0.610	O	|	|	|	|	1.23	71.333	0.00	0.01	0.606	O	|	|	|	|	1.22
66.417	0.00	0.01	0.610	O	|	|	|	|	1.23	71.417	0.00	0.01	0.606	O	|	|	|	|	1.22
66.500	0.00	0.01	0.610	O	|	|	|	|	1.23	71.500	0.00	0.01	0.606	O	|	|	|	|	1.22
66.583	0.00	0.01	0.610	O	|	|	|	|	1.23	71.583	0.00	0.01	0.606	O	|	|	|	|	1.22
66.667	0.00	0.01	0.610	O	|	|	|	|	1.23	71.667	0.00	0.01	0.606	O	|	|	|	|	1.22
66.750	0.00	0.01	0.610	O	|	|	|	|	1.23	71.750	0.00	0.01	0.606	O	|	|	|	|	1.22
66.833	0.00	0.01	0.610	O	|	|	|	|	1.23	71.833	0.00	0.01	0.605	O	|	|	|	|	1.22
66.917	0.00	0.01	0.609	O	|	|	|	|	1.23	71.917	0.00	0.01	0.605	O	|	|	|	|	1.22
67.000	0.00	0.01	0.609	O	|	|	|	|	1.23	72.000	0.00	0.01	0.605	O	|	|	|	|	1.22
67.083	0.00	0.01	0.609	O	|	|	|	|	1.23	72.083	0.00	0.01	0.605	O	|	|	|	|	1.22
67.167	0.00	0.01	0.609	O	|	|	|	|	1.23	72.167	0.00	0.01	0.605	O	|	|	|	|	1.22
67.250	0.00	0.01	0.609	O	|	|	|	|	1.23	72.250	0.00	0.01	0.605	O	|	|	|	|	1.22
67.333	0.00	0.01	0.609	O	|	|	|	|	1.23	72.333	0.00	0.01	0.605	O	|	|	|	|	1.22
67.417	0.00	0.01	0.609	O	|	|	|	|	1.23	72.417	0.00	0.01	0.605	O	|	|	|	|	1.22
67.500	0.00	0.01	0.609	O	|	|	|	|	1.23	72.500	0.00	0.01	0.605	O	|	|	|	|	1.22
67.583	0.00	0.01	0.609	O	|	|	|	|	1.23	72.583	0.00	0.01	0.605	O	|	|	|	|	1.22
67.667	0.00	0.01	0.609	O	|	|	|	|	1.23	72.667	0.00	0.01	0.605	O	|	|	|	|	1.22
67.750	0.00	0.01	0.609	O	|	|	|	|	1.23	72.750	0.00	0.01	0.605	O	|	|	|	|	1.22
67.833	0.00	0.01	0.609	O	|	|	|	|	1.23	72.833	0.00	0.01	0.605	O	|	|	|	|	1.22
67.917	0.00	0.01	0.609	O	|	|	|	|	1.23	72.917	0.00	0.01	0.605	O	|	|	|	|	1.22
68.000	0.00	0.01	0.609	O	|	|	|	|	1.23	73.000	0.00	0.01	0.605	O	|	|	|	|	1.22
68.083	0.00	0.01	0.609	O	|	|	|	|	1.23	73.083	0.00	0.01	0.604	O	|	|	|	|	1.22
68.167	0.00	0.01	0.608	O	|	|	|	|	1.23	73.167	0.00	0.01	0.604	O	|	|	|	|	1.22
68.250	0.00	0.01	0.608	O	|	|	|	|	1.23	73.250	0.00	0.01	0.604	O	|	|	|	|	1.22
68.333	0.00	0.01	0.608	O	|	|	|	|	1.23	73.333	0.00	0.01	0.604	O	|	|	|	|	1.22
68.417	0.00	0.01	0.608	O	|	|	|	|	1.23	73.417	0.00	0.01	0.604	O	|	|	|	|	1.22
68.500	0.00	0.01	0.608	O	|	|	|	|	1.23	73.500	0.00	0.01	0.604	O	|	|	|	|	1.22
68.583	0.00	0.01	0.608	O	|	|	|	|	1.23	73.583	0.00	0.01	0.604	O	|	|	|	|	1.22
68.667	0.00	0.01	0.608	O	|	|	|	|	1.23	73.667	0.00	0.01	0.604	O	|	|	|	|	1.22
68.750	0.00	0.01	0.608	O	|	|	|	|	1.23	73.750	0.00	0.01	0.604	O	|	|	|	|	1.22
68.833	0.00	0.01	0.608	O	|	|	|	|	1.23	73.833	0.00	0.01	0.604	O	|	|	|	|	1.22

73.917	0.00	0.01	0.604	O	|	|	|	|	1.22	78.917	0.00	0.01	0.600	O	|	|	|	|	1.21
74.000	0.00	0.01	0.604	O	|	|	|	|	1.22	79.000	0.00	0.01	0.600	O	|	|	|	|	1.21
74.083	0.00	0.01	0.604	O	|	|	|	|	1.22	79.083	0.00	0.01	0.600	O	|	|	|	|	1.21
74.167	0.00	0.01	0.604	O	|	|	|	|	1.22	79.167	0.00	0.01	0.600	O	|	|	|	|	1.21
74.250	0.00	0.01	0.604	O	|	|	|	|	1.22	79.250	0.00	0.01	0.600	O	|	|	|	|	1.21
74.333	0.00	0.01	0.603	O	|	|	|	|	1.22	79.333	0.00	0.01	0.599	O	|	|	|	|	1.21
74.417	0.00	0.01	0.603	O	|	|	|	|	1.22	79.417	0.00	0.01	0.599	O	|	|	|	|	1.21
74.500	0.00	0.01	0.603	O	|	|	|	|	1.22	79.500	0.00	0.01	0.599	O	|	|	|	|	1.21
74.583	0.00	0.01	0.603	O	|	|	|	|	1.22	79.583	0.00	0.01	0.599	O	|	|	|	|	1.21
74.667	0.00	0.01	0.603	O	|	|	|	|	1.22	79.667	0.00	0.01	0.599	O	|	|	|	|	1.21
74.750	0.00	0.01	0.603	O	|	|	|	|	1.22	79.750	0.00	0.01	0.599	O	|	|	|	|	1.21
74.833	0.00	0.01	0.603	O	|	|	|	|	1.22	79.833	0.00	0.01	0.599	O	|	|	|	|	1.21
74.917	0.00	0.01	0.603	O	|	|	|	|	1.22	79.917	0.00	0.01	0.599	O	|	|	|	|	1.21
75.000	0.00	0.01	0.603	O	|	|	|	|	1.22	80.000	0.00	0.01	0.599	O	|	|	|	|	1.21
75.083	0.00	0.01	0.603	O	|	|	|	|	1.22	80.083	0.00	0.01	0.599	O	|	|	|	|	1.21
75.167	0.00	0.01	0.603	O	|	|	|	|	1.22	80.167	0.00	0.01	0.599	O	|	|	|	|	1.21
75.250	0.00	0.01	0.603	O	|	|	|	|	1.22	80.250	0.00	0.01	0.599	O	|	|	|	|	1.21
75.333	0.00	0.01	0.603	O	|	|	|	|	1.22	80.333	0.00	0.01	0.599	O	|	|	|	|	1.21
75.417	0.00	0.01	0.603	O	|	|	|	|	1.21	80.417	0.00	0.01	0.599	O	|	|	|	|	1.21
75.500	0.00	0.01	0.603	O	|	|	|	|	1.21	80.500	0.00	0.01	0.599	O	|	|	|	|	1.21
75.583	0.00	0.01	0.602	O	|	|	|	|	1.21	80.583	0.00	0.01	0.598	O	|	|	|	|	1.21
75.667	0.00	0.01	0.602	O	|	|	|	|	1.21	80.667	0.00	0.01	0.598	O	|	|	|	|	1.21
75.750	0.00	0.01	0.602	O	|	|	|	|	1.21	80.750	0.00	0.01	0.598	O	|	|	|	|	1.21
75.833	0.00	0.01	0.602	O	|	|	|	|	1.21	80.833	0.00	0.01	0.598	O	|	|	|	|	1.21
75.917	0.00	0.01	0.602	O	|	|	|	|	1.21	80.917	0.00	0.01	0.598	O	|	|	|	|	1.21
76.000	0.00	0.01	0.602	O	|	|	|	|	1.21	81.000	0.00	0.01	0.598	O	|	|	|	|	1.21
76.083	0.00	0.01	0.602	O	|	|	|	|	1.21	81.083	0.00	0.01	0.598	O	|	|	|	|	1.21
76.167	0.00	0.01	0.602	O	|	|	|	|	1.21	81.167	0.00	0.01	0.598	O	|	|	|	|	1.21
76.250	0.00	0.01	0.602	O	|	|	|	|	1.21	81.250	0.00	0.01	0.598	O	|	|	|	|	1.21
76.333	0.00	0.01	0.602	O	|	|	|	|	1.21	81.333	0.00	0.01	0.598	O	|	|	|	|	1.21
76.417	0.00	0.01	0.602	O	|	|	|	|	1.21	81.417	0.00	0.01	0.598	O	|	|	|	|	1.21
76.500	0.00	0.01	0.602	O	|	|	|	|	1.21	81.500	0.00	0.01	0.598	O	|	|	|	|	1.21
76.583	0.00	0.01	0.602	O	|	|	|	|	1.21	81.583	0.00	0.01	0.598	O	|	|	|	|	1.20
76.667	0.00	0.01	0.602	O	|	|	|	|	1.21	81.667	0.00	0.01	0.598	O	|	|	|	|	1.20
76.750	0.00	0.01	0.602	O	|	|	|	|	1.21	81.750	0.00	0.01	0.598	O	|	|	|	|	1.20
76.833	0.00	0.01	0.601	O	|	|	|	|	1.21	81.833	0.00	0.01	0.597	O	|	|	|	|	1.20
76.917	0.00	0.01	0.601	O	|	|	|	|	1.21	81.917	0.00	0.01	0.597	O	|	|	|	|	1.20
77.000	0.00	0.01	0.601	O	|	|	|	|	1.21	82.000	0.00	0.01	0.597	O	|	|	|	|	1.20
77.083	0.00	0.01	0.601	O	|	|	|	|	1.21	82.083	0.00	0.01	0.597	O	|	|	|	|	1.20
77.167	0.00	0.01	0.601	O	|	|	|	|	1.21	82.167	0.00	0.01	0.597	O	|	|	|	|	1.20
77.250	0.00	0.01	0.601	O	|	|	|	|	1.21	82.250	0.00	0.01	0.597	O	|	|	|	|	1.20
77.333	0.00	0.01	0.601	O	|	|	|	|	1.21	82.333	0.00	0.01	0.597	O	|	|	|	|	1.20
77.417	0.00	0.01	0.601	O	|	|	|	|	1.21	82.417	0.00	0.01	0.597	O	|	|	|	|	1.20
77.500	0.00	0.01	0.601	O	|	|	|	|	1.21	82.500	0.00	0.01	0.597	O	|	|	|	|	1.20
77.583	0.00	0.01	0.601	O	|	|	|	|	1.21	82.583	0.00	0.01	0.597	O	|	|	|	|	1.20
77.667	0.00	0.01	0.601	O	|	|	|	|	1.21	82.667	0.00	0.01	0.597	O	|	|	|	|	1.20
77.750	0.00	0.01	0.601	O	|	|	|	|	1.21	82.750	0.00	0.01	0.597	O	|	|	|	|	1.20
77.833	0.00	0.01	0.601	O	|	|	|	|	1.21	82.833	0.00	0.01	0.597	O	|	|	|	|	1.20
77.917	0.00	0.01	0.601	O	|	|	|	|	1.21	82.917	0.00	0.01	0.597	O	|	|	|	|	1.20
78.000	0.00	0.01	0.601	O	|	|	|	|	1.21	83.000	0.00	0.01	0.597	O	|	|	|	|	1.20
78.083	0.00	0.01	0.600	O	|	|	|	|	1.21	83.083	0.00	0.01	0.596	O	|	|	|	|	1.20
78.167	0.00	0.01	0.600	O	|	|	|	|	1.21	83.167	0.00	0.01	0.596	O	|	|	|	|	1.20
78.250	0.00	0.01	0.600	O	|	|	|	|	1.21	83.250	0.00	0.01	0.596	O	|	|	|	|	1.20
78.333	0.00	0.01	0.600	O	|	|	|	|	1.21	83.333	0.00	0.01	0.596	O	|	|	|	|	1.20
78.417	0.00	0.01	0.600	O	|	|	|	|	1.21	83.417	0.00	0.01	0.596	O	|	|	|	|	1.20
78.500	0.00	0.01	0.600	O	|	|	|	|	1.21	83.500	0.00	0.01	0.596	O	|	|	|	|	1.20
78.583	0.00	0.01	0.600	O	|	|	|	|	1.21	83.583	0.00	0.01	0.596	O	|	|	|	|	1.20
78.667	0.00	0.01	0.600	O	|	|	|	|	1.21	83.667	0.00	0.01	0.596	O	|	|	|	|	1.20
78.750	0.00	0.01	0.600	O	|	|	|	|	1.21	83.750	0.00	0.01	0.596	O	|	|	|	|	1.20
78.833	0.00	0.01	0.600	O	|	|	|	|	1.21	83.833	0.00	0.01	0.596	O	|	|	|	|	1.20

Left Blank Intentionally

413.917	0.00	0.01	0.384	O	|	|	|	0.77
414.000	0.00	0.01	0.384	O	|	|	|	0.77
414.083	0.00	0.01	0.384	O	|	|	|	0.77
414.167	0.00	0.01	0.384	O	|	|	|	0.77
414.250	0.00	0.01	0.384	O	|	|	|	0.77
414.333	0.00	0.01	0.384	O	|	|	|	0.77
414.417	0.00	0.01	0.384	O	|	|	|	0.77
414.500	0.00	0.01	0.383	O	|	|	|	0.77
414.583	0.00	0.01	0.383	O	|	|	|	0.77
414.667	0.00	0.01	0.383	O	|	|	|	0.77
414.750	0.00	0.01	0.383	O	|	|	|	0.77
414.833	0.00	0.01	0.383	O	|	|	|	0.77
414.917	0.00	0.01	0.383	O	|	|	|	0.77
415.000	0.00	0.01	0.383	O	|	|	|	0.77
415.083	0.00	0.01	0.383	O	|	|	|	0.77
415.167	0.00	0.01	0.383	O	|	|	|	0.77
415.250	0.00	0.01	0.383	O	|	|	|	0.77
415.333	0.00	0.01	0.383	O	|	|	|	0.77
415.417	0.00	0.01	0.383	O	|	|	|	0.77
415.500	0.00	0.01	0.383	O	|	|	|	0.77
415.583	0.00	0.01	0.383	O	|	|	|	0.77
415.667	0.00	0.01	0.383	O	|	|	|	0.77
415.750	0.00	0.01	0.383	O	|	|	|	0.77
415.833	0.00	0.01	0.383	O	|	|	|	0.77
415.917	0.00	0.01	0.383	O	|	|	|	0.77
416.000	0.00	0.01	0.383	O	|	|	|	0.77
416.083	0.00	0.01	0.383	O	|	|	|	0.77
416.167	0.00	0.01	0.383	O	|	|	|	0.77
416.250	0.00	0.01	0.383	O	|	|	|	0.77
416.333	0.00	0.01	0.383	O	|	|	|	0.77
416.417	0.00	0.01	0.382	O	|	|	|	0.77
416.500	0.00	0.01	0.382	O	|	|	|	0.77
416.583	0.00	0.01	0.382	O	|	|	|	0.77
416.667	0.00	0.01	0.382	O	|	|	|	0.77

Remaining water in basin = 0.38 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.154 (CFS)
Total volume = 0.472 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

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TR 37036, PARCEL 1
BASIN M
5Y 3H STORM

-----------------------------------------------------------------------


Program License Serial Number 6406

-----------------------------------------------------------------------
******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR35.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    40
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       17.253 (CFS)
                Total volume =       1.411 (Ac.Ft)
        Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
***********************************************************************



+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
_______________________________________________________________________

User entry of depth-outflow-storage data
-----------------------------------------------------------------------
Total number of inflow hydrograph intervals = 40
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
-----------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
-----------------------------------------------------------------------
                  Hydrograph Detention Basin Routing
-----------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
-----------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                  Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       4.3    8.63   12.94   17.25 (Ft.)
 0.083    1.06    0.00      0.004  OI      |      |      |      |     0.01
 0.167    2.20    0.00      0.015  O   I   |      |      |      |     0.03
 0.250    2.27    0.00      0.030  O   I   |      |      |      |     0.06
 0.333    2.52    0.00      0.047  O   I   |      |      |      |     0.09
 0.417    2.87    0.00      0.065  O    I  |      |      |      |     0.13
 0.500    3.17    0.00      0.086  O    I  |      |      |      |     0.17
 0.583    3.21    0.00      0.108  O    I  |      |      |      |     0.22
 0.667    3.26    0.00      0.130  O     I |      |      |      |     0.26
 0.750    3.49    0.00      0.154  O     I |      |      |      |     0.31
 0.833    3.29    0.00      0.177  O     I |      |      |      |     0.36
 0.917    3.12    0.00      0.199  O    I  |      |      |      |     0.40
 1.000    3.33    0.00      0.221  O     I |      |      |      |     0.45
 1.083    3.82    0.00      0.246  O      I|      |      |      |     0.50
 1.167    4.21    0.00      0.273  O      I|      |      |      |     0.55
 1.250    4.30    0.00      0.303  O      I|      |      |      |     0.61
 1.333    4.17    0.01      0.332  O      I|      |      |      |     0.67
 1.417    4.50    0.01      0.362  O       I      |      |      |     0.73
 1.500    5.07    0.01      0.395  O       |I     |      |      |     0.80
 1.583    5.00    0.01      0.429  O       |I     |      |      |     0.87
 1.667    5.04    0.01      0.464  O       |I     |      |      |     0.94
 1.750    5.77    0.01      0.501  O       | I    |      |      |     1.01
 1.833    6.16    0.01      0.542  O       |  I   |      |      |     1.09
 1.917    5.95    0.01      0.584  O       |  I   |      |      |     1.18
 2.000    5.87    0.01      0.624  O       | I    |      |      |     1.26
 2.083    6.01    0.04      0.665  O       |  I   |      |      |     1.33
 2.167    6.99    0.07      0.709  O       |   I  |      |      |     1.41
 2.250    8.63    0.10      0.763  O       |      I|     |      |     1.50
 2.333    8.31    0.14      0.820  O       |      I|     |      |     1.60
 2.417   10.53    0.18      0.884  O       |       |  I  |      |     1.71
 2.500   14.58    0.23      0.969  O       |       |     |  I   |     1.86
 2.583   17.25    0.29      1.077  O       |       |     |      I     2.04
 2.667   15.77    0.32      1.188  O       |       |     |    I |     2.23
 2.750    9.51    0.34      1.273  O       |       |I    |      |     2.37
 2.833    5.28    0.36      1.322  O       |I      |     |      |     2.45
 2.917    4.14    0.36      1.352  O      I|      |     |      |     2.49
 3.000    2.71    0.37      1.373  O    I  |      |     |      |     2.53
 3.083    1.04    0.37      1.383  OI      |      |     |      |     2.55
 3.167    0.29    0.37      1.385  O       |      |     |      |     2.55
 3.250    0.10    0.37      1.384  O       |      |     |      |     2.55
 3.333    0.02    0.37      1.382  O       |      |     |      |     2.54
 3.417    0.00    0.37      1.379  O       |      |     |      |     2.54
 3.500    0.00    0.37      1.377  O       |      |     |      |     2.54
 3.583    0.00    0.37      1.374  O       |      |     |      |     2.53
 3.667    0.00    0.37      1.372  O       |      |     |      |     2.53
 3.750    0.00    0.37      1.369  O       |      |     |      |     2.52
 3.833    0.00    0.37      1.366  O       |      |     |      |     2.52
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3.917	0.00	0.37	1.364	O	|	|	|	|	2.51	8.917	0.00	0.33	1.221	O	|	|	|	|	2.28
4.000	0.00	0.37	1.361	O	|	|	|	|	2.51	9.000	0.00	0.33	1.218	O	|	|	|	|	2.28
4.083	0.00	0.37	1.359	O	|	|	|	|	2.51	9.083	0.00	0.33	1.216	O	|	|	|	|	2.27
4.167	0.00	0.37	1.356	O	|	|	|	|	2.50	9.167	0.00	0.33	1.214	O	|	|	|	|	2.27
4.250	0.00	0.36	1.354	O	|	|	|	|	2.50	9.250	0.00	0.33	1.212	O	|	|	|	|	2.26
4.333	0.00	0.36	1.351	O	|	|	|	|	2.49	9.333	0.00	0.32	1.209	O	|	|	|	|	2.26
4.417	0.00	0.36	1.349	O	|	|	|	|	2.49	9.417	0.00	0.32	1.207	O	|	|	|	|	2.26
4.500	0.00	0.36	1.346	O	|	|	|	|	2.49	9.500	0.00	0.32	1.205	O	|	|	|	|	2.25
4.583	0.00	0.36	1.344	O	|	|	|	|	2.48	9.583	0.00	0.32	1.203	O	|	|	|	|	2.25
4.667	0.00	0.36	1.341	O	|	|	|	|	2.48	9.667	0.00	0.32	1.200	O	|	|	|	|	2.25
4.750	0.00	0.36	1.339	O	|	|	|	|	2.47	9.750	0.00	0.32	1.198	O	|	|	|	|	2.24
4.833	0.00	0.36	1.336	O	|	|	|	|	2.47	9.833	0.00	0.32	1.196	O	|	|	|	|	2.24
4.917	0.00	0.36	1.334	O	|	|	|	|	2.47	9.917	0.00	0.32	1.194	O	|	|	|	|	2.24
5.000	0.00	0.36	1.331	O	|	|	|	|	2.46	10.000	0.00	0.32	1.192	O	|	|	|	|	2.23
5.083	0.00	0.36	1.329	O	|	|	|	|	2.46	10.083	0.00	0.32	1.189	O	|	|	|	|	2.23
5.167	0.00	0.36	1.327	O	|	|	|	|	2.45	10.167	0.00	0.32	1.187	O	|	|	|	|	2.22
5.250	0.00	0.36	1.324	O	|	|	|	|	2.45	10.250	0.00	0.32	1.185	O	|	|	|	|	2.22
5.333	0.00	0.36	1.322	O	|	|	|	|	2.45	10.333	0.00	0.32	1.183	O	|	|	|	|	2.22
5.417	0.00	0.36	1.319	O	|	|	|	|	2.44	10.417	0.00	0.32	1.181	O	|	|	|	|	2.21
5.500	0.00	0.35	1.317	O	|	|	|	|	2.44	10.500	0.00	0.32	1.178	O	|	|	|	|	2.21
5.583	0.00	0.35	1.314	O	|	|	|	|	2.43	10.583	0.00	0.32	1.176	O	|	|	|	|	2.21
5.667	0.00	0.35	1.312	O	|	|	|	|	2.43	10.667	0.00	0.31	1.174	O	|	|	|	|	2.20
5.750	0.00	0.35	1.309	O	|	|	|	|	2.43	10.750	0.00	0.31	1.172	O	|	|	|	|	2.20
5.833	0.00	0.35	1.307	O	|	|	|	|	2.42	10.833	0.00	0.31	1.170	O	|	|	|	|	2.20
5.917	0.00	0.35	1.305	O	|	|	|	|	2.42	10.917	0.00	0.31	1.168	O	|	|	|	|	2.19
6.000	0.00	0.35	1.302	O	|	|	|	|	2.41	11.000	0.00	0.31	1.165	O	|	|	|	|	2.19
6.083	0.00	0.35	1.300	O	|	|	|	|	2.41	11.083	0.00	0.31	1.163	O	|	|	|	|	2.19
6.167	0.00	0.35	1.297	O	|	|	|	|	2.41	11.167	0.00	0.31	1.161	O	|	|	|	|	2.18
6.250	0.00	0.35	1.295	O	|	|	|	|	2.40	11.250	0.00	0.31	1.159	O	|	|	|	|	2.18
6.333	0.00	0.35	1.293	O	|	|	|	|	2.40	11.333	0.00	0.31	1.157	O	|	|	|	|	2.18
6.417	0.00	0.35	1.290	O	|	|	|	|	2.39	11.417	0.00	0.31	1.155	O	|	|	|	|	2.17
6.500	0.00	0.35	1.288	O	|	|	|	|	2.39	11.500	0.00	0.31	1.153	O	|	|	|	|	2.17
6.583	0.00	0.35	1.285	O	|	|	|	|	2.39	11.583	0.00	0.31	1.151	O	|	|	|	|	2.16
6.667	0.00	0.34	1.283	O	|	|	|	|	2.38	11.667	0.00	0.31	1.148	O	|	|	|	|	2.16
6.750	0.00	0.34	1.281	O	|	|	|	|	2.38	11.750	0.00	0.31	1.146	O	|	|	|	|	2.16
6.833	0.00	0.34	1.278	O	|	|	|	|	2.37	11.833	0.00	0.31	1.144	O	|	|	|	|	2.15
6.917	0.00	0.34	1.276	O	|	|	|	|	2.37	11.917	0.00	0.31	1.142	O	|	|	|	|	2.15
7.000	0.00	0.34	1.274	O	|	|	|	|	2.37	12.000	0.00	0.31	1.140	O	|	|	|	|	2.15
7.083	0.00	0.34	1.271	O	|	|	|	|	2.36	12.083	0.00	0.30	1.138	O	|	|	|	|	2.14
7.167	0.00	0.34	1.269	O	|	|	|	|	2.36	12.167	0.00	0.30	1.136	O	|	|	|	|	2.14
7.250	0.00	0.34	1.267	O	|	|	|	|	2.35	12.250	0.00	0.30	1.134	O	|	|	|	|	2.14
7.333	0.00	0.34	1.264	O	|	|	|	|	2.35	12.333	0.00	0.30	1.132	O	|	|	|	|	2.13
7.417	0.00	0.34	1.262	O	|	|	|	|	2.35	12.417	0.00	0.30	1.129	O	|	|	|	|	2.13
7.500	0.00	0.34	1.259	O	|	|	|	|	2.34	12.500	0.00	0.30	1.127	O	|	|	|	|	2.13
7.583	0.00	0.34	1.257	O	|	|	|	|	2.34	12.583	0.00	0.30	1.125	O	|	|	|	|	2.12
7.667	0.00	0.34	1.255	O	|	|	|	|	2.34	12.667	0.00	0.30	1.123	O	|	|	|	|	2.12
7.750	0.00	0.34	1.253	O	|	|	|	|	2.33	12.750	0.00	0.30	1.121	O	|	|	|	|	2.12
7.833	0.00	0.34	1.250	O	|	|	|	|	2.33	12.833	0.00	0.30	1.119	O	|	|	|	|	2.11
7.917	0.00	0.34	1.248	O	|	|	|	|	2.32	12.917	0.00	0.30	1.117	O	|	|	|	|	2.11
8.000	0.00	0.33	1.246	O	|	|	|	|	2.32	13.000	0.00	0.30	1.115	O	|	|	|	|	2.11
8.083	0.00	0.33	1.243	O	|	|	|	|	2.32	13.083	0.00	0.30	1.113	O	|	|	|	|	2.10
8.167	0.00	0.33	1.241	O	|	|	|	|	2.31	13.167	0.00	0.30	1.111	O	|	|	|	|	2.10
8.250	0.00	0.33	1.239	O	|	|	|	|	2.31	13.250	0.00	0.30	1.109	O	|	|	|	|	2.10
8.333	0.00	0.33	1.236	O	|	|	|	|	2.31	13.333	0.00	0.30	1.107	O	|	|	|	|	2.09
8.417	0.00	0.33	1.234	O	|	|	|	|	2.30	13.417	0.00	0.30	1.105	O	|	|	|	|	2.09
8.500	0.00	0.33	1.232	O	|	|	|	|	2.30	13.500	0.00	0.29	1.103	O	|	|	|	|	2.09
8.583	0.00	0.33	1.230	O	|	|	|	|	2.29	13.583	0.00	0.29	1.101	O	|	|	|	|	2.08
8.667	0.00	0.33	1.227	O	|	|	|	|	2.29	13.667	0.00	0.29	1.099	O	|	|	|	|	2.08
8.750	0.00	0.33	1.225	O	|	|	|	|	2.29	13.750	0.00	0.29	1.097	O	|	|	|	|	2.08
8.833	0.00	0.33	1.223	O	|	|	|	|	2.28	13.833	0.00	0.29	1.095	O	|	|	|	|	2.07

13.917	0.00	0.29	1.093	O	|	|	|	|	2.07	18.917	0.00	0.24	0.982	O	|	|	|	|	1.88
14.000	0.00	0.29	1.091	O	|	|	|	|	2.07	19.000	0.00	0.24	0.980	O	|	|	|	|	1.88
14.083	0.00	0.29	1.089	O	|	|	|	|	2.06	19.083	0.00	0.24	0.979	O	|	|	|	|	1.88
14.167	0.00	0.29	1.087	O	|	|	|	|	2.06	19.167	0.00	0.23	0.977	O	|	|	|	|	1.87
14.250	0.00	0.29	1.085	O	|	|	|	|	2.06	19.250	0.00	0.23	0.975	O	|	|	|	|	1.87
14.333	0.00	0.29	1.083	O	|	|	|	|	2.05	19.333	0.00	0.23	0.974	O	|	|	|	|	1.87
14.417	0.00	0.29	1.081	O	|	|	|	|	2.05	19.417	0.00	0.23	0.972	O	|	|	|	|	1.86
14.500	0.00	0.29	1.079	O	|	|	|	|	2.05	19.500	0.00	0.23	0.971	O	|	|	|	|	1.86
14.583	0.00	0.29	1.077	O	|	|	|	|	2.04	19.583	0.00	0.23	0.969	O	|	|	|	|	1.86
14.667	0.00	0.29	1.075	O	|	|	|	|	2.04	19.667	0.00	0.23	0.967	O	|	|	|	|	1.86
14.750	0.00	0.29	1.073	O	|	|	|	|	2.04	19.750	0.00	0.23	0.966	O	|	|	|	|	1.85
14.833	0.00	0.29	1.071	O	|	|	|	|	2.03	19.833	0.00	0.23	0.964	O	|	|	|	|	1.85
14.917	0.00	0.29	1.069	O	|	|	|	|	2.03	19.917	0.00	0.23	0.963	O	|	|	|	|	1.85
15.000	0.00	0.28	1.067	O	|	|	|	|	2.03	20.000	0.00	0.22	0.961	O	|	|	|	|	1.85
15.083	0.00	0.28	1.065	O	|	|	|	|	2.02	20.083	0.00	0.22	0.960	O	|	|	|	|	1.84
15.167	0.00	0.28	1.063	O	|	|	|	|	2.02	20.167	0.00	0.22	0.958	O	|	|	|	|	1.84
15.250	0.00	0.28	1.061	O	|	|	|	|	2.02	20.250	0.00	0.22	0.957	O	|	|	|	|	1.84
15.333	0.00	0.28	1.059	O	|	|	|	|	2.01	20.333	0.00	0.22	0.955	O	|	|	|	|	1.83
15.417	0.00	0.28	1.057	O	|	|	|	|	2.01	20.417	0.00	0.22	0.954	O	|	|	|	|	1.83
15.500	0.00	0.28	1.055	O	|	|	|	|	2.01	20.500	0.00	0.22	0.952	O	|	|	|	|	1.83
15.583	0.00	0.28	1.053	O	|	|	|	|	2.01	20.583	0.00	0.22	0.951	O	|	|	|	|	1.83
15.667	0.00	0.28	1.051	O	|	|	|	|	2.00	20.667	0.00	0.22	0.949	O	|	|	|	|	1.82
15.750	0.00	0.28	1.049	O	|	|	|	|	2.00	20.750	0.00	0.22	0.948	O	|	|	|	|	1.82
15.833	0.00	0.28	1.047	O	|	|	|	|	2.00	20.833	0.00	0.21	0.946	O	|	|	|	|	1.82
15.917	0.00	0.28	1.046	O	|	|	|	|	1.99	20.917	0.00	0.21	0.945	O	|	|	|	|	1.82
16.000	0.00	0.28	1.044	O	|	|	|	|	1.99	21.000	0.00	0.21	0.943	O	|	|	|	|	1.81
16.083	0.00	0.27	1.042	O	|	|	|	|	1.99	21.083	0.00	0.21	0.942	O	|	|	|	|	1.81
16.167	0.00	0.27	1.040	O	|	|	|	|	1.98	21.167	0.00	0.21	0.940	O	|	|	|	|	1.81
16.250	0.00	0.27	1.038	O	|	|	|	|	1.98	21.250	0.00	0.21	0.939	O	|	|	|	|	1.81
16.333	0.00	0.27	1.036	O	|	|	|	|	1.98	21.333	0.00	0.21	0.937	O	|	|	|	|	1.80
16.417	0.00	0.27	1.034	O	|	|	|	|	1.97	21.417	0.00	0.21	0.936	O	|	|	|	|	1.80
16.500	0.00	0.27	1.032	O	|	|	|	|	1.97	21.500	0.00	0.21	0.934	O	|	|	|	|	1.80
16.583	0.00	0.27	1.031	O	|	|	|	|	1.97	21.583	0.00	0.21	0.933	O	|	|	|	|	1.80
16.667	0.00	0.27	1.029	O	|	|	|	|	1.96	21.667	0.00	0.21	0.932	O	|	|	|	|	1.79
16.750	0.00	0.27	1.027	O	|	|	|	|	1.96	21.750	0.00	0.20	0.930	O	|	|	|	|	1.79
16.833	0.00	0.26	1.025	O	|	|	|	|	1.96	21.833	0.00	0.20	0.929	O	|	|	|	|	1.79
16.917	0.00	0.26	1.023	O	|	|	|	|	1.95	21.917	0.00	0.20	0.927	O	|	|	|	|	1.79
17.000	0.00	0.26	1.021	O	|	|	|	|	1.95	22.000	0.00	0.20	0.926	O	|	|	|	|	1.78
17.083	0.00	0.26	1.020	O	|	|	|	|	1.95	22.083	0.00	0.20	0.925	O	|	|	|	|	1.78
17.167	0.00	0.26	1.018	O	|	|	|	|	1.94	22.167	0.00	0.20	0.923	O	|	|	|	|	1.78
17.250	0.00	0.26	1.016	O	|	|	|	|	1.94	22.250	0.00	0.20	0.922	O	|	|	|	|	1.78
17.333	0.00	0.26	1.014	O	|	|	|	|	1.94	22.333	0.00	0.20	0.921	O	|	|	|	|	1.77
17.417	0.00	0.26	1.012	O	|	|	|	|	1.93	22.417	0.00	0.20	0.919	O	|	|	|	|	1.77
17.500	0.00	0.26	1.011	O	|	|	|	|	1.93	22.500	0.00	0.20	0.918	O	|	|	|	|	1.77
17.583	0.00	0.25	1.009	O	|	|	|	|	1.93	22.583	0.00	0.20	0.916	O	|	|	|	|	1.77
17.667	0.00	0.25	1.007	O	|	|	|	|	1.93	22.667	0.00	0.20	0.915	O	|	|	|	|	1.76
17.750	0.00	0.25	1.005	O	|	|	|	|	1.92	22.750	0.00	0.19	0.914	O	|	|	|	|	1.76
17.833	0.00	0.25	1.004	O	|	|	|	|	1.92	22.833	0.00	0.19	0.912	O	|	|	|	|	1.76
17.917	0.00	0.25	1.002	O	|	|	|	|	1.92	22.917	0.00	0.19	0.911	O	|	|	|	|	1.76
18.000	0.00	0.25	1.000	O	|	|	|	|	1.91	23.000	0.00	0.19	0.910	O	|	|	|	|	1.76
18.083	0.00	0.25	0.999	O	|	|	|	|	1.91	23.083	0.00	0.19	0.908	O	|	|	|	|	1.75
18.167	0.00	0.25	0.997	O	|	|	|	|	1.91	23.167	0.00	0.19	0.907	O	|	|	|	|	1.75
18.250	0.00	0.25	0.995	O	|	|	|	|	1.90	23.250	0.00	0.19	0.906	O	|	|	|	|	1.75
18.333	0.00	0.24	0.994	O	|	|	|	|	1.90	23.333	0.00	0.19	0.905	O	|	|	|	|	1.75
18.417	0.00	0.24	0.992	O	|	|	|	|	1.90	23.417	0.00	0.19	0.903	O	|	|	|	|	1.74
18.500	0.00	0.24	0.990	O	|	|	|	|	1.90	23.500	0.00	0.19	0.902	O	|	|	|	|	1.74
18.583	0.00	0.24	0.988	O	|	|	|	|	1.89	23.583	0.00	0.19	0.901	O	|	|	|	|	1.74
18.667	0.00	0.24	0.987	O	|	|	|	|	1.89	23.667	0.00	0.19	0.899	O	|	|	|	|	1.74
18.750	0.00	0.24	0.985	O	|	|	|	|	1.89	23.750	0.00	0.18	0.898	O	|	|	|	|	1.74
18.833	0.00	0.24	0.984	O	|	|	|	|	1.88	23.833	0.00	0.18	0.897	O	|	|	|	|	1.73

23.917	0.00	0.18	0.896	O	|	|	|	|	1.73	28.917	0.00	0.14	0.829	O	|	|	|	|	1.61
24.000	0.00	0.18	0.894	O	|	|	|	|	1.73	29.000	0.00	0.14	0.828	O	|	|	|	|	1.61
24.083	0.00	0.18	0.893	O	|	|	|	|	1.73	29.083	0.00	0.14	0.827	O	|	|	|	|	1.61
24.167	0.00	0.18	0.892	O	|	|	|	|	1.72	29.167	0.00	0.14	0.826	O	|	|	|	|	1.61
24.250	0.00	0.18	0.891	O	|	|	|	|	1.72	29.250	0.00	0.14	0.825	O	|	|	|	|	1.61
24.333	0.00	0.18	0.889	O	|	|	|	|	1.72	29.333	0.00	0.14	0.824	O	|	|	|	|	1.61
24.417	0.00	0.18	0.888	O	|	|	|	|	1.72	29.417	0.00	0.14	0.823	O	|	|	|	|	1.60
24.500	0.00	0.18	0.887	O	|	|	|	|	1.72	29.500	0.00	0.14	0.822	O	|	|	|	|	1.60
24.583	0.00	0.18	0.886	O	|	|	|	|	1.71	29.583	0.00	0.14	0.821	O	|	|	|	|	1.60
24.667	0.00	0.18	0.884	O	|	|	|	|	1.71	29.667	0.00	0.14	0.820	O	|	|	|	|	1.60
24.750	0.00	0.18	0.883	O	|	|	|	|	1.71	29.750	0.00	0.14	0.819	O	|	|	|	|	1.60
24.833	0.00	0.17	0.882	O	|	|	|	|	1.71	29.833	0.00	0.13	0.818	O	|	|	|	|	1.60
24.917	0.00	0.17	0.881	O	|	|	|	|	1.70	29.917	0.00	0.13	0.818	O	|	|	|	|	1.59
25.000	0.00	0.17	0.880	O	|	|	|	|	1.70	30.000	0.00	0.13	0.817	O	|	|	|	|	1.59
25.083	0.00	0.17	0.878	O	|	|	|	|	1.70	30.083	0.00	0.13	0.816	O	|	|	|	|	1.59
25.167	0.00	0.17	0.877	O	|	|	|	|	1.70	30.167	0.00	0.13	0.815	O	|	|	|	|	1.59
25.250	0.00	0.17	0.876	O	|	|	|	|	1.70	30.250	0.00	0.13	0.814	O	|	|	|	|	1.59
25.333	0.00	0.17	0.875	O	|	|	|	|	1.69	30.333	0.00	0.13	0.813	O	|	|	|	|	1.59
25.417	0.00	0.17	0.874	O	|	|	|	|	1.69	30.417	0.00	0.13	0.812	O	|	|	|	|	1.59
25.500	0.00	0.17	0.873	O	|	|	|	|	1.69	30.500	0.00	0.13	0.811	O	|	|	|	|	1.58
25.583	0.00	0.17	0.871	O	|	|	|	|	1.69	30.583	0.00	0.13	0.810	O	|	|	|	|	1.58
25.667	0.00	0.17	0.870	O	|	|	|	|	1.69	30.667	0.00	0.13	0.809	O	|	|	|	|	1.58
25.750	0.00	0.17	0.869	O	|	|	|	|	1.68	30.750	0.00	0.13	0.809	O	|	|	|	|	1.58
25.833	0.00	0.17	0.868	O	|	|	|	|	1.68	30.833	0.00	0.13	0.808	O	|	|	|	|	1.58
25.917	0.00	0.16	0.867	O	|	|	|	|	1.68	30.917	0.00	0.13	0.807	O	|	|	|	|	1.58
26.000	0.00	0.16	0.866	O	|	|	|	|	1.68	31.000	0.00	0.13	0.806	O	|	|	|	|	1.57
26.083	0.00	0.16	0.865	O	|	|	|	|	1.68	31.083	0.00	0.13	0.805	O	|	|	|	|	1.57
26.167	0.00	0.16	0.863	O	|	|	|	|	1.67	31.167	0.00	0.13	0.804	O	|	|	|	|	1.57
26.250	0.00	0.16	0.862	O	|	|	|	|	1.67	31.250	0.00	0.13	0.803	O	|	|	|	|	1.57
26.333	0.00	0.16	0.861	O	|	|	|	|	1.67	31.333	0.00	0.12	0.802	O	|	|	|	|	1.57
26.417	0.00	0.16	0.860	O	|	|	|	|	1.67	31.417	0.00	0.12	0.802	O	|	|	|	|	1.57
26.500	0.00	0.16	0.859	O	|	|	|	|	1.67	31.500	0.00	0.12	0.801	O	|	|	|	|	1.57
26.583	0.00	0.16	0.858	O	|	|	|	|	1.66	31.583	0.00	0.12	0.800	O	|	|	|	|	1.56
26.667	0.00	0.16	0.857	O	|	|	|	|	1.66	31.667	0.00	0.12	0.799	O	|	|	|	|	1.56
26.750	0.00	0.16	0.856	O	|	|	|	|	1.66	31.750	0.00	0.12	0.798	O	|	|	|	|	1.56
26.833	0.00	0.16	0.855	O	|	|	|	|	1.66	31.833	0.00	0.12	0.797	O	|	|	|	|	1.56
26.917	0.00	0.16	0.854	O	|	|	|	|	1.66	31.917	0.00	0.12	0.797	O	|	|	|	|	1.56
27.000	0.00	0.16	0.852	O	|	|	|	|	1.66	32.000	0.00	0.12	0.796	O	|	|	|	|	1.56
27.083	0.00	0.16	0.851	O	|	|	|	|	1.65	32.083	0.00	0.12	0.795	O	|	|	|	|	1.55
27.167	0.00	0.15	0.850	O	|	|	|	|	1.65	32.167	0.00	0.12	0.794	O	|	|	|	|	1.55
27.250	0.00	0.15	0.849	O	|	|	|	|	1.65	32.250	0.00	0.12	0.793	O	|	|	|	|	1.55
27.333	0.00	0.15	0.848	O	|	|	|	|	1.65	32.333	0.00	0.12	0.792	O	|	|	|	|	1.55
27.417	0.00	0.15	0.847	O	|	|	|	|	1.65	32.417	0.00	0.12	0.792	O	|	|	|	|	1.55
27.500	0.00	0.15	0.846	O	|	|	|	|	1.64	32.500	0.00	0.12	0.791	O	|	|	|	|	1.55
27.583	0.00	0.15	0.845	O	|	|	|	|	1.64	32.583	0.00	0.12	0.790	O	|	|	|	|	1.55
27.667	0.00	0.15	0.844	O	|	|	|	|	1.64	32.667	0.00	0.12	0.789	O	|	|	|	|	1.55
27.750	0.00	0.15	0.843	O	|	|	|	|	1.64	32.750	0.00	0.12	0.788	O	|	|	|	|	1.54
27.833	0.00	0.15	0.842	O	|	|	|	|	1.64	32.833	0.00	0.12	0.788	O	|	|	|	|	1.54
27.917	0.00	0.15	0.841	O	|	|	|	|	1.64	32.917	0.00	0.11	0.787	O	|	|	|	|	1.54
28.000	0.00	0.15	0.840	O	|	|	|	|	1.63	33.000	0.00	0.11	0.786	O	|	|	|	|	1.54
28.083	0.00	0.15	0.839	O	|	|	|	|	1.63	33.083	0.00	0.11	0.785	O	|	|	|	|	1.54
28.167	0.00	0.15	0.838	O	|	|	|	|	1.63	33.167	0.00	0.11	0.784	O	|	|	|	|	1.54
28.250	0.00	0.15	0.837	O	|	|	|	|	1.63	33.250	0.00	0.11	0.784	O	|	|	|	|	1.54
28.333	0.00	0.15	0.836	O	|	|	|	|	1.63	33.333	0.00	0.11	0.783	O	|	|	|	|	1.53
28.417	0.00	0.14	0.835	O	|	|	|	|	1.62	33.417	0.00	0.11	0.782	O	|	|	|	|	1.53
28.500	0.00	0.14	0.834	O	|	|	|	|	1.62	33.500	0.00	0.11	0.781	O	|	|	|	|	1.53
28.583	0.00	0.14	0.833	O	|	|	|	|	1.62	33.583	0.00	0.11	0.781	O	|	|	|	|	1.53
28.667	0.00	0.14	0.832	O	|	|	|	|	1.62	33.667	0.00	0.11	0.780	O	|	|	|	|	1.53
28.750	0.00	0.14	0.831	O	|	|	|	|	1.62	33.750	0.00	0.11	0.779	O	|	|	|	|	1.53
28.833	0.00	0.14	0.830	O	|	|	|	|	1.62	33.833	0.00	0.11	0.778	O	|	|	|	|	1.53

33.917	0.00	0.11	0.778	O	|	|	|	|	1.52	38.917	0.00	0.08	0.738	O	|	|	|	|	1.46
34.000	0.00	0.11	0.777	O	|	|	|	|	1.52	39.000	0.00	0.08	0.737	O	|	|	|	|	1.45
34.083	0.00	0.11	0.776	O	|	|	|	|	1.52	39.083	0.00	0.08	0.737	O	|	|	|	|	1.45
34.167	0.00	0.11	0.775	O	|	|	|	|	1.52	39.167	0.00	0.08	0.736	O	|	|	|	|	1.45
34.250	0.00	0.11	0.775	O	|	|	|	|	1.52	39.250	0.00	0.08	0.736	O	|	|	|	|	1.45
34.333	0.00	0.11	0.774	O	|	|	|	|	1.52	39.333	0.00	0.08	0.735	O	|	|	|	|	1.45
34.417	0.00	0.11	0.773	O	|	|	|	|	1.52	39.417	0.00	0.08	0.734	O	|	|	|	|	1.45
34.500	0.00	0.11	0.772	O	|	|	|	|	1.52	39.500	0.00	0.08	0.734	O	|	|	|	|	1.45
34.583	0.00	0.11	0.772	O	|	|	|	|	1.51	39.583	0.00	0.08	0.733	O	|	|	|	|	1.45
34.667	0.00	0.10	0.771	O	|	|	|	|	1.51	39.667	0.00	0.08	0.733	O	|	|	|	|	1.45
34.750	0.00	0.10	0.770	O	|	|	|	|	1.51	39.750	0.00	0.08	0.732	O	|	|	|	|	1.45
34.833	0.00	0.10	0.769	O	|	|	|	|	1.51	39.833	0.00	0.08	0.732	O	|	|	|	|	1.44
34.917	0.00	0.10	0.769	O	|	|	|	|	1.51	39.917	0.00	0.08	0.731	O	|	|	|	|	1.44
35.000	0.00	0.10	0.768	O	|	|	|	|	1.51	40.000	0.00	0.08	0.731	O	|	|	|	|	1.44
35.083	0.00	0.10	0.767	O	|	|	|	|	1.51	40.083	0.00	0.08	0.730	O	|	|	|	|	1.44
35.167	0.00	0.10	0.767	O	|	|	|	|	1.51	40.167	0.00	0.08	0.729	O	|	|	|	|	1.44
35.250	0.00	0.10	0.766	O	|	|	|	|	1.50	40.250	0.00	0.08	0.729	O	|	|	|	|	1.44
35.333	0.00	0.10	0.765	O	|	|	|	|	1.50	40.333	0.00	0.08	0.728	O	|	|	|	|	1.44
35.417	0.00	0.10	0.765	O	|	|	|	|	1.50	40.417	0.00	0.08	0.728	O	|	|	|	|	1.44
35.500	0.00	0.10	0.764	O	|	|	|	|	1.50	40.500	0.00	0.08	0.727	O	|	|	|	|	1.44
35.583	0.00	0.10	0.763	O	|	|	|	|	1.50	40.583	0.00	0.08	0.727	O	|	|	|	|	1.44
35.667	0.00	0.10	0.762	O	|	|	|	|	1.50	40.667	0.00	0.08	0.726	O	|	|	|	|	1.44
35.750	0.00	0.10	0.762	O	|	|	|	|	1.50	40.750	0.00	0.08	0.726	O	|	|	|	|	1.43
35.833	0.00	0.10	0.761	O	|	|	|	|	1.50	40.833	0.00	0.08	0.725	O	|	|	|	|	1.43
35.917	0.00	0.10	0.760	O	|	|	|	|	1.49	40.917	0.00	0.08	0.725	O	|	|	|	|	1.43
36.000	0.00	0.10	0.760	O	|	|	|	|	1.49	41.000	0.00	0.08	0.724	O	|	|	|	|	1.43
36.083	0.00	0.10	0.759	O	|	|	|	|	1.49	41.083	0.00	0.08	0.724	O	|	|	|	|	1.43
36.167	0.00	0.10	0.758	O	|	|	|	|	1.49	41.167	0.00	0.07	0.723	O	|	|	|	|	1.43
36.250	0.00	0.10	0.758	O	|	|	|	|	1.49	41.250	0.00	0.07	0.723	O	|	|	|	|	1.43
36.333	0.00	0.10	0.757	O	|	|	|	|	1.49	41.333	0.00	0.07	0.722	O	|	|	|	|	1.43
36.417	0.00	0.10	0.756	O	|	|	|	|	1.49	41.417	0.00	0.07	0.722	O	|	|	|	|	1.43
36.500	0.00	0.10	0.756	O	|	|	|	|	1.49	41.500	0.00	0.07	0.721	O	|	|	|	|	1.43
36.583	0.00	0.09	0.755	O	|	|	|	|	1.49	41.583	0.00	0.07	0.721	O	|	|	|	|	1.43
36.667	0.00	0.09	0.754	O	|	|	|	|	1.48	41.667	0.00	0.07	0.720	O	|	|	|	|	1.42
36.750	0.00	0.09	0.754	O	|	|	|	|	1.48	41.750	0.00	0.07	0.720	O	|	|	|	|	1.42
36.833	0.00	0.09	0.753	O	|	|	|	|	1.48	41.833	0.00	0.07	0.719	O	|	|	|	|	1.42
36.917	0.00	0.09	0.753	O	|	|	|	|	1.48	41.917	0.00	0.07	0.719	O	|	|	|	|	1.42
37.000	0.00	0.09	0.752	O	|	|	|	|	1.48	42.000	0.00	0.07	0.718	O	|	|	|	|	1.42
37.083	0.00	0.09	0.751	O	|	|	|	|	1.48	42.083	0.00	0.07	0.718	O	|	|	|	|	1.42
37.167	0.00	0.09	0.751	O	|	|	|	|	1.48	42.167	0.00	0.07	0.717	O	|	|	|	|	1.42
37.250	0.00	0.09	0.750	O	|	|	|	|	1.48	42.250	0.00	0.07	0.717	O	|	|	|	|	1.42
37.333	0.00	0.09	0.749	O	|	|	|	|	1.48	42.333	0.00	0.07	0.716	O	|	|	|	|	1.42
37.417	0.00	0.09	0.749	O	|	|	|	|	1.47	42.417	0.00	0.07	0.716	O	|	|	|	|	1.42
37.500	0.00	0.09	0.748	O	|	|	|	|	1.47	42.500	0.00	0.07	0.715	O	|	|	|	|	1.42
37.583	0.00	0.09	0.747	O	|	|	|	|	1.47	42.583	0.00	0.07	0.715	O	|	|	|	|	1.42
37.667	0.00	0.09	0.747	O	|	|	|	|	1.47	42.667	0.00	0.07	0.714	O	|	|	|	|	1.41
37.750	0.00	0.09	0.746	O	|	|	|	|	1.47	42.750	0.00	0.07	0.714	O	|	|	|	|	1.41
37.833	0.00	0.09	0.746	O	|	|	|	|	1.47	42.833	0.00	0.07	0.713	O	|	|	|	|	1.41
37.917	0.00	0.09	0.745	O	|	|	|	|	1.47	42.917	0.00	0.07	0.713	O	|	|	|	|	1.41
38.000	0.00	0.09	0.744	O	|	|	|	|	1.47	43.000	0.00	0.07	0.712	O	|	|	|	|	1.41
38.083	0.00	0.09	0.744	O	|	|	|	|	1.47	43.083	0.00	0.07	0.712	O	|	|	|	|	1.41
38.167	0.00	0.09	0.743	O	|	|	|	|	1.46	43.167	0.00	0.07	0.711	O	|	|	|	|	1.41
38.250	0.00	0.09	0.743	O	|	|	|	|	1.46	43.250	0.00	0.07	0.711	O	|	|	|	|	1.41
38.333	0.00	0.09	0.742	O	|	|	|	|	1.46	43.333	0.00	0.07	0.710	O	|	|	|	|	1.41
38.417	0.00	0.09	0.741	O	|	|	|	|	1.46	43.417	0.00	0.07	0.710	O	|	|	|	|	1.41
38.500	0.00	0.09	0.741	O	|	|	|	|	1.46	43.500	0.00	0.07	0.710	O	|	|	|	|	1.41
38.583	0.00	0.09	0.740	O	|	|	|	|	1.46	43.583	0.00	0.07	0.709	O	|	|	|	|	1.41
38.667	0.00	0.09	0.740	O	|	|	|	|	1.46	43.667	0.00	0.07	0.709	O	|	|	|	|	1.40
38.750	0.00	0.08	0.739	O	|	|	|	|	1.46	43.750	0.00	0.07	0.708	O	|	|	|	|	1.40
38.833	0.00	0.08	0.738	O	|	|	|	|	1.46	43.833	0.00	0.07	0.708	O	|	|	|	|	1.40

43.917	0.00	0.06	0.707	O					1.40	48.917	0.00	0.05	0.684	O					1.36
44.000	0.00	0.06	0.707	O					1.40	49.000	0.00	0.05	0.683	O					1.36
44.083	0.00	0.06	0.706	O					1.40	49.083	0.00	0.05	0.683	O					1.36
44.167	0.00	0.06	0.706	O					1.40	49.167	0.00	0.05	0.683	O					1.36
44.250	0.00	0.06	0.706	O					1.40	49.250	0.00	0.05	0.682	O					1.36
44.333	0.00	0.06	0.705	O					1.40	49.333	0.00	0.05	0.682	O					1.36
44.417	0.00	0.06	0.705	O					1.40	49.417	0.00	0.05	0.682	O					1.36
44.500	0.00	0.06	0.704	O					1.40	49.500	0.00	0.05	0.681	O					1.36
44.583	0.00	0.06	0.704	O					1.40	49.583	0.00	0.05	0.681	O					1.36
44.667	0.00	0.06	0.703	O					1.40	49.667	0.00	0.05	0.681	O					1.36
44.750	0.00	0.06	0.703	O					1.39	49.750	0.00	0.05	0.680	O					1.36
44.833	0.00	0.06	0.703	O					1.39	49.833	0.00	0.05	0.680	O					1.35
44.917	0.00	0.06	0.702	O					1.39	49.917	0.00	0.05	0.680	O					1.35
45.000	0.00	0.06	0.702	O					1.39	50.000	0.00	0.05	0.679	O					1.35
45.083	0.00	0.06	0.701	O					1.39	50.083	0.00	0.05	0.679	O					1.35
45.167	0.00	0.06	0.701	O					1.39	50.167	0.00	0.05	0.679	O					1.35
45.250	0.00	0.06	0.700	O					1.39	50.250	0.00	0.05	0.678	O					1.35
45.333	0.00	0.06	0.700	O					1.39	50.333	0.00	0.05	0.678	O					1.35
45.417	0.00	0.06	0.700	O					1.39	50.417	0.00	0.05	0.678	O					1.35
45.500	0.00	0.06	0.699	O					1.39	50.500	0.00	0.05	0.677	O					1.35
45.583	0.00	0.06	0.699	O					1.39	50.583	0.00	0.05	0.677	O					1.35
45.667	0.00	0.06	0.698	O					1.39	50.667	0.00	0.05	0.677	O					1.35
45.750	0.00	0.06	0.698	O					1.39	50.750	0.00	0.05	0.676	O					1.35
45.833	0.00	0.06	0.698	O					1.39	50.833	0.00	0.05	0.676	O					1.35
45.917	0.00	0.06	0.697	O					1.38	50.917	0.00	0.05	0.676	O					1.35
46.000	0.00	0.06	0.697	O					1.38	51.000	0.00	0.04	0.676	O					1.35
46.083	0.00	0.06	0.696	O					1.38	51.083	0.00	0.04	0.675	O					1.35
46.167	0.00	0.06	0.696	O					1.38	51.167	0.00	0.04	0.675	O					1.35
46.250	0.00	0.06	0.696	O					1.38	51.250	0.00	0.04	0.675	O					1.35
46.333	0.00	0.06	0.695	O					1.38	51.333	0.00	0.04	0.674	O					1.34
46.417	0.00	0.06	0.695	O					1.38	51.417	0.00	0.04	0.674	O					1.34
46.500	0.00	0.06	0.694	O					1.38	51.500	0.00	0.04	0.674	O					1.34
46.583	0.00	0.06	0.694	O					1.38	51.583	0.00	0.04	0.673	O					1.34
46.667	0.00	0.06	0.694	O					1.38	51.667	0.00	0.04	0.673	O					1.34
46.750	0.00	0.06	0.693	O					1.38	51.750	0.00	0.04	0.673	O					1.34
46.833	0.00	0.06	0.693	O					1.38	51.833	0.00	0.04	0.673	O					1.34
46.917	0.00	0.06	0.692	O					1.38	51.917	0.00	0.04	0.672	O					1.34
47.000	0.00	0.06	0.692	O					1.38	52.000	0.00	0.04	0.672	O					1.34
47.083	0.00	0.06	0.692	O					1.38	52.083	0.00	0.04	0.672	O					1.34
47.167	0.00	0.05	0.691	O					1.37	52.167	0.00	0.04	0.671	O					1.34
47.250	0.00	0.05	0.691	O					1.37	52.250	0.00	0.04	0.671	O					1.34
47.333	0.00	0.05	0.691	O					1.37	52.333	0.00	0.04	0.671	O					1.34
47.417	0.00	0.05	0.690	O					1.37	52.417	0.00	0.04	0.670	O					1.34
47.500	0.00	0.05	0.690	O					1.37	52.500	0.00	0.04	0.670	O					1.34
47.583	0.00	0.05	0.689	O					1.37	52.583	0.00	0.04	0.670	O					1.34
47.667	0.00	0.05	0.689	O					1.37	52.667	0.00	0.04	0.670	O					1.34
47.750	0.00	0.05	0.689	O					1.37	52.750	0.00	0.04	0.669	O					1.34
47.833	0.00	0.05	0.688	O					1.37	52.833	0.00	0.04	0.669	O					1.34
47.917	0.00	0.05	0.688	O					1.37	52.917	0.00	0.04	0.669	O					1.34
48.000	0.00	0.05	0.688	O					1.37	53.000	0.00	0.04	0.669	O					1.33
48.083	0.00	0.05	0.687	O					1.37	53.083	0.00	0.04	0.668	O					1.33
48.167	0.00	0.05	0.687	O					1.37	53.167	0.00	0.04	0.668	O					1.33
48.250	0.00	0.05	0.687	O					1.37	53.250	0.00	0.04	0.668	O					1.33
48.333	0.00	0.05	0.686	O					1.37	53.333	0.00	0.04	0.667	O					1.33
48.417	0.00	0.05	0.686	O					1.36	53.417	0.00	0.04	0.667	O					1.33
48.500	0.00	0.05	0.685	O					1.36	53.500	0.00	0.04	0.667	O					1.33
48.583	0.00	0.05	0.685	O					1.36	53.583	0.00	0.04	0.667	O					1.33
48.667	0.00	0.05	0.685	O					1.36	53.667	0.00	0.04	0.666	O					1.33
48.750	0.00	0.05	0.684	O					1.36	53.750	0.00	0.04	0.666	O					1.33
48.833	0.00	0.05	0.684	O					1.36	53.833	0.00	0.04	0.666	O					1.33

53.917	0.00	0.04	0.666	O	|	|	|	|	1.33	58.917	0.00	0.03	0.651	O	|	|	|	|	1.30
54.000	0.00	0.04	0.665	O	|	|	|	|	1.33	59.000	0.00	0.03	0.651	O	|	|	|	|	1.30
54.083	0.00	0.04	0.665	O	|	|	|	|	1.33	59.083	0.00	0.03	0.651	O	|	|	|	|	1.30
54.167	0.00	0.04	0.665	O	|	|	|	|	1.33	59.167	0.00	0.03	0.651	O	|	|	|	|	1.30
54.250	0.00	0.04	0.664	O	|	|	|	|	1.33	59.250	0.00	0.03	0.651	O	|	|	|	|	1.30
54.333	0.00	0.04	0.664	O	|	|	|	|	1.33	59.333	0.00	0.03	0.650	O	|	|	|	|	1.30
54.417	0.00	0.04	0.664	O	|	|	|	|	1.33	59.417	0.00	0.03	0.650	O	|	|	|	|	1.30
54.500	0.00	0.04	0.664	O	|	|	|	|	1.33	59.500	0.00	0.03	0.650	O	|	|	|	|	1.30
54.583	0.00	0.04	0.663	O	|	|	|	|	1.33	59.583	0.00	0.03	0.650	O	|	|	|	|	1.30
54.667	0.00	0.04	0.663	O	|	|	|	|	1.33	59.667	0.00	0.03	0.650	O	|	|	|	|	1.30
54.750	0.00	0.04	0.663	O	|	|	|	|	1.32	59.750	0.00	0.03	0.649	O	|	|	|	|	1.30
54.833	0.00	0.04	0.663	O	|	|	|	|	1.32	59.833	0.00	0.03	0.649	O	|	|	|	|	1.30
54.917	0.00	0.04	0.662	O	|	|	|	|	1.32	59.917	0.00	0.03	0.649	O	|	|	|	|	1.30
55.000	0.00	0.04	0.662	O	|	|	|	|	1.32	60.000	0.00	0.03	0.649	O	|	|	|	|	1.30
55.083	0.00	0.04	0.662	O	|	|	|	|	1.32	60.083	0.00	0.03	0.649	O	|	|	|	|	1.30
55.167	0.00	0.04	0.662	O	|	|	|	|	1.32	60.167	0.00	0.03	0.648	O	|	|	|	|	1.30
55.250	0.00	0.04	0.661	O	|	|	|	|	1.32	60.250	0.00	0.03	0.648	O	|	|	|	|	1.30
55.333	0.00	0.04	0.661	O	|	|	|	|	1.32	60.333	0.00	0.03	0.648	O	|	|	|	|	1.30
55.417	0.00	0.04	0.661	O	|	|	|	|	1.32	60.417	0.00	0.03	0.648	O	|	|	|	|	1.30
55.500	0.00	0.04	0.661	O	|	|	|	|	1.32	60.500	0.00	0.03	0.648	O	|	|	|	|	1.30
55.583	0.00	0.04	0.660	O	|	|	|	|	1.32	60.583	0.00	0.03	0.648	O	|	|	|	|	1.30
55.667	0.00	0.04	0.660	O	|	|	|	|	1.32	60.667	0.00	0.03	0.647	O	|	|	|	|	1.30
55.750	0.00	0.04	0.660	O	|	|	|	|	1.32	60.750	0.00	0.03	0.647	O	|	|	|	|	1.30
55.833	0.00	0.03	0.660	O	|	|	|	|	1.32	60.833	0.00	0.03	0.647	O	|	|	|	|	1.30
55.917	0.00	0.03	0.659	O	|	|	|	|	1.32	60.917	0.00	0.03	0.647	O	|	|	|	|	1.30
56.000	0.00	0.03	0.659	O	|	|	|	|	1.32	61.000	0.00	0.03	0.647	O	|	|	|	|	1.30
56.083	0.00	0.03	0.659	O	|	|	|	|	1.32	61.083	0.00	0.03	0.646	O	|	|	|	|	1.30
56.167	0.00	0.03	0.659	O	|	|	|	|	1.32	61.167	0.00	0.03	0.646	O	|	|	|	|	1.30
56.250	0.00	0.03	0.659	O	|	|	|	|	1.32	61.250	0.00	0.03	0.646	O	|	|	|	|	1.30
56.333	0.00	0.03	0.658	O	|	|	|	|	1.32	61.333	0.00	0.03	0.646	O	|	|	|	|	1.30
56.417	0.00	0.03	0.658	O	|	|	|	|	1.32	61.417	0.00	0.03	0.646	O	|	|	|	|	1.29
56.500	0.00	0.03	0.658	O	|	|	|	|	1.32	61.500	0.00	0.03	0.646	O	|	|	|	|	1.29
56.583	0.00	0.03	0.658	O	|	|	|	|	1.32	61.583	0.00	0.03	0.645	O	|	|	|	|	1.29
56.667	0.00	0.03	0.657	O	|	|	|	|	1.32	61.667	0.00	0.03	0.645	O	|	|	|	|	1.29
56.750	0.00	0.03	0.657	O	|	|	|	|	1.31	61.750	0.00	0.03	0.645	O	|	|	|	|	1.29
56.833	0.00	0.03	0.657	O	|	|	|	|	1.31	61.833	0.00	0.03	0.645	O	|	|	|	|	1.29
56.917	0.00	0.03	0.657	O	|	|	|	|	1.31	61.917	0.00	0.03	0.645	O	|	|	|	|	1.29
57.000	0.00	0.03	0.656	O	|	|	|	|	1.31	62.000	0.00	0.03	0.644	O	|	|	|	|	1.29
57.083	0.00	0.03	0.656	O	|	|	|	|	1.31	62.083	0.00	0.03	0.644	O	|	|	|	|	1.29
57.167	0.00	0.03	0.656	O	|	|	|	|	1.31	62.167	0.00	0.03	0.644	O	|	|	|	|	1.29
57.250	0.00	0.03	0.656	O	|	|	|	|	1.31	62.250	0.00	0.03	0.644	O	|	|	|	|	1.29
57.333	0.00	0.03	0.656	O	|	|	|	|	1.31	62.333	0.00	0.02	0.644	O	|	|	|	|	1.29
57.417	0.00	0.03	0.655	O	|	|	|	|	1.31	62.417	0.00	0.02	0.644	O	|	|	|	|	1.29
57.500	0.00	0.03	0.655	O	|	|	|	|	1.31	62.500	0.00	0.02	0.643	O	|	|	|	|	1.29
57.583	0.00	0.03	0.655	O	|	|	|	|	1.31	62.583	0.00	0.02	0.643	O	|	|	|	|	1.29
57.667	0.00	0.03	0.655	O	|	|	|	|	1.31	62.667	0.00	0.02	0.643	O	|	|	|	|	1.29
57.750	0.00	0.03	0.654	O	|	|	|	|	1.31	62.750	0.00	0.02	0.643	O	|	|	|	|	1.29
57.833	0.00	0.03	0.654	O	|	|	|	|	1.31	62.833	0.00	0.02	0.643	O	|	|	|	|	1.29
57.917	0.00	0.03	0.654	O	|	|	|	|	1.31	62.917	0.00	0.02	0.643	O	|	|	|	|	1.29
58.000	0.00	0.03	0.654	O	|	|	|	|	1.31	63.000	0.00	0.02	0.642	O	|	|	|	|	1.29
58.083	0.00	0.03	0.654	O	|	|	|	|	1.31	63.083	0.00	0.02	0.642	O	|	|	|	|	1.29
58.167	0.00	0.03	0.653	O	|	|	|	|	1.31	63.167	0.00	0.02	0.642	O	|	|	|	|	1.29
58.250	0.00	0.03	0.653	O	|	|	|	|	1.31	63.250	0.00	0.02	0.642	O	|	|	|	|	1.29
58.333	0.00	0.03	0.653	O	|	|	|	|	1.31	63.333	0.00	0.02	0.642	O	|	|	|	|	1.29
58.417	0.00	0.03	0.653	O	|	|	|	|	1.31	63.417	0.00	0.02	0.642	O	|	|	|	|	1.29
58.500	0.00	0.03	0.653	O	|	|	|	|	1.31	63.500	0.00	0.02	0.641	O	|	|	|	|	1.29
58.583	0.00	0.03	0.652	O	|	|	|	|	1.31	63.583	0.00	0.02	0.641	O	|	|	|	|	1.29
58.667	0.00	0.03	0.652	O	|	|	|	|	1.31	63.667	0.00	0.02	0.641	O	|	|	|	|	1.29
58.750	0.00	0.03	0.652	O	|	|	|	|	1.31	63.750	0.00	0.02	0.641	O	|	|	|	|	1.29
58.833	0.00	0.03	0.652	O	|	|	|	|	1.31	63.833	0.00	0.02	0.641	O	|	|	|	|	1.29

63.917	0.00	0.02	0.641	O	|	|	|	|	1.29	68.917	0.00	0.02	0.632	O	|	|	|	|	1.27
64.000	0.00	0.02	0.640	O	|	|	|	|	1.29	69.000	0.00	0.02	0.632	O	|	|	|	|	1.27
64.083	0.00	0.02	0.640	O	|	|	|	|	1.29	69.083	0.00	0.02	0.632	O	|	|	|	|	1.27
64.167	0.00	0.02	0.640	O	|	|	|	|	1.29	69.167	0.00	0.02	0.632	O	|	|	|	|	1.27
64.250	0.00	0.02	0.640	O	|	|	|	|	1.28	69.250	0.00	0.02	0.632	O	|	|	|	|	1.27
64.333	0.00	0.02	0.640	O	|	|	|	|	1.28	69.333	0.00	0.02	0.632	O	|	|	|	|	1.27
64.417	0.00	0.02	0.640	O	|	|	|	|	1.28	69.417	0.00	0.02	0.632	O	|	|	|	|	1.27
64.500	0.00	0.02	0.640	O	|	|	|	|	1.28	69.500	0.00	0.02	0.631	O	|	|	|	|	1.27
64.583	0.00	0.02	0.639	O	|	|	|	|	1.28	69.583	0.00	0.02	0.631	O	|	|	|	|	1.27
64.667	0.00	0.02	0.639	O	|	|	|	|	1.28	69.667	0.00	0.02	0.631	O	|	|	|	|	1.27
64.750	0.00	0.02	0.639	O	|	|	|	|	1.28	69.750	0.00	0.02	0.631	O	|	|	|	|	1.27
64.833	0.00	0.02	0.639	O	|	|	|	|	1.28	69.833	0.00	0.02	0.631	O	|	|	|	|	1.27
64.917	0.00	0.02	0.639	O	|	|	|	|	1.28	69.917	0.00	0.02	0.631	O	|	|	|	|	1.27
65.000	0.00	0.02	0.639	O	|	|	|	|	1.28	70.000	0.00	0.02	0.631	O	|	|	|	|	1.27
65.083	0.00	0.02	0.638	O	|	|	|	|	1.28	70.083	0.00	0.02	0.631	O	|	|	|	|	1.27
65.167	0.00	0.02	0.638	O	|	|	|	|	1.28	70.167	0.00	0.02	0.631	O	|	|	|	|	1.27
65.250	0.00	0.02	0.638	O	|	|	|	|	1.28	70.250	0.00	0.02	0.630	O	|	|	|	|	1.27
65.333	0.00	0.02	0.638	O	|	|	|	|	1.28	70.333	0.00	0.02	0.630	O	|	|	|	|	1.27
65.417	0.00	0.02	0.638	O	|	|	|	|	1.28	70.417	0.00	0.02	0.630	O	|	|	|	|	1.27
65.500	0.00	0.02	0.638	O	|	|	|	|	1.28	70.500	0.00	0.02	0.630	O	|	|	|	|	1.27
65.583	0.00	0.02	0.638	O	|	|	|	|	1.28	70.583	0.00	0.02	0.630	O	|	|	|	|	1.27
65.667	0.00	0.02	0.637	O	|	|	|	|	1.28	70.667	0.00	0.02	0.630	O	|	|	|	|	1.27
65.750	0.00	0.02	0.637	O	|	|	|	|	1.28	70.750	0.00	0.02	0.630	O	|	|	|	|	1.27
65.833	0.00	0.02	0.637	O	|	|	|	|	1.28	70.833	0.00	0.02	0.630	O	|	|	|	|	1.27
65.917	0.00	0.02	0.637	O	|	|	|	|	1.28	70.917	0.00	0.02	0.630	O	|	|	|	|	1.27
66.000	0.00	0.02	0.637	O	|	|	|	|	1.28	71.000	0.00	0.02	0.629	O	|	|	|	|	1.27
66.083	0.00	0.02	0.637	O	|	|	|	|	1.28	71.083	0.00	0.02	0.629	O	|	|	|	|	1.27
66.167	0.00	0.02	0.637	O	|	|	|	|	1.28	71.167	0.00	0.02	0.629	O	|	|	|	|	1.27
66.250	0.00	0.02	0.636	O	|	|	|	|	1.28	71.250	0.00	0.02	0.629	O	|	|	|	|	1.27
66.333	0.00	0.02	0.636	O	|	|	|	|	1.28	71.333	0.00	0.02	0.629	O	|	|	|	|	1.27
66.417	0.00	0.02	0.636	O	|	|	|	|	1.28	71.417	0.00	0.02	0.629	O	|	|	|	|	1.27
66.500	0.00	0.02	0.636	O	|	|	|	|	1.28	71.500	0.00	0.02	0.629	O	|	|	|	|	1.27
66.583	0.00	0.02	0.636	O	|	|	|	|	1.28	71.583	0.00	0.02	0.629	O	|	|	|	|	1.27
66.667	0.00	0.02	0.636	O	|	|	|	|	1.28	71.667	0.00	0.02	0.629	O	|	|	|	|	1.26
66.750	0.00	0.02	0.636	O	|	|	|	|	1.28	71.750	0.00	0.02	0.628	O	|	|	|	|	1.26
66.833	0.00	0.02	0.636	O	|	|	|	|	1.28	71.833	0.00	0.02	0.628	O	|	|	|	|	1.26
66.917	0.00	0.02	0.635	O	|	|	|	|	1.28	71.917	0.00	0.02	0.628	O	|	|	|	|	1.26
67.000	0.00	0.02	0.635	O	|	|	|	|	1.28	72.000	0.00	0.02	0.628	O	|	|	|	|	1.26
67.083	0.00	0.02	0.635	O	|	|	|	|	1.28	72.083	0.00	0.02	0.628	O	|	|	|	|	1.26
67.167	0.00	0.02	0.635	O	|	|	|	|	1.28	72.167	0.00	0.01	0.628	O	|	|	|	|	1.26
67.250	0.00	0.02	0.635	O	|	|	|	|	1.28	72.250	0.00	0.01	0.628	O	|	|	|	|	1.26
67.333	0.00	0.02	0.635	O	|	|	|	|	1.28	72.333	0.00	0.01	0.628	O	|	|	|	|	1.26
67.417	0.00	0.02	0.635	O	|	|	|	|	1.28	72.417	0.00	0.01	0.628	O	|	|	|	|	1.26
67.500	0.00	0.02	0.634	O	|	|	|	|	1.28	72.500	0.00	0.01	0.627	O	|	|	|	|	1.26
67.583	0.00	0.02	0.634	O	|	|	|	|	1.27	72.583	0.00	0.01	0.627	O	|	|	|	|	1.26
67.667	0.00	0.02	0.634	O	|	|	|	|	1.27	72.667	0.00	0.01	0.627	O	|	|	|	|	1.26
67.750	0.00	0.02	0.634	O	|	|	|	|	1.27	72.750	0.00	0.01	0.627	O	|	|	|	|	1.26
67.833	0.00	0.02	0.634	O	|	|	|	|	1.27	72.833	0.00	0.01	0.627	O	|	|	|	|	1.26
67.917	0.00	0.02	0.634	O	|	|	|	|	1.27	72.917	0.00	0.01	0.627	O	|	|	|	|	1.26
68.000	0.00	0.02	0.634	O	|	|	|	|	1.27	73.000	0.00	0.01	0.627	O	|	|	|	|	1.26
68.083	0.00	0.02	0.634	O	|	|	|	|	1.27	73.083	0.00	0.01	0.627	O	|	|	|	|	1.26
68.167	0.00	0.02	0.633	O	|	|	|	|	1.27	73.167	0.00	0.01	0.627	O	|	|	|	|	1.26
68.250	0.00	0.02	0.633	O	|	|	|	|	1.27	73.250	0.00	0.01	0.627	O	|	|	|	|	1.26
68.333	0.00	0.02	0.633	O	|	|	|	|	1.27	73.333	0.00	0.01	0.627	O	|	|	|	|	1.26
68.417	0.00	0.02	0.633	O	|	|	|	|	1.27	73.417	0.00	0.01	0.626	O	|	|	|	|	1.26
68.500	0.00	0.02	0.633	O	|	|	|	|	1.27	73.500	0.00	0.01	0.626	O	|	|	|	|	1.26
68.583	0.00	0.02	0.633	O	|	|	|	|	1.27	73.583	0.00	0.01	0.626	O	|	|	|	|	1.26
68.667	0.00	0.02	0.633	O	|	|	|	|	1.27	73.667	0.00	0.01	0.626	O	|	|	|	|	1.26
68.750	0.00	0.02	0.633	O	|	|	|	|	1.27	73.750	0.00	0.01	0.626	O	|	|	|	|	1.26
68.833	0.00	0.02	0.632	O	|	|	|	|	1.27	73.833	0.00	0.01	0.626	O	|	|	|	|	1.26

73.917	0.00	0.01	0.626	O					1.26	78.917	0.00	0.01	0.621	O					1.25
74.000	0.00	0.01	0.626	O					1.26	79.000	0.00	0.01	0.621	O					1.25
74.083	0.00	0.01	0.626	O					1.26	79.083	0.00	0.01	0.621	O					1.25
74.167	0.00	0.01	0.626	O					1.26	79.167	0.00	0.01	0.621	O					1.25
74.250	0.00	0.01	0.625	O					1.26	79.250	0.00	0.01	0.621	O					1.25
74.333	0.00	0.01	0.625	O					1.26	79.333	0.00	0.01	0.621	O					1.25
74.417	0.00	0.01	0.625	O					1.26	79.417	0.00	0.01	0.620	O					1.25
74.500	0.00	0.01	0.625	O					1.26	79.500	0.00	0.01	0.620	O					1.25
74.583	0.00	0.01	0.625	O					1.26	79.583	0.00	0.01	0.620	O					1.25
74.667	0.00	0.01	0.625	O					1.26	79.667	0.00	0.01	0.620	O					1.25
74.750	0.00	0.01	0.625	O					1.26	79.750	0.00	0.01	0.620	O					1.25
74.833	0.00	0.01	0.625	O					1.26	79.833	0.00	0.01	0.620	O					1.25
74.917	0.00	0.01	0.625	O					1.26	79.917	0.00	0.01	0.620	O					1.25
75.000	0.00	0.01	0.625	O					1.26	80.000	0.00	0.01	0.620	O					1.25
75.083	0.00	0.01	0.625	O					1.26	80.083	0.00	0.01	0.620	O					1.25
75.167	0.00	0.01	0.624	O					1.26	80.167	0.00	0.01	0.620	O					1.25
75.250	0.00	0.01	0.624	O					1.26	80.250	0.00	0.01	0.620	O					1.25
75.333	0.00	0.01	0.624	O					1.26	80.333	0.00	0.01	0.620	O					1.25
75.417	0.00	0.01	0.624	O					1.26	80.417	0.00	0.01	0.620	O					1.25
75.500	0.00	0.01	0.624	O					1.26	80.500	0.00	0.01	0.620	O					1.25
75.583	0.00	0.01	0.624	O					1.26	80.583	0.00	0.01	0.619	O					1.25
75.667	0.00	0.01	0.624	O					1.26	80.667	0.00	0.01	0.619	O					1.25
75.750	0.00	0.01	0.624	O					1.26	80.750	0.00	0.01	0.619	O					1.25
75.833	0.00	0.01	0.624	O					1.26	80.833	0.00	0.01	0.619	O					1.25
75.917	0.00	0.01	0.624	O					1.26	80.917	0.00	0.01	0.619	O					1.25
76.000	0.00	0.01	0.624	O					1.26	81.000	0.00	0.01	0.619	O					1.25
76.083	0.00	0.01	0.624	O					1.26	81.083	0.00	0.01	0.619	O					1.25
76.167	0.00	0.01	0.623	O					1.26	81.167	0.00	0.01	0.619	O					1.25
76.250	0.00	0.01	0.623	O					1.26	81.250	0.00	0.01	0.619	O					1.25
76.333	0.00	0.01	0.623	O					1.26	81.333	0.00	0.01	0.619	O					1.25
76.417	0.00	0.01	0.623	O					1.26	81.417	0.00	0.01	0.619	O					1.25
76.500	0.00	0.01	0.623	O					1.26	81.500	0.00	0.01	0.619	O					1.25
76.583	0.00	0.01	0.623	O					1.26	81.583	0.00	0.01	0.619	O					1.25
76.667	0.00	0.01	0.623	O					1.26	81.667	0.00	0.01	0.619	O					1.25
76.750	0.00	0.01	0.623	O					1.25	81.750	0.00	0.01	0.619	O					1.25
76.833	0.00	0.01	0.623	O					1.25	81.833	0.00	0.01	0.618	O					1.25
76.917	0.00	0.01	0.623	O					1.25	81.917	0.00	0.01	0.618	O					1.25
77.000	0.00	0.01	0.623	O					1.25	82.000	0.00	0.01	0.618	O					1.25
77.083	0.00	0.01	0.623	O					1.25	82.083	0.00	0.01	0.618	O					1.25
77.167	0.00	0.01	0.622	O					1.25	82.167	0.00	0.01	0.618	O					1.25
77.250	0.00	0.01	0.622	O					1.25	82.250	0.00	0.01	0.618	O					1.25
77.333	0.00	0.01	0.622	O					1.25	82.333	0.00	0.01	0.618	O					1.25
77.417	0.00	0.01	0.622	O					1.25	82.417	0.00	0.01	0.618	O					1.25
77.500	0.00	0.01	0.622	O					1.25	82.500	0.00	0.01	0.618	O					1.25
77.583	0.00	0.01	0.622	O					1.25	82.583	0.00	0.01	0.618	O					1.25
77.667	0.00	0.01	0.622	O					1.25	82.667	0.00	0.01	0.618	O					1.25
77.750	0.00	0.01	0.622	O					1.25	82.750	0.00	0.01	0.618	O					1.25
77.833	0.00	0.01	0.622	O					1.25	82.833	0.00	0.01	0.618	O					1.25
77.917	0.00	0.01	0.622	O					1.25	82.917	0.00	0.01	0.618	O					1.25
78.000	0.00	0.01	0.622	O					1.25	83.000	0.00	0.01	0.617	O					1.24
78.083	0.00	0.01	0.622	O					1.25	83.083	0.00	0.01	0.617	O					1.24
78.167	0.00	0.01	0.622	O					1.25	83.167	0.00	0.01	0.617	O					1.24
78.250	0.00	0.01	0.621	O					1.25	83.250	0.00	0.01	0.617	O					1.24
78.333	0.00	0.01	0.621	O					1.25	83.333	0.00	0.01	0.617	O					1.24
78.417	0.00	0.01	0.621	O					1.25	83.417	0.00	0.01	0.617	O					1.24
78.500	0.00	0.01	0.621	O					1.25	83.500	0.00	0.01	0.617	O					1.24
78.583	0.00	0.01	0.621	O					1.25	83.583	0.00	0.01	0.617	O					1.24
78.667	0.00	0.01	0.621	O					1.25	83.667	0.00	0.01	0.617	O					1.24
78.750	0.00	0.01	0.621	O					1.25	83.750	0.00	0.01	0.617	O					1.24
78.833	0.00	0.01	0.621	O					1.25	83.833	0.00	0.01	0.617	O					1.24

83.917	0.00	0.01	0.617	O	|	|	|	|	1.24	88.917	0.00	0.01	0.613	O	|	|	|	|	1.24
84.000	0.00	0.01	0.617	O	|	|	|	|	1.24	89.000	0.00	0.01	0.613	O	|	|	|	|	1.23
84.083	0.00	0.01	0.617	O	|	|	|	|	1.24	89.083	0.00	0.01	0.612	O	|	|	|	|	1.23
84.167	0.00	0.01	0.617	O	|	|	|	|	1.24	89.167	0.00	0.01	0.612	O	|	|	|	|	1.23
84.250	0.00	0.01	0.616	O	|	|	|	|	1.24	89.250	0.00	0.01	0.612	O	|	|	|	|	1.23
84.333	0.00	0.01	0.616	O	|	|	|	|	1.24	89.333	0.00	0.01	0.612	O	|	|	|	|	1.23
84.417	0.00	0.01	0.616	O	|	|	|	|	1.24	89.417	0.00	0.01	0.612	O	|	|	|	|	1.23
84.500	0.00	0.01	0.616	O	|	|	|	|	1.24	89.500	0.00	0.01	0.612	O	|	|	|	|	1.23
84.583	0.00	0.01	0.616	O	|	|	|	|	1.24	89.583	0.00	0.01	0.612	O	|	|	|	|	1.23
84.667	0.00	0.01	0.616	O	|	|	|	|	1.24	89.667	0.00	0.01	0.612	O	|	|	|	|	1.23
84.750	0.00	0.01	0.616	O	|	|	|	|	1.24	89.750	0.00	0.01	0.612	O	|	|	|	|	1.23
84.833	0.00	0.01	0.616	O	|	|	|	|	1.24	89.833	0.00	0.01	0.612	O	|	|	|	|	1.23
84.917	0.00	0.01	0.616	O	|	|	|	|	1.24	89.917	0.00	0.01	0.612	O	|	|	|	|	1.23
85.000	0.00	0.01	0.616	O	|	|	|	|	1.24	90.000	0.00	0.01	0.612	O	|	|	|	|	1.23
85.083	0.00	0.01	0.616	O	|	|	|	|	1.24	90.083	0.00	0.01	0.612	O	|	|	|	|	1.23
85.167	0.00	0.01	0.616	O	|	|	|	|	1.24	90.167	0.00	0.01	0.612	O	|	|	|	|	1.23
85.250	0.00	0.01	0.616	O	|	|	|	|	1.24	90.250	0.00	0.01	0.612	O	|	|	|	|	1.23
85.333	0.00	0.01	0.616	O	|	|	|	|	1.24	90.333	0.00	0.01	0.611	O	|	|	|	|	1.23
85.417	0.00	0.01	0.615	O	|	|	|	|	1.24	90.417	0.00	0.01	0.611	O	|	|	|	|	1.23
85.500	0.00	0.01	0.615	O	|	|	|	|	1.24	90.500	0.00	0.01	0.611	O	|	|	|	|	1.23
85.583	0.00	0.01	0.615	O	|	|	|	|	1.24	90.583	0.00	0.01	0.611	O	|	|	|	|	1.23
85.667	0.00	0.01	0.615	O	|	|	|	|	1.24	90.667	0.00	0.01	0.611	O	|	|	|	|	1.23
85.750	0.00	0.01	0.615	O	|	|	|	|	1.24	90.750	0.00	0.01	0.611	O	|	|	|	|	1.23
85.833	0.00	0.01	0.615	O	|	|	|	|	1.24	90.833	0.00	0.01	0.611	O	|	|	|	|	1.23
85.917	0.00	0.01	0.615	O	|	|	|	|	1.24	90.917	0.00	0.01	0.611	O	|	|	|	|	1.23
86.000	0.00	0.01	0.615	O	|	|	|	|	1.24	91.000	0.00	0.01	0.611	O	|	|	|	|	1.23
86.083	0.00	0.01	0.615	O	|	|	|	|	1.24	91.083	0.00	0.01	0.611	O	|	|	|	|	1.23
86.167	0.00	0.01	0.615	O	|	|	|	|	1.24	91.167	0.00	0.01	0.611	O	|	|	|	|	1.23
86.250	0.00	0.01	0.615	O	|	|	|	|	1.24	91.250	0.00	0.01	0.611	O	|	|	|	|	1.23
86.333	0.00	0.01	0.615	O	|	|	|	|	1.24	91.333	0.00	0.01	0.611	O	|	|	|	|	1.23
86.417	0.00	0.01	0.615	O	|	|	|	|	1.24	91.417	0.00	0.01	0.611	O	|	|	|	|	1.23
86.500	0.00	0.01	0.615	O	|	|	|	|	1.24	91.500	0.00	0.01	0.611	O	|	|	|	|	1.23
86.583	0.00	0.01	0.615	O	|	|	|	|	1.24	91.583	0.00	0.01	0.610	O	|	|	|	|	1.23
86.667	0.00	0.01	0.614	O	|	|	|	|	1.24	91.667	0.00	0.01	0.610	O	|	|	|	|	1.23
86.750	0.00	0.01	0.614	O	|	|	|	|	1.24	91.750	0.00	0.01	0.610	O	|	|	|	|	1.23
86.833	0.00	0.01	0.614	O	|	|	|	|	1.24	91.833	0.00	0.01	0.610	O	|	|	|	|	1.23
86.917	0.00	0.01	0.614	O	|	|	|	|	1.24	91.917	0.00	0.01	0.610	O	|	|	|	|	1.23
87.000	0.00	0.01	0.614	O	|	|	|	|	1.24	92.000	0.00	0.01	0.610	O	|	|	|	|	1.23
87.083	0.00	0.01	0.614	O	|	|	|	|	1.24	92.083	0.00	0.01	0.610	O	|	|	|	|	1.23
87.167	0.00	0.01	0.614	O	|	|	|	|	1.24	92.167	0.00	0.01	0.610	O	|	|	|	|	1.23
87.250	0.00	0.01	0.614	O	|	|	|	|	1.24	92.250	0.00	0.01	0.610	O	|	|	|	|	1.23
87.333	0.00	0.01	0.614	O	|	|	|	|	1.24	92.333	0.00	0.01	0.610	O	|	|	|	|	1.23
87.417	0.00	0.01	0.614	O	|	|	|	|	1.24	92.417	0.00	0.01	0.610	O	|	|	|	|	1.23
87.500	0.00	0.01	0.614	O	|	|	|	|	1.24	92.500	0.00	0.01	0.610	O	|	|	|	|	1.23
87.583	0.00	0.01	0.614	O	|	|	|	|	1.24	92.583	0.00	0.01	0.610	O	|	|	|	|	1.23
87.667	0.00	0.01	0.614	O	|	|	|	|	1.24	92.667	0.00	0.01	0.610	O	|	|	|	|	1.23
87.750	0.00	0.01	0.614	O	|	|	|	|	1.24	92.750	0.00	0.01	0.609	O	|	|	|	|	1.23
87.833	0.00	0.01	0.614	O	|	|	|	|	1.24	92.833	0.00	0.01	0.609	O	|	|	|	|	1.23
87.917	0.00	0.01	0.613	O	|	|	|	|	1.24	92.917	0.00	0.01	0.609	O	|	|	|	|	1.23
88.000	0.00	0.01	0.613	O	|	|	|	|	1.24	93.000	0.00	0.01	0.609	O	|	|	|	|	1.23
88.083	0.00	0.01	0.613	O	|	|	|	|	1.24	93.083	0.00	0.01	0.609	O	|	|	|	|	1.23
88.167	0.00	0.01	0.613	O	|	|	|	|	1.24	93.167	0.00	0.01	0.609	O	|	|	|	|	1.23
88.250	0.00	0.01	0.613	O	|	|	|	|	1.24	93.250	0.00	0.01	0.609	O	|	|	|	|	1.23
88.333	0.00	0.01	0.613	O	|	|	|	|	1.24	93.333	0.00	0.01	0.609	O	|	|	|	|	1.23
88.417	0.00	0.01	0.613	O	|	|	|	|	1.24	93.417	0.00	0.01	0.609	O	|	|	|	|	1.23
88.500	0.00	0.01	0.613	O	|	|	|	|	1.24	93.500	0.00	0.01	0.609	O	|	|	|	|	1.23
88.583	0.00	0.01	0.613	O	|	|	|	|	1.24	93.583	0.00	0.01	0.609	O	|	|	|	|	1.23
88.667	0.00	0.01	0.613	O	|	|	|	|	1.24	93.667	0.00	0.01	0.609	O	|	|	|	|	1.23
88.750	0.00	0.01	0.613	O	|	|	|	|	1.24	93.750	0.00	0.01	0.609	O	|	|	|	|	1.23
88.833	0.00	0.01	0.613	O	|	|	|	|	1.24	93.833	0.00	0.01	0.609	O	|	|	|	|	1.23

Left Blank Intentionally

413.917	0.00	0.01	0.397	O	|	|	|	|	0.80
414.000	0.00	0.01	0.397	O	|	|	|	|	0.80
414.083	0.00	0.01	0.397	O	|	|	|	|	0.80
414.167	0.00	0.01	0.397	O	|	|	|	|	0.80
414.250	0.00	0.01	0.397	O	|	|	|	|	0.80
414.333	0.00	0.01	0.397	O	|	|	|	|	0.80
414.417	0.00	0.01	0.397	O	|	|	|	|	0.80
414.500	0.00	0.01	0.397	O	|	|	|	|	0.80
414.583	0.00	0.01	0.397	O	|	|	|	|	0.80
414.667	0.00	0.01	0.397	O	|	|	|	|	0.80
414.750	0.00	0.01	0.397	O	|	|	|	|	0.80
414.833	0.00	0.01	0.397	O	|	|	|	|	0.80
414.917	0.00	0.01	0.397	O	|	|	|	|	0.80
415.000	0.00	0.01	0.397	O	|	|	|	|	0.80
415.083	0.00	0.01	0.397	O	|	|	|	|	0.80
415.167	0.00	0.01	0.397	O	|	|	|	|	0.80
415.250	0.00	0.01	0.397	O	|	|	|	|	0.80
415.333	0.00	0.01	0.396	O	|	|	|	|	0.80
415.417	0.00	0.01	0.396	O	|	|	|	|	0.80
415.500	0.00	0.01	0.396	O	|	|	|	|	0.80
415.583	0.00	0.01	0.396	O	|	|	|	|	0.80
415.667	0.00	0.01	0.396	O	|	|	|	|	0.80
415.750	0.00	0.01	0.396	O	|	|	|	|	0.80
415.833	0.00	0.01	0.396	O	|	|	|	|	0.80
415.917	0.00	0.01	0.396	O	|	|	|	|	0.80
416.000	0.00	0.01	0.396	O	|	|	|	|	0.80
416.083	0.00	0.01	0.396	O	|	|	|	|	0.80
416.167	0.00	0.01	0.396	O	|	|	|	|	0.80
416.250	0.00	0.01	0.396	O	|	|	|	|	0.80
416.333	0.00	0.01	0.396	O	|	|	|	|	0.80
416.417	0.00	0.01	0.396	O	|	|	|	|	0.80
416.500	0.00	0.01	0.396	O	|	|	|	|	0.80
416.583	0.00	0.01	0.396	O	|	|	|	|	0.80
416.667	0.00	0.01	0.396	O	|	|	|	|	0.80

Remaining water in basin = 0.40 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.373 (CFS)
Total volume = 1.015 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

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TR 37036, PARCEL 1
BASIN M
5Y, 6H STORM

------------------------------------------------------------------------


Program License Serial Number 6406

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******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR65.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    76
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       14.480 (CFS)
                Total volume =       1.840 (Ac.Ft)
        Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 76
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
------------------------------------------------------------------------
------------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
------------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
------------------------------------------------------------------------
                    Hydrograph Detention Basin Routing
------------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
------------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       3.6    7.24   10.86  14.48 (Ft.)
 0.083   0.55    0.00      0.002  OI      |      |      |      |      0.00
 0.167   1.24    0.00      0.008  O I     |      |      |      |      0.02
 0.250   1.48    0.00      0.017  O  I    |      |      |      |      0.04
 0.333   1.55    0.00      0.028  O  I    |      |      |      |      0.06
 0.417   1.58    0.00      0.039  O  I    |      |      |      |      0.08
 0.500   1.69    0.00      0.050  O  I    |      |      |      |      0.10
 0.583   1.81    0.00      0.062  O   I   |      |      |      |      0.12
 0.667   1.83    0.00      0.074  O   I   |      |      |      |      0.15
 0.750   1.84    0.00      0.087  O   I   |      |      |      |      0.18
 0.833   1.85    0.00      0.100  O   I   |      |      |      |      0.20
 0.917   1.85    0.00      0.113  O   I   |      |      |      |      0.23
 1.000   1.96    0.00      0.126  O   I   |      |      |      |      0.25
 1.083   2.07    0.00      0.140  O   I   |      |      |      |      0.28
 1.167   2.10    0.00      0.154  O   I   |      |      |      |      0.31
 1.250   2.11    0.00      0.168  O   I   |      |      |      |      0.34
 1.333   2.11    0.00      0.183  O   I   |      |      |      |      0.37
 1.417   2.11    0.00      0.197  O   I   |      |      |      |      0.40
 1.500   2.11    0.00      0.212  O   I   |      |      |      |      0.43
 1.583   2.11    0.00      0.226  O   I   |      |      |      |      0.46
 1.667   2.11    0.00      0.241  O   I   |      |      |      |      0.49
 1.750   2.11    0.00      0.255  O   I   |      |      |      |      0.52
 1.833   2.11    0.00      0.270  O   I   |      |      |      |      0.54
 1.917   2.11    0.00      0.284  O   I   |      |      |      |      0.57
 2.000   2.22    0.00      0.299  O   I   |      |      |      |      0.60
 2.083   2.23    0.01      0.315  O   I   |      |      |      |      0.63
 2.167   2.25    0.01      0.330  O   I   |      |      |      |      0.67
 2.250   2.35    0.01      0.346  O    I  |      |      |      |      0.70
 2.333   2.37    0.01      0.362  O    I  |      |      |      |      0.73
 2.417   2.37    0.01      0.378  O    I  |      |      |      |      0.76
 2.500   2.38    0.01      0.395  O    I  |      |      |      |      0.80
 2.583   2.38    0.01      0.411  O    I  |      |      |      |      0.83
 2.667   2.38    0.01      0.427  O    I  |      |      |      |      0.86
 2.750   2.49    0.01      0.444  O    I  |      |      |      |      0.90
 2.833   2.60    0.01      0.461  O    I  |      |      |      |      0.93
 2.917   2.63    0.01      0.479  O    I  |      |      |      |      0.97
 3.000   2.64    0.01      0.497  O    I  |      |      |      |      1.00
 3.083   2.64    0.01      0.516  O    I  |      |      |      |      1.04
 3.167   2.75    0.01      0.534  O     I |      |      |      |      1.08
 3.250   2.87    0.01      0.553  O     I |      |      |      |      1.12
 3.333   2.89    0.01      0.573  O     I |      |      |      |      1.16
 3.417   3.01    0.01      0.593  O     I |      |      |      |      1.20
 3.500   3.24    0.01      0.615  O      I|      |      |      |      1.24
 3.583   3.49    0.02      0.638  O      I|      |      |      |      1.28
 3.667   3.64    0.04      0.662  O       I      |      |      |      1.32
 3.750   3.79    0.05      0.688  O       I      |      |      |      1.37
 3.833   3.92    0.07      0.714  O       I      |      |      |      1.41
```

3.917	4.06	0.09	0.741	O		I				1.46	8.917	0.00	0.45	1.667	IO					3.01
4.000	4.18	0.10	0.768	O		I				1.51	9.000	0.00	0.45	1.664	O					3.01
4.083	4.32	0.12	0.797	O		I				1.56	9.083	0.00	0.45	1.661	O					3.00
4.167	4.56	0.14	0.826	O		I				1.61	9.167	0.00	0.45	1.658	O					3.00
4.250	4.81	0.16	0.858	O		I				1.66	9.250	0.00	0.45	1.654	O					2.99
4.333	5.07	0.18	0.891	O		I				1.72	9.333	0.00	0.45	1.651	O					2.99
4.417	5.33	0.20	0.925	O		I				1.78	9.417	0.00	0.45	1.648	O					2.98
4.500	5.49	0.22	0.961	O		I				1.84	9.500	0.00	0.45	1.645	O					2.98
4.583	5.64	0.25	0.998	O		I				1.91	9.583	0.00	0.45	1.642	O					2.97
4.667	5.88	0.27	1.035	O		I				1.97	9.667	0.00	0.44	1.639	O					2.97
4.750	6.13	0.29	1.075	O		I				2.04	9.750	0.00	0.44	1.636	O					2.96
4.833	6.28	0.30	1.116	O		I				2.11	9.833	0.00	0.44	1.633	O					2.96
4.917	6.43	0.31	1.157	O		I				2.18	9.917	0.00	0.44	1.630	O					2.95
5.000	6.67	0.32	1.200	O		I				2.25	10.000	0.00	0.44	1.627	O					2.95
5.083	7.36	0.33	1.246	O		I				2.32	10.083	0.00	0.44	1.624	O					2.94
5.167	8.52	0.35	1.299	O		I				2.41	10.167	0.00	0.44	1.621	O					2.94
5.250	9.57	0.37	1.358	O		I				2.51	10.250	0.00	0.44	1.618	O					2.93
5.333	10.42	0.38	1.425	O		I				2.61	10.333	0.00	0.44	1.615	O					2.93
5.417	11.76	0.40	1.498	O		I				2.73	10.417	0.00	0.44	1.612	O					2.92
5.500	14.48	0.43	1.586	O		I				2.88	10.500	0.00	0.44	1.609	O					2.92
5.583	11.46	0.46	1.672	O		I				3.02	10.583	0.00	0.43	1.606	O					2.91
5.667	5.44	0.48	1.727	O		I				3.10	10.667	0.00	0.43	1.603	O					2.91
5.750	3.00	0.50	1.753	O	I					3.14	10.750	0.00	0.43	1.600	O					2.90
5.833	1.91	0.50	1.766	O	I					3.16	10.833	0.00	0.43	1.597	O					2.90
5.917	1.22	0.51	1.773	O	I					3.17	10.917	0.00	0.43	1.594	O					2.89
6.000	0.78	0.51	1.777	O						3.17	11.000	0.00	0.43	1.591	O					2.89
6.083	0.38	0.51	1.777	IO						3.18	11.083	0.00	0.43	1.588	O					2.88
6.167	0.10	0.51	1.775	IO						3.17	11.167	0.00	0.43	1.585	O					2.88
6.250	0.03	0.51	1.772	IO						3.17	11.250	0.00	0.43	1.582	O					2.87
6.333	0.01	0.51	1.769	IO						3.16	11.333	0.00	0.43	1.579	O					2.87
6.417	0.00	0.50	1.766	IO						3.16	11.417	0.00	0.43	1.576	O					2.86
6.500	0.00	0.50	1.762	IO						3.15	11.500	0.00	0.43	1.573	O					2.86
6.583	0.00	0.50	1.759	IO						3.15	11.583	0.00	0.42	1.570	O					2.85
6.667	0.00	0.50	1.755	IO						3.14	11.667	0.00	0.42	1.567	O					2.85
6.750	0.00	0.50	1.752	IO						3.14	11.750	0.00	0.42	1.564	O					2.84
6.833	0.00	0.49	1.748	IO						3.13	11.833	0.00	0.42	1.561	O					2.84
6.917	0.00	0.49	1.745	IO						3.13	11.917	0.00	0.42	1.559	O					2.83
7.000	0.00	0.49	1.742	IO						3.12	12.000	0.00	0.42	1.556	O					2.83
7.083	0.00	0.49	1.738	IO						3.12	12.083	0.00	0.42	1.553	O					2.82
7.167	0.00	0.49	1.735	IO						3.11	12.167	0.00	0.42	1.550	O					2.82
7.250	0.00	0.49	1.732	IO						3.11	12.250	0.00	0.42	1.547	O					2.81
7.333	0.00	0.48	1.728	IO						3.10	12.333	0.00	0.42	1.544	O					2.81
7.417	0.00	0.48	1.725	IO						3.10	12.417	0.00	0.42	1.541	O					2.81
7.500	0.00	0.48	1.722	IO						3.09	12.500	0.00	0.42	1.538	O					2.80
7.583	0.00	0.48	1.718	IO						3.09	12.583	0.00	0.42	1.536	O					2.80
7.667	0.00	0.48	1.715	IO						3.08	12.667	0.00	0.41	1.533	O					2.79
7.750	0.00	0.48	1.712	IO						3.08	12.750	0.00	0.41	1.530	O					2.79
7.833	0.00	0.47	1.708	IO						3.07	12.833	0.00	0.41	1.527	O					2.78
7.917	0.00	0.47	1.705	IO						3.07	12.917	0.00	0.41	1.524	O					2.78
8.000	0.00	0.47	1.702	IO						3.06	13.000	0.00	0.41	1.521	O					2.77
8.083	0.00	0.47	1.699	IO						3.06	13.083	0.00	0.41	1.518	O					2.77
8.167	0.00	0.47	1.695	IO						3.05	13.167	0.00	0.41	1.516	O					2.76
8.250	0.00	0.47	1.692	IO						3.05	13.250	0.00	0.41	1.513	O					2.76
8.333	0.00	0.46	1.689	IO						3.04	13.333	0.00	0.41	1.510	O					2.75
8.417	0.00	0.46	1.686	IO						3.04	13.417	0.00	0.41	1.507	O					2.75
8.500	0.00	0.46	1.683	IO						3.03	13.500	0.00	0.41	1.504	O					2.74
8.583	0.00	0.46	1.679	IO						3.03	13.583	0.00	0.41	1.502	O					2.74
8.667	0.00	0.46	1.676	IO						3.02	13.667	0.00	0.41	1.499	O					2.74
8.750	0.00	0.46	1.673	IO						3.02	13.750	0.00	0.40	1.496	O					2.73
8.833	0.00	0.46	1.670	IO						3.01	13.833	0.00	0.40	1.493	O					2.73

13.917	0.00	0.40	1.490	O	|	|	|	|	2.72	18.917	0.00	0.36	1.333	O	|	|	|	|	2.46
14.000	0.00	0.40	1.488	O	|	|	|	|	2.72	19.000	0.00	0.36	1.331	O	|	|	|	|	2.46
14.083	0.00	0.40	1.485	O	|	|	|	|	2.71	19.083	0.00	0.36	1.328	O	|	|	|	|	2.46
14.167	0.00	0.40	1.482	O	|	|	|	|	2.71	19.167	0.00	0.36	1.326	O	|	|	|	|	2.45
14.250	0.00	0.40	1.479	O	|	|	|	|	2.70	19.250	0.00	0.36	1.323	O	|	|	|	|	2.45
14.333	0.00	0.40	1.477	O	|	|	|	|	2.70	19.333	0.00	0.36	1.321	O	|	|	|	|	2.44
14.417	0.00	0.40	1.474	O	|	|	|	|	2.69	19.417	0.00	0.35	1.319	O	|	|	|	|	2.44
14.500	0.00	0.40	1.471	O	|	|	|	|	2.69	19.500	0.00	0.35	1.316	O	|	|	|	|	2.44
14.583	0.00	0.40	1.468	O	|	|	|	|	2.69	19.583	0.00	0.35	1.314	O	|	|	|	|	2.43
14.667	0.00	0.40	1.466	O	|	|	|	|	2.68	19.667	0.00	0.35	1.311	O	|	|	|	|	2.43
14.750	0.00	0.40	1.463	O	|	|	|	|	2.68	19.750	0.00	0.35	1.309	O	|	|	|	|	2.42
14.833	0.00	0.39	1.460	O	|	|	|	|	2.67	19.833	0.00	0.35	1.306	O	|	|	|	|	2.42
14.917	0.00	0.39	1.458	O	|	|	|	|	2.67	19.917	0.00	0.35	1.304	O	|	|	|	|	2.42
15.000	0.00	0.39	1.455	O	|	|	|	|	2.66	20.000	0.00	0.35	1.302	O	|	|	|	|	2.41
15.083	0.00	0.39	1.452	O	|	|	|	|	2.66	20.083	0.00	0.35	1.299	O	|	|	|	|	2.41
15.167	0.00	0.39	1.449	O	|	|	|	|	2.65	20.167	0.00	0.35	1.297	O	|	|	|	|	2.40
15.250	0.00	0.39	1.447	O	|	|	|	|	2.65	20.250	0.00	0.35	1.294	O	|	|	|	|	2.40
15.333	0.00	0.39	1.444	O	|	|	|	|	2.65	20.333	0.00	0.35	1.292	O	|	|	|	|	2.40
15.417	0.00	0.39	1.441	O	|	|	|	|	2.64	20.417	0.00	0.35	1.290	O	|	|	|	|	2.39
15.500	0.00	0.39	1.439	O	|	|	|	|	2.64	20.500	0.00	0.35	1.287	O	|	|	|	|	2.39
15.583	0.00	0.39	1.436	O	|	|	|	|	2.63	20.583	0.00	0.35	1.285	O	|	|	|	|	2.38
15.667	0.00	0.39	1.433	O	|	|	|	|	2.63	20.667	0.00	0.34	1.282	O	|	|	|	|	2.38
15.750	0.00	0.39	1.431	O	|	|	|	|	2.62	20.750	0.00	0.34	1.280	O	|	|	|	|	2.38
15.833	0.00	0.39	1.428	O	|	|	|	|	2.62	20.833	0.00	0.34	1.278	O	|	|	|	|	2.37
15.917	0.00	0.38	1.425	O	|	|	|	|	2.62	20.917	0.00	0.34	1.275	O	|	|	|	|	2.37
16.000	0.00	0.38	1.423	O	|	|	|	|	2.61	21.000	0.00	0.34	1.273	O	|	|	|	|	2.37
16.083	0.00	0.38	1.420	O	|	|	|	|	2.61	21.083	0.00	0.34	1.271	O	|	|	|	|	2.36
16.167	0.00	0.38	1.417	O	|	|	|	|	2.60	21.167	0.00	0.34	1.268	O	|	|	|	|	2.36
16.250	0.00	0.38	1.415	O	|	|	|	|	2.60	21.250	0.00	0.34	1.266	O	|	|	|	|	2.35
16.333	0.00	0.38	1.412	O	|	|	|	|	2.59	21.333	0.00	0.34	1.264	O	|	|	|	|	2.35
16.417	0.00	0.38	1.410	O	|	|	|	|	2.59	21.417	0.00	0.34	1.261	O	|	|	|	|	2.35
16.500	0.00	0.38	1.407	O	|	|	|	|	2.59	21.500	0.00	0.34	1.259	O	|	|	|	|	2.34
16.583	0.00	0.38	1.404	O	|	|	|	|	2.58	21.583	0.00	0.34	1.257	O	|	|	|	|	2.34
16.667	0.00	0.38	1.402	O	|	|	|	|	2.58	21.667	0.00	0.34	1.254	O	|	|	|	|	2.33
16.750	0.00	0.38	1.399	O	|	|	|	|	2.57	21.750	0.00	0.34	1.252	O	|	|	|	|	2.33
16.833	0.00	0.38	1.397	O	|	|	|	|	2.57	21.833	0.00	0.34	1.250	O	|	|	|	|	2.33
16.917	0.00	0.38	1.394	O	|	|	|	|	2.56	21.917	0.00	0.33	1.247	O	|	|	|	|	2.32
17.000	0.00	0.38	1.391	O	|	|	|	|	2.56	22.000	0.00	0.33	1.245	O	|	|	|	|	2.32
17.083	0.00	0.37	1.389	O	|	|	|	|	2.56	22.083	0.00	0.33	1.243	O	|	|	|	|	2.32
17.167	0.00	0.37	1.386	O	|	|	|	|	2.55	22.167	0.00	0.33	1.240	O	|	|	|	|	2.31
17.250	0.00	0.37	1.384	O	|	|	|	|	2.55	22.250	0.00	0.33	1.238	O	|	|	|	|	2.31
17.333	0.00	0.37	1.381	O	|	|	|	|	2.54	22.333	0.00	0.33	1.236	O	|	|	|	|	2.30
17.417	0.00	0.37	1.379	O	|	|	|	|	2.54	22.417	0.00	0.33	1.234	O	|	|	|	|	2.30
17.500	0.00	0.37	1.376	O	|	|	|	|	2.53	22.500	0.00	0.33	1.231	O	|	|	|	|	2.30
17.583	0.00	0.37	1.373	O	|	|	|	|	2.53	22.583	0.00	0.33	1.229	O	|	|	|	|	2.29
17.667	0.00	0.37	1.371	O	|	|	|	|	2.53	22.667	0.00	0.33	1.227	O	|	|	|	|	2.29
17.750	0.00	0.37	1.368	O	|	|	|	|	2.52	22.750	0.00	0.33	1.224	O	|	|	|	|	2.29
17.833	0.00	0.37	1.366	O	|	|	|	|	2.52	22.833	0.00	0.33	1.222	O	|	|	|	|	2.28
17.917	0.00	0.37	1.363	O	|	|	|	|	2.51	22.917	0.00	0.33	1.220	O	|	|	|	|	2.28
18.000	0.00	0.37	1.361	O	|	|	|	|	2.51	23.000	0.00	0.33	1.218	O	|	|	|	|	2.27
18.083	0.00	0.37	1.358	O	|	|	|	|	2.51	23.083	0.00	0.33	1.215	O	|	|	|	|	2.27
18.167	0.00	0.37	1.356	O	|	|	|	|	2.50	23.167	0.00	0.33	1.213	O	|	|	|	|	2.27
18.250	0.00	0.36	1.353	O	|	|	|	|	2.50	23.250	0.00	0.32	1.211	O	|	|	|	|	2.26
18.333	0.00	0.36	1.351	O	|	|	|	|	2.49	23.333	0.00	0.32	1.209	O	|	|	|	|	2.26
18.417	0.00	0.36	1.348	O	|	|	|	|	2.49	23.417	0.00	0.32	1.206	O	|	|	|	|	2.26
18.500	0.00	0.36	1.346	O	|	|	|	|	2.48	23.500	0.00	0.32	1.204	O	|	|	|	|	2.25
18.583	0.00	0.36	1.343	O	|	|	|	|	2.48	23.583	0.00	0.32	1.202	O	|	|	|	|	2.25
18.667	0.00	0.36	1.341	O	|	|	|	|	2.48	23.667	0.00	0.32	1.200	O	|	|	|	|	2.25
18.750	0.00	0.36	1.338	O	|	|	|	|	2.47	23.750	0.00	0.32	1.198	O	|	|	|	|	2.24
18.833	0.00	0.36	1.336	O	|	|	|	|	2.47	23.833	0.00	0.32	1.195	O	|	|	|	|	2.24

23.917	0.00	0.32	1.193	O	|	|	|	|	2.23	28.917	0.00	0.29	1.068	O	|	|	|	|	2.03
24.000	0.00	0.32	1.191	O	|	|	|	|	2.23	29.000	0.00	0.28	1.066	O	|	|	|	|	2.03
24.083	0.00	0.32	1.189	O	|	|	|	|	2.23	29.083	0.00	0.28	1.064	O	|	|	|	|	2.02
24.167	0.00	0.32	1.187	O	|	|	|	|	2.22	29.167	0.00	0.28	1.062	O	|	|	|	|	2.02
24.250	0.00	0.32	1.184	O	|	|	|	|	2.22	29.250	0.00	0.28	1.060	O	|	|	|	|	2.02
24.333	0.00	0.32	1.182	O	|	|	|	|	2.22	29.333	0.00	0.28	1.059	O	|	|	|	|	2.01
24.417	0.00	0.32	1.180	O	|	|	|	|	2.21	29.417	0.00	0.28	1.057	O	|	|	|	|	2.01
24.500	0.00	0.32	1.178	O	|	|	|	|	2.21	29.500	0.00	0.28	1.055	O	|	|	|	|	2.01
24.583	0.00	0.32	1.176	O	|	|	|	|	2.21	29.583	0.00	0.28	1.053	O	|	|	|	|	2.00
24.667	0.00	0.31	1.173	O	|	|	|	|	2.20	29.667	0.00	0.28	1.051	O	|	|	|	|	2.00
24.750	0.00	0.31	1.171	O	|	|	|	|	2.20	29.750	0.00	0.28	1.049	O	|	|	|	|	2.00
24.833	0.00	0.31	1.169	O	|	|	|	|	2.20	29.833	0.00	0.28	1.047	O	|	|	|	|	1.99
24.917	0.00	0.31	1.167	O	|	|	|	|	2.19	29.917	0.00	0.28	1.045	O	|	|	|	|	1.99
25.000	0.00	0.31	1.165	O	|	|	|	|	2.19	30.000	0.00	0.28	1.043	O	|	|	|	|	1.99
25.083	0.00	0.31	1.163	O	|	|	|	|	2.18	30.083	0.00	0.27	1.041	O	|	|	|	|	1.98
25.167	0.00	0.31	1.161	O	|	|	|	|	2.18	30.167	0.00	0.27	1.039	O	|	|	|	|	1.98
25.250	0.00	0.31	1.158	O	|	|	|	|	2.18	30.250	0.00	0.27	1.037	O	|	|	|	|	1.98
25.333	0.00	0.31	1.156	O	|	|	|	|	2.17	30.333	0.00	0.27	1.036	O	|	|	|	|	1.97
25.417	0.00	0.31	1.154	O	|	|	|	|	2.17	30.417	0.00	0.27	1.034	O	|	|	|	|	1.97
25.500	0.00	0.31	1.152	O	|	|	|	|	2.17	30.500	0.00	0.27	1.032	O	|	|	|	|	1.97
25.583	0.00	0.31	1.150	O	|	|	|	|	2.16	30.583	0.00	0.27	1.030	O	|	|	|	|	1.97
25.667	0.00	0.31	1.148	O	|	|	|	|	2.16	30.667	0.00	0.27	1.028	O	|	|	|	|	1.96
25.750	0.00	0.31	1.146	O	|	|	|	|	2.16	30.750	0.00	0.27	1.026	O	|	|	|	|	1.96
25.833	0.00	0.31	1.144	O	|	|	|	|	2.15	30.833	0.00	0.26	1.025	O	|	|	|	|	1.96
25.917	0.00	0.31	1.141	O	|	|	|	|	2.15	30.917	0.00	0.26	1.023	O	|	|	|	|	1.95
26.000	0.00	0.30	1.139	O	|	|	|	|	2.15	31.000	0.00	0.26	1.021	O	|	|	|	|	1.95
26.083	0.00	0.30	1.137	O	|	|	|	|	2.14	31.083	0.00	0.26	1.019	O	|	|	|	|	1.95
26.167	0.00	0.30	1.135	O	|	|	|	|	2.14	31.167	0.00	0.26	1.017	O	|	|	|	|	1.94
26.250	0.00	0.30	1.133	O	|	|	|	|	2.14	31.250	0.00	0.26	1.016	O	|	|	|	|	1.94
26.333	0.00	0.30	1.131	O	|	|	|	|	2.13	31.333	0.00	0.26	1.014	O	|	|	|	|	1.94
26.417	0.00	0.30	1.129	O	|	|	|	|	2.13	31.417	0.00	0.26	1.012	O	|	|	|	|	1.93
26.500	0.00	0.30	1.127	O	|	|	|	|	2.13	31.500	0.00	0.26	1.010	O	|	|	|	|	1.93
26.583	0.00	0.30	1.125	O	|	|	|	|	2.12	31.583	0.00	0.25	1.008	O	|	|	|	|	1.93
26.667	0.00	0.30	1.123	O	|	|	|	|	2.12	31.667	0.00	0.25	1.007	O	|	|	|	|	1.92
26.750	0.00	0.30	1.121	O	|	|	|	|	2.12	31.750	0.00	0.25	1.005	O	|	|	|	|	1.92
26.833	0.00	0.30	1.119	O	|	|	|	|	2.11	31.833	0.00	0.25	1.003	O	|	|	|	|	1.92
26.917	0.00	0.30	1.117	O	|	|	|	|	2.11	31.917	0.00	0.25	1.002	O	|	|	|	|	1.92
27.000	0.00	0.30	1.114	O	|	|	|	|	2.11	32.000	0.00	0.25	1.000	O	|	|	|	|	1.91
27.083	0.00	0.30	1.112	O	|	|	|	|	2.10	32.083	0.00	0.25	0.998	O	|	|	|	|	1.91
27.167	0.00	0.30	1.110	O	|	|	|	|	2.10	32.167	0.00	0.25	0.996	O	|	|	|	|	1.91
27.250	0.00	0.30	1.108	O	|	|	|	|	2.10	32.250	0.00	0.25	0.995	O	|	|	|	|	1.90
27.333	0.00	0.30	1.106	O	|	|	|	|	2.09	32.333	0.00	0.24	0.993	O	|	|	|	|	1.90
27.417	0.00	0.30	1.104	O	|	|	|	|	2.09	32.417	0.00	0.24	0.991	O	|	|	|	|	1.90
27.500	0.00	0.29	1.102	O	|	|	|	|	2.09	32.500	0.00	0.24	0.990	O	|	|	|	|	1.89
27.583	0.00	0.29	1.100	O	|	|	|	|	2.08	32.583	0.00	0.24	0.988	O	|	|	|	|	1.89
27.667	0.00	0.29	1.098	O	|	|	|	|	2.08	32.667	0.00	0.24	0.986	O	|	|	|	|	1.89
27.750	0.00	0.29	1.096	O	|	|	|	|	2.08	32.750	0.00	0.24	0.985	O	|	|	|	|	1.89
27.833	0.00	0.29	1.094	O	|	|	|	|	2.07	32.833	0.00	0.24	0.983	O	|	|	|	|	1.88
27.917	0.00	0.29	1.092	O	|	|	|	|	2.07	32.917	0.00	0.24	0.981	O	|	|	|	|	1.88
28.000	0.00	0.29	1.090	O	|	|	|	|	2.07	33.000	0.00	0.24	0.980	O	|	|	|	|	1.88
28.083	0.00	0.29	1.088	O	|	|	|	|	2.06	33.083	0.00	0.23	0.978	O	|	|	|	|	1.87
28.167	0.00	0.29	1.086	O	|	|	|	|	2.06	33.167	0.00	0.23	0.977	O	|	|	|	|	1.87
28.250	0.00	0.29	1.084	O	|	|	|	|	2.06	33.250	0.00	0.23	0.975	O	|	|	|	|	1.87
28.333	0.00	0.29	1.082	O	|	|	|	|	2.05	33.333	0.00	0.23	0.973	O	|	|	|	|	1.87
28.417	0.00	0.29	1.080	O	|	|	|	|	2.05	33.417	0.00	0.23	0.972	O	|	|	|	|	1.86
28.500	0.00	0.29	1.078	O	|	|	|	|	2.05	33.500	0.00	0.23	0.970	O	|	|	|	|	1.86
28.583	0.00	0.29	1.076	O	|	|	|	|	2.04	33.583	0.00	0.23	0.969	O	|	|	|	|	1.86
28.667	0.00	0.29	1.074	O	|	|	|	|	2.04	33.667	0.00	0.23	0.967	O	|	|	|	|	1.86
28.750	0.00	0.29	1.072	O	|	|	|	|	2.04	33.750	0.00	0.23	0.965	O	|	|	|	|	1.85
28.833	0.00	0.29	1.070	O	|	|	|	|	2.03	33.833	0.00	0.23	0.964	O	|	|	|	|	1.85

33.917	0.00	0.22	0.962	O	|	|	|	|	1.85	38.917	0.00	0.17	0.880	O	|	|	|	|	1.70
34.000	0.00	0.22	0.961	O	|	|	|	|	1.84	39.000	0.00	0.17	0.879	O	|	|	|	|	1.70
34.083	0.00	0.22	0.959	O	|	|	|	|	1.84	39.083	0.00	0.17	0.878	O	|	|	|	|	1.70
34.167	0.00	0.22	0.958	O	|	|	|	|	1.84	39.167	0.00	0.17	0.877	O	|	|	|	|	1.70
34.250	0.00	0.22	0.956	O	|	|	|	|	1.84	39.250	0.00	0.17	0.876	O	|	|	|	|	1.70
34.333	0.00	0.22	0.955	O	|	|	|	|	1.83	39.333	0.00	0.17	0.875	O	|	|	|	|	1.69
34.417	0.00	0.22	0.953	O	|	|	|	|	1.83	39.417	0.00	0.17	0.873	O	|	|	|	|	1.69
34.500	0.00	0.22	0.952	O	|	|	|	|	1.83	39.500	0.00	0.17	0.872	O	|	|	|	|	1.69
34.583	0.00	0.22	0.950	O	|	|	|	|	1.83	39.583	0.00	0.17	0.871	O	|	|	|	|	1.69
34.667	0.00	0.22	0.949	O	|	|	|	|	1.82	39.667	0.00	0.17	0.870	O	|	|	|	|	1.69
34.750	0.00	0.22	0.947	O	|	|	|	|	1.82	39.750	0.00	0.17	0.869	O	|	|	|	|	1.68
34.833	0.00	0.21	0.946	O	|	|	|	|	1.82	39.833	0.00	0.17	0.868	O	|	|	|	|	1.68
34.917	0.00	0.21	0.944	O	|	|	|	|	1.82	39.917	0.00	0.16	0.867	O	|	|	|	|	1.68
35.000	0.00	0.21	0.943	O	|	|	|	|	1.81	40.000	0.00	0.16	0.865	O	|	|	|	|	1.68
35.083	0.00	0.21	0.941	O	|	|	|	|	1.81	40.083	0.00	0.16	0.864	O	|	|	|	|	1.68
35.167	0.00	0.21	0.940	O	|	|	|	|	1.81	40.167	0.00	0.16	0.863	O	|	|	|	|	1.67
35.250	0.00	0.21	0.938	O	|	|	|	|	1.81	40.250	0.00	0.16	0.862	O	|	|	|	|	1.67
35.333	0.00	0.21	0.937	O	|	|	|	|	1.80	40.333	0.00	0.16	0.861	O	|	|	|	|	1.67
35.417	0.00	0.21	0.936	O	|	|	|	|	1.80	40.417	0.00	0.16	0.860	O	|	|	|	|	1.67
35.500	0.00	0.21	0.934	O	|	|	|	|	1.80	40.500	0.00	0.16	0.859	O	|	|	|	|	1.67
35.583	0.00	0.21	0.933	O	|	|	|	|	1.80	40.583	0.00	0.16	0.858	O	|	|	|	|	1.66
35.667	0.00	0.21	0.931	O	|	|	|	|	1.79	40.667	0.00	0.16	0.856	O	|	|	|	|	1.66
35.750	0.00	0.20	0.930	O	|	|	|	|	1.79	40.750	0.00	0.16	0.855	O	|	|	|	|	1.66
35.833	0.00	0.20	0.928	O	|	|	|	|	1.79	40.833	0.00	0.16	0.854	O	|	|	|	|	1.66
35.917	0.00	0.20	0.927	O	|	|	|	|	1.79	40.917	0.00	0.16	0.853	O	|	|	|	|	1.66
36.000	0.00	0.20	0.926	O	|	|	|	|	1.78	41.000	0.00	0.16	0.852	O	|	|	|	|	1.65
36.083	0.00	0.20	0.924	O	|	|	|	|	1.78	41.083	0.00	0.16	0.851	O	|	|	|	|	1.65
36.167	0.00	0.20	0.923	O	|	|	|	|	1.78	41.167	0.00	0.15	0.850	O	|	|	|	|	1.65
36.250	0.00	0.20	0.922	O	|	|	|	|	1.78	41.250	0.00	0.15	0.849	O	|	|	|	|	1.65
36.333	0.00	0.20	0.920	O	|	|	|	|	1.77	41.333	0.00	0.15	0.848	O	|	|	|	|	1.65
36.417	0.00	0.20	0.919	O	|	|	|	|	1.77	41.417	0.00	0.15	0.847	O	|	|	|	|	1.65
36.500	0.00	0.20	0.917	O	|	|	|	|	1.77	41.500	0.00	0.15	0.846	O	|	|	|	|	1.64
36.583	0.00	0.20	0.916	O	|	|	|	|	1.77	41.583	0.00	0.15	0.845	O	|	|	|	|	1.64
36.667	0.00	0.20	0.915	O	|	|	|	|	1.76	41.667	0.00	0.15	0.844	O	|	|	|	|	1.64
36.750	0.00	0.19	0.913	O	|	|	|	|	1.76	41.750	0.00	0.15	0.843	O	|	|	|	|	1.64
36.833	0.00	0.19	0.912	O	|	|	|	|	1.76	41.833	0.00	0.15	0.842	O	|	|	|	|	1.64
36.917	0.00	0.19	0.911	O	|	|	|	|	1.76	41.917	0.00	0.15	0.841	O	|	|	|	|	1.63
37.000	0.00	0.19	0.909	O	|	|	|	|	1.75	42.000	0.00	0.15	0.840	O	|	|	|	|	1.63
37.083	0.00	0.19	0.908	O	|	|	|	|	1.75	42.083	0.00	0.15	0.839	O	|	|	|	|	1.63
37.167	0.00	0.19	0.907	O	|	|	|	|	1.75	42.167	0.00	0.15	0.838	O	|	|	|	|	1.63
37.250	0.00	0.19	0.905	O	|	|	|	|	1.75	42.250	0.00	0.15	0.837	O	|	|	|	|	1.63
37.333	0.00	0.19	0.904	O	|	|	|	|	1.75	42.333	0.00	0.15	0.836	O	|	|	|	|	1.63
37.417	0.00	0.19	0.903	O	|	|	|	|	1.74	42.417	0.00	0.14	0.835	O	|	|	|	|	1.62
37.500	0.00	0.19	0.902	O	|	|	|	|	1.74	42.500	0.00	0.14	0.834	O	|	|	|	|	1.62
37.583	0.00	0.19	0.900	O	|	|	|	|	1.74	42.583	0.00	0.14	0.833	O	|	|	|	|	1.62
37.667	0.00	0.19	0.899	O	|	|	|	|	1.74	42.667	0.00	0.14	0.832	O	|	|	|	|	1.62
37.750	0.00	0.18	0.898	O	|	|	|	|	1.73	42.750	0.00	0.14	0.831	O	|	|	|	|	1.62
37.833	0.00	0.18	0.896	O	|	|	|	|	1.73	42.833	0.00	0.14	0.830	O	|	|	|	|	1.62
37.917	0.00	0.18	0.895	O	|	|	|	|	1.73	42.917	0.00	0.14	0.829	O	|	|	|	|	1.61
38.000	0.00	0.18	0.894	O	|	|	|	|	1.73	43.000	0.00	0.14	0.828	O	|	|	|	|	1.61
38.083	0.00	0.18	0.893	O	|	|	|	|	1.73	43.083	0.00	0.14	0.827	O	|	|	|	|	1.61
38.167	0.00	0.18	0.891	O	|	|	|	|	1.72	43.167	0.00	0.14	0.826	O	|	|	|	|	1.61
38.250	0.00	0.18	0.890	O	|	|	|	|	1.72	43.250	0.00	0.14	0.825	O	|	|	|	|	1.61
38.333	0.00	0.18	0.889	O	|	|	|	|	1.72	43.333	0.00	0.14	0.824	O	|	|	|	|	1.61
38.417	0.00	0.18	0.888	O	|	|	|	|	1.72	43.417	0.00	0.14	0.823	O	|	|	|	|	1.60
38.500	0.00	0.18	0.887	O	|	|	|	|	1.71	43.500	0.00	0.14	0.822	O	|	|	|	|	1.60
38.583	0.00	0.18	0.885	O	|	|	|	|	1.71	43.583	0.00	0.14	0.821	O	|	|	|	|	1.60
38.667	0.00	0.18	0.884	O	|	|	|	|	1.71	43.667	0.00	0.14	0.820	O	|	|	|	|	1.60
38.750	0.00	0.18	0.883	O	|	|	|	|	1.71	43.750	0.00	0.14	0.819	O	|	|	|	|	1.60
38.833	0.00	0.17	0.882	O	|	|	|	|	1.71	43.833	0.00	0.13	0.818	O	|	|	|	|	1.60

43.917	0.00	0.13	0.817	O	|	|	|	|	1.59	48.917	0.00	0.10	0.769	O	|	|	|	|	1.51
44.000	0.00	0.13	0.816	O	|	|	|	|	1.59	49.000	0.00	0.10	0.768	O	|	|	|	|	1.51
44.083	0.00	0.13	0.815	O	|	|	|	|	1.59	49.083	0.00	0.10	0.767	O	|	|	|	|	1.51
44.167	0.00	0.13	0.815	O	|	|	|	|	1.59	49.167	0.00	0.10	0.766	O	|	|	|	|	1.51
44.250	0.00	0.13	0.814	O	|	|	|	|	1.59	49.250	0.00	0.10	0.766	O	|	|	|	|	1.50
44.333	0.00	0.13	0.813	O	|	|	|	|	1.59	49.333	0.00	0.10	0.765	O	|	|	|	|	1.50
44.417	0.00	0.13	0.812	O	|	|	|	|	1.58	49.417	0.00	0.10	0.764	O	|	|	|	|	1.50
44.500	0.00	0.13	0.811	O	|	|	|	|	1.58	49.500	0.00	0.10	0.764	O	|	|	|	|	1.50
44.583	0.00	0.13	0.810	O	|	|	|	|	1.58	49.583	0.00	0.10	0.763	O	|	|	|	|	1.50
44.667	0.00	0.13	0.809	O	|	|	|	|	1.58	49.667	0.00	0.10	0.762	O	|	|	|	|	1.50
44.750	0.00	0.13	0.808	O	|	|	|	|	1.58	49.750	0.00	0.10	0.762	O	|	|	|	|	1.50
44.833	0.00	0.13	0.807	O	|	|	|	|	1.58	49.833	0.00	0.10	0.761	O	|	|	|	|	1.50
44.917	0.00	0.13	0.807	O	|	|	|	|	1.58	49.917	0.00	0.10	0.760	O	|	|	|	|	1.49
45.000	0.00	0.13	0.806	O	|	|	|	|	1.57	50.000	0.00	0.10	0.760	O	|	|	|	|	1.49
45.083	0.00	0.13	0.805	O	|	|	|	|	1.57	50.083	0.00	0.10	0.759	O	|	|	|	|	1.49
45.167	0.00	0.13	0.804	O	|	|	|	|	1.57	50.167	0.00	0.10	0.758	O	|	|	|	|	1.49
45.250	0.00	0.12	0.803	O	|	|	|	|	1.57	50.250	0.00	0.10	0.758	O	|	|	|	|	1.49
45.333	0.00	0.12	0.802	O	|	|	|	|	1.57	50.333	0.00	0.10	0.757	O	|	|	|	|	1.49
45.417	0.00	0.12	0.801	O	|	|	|	|	1.57	50.417	0.00	0.10	0.756	O	|	|	|	|	1.49
45.500	0.00	0.12	0.800	O	|	|	|	|	1.56	50.500	0.00	0.10	0.756	O	|	|	|	|	1.49
45.583	0.00	0.12	0.800	O	|	|	|	|	1.56	50.583	0.00	0.09	0.755	O	|	|	|	|	1.49
45.667	0.00	0.12	0.799	O	|	|	|	|	1.56	50.667	0.00	0.09	0.754	O	|	|	|	|	1.48
45.750	0.00	0.12	0.798	O	|	|	|	|	1.56	50.750	0.00	0.09	0.754	O	|	|	|	|	1.48
45.833	0.00	0.12	0.797	O	|	|	|	|	1.56	50.833	0.00	0.09	0.753	O	|	|	|	|	1.48
45.917	0.00	0.12	0.796	O	|	|	|	|	1.56	50.917	0.00	0.09	0.752	O	|	|	|	|	1.48
46.000	0.00	0.12	0.795	O	|	|	|	|	1.56	51.000	0.00	0.09	0.752	O	|	|	|	|	1.48
46.083	0.00	0.12	0.795	O	|	|	|	|	1.55	51.083	0.00	0.09	0.751	O	|	|	|	|	1.48
46.167	0.00	0.12	0.794	O	|	|	|	|	1.55	51.167	0.00	0.09	0.750	O	|	|	|	|	1.48
46.250	0.00	0.12	0.793	O	|	|	|	|	1.55	51.250	0.00	0.09	0.750	O	|	|	|	|	1.48
46.333	0.00	0.12	0.792	O	|	|	|	|	1.55	51.333	0.00	0.09	0.749	O	|	|	|	|	1.48
46.417	0.00	0.12	0.791	O	|	|	|	|	1.55	51.417	0.00	0.09	0.749	O	|	|	|	|	1.47
46.500	0.00	0.12	0.791	O	|	|	|	|	1.55	51.500	0.00	0.09	0.748	O	|	|	|	|	1.47
46.583	0.00	0.12	0.790	O	|	|	|	|	1.55	51.583	0.00	0.09	0.747	O	|	|	|	|	1.47
46.667	0.00	0.12	0.789	O	|	|	|	|	1.54	51.667	0.00	0.09	0.747	O	|	|	|	|	1.47
46.750	0.00	0.12	0.788	O	|	|	|	|	1.54	51.750	0.00	0.09	0.746	O	|	|	|	|	1.47
46.833	0.00	0.12	0.787	O	|	|	|	|	1.54	51.833	0.00	0.09	0.745	O	|	|	|	|	1.47
46.917	0.00	0.11	0.787	O	|	|	|	|	1.54	51.917	0.00	0.09	0.745	O	|	|	|	|	1.47
47.000	0.00	0.11	0.786	O	|	|	|	|	1.54	52.000	0.00	0.09	0.744	O	|	|	|	|	1.47
47.083	0.00	0.11	0.785	O	|	|	|	|	1.54	52.083	0.00	0.09	0.744	O	|	|	|	|	1.47
47.167	0.00	0.11	0.784	O	|	|	|	|	1.54	52.167	0.00	0.09	0.743	O	|	|	|	|	1.46
47.250	0.00	0.11	0.783	O	|	|	|	|	1.54	52.250	0.00	0.09	0.742	O	|	|	|	|	1.46
47.333	0.00	0.11	0.783	O	|	|	|	|	1.53	52.333	0.00	0.09	0.742	O	|	|	|	|	1.46
47.417	0.00	0.11	0.782	O	|	|	|	|	1.53	52.417	0.00	0.09	0.741	O	|	|	|	|	1.46
47.500	0.00	0.11	0.781	O	|	|	|	|	1.53	52.500	0.00	0.09	0.741	O	|	|	|	|	1.46
47.583	0.00	0.11	0.780	O	|	|	|	|	1.53	52.583	0.00	0.09	0.740	O	|	|	|	|	1.46
47.667	0.00	0.11	0.780	O	|	|	|	|	1.53	52.667	0.00	0.09	0.739	O	|	|	|	|	1.46
47.750	0.00	0.11	0.779	O	|	|	|	|	1.53	52.750	0.00	0.08	0.739	O	|	|	|	|	1.46
47.833	0.00	0.11	0.778	O	|	|	|	|	1.53	52.833	0.00	0.08	0.738	O	|	|	|	|	1.46
47.917	0.00	0.11	0.777	O	|	|	|	|	1.52	52.917	0.00	0.08	0.738	O	|	|	|	|	1.46
48.000	0.00	0.11	0.777	O	|	|	|	|	1.52	53.000	0.00	0.08	0.737	O	|	|	|	|	1.45
48.083	0.00	0.11	0.776	O	|	|	|	|	1.52	53.083	0.00	0.08	0.737	O	|	|	|	|	1.45
48.167	0.00	0.11	0.775	O	|	|	|	|	1.52	53.167	0.00	0.08	0.736	O	|	|	|	|	1.45
48.250	0.00	0.11	0.774	O	|	|	|	|	1.52	53.250	0.00	0.08	0.735	O	|	|	|	|	1.45
48.333	0.00	0.11	0.774	O	|	|	|	|	1.52	53.333	0.00	0.08	0.735	O	|	|	|	|	1.45
48.417	0.00	0.11	0.773	O	|	|	|	|	1.52	53.417	0.00	0.08	0.734	O	|	|	|	|	1.45
48.500	0.00	0.11	0.772	O	|	|	|	|	1.52	53.500	0.00	0.08	0.734	O	|	|	|	|	1.45
48.583	0.00	0.11	0.771	O	|	|	|	|	1.51	53.583	0.00	0.08	0.733	O	|	|	|	|	1.45
48.667	0.00	0.10	0.771	O	|	|	|	|	1.51	53.667	0.00	0.08	0.733	O	|	|	|	|	1.45
48.750	0.00	0.10	0.770	O	|	|	|	|	1.51	53.750	0.00	0.08	0.732	O	|	|	|	|	1.45
48.833	0.00	0.10	0.769	O	|	|	|	|	1.51	53.833	0.00	0.08	0.732	O	|	|	|	|	1.44

53.917	0.00	0.08	0.731	O	|	|	|	|	1.44	58.917	0.00	0.06	0.702	O	|	|	|	|	1.39
54.000	0.00	0.08	0.730	O	|	|	|	|	1.44	59.000	0.00	0.06	0.702	O	|	|	|	|	1.39
54.083	0.00	0.08	0.730	O	|	|	|	|	1.44	59.083	0.00	0.06	0.701	O	|	|	|	|	1.39
54.167	0.00	0.08	0.729	O	|	|	|	|	1.44	59.167	0.00	0.06	0.701	O	|	|	|	|	1.39
54.250	0.00	0.08	0.729	O	|	|	|	|	1.44	59.250	0.00	0.06	0.700	O	|	|	|	|	1.39
54.333	0.00	0.08	0.728	O	|	|	|	|	1.44	59.333	0.00	0.06	0.700	O	|	|	|	|	1.39
54.417	0.00	0.08	0.728	O	|	|	|	|	1.44	59.417	0.00	0.06	0.699	O	|	|	|	|	1.39
54.500	0.00	0.08	0.727	O	|	|	|	|	1.44	59.500	0.00	0.06	0.699	O	|	|	|	|	1.39
54.583	0.00	0.08	0.727	O	|	|	|	|	1.44	59.583	0.00	0.06	0.699	O	|	|	|	|	1.39
54.667	0.00	0.08	0.726	O	|	|	|	|	1.44	59.667	0.00	0.06	0.698	O	|	|	|	|	1.39
54.750	0.00	0.08	0.726	O	|	|	|	|	1.43	59.750	0.00	0.06	0.698	O	|	|	|	|	1.39
54.833	0.00	0.08	0.725	O	|	|	|	|	1.43	59.833	0.00	0.06	0.697	O	|	|	|	|	1.39
54.917	0.00	0.08	0.725	O	|	|	|	|	1.43	59.917	0.00	0.06	0.697	O	|	|	|	|	1.38
55.000	0.00	0.08	0.724	O	|	|	|	|	1.43	60.000	0.00	0.06	0.697	O	|	|	|	|	1.38
55.083	0.00	0.08	0.724	O	|	|	|	|	1.43	60.083	0.00	0.06	0.696	O	|	|	|	|	1.38
55.167	0.00	0.07	0.723	O	|	|	|	|	1.43	60.167	0.00	0.06	0.696	O	|	|	|	|	1.38
55.250	0.00	0.07	0.722	O	|	|	|	|	1.43	60.250	0.00	0.06	0.695	O	|	|	|	|	1.38
55.333	0.00	0.07	0.722	O	|	|	|	|	1.43	60.333	0.00	0.06	0.695	O	|	|	|	|	1.38
55.417	0.00	0.07	0.721	O	|	|	|	|	1.43	60.417	0.00	0.06	0.695	O	|	|	|	|	1.38
55.500	0.00	0.07	0.721	O	|	|	|	|	1.43	60.500	0.00	0.06	0.694	O	|	|	|	|	1.38
55.583	0.00	0.07	0.720	O	|	|	|	|	1.43	60.583	0.00	0.06	0.694	O	|	|	|	|	1.38
55.667	0.00	0.07	0.720	O	|	|	|	|	1.42	60.667	0.00	0.06	0.693	O	|	|	|	|	1.38
55.750	0.00	0.07	0.719	O	|	|	|	|	1.42	60.750	0.00	0.06	0.693	O	|	|	|	|	1.38
55.833	0.00	0.07	0.719	O	|	|	|	|	1.42	60.833	0.00	0.06	0.693	O	|	|	|	|	1.38
55.917	0.00	0.07	0.718	O	|	|	|	|	1.42	60.917	0.00	0.06	0.692	O	|	|	|	|	1.38
56.000	0.00	0.07	0.718	O	|	|	|	|	1.42	61.000	0.00	0.06	0.692	O	|	|	|	|	1.38
56.083	0.00	0.07	0.717	O	|	|	|	|	1.42	61.083	0.00	0.05	0.692	O	|	|	|	|	1.37
56.167	0.00	0.07	0.717	O	|	|	|	|	1.42	61.167	0.00	0.05	0.691	O	|	|	|	|	1.37
56.250	0.00	0.07	0.717	O	|	|	|	|	1.42	61.250	0.00	0.05	0.691	O	|	|	|	|	1.37
56.333	0.00	0.07	0.716	O	|	|	|	|	1.42	61.333	0.00	0.05	0.690	O	|	|	|	|	1.37
56.417	0.00	0.07	0.716	O	|	|	|	|	1.42	61.417	0.00	0.05	0.690	O	|	|	|	|	1.37
56.500	0.00	0.07	0.715	O	|	|	|	|	1.42	61.500	0.00	0.05	0.690	O	|	|	|	|	1.37
56.583	0.00	0.07	0.715	O	|	|	|	|	1.41	61.583	0.00	0.05	0.689	O	|	|	|	|	1.37
56.667	0.00	0.07	0.714	O	|	|	|	|	1.41	61.667	0.00	0.05	0.689	O	|	|	|	|	1.37
56.750	0.00	0.07	0.714	O	|	|	|	|	1.41	61.750	0.00	0.05	0.689	O	|	|	|	|	1.37
56.833	0.00	0.07	0.713	O	|	|	|	|	1.41	61.833	0.00	0.05	0.688	O	|	|	|	|	1.37
56.917	0.00	0.07	0.713	O	|	|	|	|	1.41	61.917	0.00	0.05	0.688	O	|	|	|	|	1.37
57.000	0.00	0.07	0.712	O	|	|	|	|	1.41	62.000	0.00	0.05	0.688	O	|	|	|	|	1.37
57.083	0.00	0.07	0.712	O	|	|	|	|	1.41	62.083	0.00	0.05	0.687	O	|	|	|	|	1.37
57.167	0.00	0.07	0.711	O	|	|	|	|	1.41	62.167	0.00	0.05	0.687	O	|	|	|	|	1.37
57.250	0.00	0.07	0.711	O	|	|	|	|	1.41	62.250	0.00	0.05	0.686	O	|	|	|	|	1.37
57.333	0.00	0.07	0.710	O	|	|	|	|	1.41	62.333	0.00	0.05	0.686	O	|	|	|	|	1.37
57.417	0.00	0.07	0.710	O	|	|	|	|	1.41	62.417	0.00	0.05	0.686	O	|	|	|	|	1.36
57.500	0.00	0.07	0.709	O	|	|	|	|	1.41	62.500	0.00	0.05	0.685	O	|	|	|	|	1.36
57.583	0.00	0.07	0.709	O	|	|	|	|	1.41	62.583	0.00	0.05	0.685	O	|	|	|	|	1.36
57.667	0.00	0.07	0.709	O	|	|	|	|	1.40	62.667	0.00	0.05	0.685	O	|	|	|	|	1.36
57.750	0.00	0.07	0.708	O	|	|	|	|	1.40	62.750	0.00	0.05	0.684	O	|	|	|	|	1.36
57.833	0.00	0.07	0.708	O	|	|	|	|	1.40	62.833	0.00	0.05	0.684	O	|	|	|	|	1.36
57.917	0.00	0.06	0.707	O	|	|	|	|	1.40	62.917	0.00	0.05	0.684	O	|	|	|	|	1.36
58.000	0.00	0.06	0.707	O	|	|	|	|	1.40	63.000	0.00	0.05	0.683	O	|	|	|	|	1.36
58.083	0.00	0.06	0.706	O	|	|	|	|	1.40	63.083	0.00	0.05	0.683	O	|	|	|	|	1.36
58.167	0.00	0.06	0.706	O	|	|	|	|	1.40	63.167	0.00	0.05	0.683	O	|	|	|	|	1.36
58.250	0.00	0.06	0.705	O	|	|	|	|	1.40	63.250	0.00	0.05	0.682	O	|	|	|	|	1.36
58.333	0.00	0.06	0.705	O	|	|	|	|	1.40	63.333	0.00	0.05	0.682	O	|	|	|	|	1.36
58.417	0.00	0.06	0.705	O	|	|	|	|	1.40	63.417	0.00	0.05	0.682	O	|	|	|	|	1.36
58.500	0.00	0.06	0.704	O	|	|	|	|	1.40	63.500	0.00	0.05	0.681	O	|	|	|	|	1.36
58.583	0.00	0.06	0.704	O	|	|	|	|	1.40	63.583	0.00	0.05	0.681	O	|	|	|	|	1.36
58.667	0.00	0.06	0.703	O	|	|	|	|	1.40	63.667	0.00	0.05	0.681	O	|	|	|	|	1.36
58.750	0.00	0.06	0.703	O	|	|	|	|	1.39	63.750	0.00	0.05	0.680	O	|	|	|	|	1.36
58.833	0.00	0.06	0.702	O	|	|	|	|	1.39	63.833	0.00	0.05	0.680	O	|	|	|	|	1.35

63.917	0.00	0.05	0.680	O	|	|	|	|	1.35	68.917	0.00	0.04	0.662	O	|	|	|	|	1.32
64.000	0.00	0.05	0.679	O	|	|	|	|	1.35	69.000	0.00	0.04	0.662	O	|	|	|	|	1.32
64.083	0.00	0.05	0.679	O	|	|	|	|	1.35	69.083	0.00	0.04	0.662	O	|	|	|	|	1.32
64.167	0.00	0.05	0.679	O	|	|	|	|	1.35	69.167	0.00	0.04	0.662	O	|	|	|	|	1.32
64.250	0.00	0.05	0.678	O	|	|	|	|	1.35	69.250	0.00	0.04	0.661	O	|	|	|	|	1.32
64.333	0.00	0.05	0.678	O	|	|	|	|	1.35	69.333	0.00	0.04	0.661	O	|	|	|	|	1.32
64.417	0.00	0.05	0.678	O	|	|	|	|	1.35	69.417	0.00	0.04	0.661	O	|	|	|	|	1.32
64.500	0.00	0.05	0.677	O	|	|	|	|	1.35	69.500	0.00	0.04	0.661	O	|	|	|	|	1.32
64.583	0.00	0.05	0.677	O	|	|	|	|	1.35	69.583	0.00	0.04	0.660	O	|	|	|	|	1.32
64.667	0.00	0.05	0.677	O	|	|	|	|	1.35	69.667	0.00	0.04	0.660	O	|	|	|	|	1.32
64.750	0.00	0.05	0.676	O	|	|	|	|	1.35	69.750	0.00	0.04	0.660	O	|	|	|	|	1.32
64.833	0.00	0.05	0.676	O	|	|	|	|	1.35	69.833	0.00	0.03	0.660	O	|	|	|	|	1.32
64.917	0.00	0.05	0.676	O	|	|	|	|	1.35	69.917	0.00	0.03	0.659	O	|	|	|	|	1.32
65.000	0.00	0.04	0.675	O	|	|	|	|	1.35	70.000	0.00	0.03	0.659	O	|	|	|	|	1.32
65.083	0.00	0.04	0.675	O	|	|	|	|	1.35	70.083	0.00	0.03	0.659	O	|	|	|	|	1.32
65.167	0.00	0.04	0.675	O	|	|	|	|	1.35	70.167	0.00	0.03	0.659	O	|	|	|	|	1.32
65.250	0.00	0.04	0.675	O	|	|	|	|	1.35	70.250	0.00	0.03	0.658	O	|	|	|	|	1.32
65.333	0.00	0.04	0.674	O	|	|	|	|	1.34	70.333	0.00	0.03	0.658	O	|	|	|	|	1.32
65.417	0.00	0.04	0.674	O	|	|	|	|	1.34	70.417	0.00	0.03	0.658	O	|	|	|	|	1.32
65.500	0.00	0.04	0.674	O	|	|	|	|	1.34	70.500	0.00	0.03	0.658	O	|	|	|	|	1.32
65.583	0.00	0.04	0.673	O	|	|	|	|	1.34	70.583	0.00	0.03	0.658	O	|	|	|	|	1.32
65.667	0.00	0.04	0.673	O	|	|	|	|	1.34	70.667	0.00	0.03	0.657	O	|	|	|	|	1.32
65.750	0.00	0.04	0.673	O	|	|	|	|	1.34	70.750	0.00	0.03	0.657	O	|	|	|	|	1.31
65.833	0.00	0.04	0.672	O	|	|	|	|	1.34	70.833	0.00	0.03	0.657	O	|	|	|	|	1.31
65.917	0.00	0.04	0.672	O	|	|	|	|	1.34	70.917	0.00	0.03	0.657	O	|	|	|	|	1.31
66.000	0.00	0.04	0.672	O	|	|	|	|	1.34	71.000	0.00	0.03	0.656	O	|	|	|	|	1.31
66.083	0.00	0.04	0.672	O	|	|	|	|	1.34	71.083	0.00	0.03	0.656	O	|	|	|	|	1.31
66.167	0.00	0.04	0.671	O	|	|	|	|	1.34	71.167	0.00	0.03	0.656	O	|	|	|	|	1.31
66.250	0.00	0.04	0.671	O	|	|	|	|	1.34	71.250	0.00	0.03	0.656	O	|	|	|	|	1.31
66.333	0.00	0.04	0.671	O	|	|	|	|	1.34	71.333	0.00	0.03	0.655	O	|	|	|	|	1.31
66.417	0.00	0.04	0.670	O	|	|	|	|	1.34	71.417	0.00	0.03	0.655	O	|	|	|	|	1.31
66.500	0.00	0.04	0.670	O	|	|	|	|	1.34	71.500	0.00	0.03	0.655	O	|	|	|	|	1.31
66.583	0.00	0.04	0.670	O	|	|	|	|	1.34	71.583	0.00	0.03	0.655	O	|	|	|	|	1.31
66.667	0.00	0.04	0.670	O	|	|	|	|	1.34	71.667	0.00	0.03	0.655	O	|	|	|	|	1.31
66.750	0.00	0.04	0.669	O	|	|	|	|	1.34	71.750	0.00	0.03	0.654	O	|	|	|	|	1.31
66.833	0.00	0.04	0.669	O	|	|	|	|	1.34	71.833	0.00	0.03	0.654	O	|	|	|	|	1.31
66.917	0.00	0.04	0.669	O	|	|	|	|	1.33	71.917	0.00	0.03	0.654	O	|	|	|	|	1.31
67.000	0.00	0.04	0.668	O	|	|	|	|	1.33	72.000	0.00	0.03	0.654	O	|	|	|	|	1.31
67.083	0.00	0.04	0.668	O	|	|	|	|	1.33	72.083	0.00	0.03	0.654	O	|	|	|	|	1.31
67.167	0.00	0.04	0.668	O	|	|	|	|	1.33	72.167	0.00	0.03	0.653	O	|	|	|	|	1.31
67.250	0.00	0.04	0.668	O	|	|	|	|	1.33	72.250	0.00	0.03	0.653	O	|	|	|	|	1.31
67.333	0.00	0.04	0.667	O	|	|	|	|	1.33	72.333	0.00	0.03	0.653	O	|	|	|	|	1.31
67.417	0.00	0.04	0.667	O	|	|	|	|	1.33	72.417	0.00	0.03	0.653	O	|	|	|	|	1.31
67.500	0.00	0.04	0.667	O	|	|	|	|	1.33	72.500	0.00	0.03	0.652	O	|	|	|	|	1.31
67.583	0.00	0.04	0.667	O	|	|	|	|	1.33	72.583	0.00	0.03	0.652	O	|	|	|	|	1.31
67.667	0.00	0.04	0.666	O	|	|	|	|	1.33	72.667	0.00	0.03	0.652	O	|	|	|	|	1.31
67.750	0.00	0.04	0.666	O	|	|	|	|	1.33	72.750	0.00	0.03	0.652	O	|	|	|	|	1.31
67.833	0.00	0.04	0.666	O	|	|	|	|	1.33	72.833	0.00	0.03	0.652	O	|	|	|	|	1.31
67.917	0.00	0.04	0.665	O	|	|	|	|	1.33	72.917	0.00	0.03	0.651	O	|	|	|	|	1.30
68.000	0.00	0.04	0.665	O	|	|	|	|	1.33	73.000	0.00	0.03	0.651	O	|	|	|	|	1.30
68.083	0.00	0.04	0.665	O	|	|	|	|	1.33	73.083	0.00	0.03	0.651	O	|	|	|	|	1.30
68.167	0.00	0.04	0.665	O	|	|	|	|	1.33	73.167	0.00	0.03	0.651	O	|	|	|	|	1.30
68.250	0.00	0.04	0.664	O	|	|	|	|	1.33	73.250	0.00	0.03	0.651	O	|	|	|	|	1.30
68.333	0.00	0.04	0.664	O	|	|	|	|	1.33	73.333	0.00	0.03	0.650	O	|	|	|	|	1.30
68.417	0.00	0.04	0.664	O	|	|	|	|	1.33	73.417	0.00	0.03	0.650	O	|	|	|	|	1.30
68.500	0.00	0.04	0.664	O	|	|	|	|	1.33	73.500	0.00	0.03	0.650	O	|	|	|	|	1.30
68.583	0.00	0.04	0.663	O	|	|	|	|	1.33	73.583	0.00	0.03	0.650	O	|	|	|	|	1.30
68.667	0.00	0.04	0.663	O	|	|	|	|	1.33	73.667	0.00	0.03	0.650	O	|	|	|	|	1.30
68.750	0.00	0.04	0.663	O	|	|	|	|	1.32	73.750	0.00	0.03	0.649	O	|	|	|	|	1.30
68.833	0.00	0.04	0.663	O	|	|	|	|	1.32	73.833	0.00	0.03	0.649	O	|	|	|	|	1.30

73.917	0.00	0.03	0.649	O					1.30	78.917	0.00	0.02	0.639	O					1.28
74.000	0.00	0.03	0.649	O					1.30	79.000	0.00	0.02	0.639	O					1.28
74.083	0.00	0.03	0.649	O					1.30	79.083	0.00	0.02	0.638	O					1.28
74.167	0.00	0.03	0.648	O					1.30	79.167	0.00	0.02	0.638	O					1.28
74.250	0.00	0.03	0.648	O					1.30	79.250	0.00	0.02	0.638	O					1.28
74.333	0.00	0.03	0.648	O					1.30	79.333	0.00	0.02	0.638	O					1.28
74.417	0.00	0.03	0.648	O					1.30	79.417	0.00	0.02	0.638	O					1.28
74.500	0.00	0.03	0.648	O					1.30	79.500	0.00	0.02	0.638	O					1.28
74.583	0.00	0.03	0.647	O					1.30	79.583	0.00	0.02	0.638	O					1.28
74.667	0.00	0.03	0.647	O					1.30	79.667	0.00	0.02	0.637	O					1.28
74.750	0.00	0.03	0.647	O					1.30	79.750	0.00	0.02	0.637	O					1.28
74.833	0.00	0.03	0.647	O					1.30	79.833	0.00	0.02	0.637	O					1.28
74.917	0.00	0.03	0.647	O					1.30	79.917	0.00	0.02	0.637	O					1.28
75.000	0.00	0.03	0.647	O					1.30	80.000	0.00	0.02	0.637	O					1.28
75.083	0.00	0.03	0.646	O					1.30	80.083	0.00	0.02	0.637	O					1.28
75.167	0.00	0.03	0.646	O					1.30	80.167	0.00	0.02	0.637	O					1.28
75.250	0.00	0.03	0.646	O					1.30	80.250	0.00	0.02	0.636	O					1.28
75.333	0.00	0.03	0.646	O					1.30	80.333	0.00	0.02	0.636	O					1.28
75.417	0.00	0.03	0.646	O					1.29	80.417	0.00	0.02	0.636	O					1.28
75.500	0.00	0.03	0.645	O					1.29	80.500	0.00	0.02	0.636	O					1.28
75.583	0.00	0.03	0.645	O					1.29	80.583	0.00	0.02	0.636	O					1.28
75.667	0.00	0.03	0.645	O					1.29	80.667	0.00	0.02	0.636	O					1.28
75.750	0.00	0.03	0.645	O					1.29	80.750	0.00	0.02	0.636	O					1.28
75.833	0.00	0.03	0.645	O					1.29	80.833	0.00	0.02	0.635	O					1.28
75.917	0.00	0.03	0.645	O					1.29	80.917	0.00	0.02	0.635	O					1.28
76.000	0.00	0.03	0.644	O					1.29	81.000	0.00	0.02	0.635	O					1.28
76.083	0.00	0.03	0.644	O					1.29	81.083	0.00	0.02	0.635	O					1.28
76.167	0.00	0.03	0.644	O					1.29	81.167	0.00	0.02	0.635	O					1.28
76.250	0.00	0.03	0.644	O					1.29	81.250	0.00	0.02	0.635	O					1.28
76.333	0.00	0.02	0.644	O					1.29	81.333	0.00	0.02	0.635	O					1.28
76.417	0.00	0.02	0.644	O					1.29	81.417	0.00	0.02	0.635	O					1.28
76.500	0.00	0.02	0.643	O					1.29	81.500	0.00	0.02	0.634	O					1.28
76.583	0.00	0.02	0.643	O					1.29	81.583	0.00	0.02	0.634	O					1.27
76.667	0.00	0.02	0.643	O					1.29	81.667	0.00	0.02	0.634	O					1.27
76.750	0.00	0.02	0.643	O					1.29	81.750	0.00	0.02	0.634	O					1.27
76.833	0.00	0.02	0.643	O					1.29	81.833	0.00	0.02	0.634	O					1.27
76.917	0.00	0.02	0.643	O					1.29	81.917	0.00	0.02	0.634	O					1.27
77.000	0.00	0.02	0.642	O					1.29	82.000	0.00	0.02	0.634	O					1.27
77.083	0.00	0.02	0.642	O					1.29	82.083	0.00	0.02	0.633	O					1.27
77.167	0.00	0.02	0.642	O					1.29	82.167	0.00	0.02	0.633	O					1.27
77.250	0.00	0.02	0.642	O					1.29	82.250	0.00	0.02	0.633	O					1.27
77.333	0.00	0.02	0.642	O					1.29	82.333	0.00	0.02	0.633	O					1.27
77.417	0.00	0.02	0.642	O					1.29	82.417	0.00	0.02	0.633	O					1.27
77.500	0.00	0.02	0.641	O					1.29	82.500	0.00	0.02	0.633	O					1.27
77.583	0.00	0.02	0.641	O					1.29	82.583	0.00	0.02	0.633	O					1.27
77.667	0.00	0.02	0.641	O					1.29	82.667	0.00	0.02	0.633	O					1.27
77.750	0.00	0.02	0.641	O					1.29	82.750	0.00	0.02	0.632	O					1.27
77.833	0.00	0.02	0.641	O					1.29	82.833	0.00	0.02	0.632	O					1.27
77.917	0.00	0.02	0.641	O					1.29	82.917	0.00	0.02	0.632	O					1.27
78.000	0.00	0.02	0.640	O					1.29	83.000	0.00	0.02	0.632	O					1.27
78.083	0.00	0.02	0.640	O					1.29	83.083	0.00	0.02	0.632	O					1.27
78.167	0.00	0.02	0.640	O					1.29	83.167	0.00	0.02	0.632	O					1.27
78.250	0.00	0.02	0.640	O					1.28	83.250	0.00	0.02	0.632	O					1.27
78.333	0.00	0.02	0.640	O					1.28	83.333	0.00	0.02	0.632	O					1.27
78.417	0.00	0.02	0.640	O					1.28	83.417	0.00	0.02	0.632	O					1.27
78.500	0.00	0.02	0.640	O					1.28	83.500	0.00	0.02	0.631	O					1.27
78.583	0.00	0.02	0.639	O					1.28	83.583	0.00	0.02	0.631	O					1.27
78.667	0.00	0.02	0.639	O					1.28	83.667	0.00	0.02	0.631	O					1.27
78.750	0.00	0.02	0.639	O					1.28	83.750	0.00	0.02	0.631	O					1.27
78.833	0.00	0.02	0.639	O					1.28	83.833	0.00	0.02	0.631	O					1.27

83.917	0.00	0.02	0.631	O	|	|	|	|	1.27	88.917	0.00	0.01	0.625	O	|	|	|	|	1.26
84.000	0.00	0.02	0.631	O	|	|	|	|	1.27	89.000	0.00	0.01	0.625	O	|	|	|	|	1.26
84.083	0.00	0.02	0.631	O	|	|	|	|	1.27	89.083	0.00	0.01	0.625	O	|	|	|	|	1.26
84.167	0.00	0.02	0.630	O	|	|	|	|	1.27	89.167	0.00	0.01	0.624	O	|	|	|	|	1.26
84.250	0.00	0.02	0.630	O	|	|	|	|	1.27	89.250	0.00	0.01	0.624	O	|	|	|	|	1.26
84.333	0.00	0.02	0.630	O	|	|	|	|	1.27	89.333	0.00	0.01	0.624	O	|	|	|	|	1.26
84.417	0.00	0.02	0.630	O	|	|	|	|	1.27	89.417	0.00	0.01	0.624	O	|	|	|	|	1.26
84.500	0.00	0.02	0.630	O	|	|	|	|	1.27	89.500	0.00	0.01	0.624	O	|	|	|	|	1.26
84.583	0.00	0.02	0.630	O	|	|	|	|	1.27	89.583	0.00	0.01	0.624	O	|	|	|	|	1.26
84.667	0.00	0.02	0.630	O	|	|	|	|	1.27	89.667	0.00	0.01	0.624	O	|	|	|	|	1.26
84.750	0.00	0.02	0.630	O	|	|	|	|	1.27	89.750	0.00	0.01	0.624	O	|	|	|	|	1.26
84.833	0.00	0.02	0.630	O	|	|	|	|	1.27	89.833	0.00	0.01	0.624	O	|	|	|	|	1.26
84.917	0.00	0.02	0.629	O	|	|	|	|	1.27	89.917	0.00	0.01	0.624	O	|	|	|	|	1.26
85.000	0.00	0.02	0.629	O	|	|	|	|	1.27	90.000	0.00	0.01	0.624	O	|	|	|	|	1.26
85.083	0.00	0.02	0.629	O	|	|	|	|	1.27	90.083	0.00	0.01	0.624	O	|	|	|	|	1.26
85.167	0.00	0.02	0.629	O	|	|	|	|	1.27	90.167	0.00	0.01	0.623	O	|	|	|	|	1.26
85.250	0.00	0.02	0.629	O	|	|	|	|	1.27	90.250	0.00	0.01	0.623	O	|	|	|	|	1.26
85.333	0.00	0.02	0.629	O	|	|	|	|	1.27	90.333	0.00	0.01	0.623	O	|	|	|	|	1.26
85.417	0.00	0.02	0.629	O	|	|	|	|	1.27	90.417	0.00	0.01	0.623	O	|	|	|	|	1.26
85.500	0.00	0.02	0.629	O	|	|	|	|	1.27	90.500	0.00	0.01	0.623	O	|	|	|	|	1.26
85.583	0.00	0.02	0.629	O	|	|	|	|	1.27	90.583	0.00	0.01	0.623	O	|	|	|	|	1.26
85.667	0.00	0.02	0.629	O	|	|	|	|	1.26	90.667	0.00	0.01	0.623	O	|	|	|	|	1.26
85.750	0.00	0.02	0.628	O	|	|	|	|	1.26	90.750	0.00	0.01	0.623	O	|	|	|	|	1.25
85.833	0.00	0.02	0.628	O	|	|	|	|	1.26	90.833	0.00	0.01	0.623	O	|	|	|	|	1.25
85.917	0.00	0.02	0.628	O	|	|	|	|	1.26	90.917	0.00	0.01	0.623	O	|	|	|	|	1.25
86.000	0.00	0.02	0.628	O	|	|	|	|	1.26	91.000	0.00	0.01	0.623	O	|	|	|	|	1.25
86.083	0.00	0.02	0.628	O	|	|	|	|	1.26	91.083	0.00	0.01	0.623	O	|	|	|	|	1.25
86.167	0.00	0.01	0.628	O	|	|	|	|	1.26	91.167	0.00	0.01	0.622	O	|	|	|	|	1.25
86.250	0.00	0.01	0.628	O	|	|	|	|	1.26	91.250	0.00	0.01	0.622	O	|	|	|	|	1.25
86.333	0.00	0.01	0.628	O	|	|	|	|	1.26	91.333	0.00	0.01	0.622	O	|	|	|	|	1.25
86.417	0.00	0.01	0.628	O	|	|	|	|	1.26	91.417	0.00	0.01	0.622	O	|	|	|	|	1.25
86.500	0.00	0.01	0.627	O	|	|	|	|	1.26	91.500	0.00	0.01	0.622	O	|	|	|	|	1.25
86.583	0.00	0.01	0.627	O	|	|	|	|	1.26	91.583	0.00	0.01	0.622	O	|	|	|	|	1.25
86.667	0.00	0.01	0.627	O	|	|	|	|	1.26	91.667	0.00	0.01	0.622	O	|	|	|	|	1.25
86.750	0.00	0.01	0.627	O	|	|	|	|	1.26	91.750	0.00	0.01	0.622	O	|	|	|	|	1.25
86.833	0.00	0.01	0.627	O	|	|	|	|	1.26	91.833	0.00	0.01	0.622	O	|	|	|	|	1.25
86.917	0.00	0.01	0.627	O	|	|	|	|	1.26	91.917	0.00	0.01	0.622	O	|	|	|	|	1.25
87.000	0.00	0.01	0.627	O	|	|	|	|	1.26	92.000	0.00	0.01	0.622	O	|	|	|	|	1.25
87.083	0.00	0.01	0.627	O	|	|	|	|	1.26	92.083	0.00	0.01	0.622	O	|	|	|	|	1.25
87.167	0.00	0.01	0.627	O	|	|	|	|	1.26	92.167	0.00	0.01	0.622	O	|	|	|	|	1.25
87.250	0.00	0.01	0.627	O	|	|	|	|	1.26	92.250	0.00	0.01	0.621	O	|	|	|	|	1.25
87.333	0.00	0.01	0.626	O	|	|	|	|	1.26	92.333	0.00	0.01	0.621	O	|	|	|	|	1.25
87.417	0.00	0.01	0.626	O	|	|	|	|	1.26	92.417	0.00	0.01	0.621	O	|	|	|	|	1.25
87.500	0.00	0.01	0.626	O	|	|	|	|	1.26	92.500	0.00	0.01	0.621	O	|	|	|	|	1.25
87.583	0.00	0.01	0.626	O	|	|	|	|	1.26	92.583	0.00	0.01	0.621	O	|	|	|	|	1.25
87.667	0.00	0.01	0.626	O	|	|	|	|	1.26	92.667	0.00	0.01	0.621	O	|	|	|	|	1.25
87.750	0.00	0.01	0.626	O	|	|	|	|	1.26	92.750	0.00	0.01	0.621	O	|	|	|	|	1.25
87.833	0.00	0.01	0.626	O	|	|	|	|	1.26	92.833	0.00	0.01	0.621	O	|	|	|	|	1.25
87.917	0.00	0.01	0.626	O	|	|	|	|	1.26	92.917	0.00	0.01	0.621	O	|	|	|	|	1.25
88.000	0.00	0.01	0.626	O	|	|	|	|	1.26	93.000	0.00	0.01	0.621	O	|	|	|	|	1.25
88.083	0.00	0.01	0.626	O	|	|	|	|	1.26	93.083	0.00	0.01	0.621	O	|	|	|	|	1.25
88.167	0.00	0.01	0.626	O	|	|	|	|	1.26	93.167	0.00	0.01	0.621	O	|	|	|	|	1.25
88.250	0.00	0.01	0.625	O	|	|	|	|	1.26	93.250	0.00	0.01	0.621	O	|	|	|	|	1.25
88.333	0.00	0.01	0.625	O	|	|	|	|	1.26	93.333	0.00	0.01	0.620	O	|	|	|	|	1.25
88.417	0.00	0.01	0.625	O	|	|	|	|	1.26	93.417	0.00	0.01	0.620	O	|	|	|	|	1.25
88.500	0.00	0.01	0.625	O	|	|	|	|	1.26	93.500	0.00	0.01	0.620	O	|	|	|	|	1.25
88.583	0.00	0.01	0.625	O	|	|	|	|	1.26	93.583	0.00	0.01	0.620	O	|	|	|	|	1.25
88.667	0.00	0.01	0.625	O	|	|	|	|	1.26	93.667	0.00	0.01	0.620	O	|	|	|	|	1.25
88.750	0.00	0.01	0.625	O	|	|	|	|	1.26	93.750	0.00	0.01	0.620	O	|	|	|	|	1.25
88.833	0.00	0.01	0.625	O	|	|	|	|	1.26	93.833	0.00	0.01	0.620	O	|	|	|	|	1.25

Left Blank Intentionally

413.917	0.00	0.01	0.405	O	|	|	|	|	0.82
414.000	0.00	0.01	0.405	O	|	|	|	|	0.82
414.083	0.00	0.01	0.405	O	|	|	|	|	0.82
414.167	0.00	0.01	0.405	O	|	|	|	|	0.82
414.250	0.00	0.01	0.405	O	|	|	|	|	0.82
414.333	0.00	0.01	0.404	O	|	|	|	|	0.82
414.417	0.00	0.01	0.404	O	|	|	|	|	0.82
414.500	0.00	0.01	0.404	O	|	|	|	|	0.82
414.583	0.00	0.01	0.404	O	|	|	|	|	0.82
414.667	0.00	0.01	0.404	O	|	|	|	|	0.82
414.750	0.00	0.01	0.404	O	|	|	|	|	0.82
414.833	0.00	0.01	0.404	O	|	|	|	|	0.81
414.917	0.00	0.01	0.404	O	|	|	|	|	0.81
415.000	0.00	0.01	0.404	O	|	|	|	|	0.81
415.083	0.00	0.01	0.404	O	|	|	|	|	0.81
415.167	0.00	0.01	0.404	O	|	|	|	|	0.81
415.250	0.00	0.01	0.404	O	|	|	|	|	0.81
415.333	0.00	0.01	0.404	O	|	|	|	|	0.81
415.417	0.00	0.01	0.404	O	|	|	|	|	0.81
415.500	0.00	0.01	0.404	O	|	|	|	|	0.81
415.583	0.00	0.01	0.404	O	|	|	|	|	0.81
415.667	0.00	0.01	0.404	O	|	|	|	|	0.81
415.750	0.00	0.01	0.404	O	|	|	|	|	0.81
415.833	0.00	0.01	0.404	O	|	|	|	|	0.81
415.917	0.00	0.01	0.404	O	|	|	|	|	0.81
416.000	0.00	0.01	0.404	O	|	|	|	|	0.81
416.083	0.00	0.01	0.404	O	|	|	|	|	0.81
416.167	0.00	0.01	0.403	O	|	|	|	|	0.81
416.250	0.00	0.01	0.403	O	|	|	|	|	0.81
416.333	0.00	0.01	0.403	O	|	|	|	|	0.81
416.417	0.00	0.01	0.403	O	|	|	|	|	0.81
416.500	0.00	0.01	0.403	O	|	|	|	|	0.81
416.583	0.00	0.01	0.403	O	|	|	|	|	0.81
416.667	0.00	0.01	0.403	O	|	|	|	|	0.81

Remaining water in basin = 0.40 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.510 (CFS)
Total volume = 1.437 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

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TR 37036, PARCEL 1
BASIN M
5Y 24H STORM

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Program License Serial Number 6406

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******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR245.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =   292
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       6.387 (CFS)
                Total volume =       3.882 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 292
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
------------------------------------------------------------------------
------------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
------------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
------------------------------------------------------------------------
                   Hydrograph Detention Basin Routing
------------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
------------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       1.6    3.19    4.79    6.39 (Ft.)
 0.083    0.16    0.00      0.001  O       |       |       |       |     0.00
 0.167    0.32    0.00      0.002  OI      |       |       |       |     0.00
 0.250    0.36    0.00      0.005  OI      |       |       |       |     0.01
 0.333    0.45    0.00      0.007  O I     |       |       |       |     0.01
 0.417    0.54    0.00      0.011  O I     |       |       |       |     0.02
 0.500    0.55    0.00      0.014  O I     |       |       |       |     0.03
 0.583    0.56    0.00      0.018  O I     |       |       |       |     0.04
 0.667    0.56    0.00      0.022  O I     |       |       |       |     0.04
 0.750    0.56    0.00      0.026  O I     |       |       |       |     0.05
 0.833    0.64    0.00      0.030  O  I    |       |       |       |     0.06
 0.917    0.72    0.00      0.035  O  I    |       |       |       |     0.07
 1.000    0.74    0.00      0.040  O  I    |       |       |       |     0.08
 1.083    0.67    0.00      0.045  O  I    |       |       |       |     0.09
 1.167    0.59    0.00      0.049  O I     |       |       |       |     0.10
 1.250    0.57    0.00      0.053  O I     |       |       |       |     0.11
 1.333    0.57    0.00      0.057  O I     |       |       |       |     0.11
 1.417    0.56    0.00      0.061  O I     |       |       |       |     0.12
 1.500    0.56    0.00      0.065  O I     |       |       |       |     0.13
 1.583    0.56    0.00      0.069  O I     |       |       |       |     0.14
 1.667    0.56    0.00      0.073  O I     |       |       |       |     0.15
 1.750    0.56    0.00      0.076  O I     |       |       |       |     0.15
 1.833    0.64    0.00      0.081  O  I    |       |       |       |     0.16
 1.917    0.72    0.00      0.085  O  I    |       |       |       |     0.17
 2.000    0.74    0.00      0.090  O  I    |       |       |       |     0.18
 2.083    0.75    0.00      0.095  O  I    |       |       |       |     0.19
 2.167    0.75    0.00      0.101  O  I    |       |       |       |     0.20
 2.250    0.75    0.00      0.106  O  I    |       |       |       |     0.21
 2.333    0.75    0.00      0.111  O  I    |       |       |       |     0.22
 2.417    0.75    0.00      0.116  O  I    |       |       |       |     0.23
 2.500    0.75    0.00      0.121  O  I    |       |       |       |     0.24
 2.583    0.83    0.00      0.127  O   I   |       |       |       |     0.26
 2.667    0.91    0.00      0.133  O   I   |       |       |       |     0.27
 2.750    0.93    0.00      0.139  O   I   |       |       |       |     0.28
 2.833    0.94    0.00      0.145  O   I   |       |       |       |     0.29
 2.917    0.94    0.00      0.152  O   I   |       |       |       |     0.31
 3.000    0.94    0.00      0.158  O   I   |       |       |       |     0.32
 3.083    0.94    0.00      0.165  O   I   |       |       |       |     0.33
 3.167    0.94    0.00      0.171  O   I   |       |       |       |     0.35
 3.250    0.94    0.00      0.178  O   I   |       |       |       |     0.36
 3.333    0.94    0.00      0.184  O   I   |       |       |       |     0.37
 3.417    0.94    0.00      0.190  O   I   |       |       |       |     0.38
 3.500    0.94    0.00      0.197  O   I   |       |       |       |     0.40
 3.583    0.94    0.00      0.203  O   I   |       |       |       |     0.41
 3.667    0.94    0.00      0.210  O   I   |       |       |       |     0.42
 3.750    0.94    0.00      0.216  O   I   |       |       |       |     0.44
 3.833    1.02    0.00      0.223  O    I  |       |       |       |     0.45
```

3.917	1.10	0.00	0.230	O	I	|	|	|	|	0.46	8.917	3.17	0.23	0.971	|O	|	I|	|	|	1.86
4.000	1.12	0.00	0.238	O	I	|	|	|	|	0.48	9.000	3.18	0.24	0.992	|O	|	I|	|	|	1.90
4.083	1.12	0.00	0.246	O	I	|	|	|	|	0.50	9.083	3.35	0.26	1.012	|O	|	I	|	|	1.93
4.167	1.13	0.00	0.253	O	I	|	|	|	|	0.51	9.167	3.52	0.27	1.034	|O	|	|I	|	|	1.97
4.250	1.13	0.00	0.261	O	I	|	|	|	|	0.53	9.250	3.55	0.28	1.057	|O	|	|I	|	|	2.01
4.333	1.21	0.00	0.269	O	I	|	|	|	|	0.54	9.333	3.64	0.29	1.079	|O	|	| I	|	|	2.05
4.417	1.29	0.00	0.278	O	I	|	|	|	|	0.56	9.417	3.73	0.29	1.103	|O	|	| I	|	|	2.09
4.500	1.31	0.00	0.286	O	I	|	|	|	|	0.58	9.500	3.75	0.30	1.126	|O	|	| I	|	|	2.13
4.583	1.31	0.00	0.295	O	I	|	|	|	|	0.60	9.583	3.83	0.31	1.150	|O	|	| I	|	|	2.16
4.667	1.32	0.00	0.304	O	I	|	|	|	|	0.61	9.667	3.92	0.31	1.175	|O	|	| I	|	|	2.20
4.750	1.32	0.01	0.313	O	I	|	|	|	|	0.63	9.750	3.94	0.32	1.200	|O	|	| I	|	|	2.25
4.833	1.39	0.01	0.323	O	I	|	|	|	|	0.65	9.833	4.02	0.33	1.225	|O	|	| I	|	|	2.29
4.917	1.48	0.01	0.333	O	| I	|	|	|	|	0.67	9.917	4.11	0.34	1.251	|O	|	| I	|	|	2.33
5.000	1.49	0.01	0.343	O	| I	|	|	|	|	0.69	10.000	4.12	0.34	1.277	|O	|	| I	|	|	2.37
5.083	1.34	0.01	0.353	O	I	|	|	|	|	0.71	10.083	3.59	0.35	1.301	|O	|	|I	|	|	2.41
5.167	1.18	0.01	0.361	O	I	|	|	|	|	0.73	10.167	3.01	0.36	1.321	|O	|	I|	|	|	2.44
5.250	1.15	0.01	0.369	O	I	|	|	|	|	0.74	10.250	2.89	0.36	1.339	|O	|	I |	|	|	2.47
5.333	1.21	0.01	0.377	O	I	|	|	|	|	0.76	10.333	2.84	0.37	1.356	|O	|	I |	|	|	2.50
5.417	1.29	0.01	0.386	O	I	|	|	|	|	0.78	10.417	2.82	0.37	1.373	|O	|	I |	|	|	2.53
5.500	1.31	0.01	0.395	O	I	|	|	|	|	0.80	10.500	2.82	0.37	1.390	|O	|	I |	|	|	2.56
5.583	1.39	0.01	0.404	O	I	|	|	|	|	0.81	10.583	3.21	0.38	1.408	|O	|	I	|	|	2.59
5.667	1.48	0.01	0.414	O	| I	|	|	|	|	0.83	10.667	3.62	0.39	1.429	|O	|	| I	|	|	2.62
5.750	1.49	0.01	0.424	O	| I	|	|	|	|	0.85	10.750	3.71	0.39	1.452	|O	|	| I	|	|	2.66
5.833	1.50	0.01	0.434	O	| I	|	|	|	|	0.88	10.833	3.74	0.40	1.474	|O	|	| I	|	|	2.70
5.917	1.50	0.01	0.444	O	| I	|	|	|	|	0.90	10.917	3.76	0.40	1.498	| O	|	| I	|	|	2.73
6.000	1.50	0.01	0.455	O	| I	|	|	|	|	0.92	11.000	3.76	0.41	1.521	| O	|	| I	|	|	2.77
6.083	1.58	0.01	0.465	O	| I	|	|	|	|	0.94	11.083	3.68	0.42	1.543	| O	|	| I	|	|	2.81
6.167	1.66	0.01	0.476	O	I	|	|	|	|	0.96	11.167	3.60	0.42	1.565	| O	|	| I	|	|	2.85
6.250	1.68	0.01	0.488	O	I	|	|	|	|	0.98	11.250	3.58	0.43	1.587	| O	|	|I	|	|	2.88
6.333	1.69	0.01	0.499	O	I	|	|	|	|	1.01	11.333	3.57	0.44	1.609	| O	|	|I	|	|	2.92
6.417	1.69	0.01	0.511	O	I	|	|	|	|	1.03	11.417	3.57	0.44	1.630	| O	|	|I	|	|	2.95
6.500	1.69	0.01	0.523	O	I	|	|	|	|	1.05	11.500	3.57	0.45	1.652	| O	|	|I	|	|	2.99
6.583	1.77	0.01	0.535	O	I	|	|	|	|	1.08	11.583	3.41	0.46	1.673	| O	|	|I	|	|	3.02
6.667	1.85	0.01	0.547	O	|I	|	|	|	|	1.10	11.667	3.25	0.47	1.693	| O	|	I	|	|	3.05
6.750	1.87	0.01	0.560	O	|I	|	|	|	|	1.13	11.750	3.21	0.48	1.712	| O	|	I	|	|	3.08
6.833	1.88	0.01	0.573	O	|I	|	|	|	|	1.15	11.833	3.28	0.49	1.731	| O	|	I	|	|	3.11
6.917	1.88	0.01	0.585	O	|I	|	|	|	|	1.18	11.917	3.35	0.50	1.750	| O	|	I	|	|	3.13
7.000	1.88	0.01	0.598	O	|I	|	|	|	|	1.21	12.000	3.37	0.51	1.770	| O	|	I	|	|	3.16
7.083	1.88	0.01	0.611	O	|I	|	|	|	|	1.23	12.083	3.92	0.52	1.792	| O	|	| I	|	|	3.20
7.167	1.88	0.01	0.624	O	|I	|	|	|	|	1.26	12.167	4.51	0.53	1.817	| O	|	| I	|	|	3.23
7.250	1.88	0.02	0.637	O	|I	|	|	|	|	1.28	12.250	4.63	0.54	1.845	| O	|	| I	|	|	3.28
7.333	1.96	0.03	0.650	O	|I	|	|	|	|	1.30	12.333	4.76	0.56	1.873	| O	|	| I	|	|	3.32
7.417	2.04	0.04	0.663	O	| I	|	|	|	|	1.33	12.417	4.86	0.57	1.902	| O	|	| I	|	|	3.36
7.500	2.06	0.05	0.677	O	| I	|	|	|	|	1.35	12.500	4.87	0.59	1.932	| O	|	| I	|	|	3.41
7.583	2.14	0.05	0.691	O	| I	|	|	|	|	1.37	12.583	5.04	0.60	1.962	| O	|	| |I	|	|	3.45
7.667	2.23	0.06	0.706	O	| I	|	|	|	|	1.40	12.667	5.21	0.62	1.993	| O	|	| | I	|	|	3.50
7.750	2.24	0.07	0.721	O	| I	|	|	|	|	1.43	12.750	5.24	0.64	2.025	| O	|	| | I	|	|	3.54
7.833	2.33	0.08	0.736	O	| I	|	|	|	|	1.45	12.833	5.33	0.65	2.057	| O	|	| | I	|	|	3.59
7.917	2.42	0.09	0.752	O	| I	|	|	|	|	1.48	12.917	5.42	0.67	2.089	| O	|	| | I	|	|	3.64
8.000	2.43	0.10	0.768	O	| I	|	|	|	|	1.51	13.000	5.44	0.68	2.122	| O	|	| | I	|	|	3.69
8.083	2.60	0.11	0.784	O	| I	|	|	|	|	1.54	13.083	5.83	0.70	2.156	| O	|	| | I	|	|	3.74
8.167	2.76	0.12	0.802	O	| I	|	|	|	|	1.57	13.167	6.25	0.72	2.193	| O	|	| | I	|	|	3.80
8.250	2.80	0.14	0.820	O	| I	|	|	|	|	1.60	13.250	6.34	0.74	2.231	| O	|	| | I	|	|	3.85
8.333	2.81	0.15	0.839	O	| I	|	|	|	|	1.63	13.333	6.37	0.76	2.270	| O	|	| | I	|	|	3.91
8.417	2.82	0.16	0.857	O	| I	|	|	|	|	1.66	13.417	6.39	0.78	2.308	| O	|	| | I	|	|	3.97
8.500	2.82	0.17	0.875	O	| I	|	|	|	|	1.70	13.500	6.39	0.80	2.347	| O	|	| | I	|	|	4.02
8.583	2.90	0.18	0.894	O	| I	|	|	|	|	1.73	13.583	5.53	0.81	2.382	| O	|	| | I	|	|	4.07
8.667	2.98	0.19	0.913	O	| I	|	|	|	|	1.76	13.667	4.62	0.83	2.412	| O	|	| I |	|	|	4.11
8.750	3.00	0.21	0.932	|O	| I|	|	|	|	|	1.79	13.750	4.43	0.84	2.437	| O	|	| I |	|	|	4.14
8.833	3.08	0.22	0.951	|O	| I|	|	|	|	|	1.83	13.833	4.35	0.85	2.461	| O	|	| I |	|	|	4.18

13.917	4.32	0.86	2.485	O			I			4.21	18.917	0.40	1.10	3.015	I O					4.93
14.000	4.32	0.87	2.509	O			I			4.24	19.000	0.39	1.10	3.010	IO					4.92
14.083	4.63	0.88	2.534	O			I			4.28	19.083	0.46	1.10	3.005	I O					4.91
14.167	4.96	0.90	2.561	O			I			4.31	19.167	0.54	1.10	3.001	I O					4.91
14.250	5.03	0.91	2.589	O			I			4.35	19.250	0.55	1.10	2.997	I O					4.90
14.333	4.98	0.92	2.617	O			I			4.39	19.333	0.64	1.10	2.994	I O					4.90
14.417	4.91	0.93	2.645	O			I			4.43	19.417	0.72	1.09	2.991	I O					4.89
14.500	4.89	0.95	2.672	O			I			4.46	19.500	0.74	1.09	2.989	I O					4.89
14.583	4.89	0.96	2.699	O			I			4.50	19.583	0.67	1.09	2.986	I O					4.89
14.667	4.88	0.97	2.726	O			I			4.54	19.667	0.59	1.09	2.983	I O					4.88
14.750	4.88	0.98	2.753	O			I			4.57	19.750	0.57	1.09	2.979	I O					4.88
14.833	4.81	1.00	2.780	O			I			4.61	19.833	0.49	1.09	2.975	I O					4.87
14.917	4.72	1.01	2.806	O			I			4.64	19.917	0.40	1.08	2.971	I O					4.87
15.000	4.71	1.02	2.831	O			I			4.68	20.000	0.39	1.08	2.966	IO					4.86
15.083	4.62	1.03	2.856	O			I			4.71	20.083	0.46	1.08	2.962	I O					4.85
15.167	4.54	1.04	2.881	O			I			4.74	20.167	0.54	1.08	2.958	I O					4.85
15.250	4.52	1.05	2.905	O			I			4.78	20.250	0.55	1.08	2.954	I O					4.84
15.333	4.43	1.06	2.928	O			I			4.81	20.333	0.56	1.08	2.950	I O					4.84
15.417	4.35	1.08	2.951	O			I			4.84	20.417	0.56	1.07	2.947	I O					4.83
15.500	4.33	1.09	2.973	O			I			4.87	20.500	0.56	1.07	2.943	I O					4.83
15.583	4.01	1.10	2.995	O			I			4.90	20.583	0.56	1.07	2.940	I O					4.82
15.667	3.68	1.10	3.014	O		I				4.92	20.667	0.56	1.07	2.936	I O					4.82
15.750	3.61	1.11	3.031	O		I				4.95	20.750	0.56	1.07	2.933	I O					4.81
15.833	3.58	1.12	3.048	O		I				4.97	20.833	0.49	1.07	2.929	I O					4.81
15.917	3.57	1.13	3.065	O		I				4.99	20.917	0.40	1.06	2.925	I O					4.80
16.000	3.57	1.13	3.082	O		I				5.01	21.000	0.39	1.06	2.920	IO					4.80
16.083	2.40	1.14	3.095	O	I					5.03	21.083	0.46	1.06	2.916	I O					4.79
16.167	**1.16**	**1.14**	**3.099**	**O**						**5.04**	21.167	0.54	1.06	2.912	I O					4.79
16.250	0.90	1.14	3.098	IO						5.04	21.250	0.55	1.06	2.909	I O					4.78
16.333	0.79	1.14	3.096	I O						5.03	21.333	0.48	1.05	2.905	I O					4.78
16.417	0.75	1.14	3.094	I O						5.03	21.417	0.40	1.05	2.901	I O					4.77
16.500	0.75	1.14	3.091	I O						5.03	21.500	0.39	1.05	2.896	IO					4.77
16.583	0.67	1.14	3.088	I O						5.02	21.583	0.46	1.05	2.892	I O					4.76
16.667	0.59	1.14	3.084	I O						5.02	21.667	0.54	1.05	2.888	I O					4.75
16.750	0.57	1.13	3.081	I O						5.01	21.750	0.55	1.04	2.885	I O					4.75
16.833	0.57	1.13	3.077	I O						5.01	21.833	0.48	1.04	2.881	I O					4.74
16.917	0.56	1.13	3.073	I O						5.00	21.917	0.40	1.04	2.877	I O					4.74
17.000	0.56	1.13	3.069	I O						5.00	22.000	0.39	1.04	2.872	IO					4.73
17.083	0.72	1.13	3.066	I O						4.99	22.083	0.46	1.04	2.868	I O					4.73
17.167	0.89	1.13	3.063	IO						4.99	22.167	0.54	1.04	2.864	I O					4.72
17.250	0.92	1.13	3.062	IO						4.99	22.250	0.55	1.03	2.861	I O					4.72
17.333	0.93	1.13	3.060	IO						4.99	22.333	0.48	1.03	2.858	I O					4.71
17.417	0.94	1.13	3.059	IO						4.99	22.417	0.40	1.03	2.853	I O					4.71
17.500	0.94	1.12	3.058	IO						4.98	22.500	0.39	1.03	2.849	IO					4.70
17.583	0.94	1.12	3.057	IO						4.98	22.583	0.38	1.03	2.845	IO					4.70
17.667	0.94	1.12	3.055	IO						4.98	22.667	0.38	1.02	2.840	IO					4.69
17.750	0.94	1.12	3.054	IO						4.98	22.750	0.38	1.02	2.836	IO					4.68
17.833	0.86	1.12	3.053	IO						4.98	22.833	0.38	1.02	2.831	IO					4.68
17.917	0.78	1.12	3.050	I O						4.97	22.917	0.38	1.02	2.827	IO					4.67
18.000	0.76	1.12	3.048	I O						4.97	23.000	0.38	1.02	2.822	IO					4.67
18.083	0.75	1.12	3.046	I O						4.97	23.083	0.38	1.01	2.818	IO					4.66
18.167	0.75	1.12	3.043	I O						4.96	23.167	0.38	1.01	2.814	IO					4.65
18.250	0.75	1.12	3.041	I O						4.96	23.250	0.38	1.01	2.809	IO					4.65
18.333	0.75	1.12	3.038	I O						4.96	23.333	0.38	1.01	2.805	IO					4.64
18.417	0.75	1.11	3.036	I O						4.95	23.417	0.38	1.01	2.801	IO					4.64
18.500	0.75	1.11	3.033	I O						4.95	23.500	0.38	1.00	2.796	IO					4.63
18.583	0.67	1.11	3.030	I O						4.95	23.583	0.38	1.00	2.792	IO					4.62
18.667	0.59	1.11	3.027	I O						4.94	23.667	0.38	1.00	2.788	IO					4.62
18.750	0.57	1.11	3.023	I O						4.94	23.750	0.38	1.00	2.783	IO					4.61
18.833	0.49	1.11	3.019	I O						4.93	23.833	0.38	1.00	2.779	I O					4.61

23.917	0.38	0.99	2.775	|I	O	|	|	|	|	4.60	28.917	0.00	0.82	2.405	I	O	|	|	|	|	4.10
24.000	0.38	0.99	2.770	|I	O	|	|	|	|	4.60	29.000	0.00	0.82	2.400	I	O	|	|	|	|	4.09
24.083	0.22	0.99	2.766	|I	O	|	|	|	|	4.59	29.083	0.00	0.82	2.394	I	O	|	|	|	|	4.09
24.167	0.05	0.99	2.760	I	O	|	|	|	|	4.58	29.167	0.00	0.82	2.388	I	O	|	|	|	|	4.08
24.250	0.02	0.98	2.753	I	O	|	|	|	|	4.57	29.250	0.00	0.81	2.383	I	O	|	|	|	|	4.07
24.333	0.01	0.98	2.747	I	O	|	|	|	|	4.56	29.333	0.00	0.81	2.377	I	O	|	|	|	|	4.06
24.417	0.00	0.98	2.740	I	O	|	|	|	|	4.55	29.417	0.00	0.81	2.372	I	O	|	|	|	|	4.06
24.500	0.00	0.98	2.733	I	O	|	|	|	|	4.54	29.500	0.00	0.81	2.366	I	O	|	|	|	|	4.05
24.583	0.00	0.97	2.726	I	O	|	|	|	|	4.54	29.583	0.00	0.80	2.361	I	O	|	|	|	|	4.04
24.667	0.00	0.97	2.720	I	O	|	|	|	|	4.53	29.667	0.00	0.80	2.355	I	O	|	|	|	|	4.03
24.750	0.00	0.97	2.713	I	O	|	|	|	|	4.52	29.750	0.00	0.80	2.350	I	O	|	|	|	|	4.03
24.833	0.00	0.96	2.706	I	O	|	|	|	|	4.51	29.833	0.00	0.80	2.344	I	O	|	|	|	|	4.02
24.917	0.00	0.96	2.700	I	O	|	|	|	|	4.50	29.917	0.00	0.79	2.339	I	O	|	|	|	|	4.01
25.000	0.00	0.96	2.693	I	O	|	|	|	|	4.49	30.000	0.00	0.79	2.333	I	O	|	|	|	|	4.00
25.083	0.00	0.95	2.687	I	O	|	|	|	|	4.48	30.083	0.00	0.79	2.328	I	O	|	|	|	|	4.00
25.167	0.00	0.95	2.680	I	O	|	|	|	|	4.47	30.167	0.00	0.79	2.322	I	O	|	|	|	|	3.99
25.250	0.00	0.95	2.674	I	O	|	|	|	|	4.46	30.250	0.00	0.78	2.317	I	O	|	|	|	|	3.98
25.333	0.00	0.94	2.667	I	O	|	|	|	|	4.46	30.333	0.00	0.78	2.311	I	O	|	|	|	|	3.97
25.417	0.00	0.94	2.661	I	O	|	|	|	|	4.45	30.417	0.00	0.78	2.306	I	O	|	|	|	|	3.96
25.500	0.00	0.94	2.654	I	O	|	|	|	|	4.44	30.500	0.00	0.78	2.301	I	O	|	|	|	|	3.96
25.583	0.00	0.94	2.648	I	O	|	|	|	|	4.43	30.583	0.00	0.77	2.295	I	O	|	|	|	|	3.95
25.667	0.00	0.93	2.641	I	O	|	|	|	|	4.42	30.667	0.00	0.77	2.290	I	O	|	|	|	|	3.94
25.750	0.00	0.93	2.635	I	O	|	|	|	|	4.41	30.750	0.00	0.77	2.285	I	O	|	|	|	|	3.93
25.833	0.00	0.93	2.628	I	O	|	|	|	|	4.40	30.833	0.00	0.76	2.280	I	O	|	|	|	|	3.92
25.917	0.00	0.92	2.622	I	O	|	|	|	|	4.39	30.917	0.00	0.76	2.274	I	O	|	|	|	|	3.92
26.000	0.00	0.92	2.616	I	O	|	|	|	|	4.39	31.000	0.00	0.76	2.269	I	O	|	|	|	|	3.91
26.083	0.00	0.92	2.609	I	O	|	|	|	|	4.38	31.083	0.00	0.76	2.264	I	O	|	|	|	|	3.90
26.167	0.00	0.92	2.603	I	O	|	|	|	|	4.37	31.167	0.00	0.75	2.259	I	O	|	|	|	|	3.89
26.250	0.00	0.91	2.597	I	O	|	|	|	|	4.36	31.250	0.00	0.75	2.253	I	O	|	|	|	|	3.89
26.333	0.00	0.91	2.590	I	O	|	|	|	|	4.35	31.333	0.00	0.75	2.248	I	O	|	|	|	|	3.88
26.417	0.00	0.91	2.584	I	O	|	|	|	|	4.34	31.417	0.00	0.75	2.243	I	O	|	|	|	|	3.87
26.500	0.00	0.90	2.578	I	O	|	|	|	|	4.34	31.500	0.00	0.74	2.238	I	O	|	|	|	|	3.86
26.583	0.00	0.90	2.572	I	O	|	|	|	|	4.33	31.583	0.00	0.74	2.233	I	O	|	|	|	|	3.86
26.667	0.00	0.90	2.566	I	O	|	|	|	|	4.32	31.667	0.00	0.74	2.228	I	O	|	|	|	|	3.85
26.750	0.00	0.90	2.559	I	O	|	|	|	|	4.31	31.750	0.00	0.74	2.223	I	O	|	|	|	|	3.84
26.833	0.00	0.89	2.553	I	O	|	|	|	|	4.30	31.833	0.00	0.73	2.218	I	O	|	|	|	|	3.83
26.917	0.00	0.89	2.547	I	O	|	|	|	|	4.29	31.917	0.00	0.73	2.213	I	O	|	|	|	|	3.82
27.000	0.00	0.89	2.541	I	O	|	|	|	|	4.29	32.000	0.00	0.73	2.208	I	O	|	|	|	|	3.82
27.083	0.00	0.88	2.535	I	O	|	|	|	|	4.28	32.083	0.00	0.73	2.203	I	O	|	|	|	|	3.81
27.167	0.00	0.88	2.529	I	O	|	|	|	|	4.27	32.167	0.00	0.72	2.198	I	O	|	|	|	|	3.80
27.250	0.00	0.88	2.523	I	O	|	|	|	|	4.26	32.250	0.00	0.72	2.193	I	O	|	|	|	|	3.79
27.333	0.00	0.88	2.517	I	O	|	|	|	|	4.25	32.333	0.00	0.72	2.188	I	O	|	|	|	|	3.79
27.417	0.00	0.87	2.511	I	O	|	|	|	|	4.24	32.417	0.00	0.72	2.183	I	O	|	|	|	|	3.78
27.500	0.00	0.87	2.505	I	O	|	|	|	|	4.24	32.500	0.00	0.71	2.178	I	O	|	|	|	|	3.77
27.583	0.00	0.87	2.499	I	O	|	|	|	|	4.23	32.583	0.00	0.71	2.173	I	O	|	|	|	|	3.77
27.667	0.00	0.86	2.493	I	O	|	|	|	|	4.22	32.667	0.00	0.71	2.168	I	O	|	|	|	|	3.76
27.750	0.00	0.86	2.487	I	O	|	|	|	|	4.21	32.750	0.00	0.71	2.163	I	O	|	|	|	|	3.75
27.833	0.00	0.86	2.481	I	O	|	|	|	|	4.20	32.833	0.00	0.70	2.158	I	O	|	|	|	|	3.74
27.917	0.00	0.86	2.475	I	O	|	|	|	|	4.20	32.917	0.00	0.70	2.153	I	O	|	|	|	|	3.74
28.000	0.00	0.85	2.469	I	O	|	|	|	|	4.19	33.000	0.00	0.70	2.149	I	O	|	|	|	|	3.73
28.083	0.00	0.85	2.463	I	O	|	|	|	|	4.18	33.083	0.00	0.70	2.144	I	O	|	|	|	|	3.72
28.167	0.00	0.85	2.457	I	O	|	|	|	|	4.17	33.167	0.00	0.69	2.139	I	O	|	|	|	|	3.72
28.250	0.00	0.85	2.451	I	O	|	|	|	|	4.16	33.250	0.00	0.69	2.134	I	O	|	|	|	|	3.71
28.333	0.00	0.84	2.446	I	O	|	|	|	|	4.16	33.333	0.00	0.69	2.130	I	O	|	|	|	|	3.70
28.417	0.00	0.84	2.440	I	O	|	|	|	|	4.15	33.417	0.00	0.69	2.125	I	O	|	|	|	|	3.69
28.500	0.00	0.84	2.434	I	O	|	|	|	|	4.14	33.500	0.00	0.68	2.120	I	O	|	|	|	|	3.69
28.583	0.00	0.84	2.428	I	O	|	|	|	|	4.13	33.583	0.00	0.68	2.115	I	O	|	|	|	|	3.68
28.667	0.00	0.83	2.423	I	O	|	|	|	|	4.13	33.667	0.00	0.68	2.111	I	O	|	|	|	|	3.67
28.750	0.00	0.83	2.417	I	O	|	|	|	|	4.12	33.750	0.00	0.68	2.106	I	O	|	|	|	|	3.67
28.833	0.00	0.83	2.411	I	O	|	|	|	|	4.11	33.833	0.00	0.67	2.101	I	O	|	|	|	|	3.66

33.917	0.00	0.67	2.097	I	O	|	|	|	|	3.65	38.917	0.00	0.54	1.846	I	O	|	|	|	|	3.28
34.000	0.00	0.67	2.092	I	O	|	|	|	|	3.65	39.000	0.00	0.54	1.843	I	O	|	|	|	|	3.27
34.083	0.00	0.67	2.088	I	O	|	|	|	|	3.64	39.083	0.00	0.54	1.839	I	O	|	|	|	|	3.27
34.167	0.00	0.66	2.083	I	O	|	|	|	|	3.63	39.167	0.00	0.54	1.835	I	O	|	|	|	|	3.26
34.250	0.00	0.66	2.078	I	O	|	|	|	|	3.62	39.250	0.00	0.54	1.832	I	O	|	|	|	|	3.26
34.333	0.00	0.66	2.074	I	O	|	|	|	|	3.62	39.333	0.00	0.54	1.828	I	O	|	|	|	|	3.25
34.417	0.00	0.66	2.069	I	O	|	|	|	|	3.61	39.417	0.00	0.53	1.824	I	O	|	|	|	|	3.25
34.500	0.00	0.66	2.065	I	O	|	|	|	|	3.60	39.500	0.00	0.53	1.820	I	O	|	|	|	|	3.24
34.583	0.00	0.65	2.060	I	O	|	|	|	|	3.60	39.583	0.00	0.53	1.817	I	O	|	|	|	|	3.23
34.667	0.00	0.65	2.056	I	O	|	|	|	|	3.59	39.667	0.00	0.53	1.813	I	O	|	|	|	|	3.23
34.750	0.00	0.65	2.051	I	O	|	|	|	|	3.58	39.750	0.00	0.53	1.810	I	O	|	|	|	|	3.22
34.833	0.00	0.65	2.047	I	O	|	|	|	|	3.58	39.833	0.00	0.52	1.806	I	O	|	|	|	|	3.22
34.917	0.00	0.64	2.042	I	O	|	|	|	|	3.57	39.917	0.00	0.52	1.802	I	O	|	|	|	|	3.21
35.000	0.00	0.64	2.038	I	O	|	|	|	|	3.56	40.000	0.00	0.52	1.799	I	O	|	|	|	|	3.21
35.083	0.00	0.64	2.034	I	O	|	|	|	|	3.56	40.083	0.00	0.52	1.795	I	O	|	|	|	|	3.20
35.167	0.00	0.64	2.029	I	O	|	|	|	|	3.55	40.167	0.00	0.52	1.792	I	O	|	|	|	|	3.20
35.250	0.00	0.64	2.025	I	O	|	|	|	|	3.54	40.250	0.00	0.51	1.788	I	O	|	|	|	|	3.19
35.333	0.00	0.63	2.020	I	O	|	|	|	|	3.54	40.333	0.00	0.51	1.785	I	O	|	|	|	|	3.19
35.417	0.00	0.63	2.016	I	O	|	|	|	|	3.53	40.417	0.00	0.51	1.781	I	O	|	|	|	|	3.18
35.500	0.00	0.63	2.012	I	O	|	|	|	|	3.53	40.500	0.00	0.51	1.777	I	O	|	|	|	|	3.18
35.583	0.00	0.63	2.007	I	O	|	|	|	|	3.52	40.583	0.00	0.51	1.774	I	O	|	|	|	|	3.17
35.667	0.00	0.62	2.003	I	O	|	|	|	|	3.51	40.667	0.00	0.51	1.770	I	O	|	|	|	|	3.16
35.750	0.00	0.62	1.999	I	O	|	|	|	|	3.51	40.750	0.00	0.50	1.767	I	O	|	|	|	|	3.16
35.833	0.00	0.62	1.995	I	O	|	|	|	|	3.50	40.833	0.00	0.50	1.764	I	O	|	|	|	|	3.15
35.917	0.00	0.62	1.990	I	O	|	|	|	|	3.49	40.917	0.00	0.50	1.760	I	O	|	|	|	|	3.15
36.000	0.00	0.62	1.986	I	O	|	|	|	|	3.49	41.000	0.00	0.50	1.757	I	O	|	|	|	|	3.14
36.083	0.00	0.61	1.982	I	O	|	|	|	|	3.48	41.083	0.00	0.50	1.753	I	O	|	|	|	|	3.14
36.167	0.00	0.61	1.978	I	O	|	|	|	|	3.47	41.167	0.00	0.50	1.750	I	O	|	|	|	|	3.13
36.250	0.00	0.61	1.973	I	O	|	|	|	|	3.47	41.250	0.00	0.49	1.746	I	O	|	|	|	|	3.13
36.333	0.00	0.61	1.969	I	O	|	|	|	|	3.46	41.333	0.00	0.49	1.743	I	O	|	|	|	|	3.12
36.417	0.00	0.60	1.965	I	O	|	|	|	|	3.46	41.417	0.00	0.49	1.740	I	O	|	|	|	|	3.12
36.500	0.00	0.60	1.961	I	O	|	|	|	|	3.45	41.500	0.00	0.49	1.736	I	O	|	|	|	|	3.11
36.583	0.00	0.60	1.957	I	O	|	|	|	|	3.44	41.583	0.00	0.49	1.733	I	O	|	|	|	|	3.11
36.667	0.00	0.60	1.953	I	O	|	|	|	|	3.44	41.667	0.00	0.49	1.730	I	O	|	|	|	|	3.10
36.750	0.00	0.60	1.949	I	O	|	|	|	|	3.43	41.750	0.00	0.48	1.726	I	O	|	|	|	|	3.10
36.833	0.00	0.59	1.944	I	O	|	|	|	|	3.42	41.833	0.00	0.48	1.723	I	O	|	|	|	|	3.09
36.917	0.00	0.59	1.940	I	O	|	|	|	|	3.42	41.917	0.00	0.48	1.720	I	O	|	|	|	|	3.09
37.000	0.00	0.59	1.936	I	O	|	|	|	|	3.41	42.000	0.00	0.48	1.716	I	O	|	|	|	|	3.08
37.083	0.00	0.59	1.932	I	O	|	|	|	|	3.41	42.083	0.00	0.48	1.713	I	O	|	|	|	|	3.08
37.167	0.00	0.59	1.928	I	O	|	|	|	|	3.40	42.167	0.00	0.48	1.710	I	O	|	|	|	|	3.07
37.250	0.00	0.58	1.924	I	O	|	|	|	|	3.39	42.250	0.00	0.47	1.706	I	O	|	|	|	|	3.07
37.333	0.00	0.58	1.920	I	O	|	|	|	|	3.39	42.333	0.00	0.47	1.703	I	O	|	|	|	|	3.06
37.417	0.00	0.58	1.916	I	O	|	|	|	|	3.38	42.417	0.00	0.47	1.700	I	O	|	|	|	|	3.06
37.500	0.00	0.58	1.912	I	O	|	|	|	|	3.38	42.500	0.00	0.47	1.697	I	O	|	|	|	|	3.05
37.583	0.00	0.58	1.908	I	O	|	|	|	|	3.37	42.583	0.00	0.47	1.693	I	O	|	|	|	|	3.05
37.667	0.00	0.57	1.904	I	O	|	|	|	|	3.36	42.667	0.00	0.47	1.690	I	O	|	|	|	|	3.05
37.750	0.00	0.57	1.900	I	O	|	|	|	|	3.36	42.750	0.00	0.46	1.687	I	O	|	|	|	|	3.04
37.833	0.00	0.57	1.896	I	O	|	|	|	|	3.35	42.833	0.00	0.46	1.684	I	O	|	|	|	|	3.04
37.917	0.00	0.57	1.892	I	O	|	|	|	|	3.35	42.917	0.00	0.46	1.681	I	O	|	|	|	|	3.03
38.000	0.00	0.57	1.888	I	O	|	|	|	|	3.34	43.000	0.00	0.46	1.678	I	O	|	|	|	|	3.03
38.083	0.00	0.56	1.885	I	O	|	|	|	|	3.34	43.083	0.00	0.46	1.674	I	O	|	|	|	|	3.02
38.167	0.00	0.56	1.881	I	O	|	|	|	|	3.33	43.167	0.00	0.46	1.671	I	O	|	|	|	|	3.02
38.250	0.00	0.56	1.877	I	O	|	|	|	|	3.32	43.250	0.00	0.45	1.668	I	O	|	|	|	|	3.01
38.333	0.00	0.56	1.873	I	O	|	|	|	|	3.32	43.333	0.00	0.45	1.665	I	O	|	|	|	|	3.01
38.417	0.00	0.56	1.869	I	O	|	|	|	|	3.31	43.417	0.00	0.45	1.662	I	O	|	|	|	|	3.00
38.500	0.00	0.55	1.865	I	O	|	|	|	|	3.31	43.500	0.00	0.45	1.659	I	O	|	|	|	|	3.00
38.583	0.00	0.55	1.862	I	O	|	|	|	|	3.30	43.583	0.00	0.45	1.656	I	O	|	|	|	|	2.99
38.667	0.00	0.55	1.858	I	O	|	|	|	|	3.30	43.667	0.00	0.45	1.653	I	O	|	|	|	|	2.99
38.750	0.00	0.55	1.854	I	O	|	|	|	|	3.29	43.750	0.00	0.45	1.649	I	O	|	|	|	|	2.98
38.833	0.00	0.55	1.850	I	O	|	|	|	|	3.28	43.833	0.00	0.45	1.646	I	O	|	|	|	|	2.98

43.917	0.00	0.45	1.643	I O	|	|	|	|	2.97	48.917	0.00	0.40	1.470	IO	|	|	|	|	2.69
44.000	0.00	0.44	1.640	I O	|	|	|	|	2.97	49.000	0.00	0.40	1.467	IO	|	|	|	|	2.68
44.083	0.00	0.44	1.637	I O	|	|	|	|	2.96	49.083	0.00	0.40	1.464	IO	|	|	|	|	2.68
44.167	0.00	0.44	1.634	I O	|	|	|	|	2.96	49.167	0.00	0.39	1.461	IO	|	|	|	|	2.67
44.250	0.00	0.44	1.631	I O	|	|	|	|	2.95	49.250	0.00	0.39	1.459	IO	|	|	|	|	2.67
44.333	0.00	0.44	1.628	I O	|	|	|	|	2.95	49.333	0.00	0.39	1.456	IO	|	|	|	|	2.67
44.417	0.00	0.44	1.625	I O	|	|	|	|	2.94	49.417	0.00	0.39	1.453	IO	|	|	|	|	2.66
44.500	0.00	0.44	1.622	I O	|	|	|	|	2.94	49.500	0.00	0.39	1.451	IO	|	|	|	|	2.66
44.583	0.00	0.44	1.619	I O	|	|	|	|	2.93	49.583	0.00	0.39	1.448	IO	|	|	|	|	2.65
44.667	0.00	0.44	1.616	I O	|	|	|	|	2.93	49.667	0.00	0.39	1.445	IO	|	|	|	|	2.65
44.750	0.00	0.44	1.613	I O	|	|	|	|	2.92	49.750	0.00	0.39	1.442	IO	|	|	|	|	2.64
44.833	0.00	0.44	1.610	I O	|	|	|	|	2.92	49.833	0.00	0.39	1.440	IO	|	|	|	|	2.64
44.917	0.00	0.44	1.607	I O	|	|	|	|	2.91	49.917	0.00	0.39	1.437	IO	|	|	|	|	2.63
45.000	0.00	0.43	1.604	I O	|	|	|	|	2.91	50.000	0.00	0.39	1.434	IO	|	|	|	|	2.63
45.083	0.00	0.43	1.601	I O	|	|	|	|	2.90	50.083	0.00	0.39	1.432	IO	|	|	|	|	2.63
45.167	0.00	0.43	1.598	I O	|	|	|	|	2.90	50.167	0.00	0.39	1.429	IO	|	|	|	|	2.62
45.250	0.00	0.43	1.595	I O	|	|	|	|	2.89	50.250	0.00	0.38	1.426	IO	|	|	|	|	2.62
45.333	0.00	0.43	1.592	I O	|	|	|	|	2.89	50.333	0.00	0.38	1.424	IO	|	|	|	|	2.61
45.417	0.00	0.43	1.589	I O	|	|	|	|	2.88	50.417	0.00	0.38	1.421	IO	|	|	|	|	2.61
45.500	0.00	0.43	1.586	I O	|	|	|	|	2.88	50.500	0.00	0.38	1.419	IO	|	|	|	|	2.60
45.583	0.00	0.43	1.583	I O	|	|	|	|	2.87	50.583	0.00	0.38	1.416	IO	|	|	|	|	2.60
45.667	0.00	0.43	1.580	I O	|	|	|	|	2.87	50.667	0.00	0.38	1.413	IO	|	|	|	|	2.60
45.750	0.00	0.43	1.577	I O	|	|	|	|	2.86	50.750	0.00	0.38	1.411	IO	|	|	|	|	2.59
45.833	0.00	0.43	1.574	I O	|	|	|	|	2.86	50.833	0.00	0.38	1.408	IO	|	|	|	|	2.59
45.917	0.00	0.43	1.571	I O	|	|	|	|	2.85	50.917	0.00	0.38	1.405	IO	|	|	|	|	2.58
46.000	0.00	0.42	1.568	I O	|	|	|	|	2.85	51.000	0.00	0.38	1.403	IO	|	|	|	|	2.58
46.083	0.00	0.42	1.566	I O	|	|	|	|	2.85	51.083	0.00	0.38	1.400	IO	|	|	|	|	2.57
46.167	0.00	0.42	1.563	I O	|	|	|	|	2.84	51.167	0.00	0.38	1.398	IO	|	|	|	|	2.57
46.250	0.00	0.42	1.560	I O	|	|	|	|	2.84	51.250	0.00	0.38	1.395	IO	|	|	|	|	2.57
46.333	0.00	0.42	1.557	I O	|	|	|	|	2.83	51.333	0.00	0.38	1.392	IO	|	|	|	|	2.56
46.417	0.00	0.42	1.554	I O	|	|	|	|	2.83	51.417	0.00	0.37	1.390	IO	|	|	|	|	2.56
46.500	0.00	0.42	1.551	I O	|	|	|	|	2.82	51.500	0.00	0.37	1.387	IO	|	|	|	|	2.55
46.583	0.00	0.42	1.548	I O	|	|	|	|	2.82	51.583	0.00	0.37	1.385	IO	|	|	|	|	2.55
46.667	0.00	0.42	1.545	I O	|	|	|	|	2.81	51.667	0.00	0.37	1.382	IO	|	|	|	|	2.54
46.750	0.00	0.42	1.542	I O	|	|	|	|	2.81	51.750	0.00	0.37	1.380	IO	|	|	|	|	2.54
46.833	0.00	0.42	1.540	I O	|	|	|	|	2.80	51.833	0.00	0.37	1.377	IO	|	|	|	|	2.54
46.917	0.00	0.42	1.537	I O	|	|	|	|	2.80	51.917	0.00	0.37	1.374	IO	|	|	|	|	2.53
47.000	0.00	0.41	1.534	I O	|	|	|	|	2.79	52.000	0.00	0.37	1.372	IO	|	|	|	|	2.53
47.083	0.00	0.41	1.531	I O	|	|	|	|	2.79	52.083	0.00	0.37	1.369	IO	|	|	|	|	2.52
47.167	0.00	0.41	1.528	I O	|	|	|	|	2.78	52.167	0.00	0.37	1.367	IO	|	|	|	|	2.52
47.250	0.00	0.41	1.525	I O	|	|	|	|	2.78	52.250	0.00	0.37	1.364	IO	|	|	|	|	2.52
47.333	0.00	0.41	1.522	I O	|	|	|	|	2.77	52.333	0.00	0.37	1.362	IO	|	|	|	|	2.51
47.417	0.00	0.41	1.520	I O	|	|	|	|	2.77	52.417	0.00	0.37	1.359	IO	|	|	|	|	2.51
47.500	0.00	0.41	1.517	I O	|	|	|	|	2.77	52.500	0.00	0.37	1.357	IO	|	|	|	|	2.50
47.583	0.00	0.41	1.514	I O	|	|	|	|	2.76	52.583	0.00	0.36	1.354	IO	|	|	|	|	2.50
47.667	0.00	0.41	1.511	I O	|	|	|	|	2.76	52.667	0.00	0.36	1.352	IO	|	|	|	|	2.49
47.750	0.00	0.41	1.508	I O	|	|	|	|	2.75	52.750	0.00	0.36	1.349	IO	|	|	|	|	2.49
47.833	0.00	0.41	1.505	I O	|	|	|	|	2.75	52.833	0.00	0.36	1.347	IO	|	|	|	|	2.49
47.917	0.00	0.41	1.503	I O	|	|	|	|	2.74	52.917	0.00	0.36	1.344	IO	|	|	|	|	2.48
48.000	0.00	0.41	1.500	I O	|	|	|	|	2.74	53.000	0.00	0.36	1.342	IO	|	|	|	|	2.48
48.083	0.00	0.40	1.497	I O	|	|	|	|	2.73	53.083	0.00	0.36	1.339	IO	|	|	|	|	2.47
48.167	0.00	0.40	1.494	I O	|	|	|	|	2.73	53.167	0.00	0.36	1.337	IO	|	|	|	|	2.47
48.250	0.00	0.40	1.492	I O	|	|	|	|	2.72	53.250	0.00	0.36	1.334	IO	|	|	|	|	2.47
48.333	0.00	0.40	1.489	I O	|	|	|	|	2.72	53.333	0.00	0.36	1.332	IO	|	|	|	|	2.46
48.417	0.00	0.40	1.486	I O	|	|	|	|	2.71	53.417	0.00	0.36	1.329	IO	|	|	|	|	2.46
48.500	0.00	0.40	1.483	I O	|	|	|	|	2.71	53.500	0.00	0.36	1.327	IO	|	|	|	|	2.45
48.583	0.00	0.40	1.480	I O	|	|	|	|	2.71	53.583	0.00	0.36	1.324	IO	|	|	|	|	2.45
48.667	0.00	0.40	1.478	IO	|	|	|	|	2.70	53.667	0.00	0.36	1.322	IO	|	|	|	|	2.45
48.750	0.00	0.40	1.475	IO	|	|	|	|	2.70	53.750	0.00	0.36	1.319	IO	|	|	|	|	2.44
48.833	0.00	0.40	1.472	IO	|	|	|	|	2.69	53.833	0.00	0.35	1.317	IO	|	|	|	|	2.44

53.917	0.00	0.35	1.315	IO	|	|	|	|	2.43	58.917	0.00	0.32	1.177	IO	|	|	|	|	2.21
54.000	0.00	0.35	1.312	IO	|	|	|	|	2.43	59.000	0.00	0.31	1.174	IO	|	|	|	|	2.20
54.083	0.00	0.35	1.310	IO	|	|	|	|	2.43	59.083	0.00	0.31	1.172	IO	|	|	|	|	2.20
54.167	0.00	0.35	1.307	IO	|	|	|	|	2.42	59.167	0.00	0.31	1.170	IO	|	|	|	|	2.20
54.250	0.00	0.35	1.305	IO	|	|	|	|	2.42	59.250	0.00	0.31	1.168	IO	|	|	|	|	2.19
54.333	0.00	0.35	1.302	IO	|	|	|	|	2.41	59.333	0.00	0.31	1.166	IO	|	|	|	|	2.19
54.417	0.00	0.35	1.300	IO	|	|	|	|	2.41	59.417	0.00	0.31	1.164	IO	|	|	|	|	2.19
54.500	0.00	0.35	1.298	IO	|	|	|	|	2.41	59.500	0.00	0.31	1.161	IO	|	|	|	|	2.18
54.583	0.00	0.35	1.295	IO	|	|	|	|	2.40	59.583	0.00	0.31	1.159	IO	|	|	|	|	2.18
54.667	0.00	0.35	1.293	IO	|	|	|	|	2.40	59.667	0.00	0.31	1.157	IO	|	|	|	|	2.18
54.750	0.00	0.35	1.290	IO	|	|	|	|	2.39	59.750	0.00	0.31	1.155	IO	|	|	|	|	2.17
54.833	0.00	0.35	1.288	IO	|	|	|	|	2.39	59.833	0.00	0.31	1.153	IO	|	|	|	|	2.17
54.917	0.00	0.35	1.286	IO	|	|	|	|	2.39	59.917	0.00	0.31	1.151	IO	|	|	|	|	2.17
55.000	0.00	0.35	1.283	IO	|	|	|	|	2.38	60.000	0.00	0.31	1.149	IO	|	|	|	|	2.16
55.083	0.00	0.34	1.281	IO	|	|	|	|	2.38	60.083	0.00	0.31	1.147	IO	|	|	|	|	2.16
55.167	0.00	0.34	1.279	IO	|	|	|	|	2.37	60.167	0.00	0.31	1.144	IO	|	|	|	|	2.15
55.250	0.00	0.34	1.276	IO	|	|	|	|	2.37	60.250	0.00	0.31	1.142	IO	|	|	|	|	2.15
55.333	0.00	0.34	1.274	IO	|	|	|	|	2.37	60.333	0.00	0.31	1.140	IO	|	|	|	|	2.15
55.417	0.00	0.34	1.271	IO	|	|	|	|	2.36	60.417	0.00	0.30	1.138	IO	|	|	|	|	2.14
55.500	0.00	0.34	1.269	IO	|	|	|	|	2.36	60.500	0.00	0.30	1.136	IO	|	|	|	|	2.14
55.583	0.00	0.34	1.267	IO	|	|	|	|	2.36	60.583	0.00	0.30	1.134	IO	|	|	|	|	2.14
55.667	0.00	0.34	1.264	IO	|	|	|	|	2.35	60.667	0.00	0.30	1.132	IO	|	|	|	|	2.13
55.750	0.00	0.34	1.262	IO	|	|	|	|	2.35	60.750	0.00	0.30	1.130	IO	|	|	|	|	2.13
55.833	0.00	0.34	1.260	IO	|	|	|	|	2.34	60.833	0.00	0.30	1.128	IO	|	|	|	|	2.13
55.917	0.00	0.34	1.257	IO	|	|	|	|	2.34	60.917	0.00	0.30	1.126	IO	|	|	|	|	2.12
56.000	0.00	0.34	1.255	IO	|	|	|	|	2.34	61.000	0.00	0.30	1.124	IO	|	|	|	|	2.12
56.083	0.00	0.34	1.253	IO	|	|	|	|	2.33	61.083	0.00	0.30	1.121	IO	|	|	|	|	2.12
56.167	0.00	0.34	1.250	IO	|	|	|	|	2.33	61.167	0.00	0.30	1.119	IO	|	|	|	|	2.11
56.250	0.00	0.34	1.248	IO	|	|	|	|	2.32	61.250	0.00	0.30	1.117	IO	|	|	|	|	2.11
56.333	0.00	0.33	1.246	IO	|	|	|	|	2.32	61.333	0.00	0.30	1.115	IO	|	|	|	|	2.11
56.417	0.00	0.33	1.244	IO	|	|	|	|	2.32	61.417	0.00	0.30	1.113	IO	|	|	|	|	2.10
56.500	0.00	0.33	1.241	IO	|	|	|	|	2.31	61.500	0.00	0.30	1.111	IO	|	|	|	|	2.10
56.583	0.00	0.33	1.239	IO	|	|	|	|	2.31	61.583	0.00	0.30	1.109	IO	|	|	|	|	2.10
56.667	0.00	0.33	1.237	IO	|	|	|	|	2.31	61.667	0.00	0.30	1.107	IO	|	|	|	|	2.09
56.750	0.00	0.33	1.234	IO	|	|	|	|	2.30	61.750	0.00	0.30	1.105	IO	|	|	|	|	2.09
56.833	0.00	0.33	1.232	IO	|	|	|	|	2.30	61.833	0.00	0.29	1.103	IO	|	|	|	|	2.09
56.917	0.00	0.33	1.230	IO	|	|	|	|	2.29	61.917	0.00	0.29	1.101	IO	|	|	|	|	2.08
57.000	0.00	0.33	1.228	IO	|	|	|	|	2.29	62.000	0.00	0.29	1.099	IO	|	|	|	|	2.08
57.083	0.00	0.33	1.225	IO	|	|	|	|	2.29	62.083	0.00	0.29	1.097	IO	|	|	|	|	2.08
57.167	0.00	0.33	1.223	IO	|	|	|	|	2.28	62.167	0.00	0.29	1.095	IO	|	|	|	|	2.07
57.250	0.00	0.33	1.221	IO	|	|	|	|	2.28	62.250	0.00	0.29	1.093	IO	|	|	|	|	2.07
57.333	0.00	0.33	1.219	IO	|	|	|	|	2.28	62.333	0.00	0.29	1.091	IO	|	|	|	|	2.07
57.417	0.00	0.33	1.216	IO	|	|	|	|	2.27	62.417	0.00	0.29	1.089	IO	|	|	|	|	2.06
57.500	0.00	0.33	1.214	IO	|	|	|	|	2.27	62.500	0.00	0.29	1.087	IO	|	|	|	|	2.06
57.583	0.00	0.33	1.212	IO	|	|	|	|	2.27	62.583	0.00	0.29	1.085	IO	|	|	|	|	2.06
57.667	0.00	0.32	1.210	IO	|	|	|	|	2.26	62.667	0.00	0.29	1.083	IO	|	|	|	|	2.05
57.750	0.00	0.32	1.207	IO	|	|	|	|	2.26	62.750	0.00	0.29	1.081	IO	|	|	|	|	2.05
57.833	0.00	0.32	1.205	IO	|	|	|	|	2.25	62.833	0.00	0.29	1.079	IO	|	|	|	|	2.05
57.917	0.00	0.32	1.203	IO	|	|	|	|	2.25	62.917	0.00	0.29	1.077	IO	|	|	|	|	2.04
58.000	0.00	0.32	1.201	IO	|	|	|	|	2.25	63.000	0.00	0.29	1.075	IO	|	|	|	|	2.04
58.083	0.00	0.32	1.198	IO	|	|	|	|	2.24	63.083	0.00	0.29	1.073	IO	|	|	|	|	2.04
58.167	0.00	0.32	1.196	IO	|	|	|	|	2.24	63.167	0.00	0.29	1.071	IO	|	|	|	|	2.03
58.250	0.00	0.32	1.194	IO	|	|	|	|	2.24	63.250	0.00	0.29	1.069	IO	|	|	|	|	2.03
58.333	0.00	0.32	1.192	IO	|	|	|	|	2.23	63.333	0.00	0.28	1.067	IO	|	|	|	|	2.03
58.417	0.00	0.32	1.190	IO	|	|	|	|	2.23	63.417	0.00	0.28	1.065	IO	|	|	|	|	2.02
58.500	0.00	0.32	1.187	IO	|	|	|	|	2.23	63.500	0.00	0.28	1.063	IO	|	|	|	|	2.02
58.583	0.00	0.32	1.185	IO	|	|	|	|	2.22	63.583	0.00	0.28	1.061	IO	|	|	|	|	2.02
58.667	0.00	0.32	1.183	IO	|	|	|	|	2.22	63.667	0.00	0.28	1.059	IO	|	|	|	|	2.02
58.750	0.00	0.32	1.181	IO	|	|	|	|	2.21	63.750	0.00	0.28	1.057	IO	|	|	|	|	2.01
58.833	0.00	0.32	1.179	IO	|	|	|	|	2.21	63.833	0.00	0.28	1.055	IO	|	|	|	|	2.01

63.917	0.00	0.28	1.053	IO	|	|	|	|	2.01	68.917	0.00	0.22	0.951	IO	|	|	|	|	1.83
64.000	0.00	0.28	1.052	IO	|	|	|	|	2.00	69.000	0.00	0.22	0.949	IO	|	|	|	|	1.82
64.083	0.00	0.28	1.050	IO	|	|	|	|	2.00	69.083	0.00	0.22	0.948	IO	|	|	|	|	1.82
64.167	0.00	0.28	1.048	IO	|	|	|	|	2.00	69.167	0.00	0.21	0.946	IO	|	|	|	|	1.82
64.250	0.00	0.28	1.046	IO	|	|	|	|	1.99	69.250	0.00	0.21	0.945	IO	|	|	|	|	1.82
64.333	0.00	0.28	1.044	IO	|	|	|	|	1.99	69.333	0.00	0.21	0.943	IO	|	|	|	|	1.81
64.417	0.00	0.27	1.042	IO	|	|	|	|	1.99	69.417	0.00	0.21	0.942	IO	|	|	|	|	1.81
64.500	0.00	0.27	1.040	IO	|	|	|	|	1.98	69.500	0.00	0.21	0.940	IO	|	|	|	|	1.81
64.583	0.00	0.27	1.038	IO	|	|	|	|	1.98	69.583	0.00	0.21	0.939	IO	|	|	|	|	1.81
64.667	0.00	0.27	1.036	IO	|	|	|	|	1.98	69.667	0.00	0.21	0.938	IO	|	|	|	|	1.80
64.750	0.00	0.27	1.034	IO	|	|	|	|	1.97	69.750	0.00	0.21	0.936	IO	|	|	|	|	1.80
64.833	0.00	0.27	1.033	IO	|	|	|	|	1.97	69.833	0.00	0.21	0.935	IO	|	|	|	|	1.80
64.917	0.00	0.27	1.031	IO	|	|	|	|	1.97	69.917	0.00	0.21	0.933	IO	|	|	|	|	1.80
65.000	0.00	0.27	1.029	IO	|	|	|	|	1.96	70.000	0.00	0.21	0.932	IO	|	|	|	|	1.79
65.083	0.00	0.27	1.027	IO	|	|	|	|	1.96	70.083	0.00	0.20	0.930	IO	|	|	|	|	1.79
65.167	0.00	0.26	1.025	IO	|	|	|	|	1.96	70.167	0.00	0.20	0.929	IO	|	|	|	|	1.79
65.250	0.00	0.26	1.023	IO	|	|	|	|	1.95	70.250	0.00	0.20	0.928	IO	|	|	|	|	1.79
65.333	0.00	0.26	1.022	IO	|	|	|	|	1.95	70.333	0.00	0.20	0.926	IO	|	|	|	|	1.78
65.417	0.00	0.26	1.020	IO	|	|	|	|	1.95	70.417	0.00	0.20	0.925	IO	|	|	|	|	1.78
65.500	0.00	0.26	1.018	IO	|	|	|	|	1.94	70.500	0.00	0.20	0.923	IO	|	|	|	|	1.78
65.583	0.00	0.26	1.016	IO	|	|	|	|	1.94	70.583	0.00	0.20	0.922	IO	|	|	|	|	1.78
65.667	0.00	0.26	1.014	IO	|	|	|	|	1.94	70.667	0.00	0.20	0.921	O	|	|	|	|	1.77
65.750	0.00	0.26	1.013	IO	|	|	|	|	1.93	70.750	0.00	0.20	0.919	O	|	|	|	|	1.77
65.833	0.00	0.26	1.011	IO	|	|	|	|	1.93	70.833	0.00	0.20	0.918	O	|	|	|	|	1.77
65.917	0.00	0.25	1.009	IO	|	|	|	|	1.93	70.917	0.00	0.20	0.917	O	|	|	|	|	1.77
66.000	0.00	0.25	1.007	IO	|	|	|	|	1.93	71.000	0.00	0.20	0.915	O	|	|	|	|	1.76
66.083	0.00	0.25	1.006	IO	|	|	|	|	1.92	71.083	0.00	0.19	0.914	O	|	|	|	|	1.76
66.167	0.00	0.25	1.004	IO	|	|	|	|	1.92	71.167	0.00	0.19	0.913	O	|	|	|	|	1.76
66.250	0.00	0.25	1.002	IO	|	|	|	|	1.92	71.250	0.00	0.19	0.911	O	|	|	|	|	1.76
66.333	0.00	0.25	1.001	IO	|	|	|	|	1.91	71.333	0.00	0.19	0.910	O	|	|	|	|	1.76
66.417	0.00	0.25	0.999	IO	|	|	|	|	1.91	71.417	0.00	0.19	0.909	O	|	|	|	|	1.75
66.500	0.00	0.25	0.997	IO	|	|	|	|	1.91	71.500	0.00	0.19	0.907	O	|	|	|	|	1.75
66.583	0.00	0.25	0.995	IO	|	|	|	|	1.90	71.583	0.00	0.19	0.906	O	|	|	|	|	1.75
66.667	0.00	0.24	0.994	IO	|	|	|	|	1.90	71.667	0.00	0.19	0.905	O	|	|	|	|	1.75
66.750	0.00	0.24	0.992	IO	|	|	|	|	1.90	71.750	0.00	0.19	0.903	O	|	|	|	|	1.74
66.833	0.00	0.24	0.990	IO	|	|	|	|	1.90	71.833	0.00	0.19	0.902	O	|	|	|	|	1.74
66.917	0.00	0.24	0.989	IO	|	|	|	|	1.89	71.917	0.00	0.19	0.901	O	|	|	|	|	1.74
67.000	0.00	0.24	0.987	IO	|	|	|	|	1.89	72.000	0.00	0.19	0.900	O	|	|	|	|	1.74
67.083	0.00	0.24	0.985	IO	|	|	|	|	1.89	72.083	0.00	0.18	0.898	O	|	|	|	|	1.74
67.167	0.00	0.24	0.984	IO	|	|	|	|	1.88	72.167	0.00	0.18	0.897	O	|	|	|	|	1.73
67.250	0.00	0.24	0.982	IO	|	|	|	|	1.88	72.250	0.00	0.18	0.896	O	|	|	|	|	1.73
67.333	0.00	0.24	0.980	IO	|	|	|	|	1.88	72.333	0.00	0.18	0.894	O	|	|	|	|	1.73
67.417	0.00	0.24	0.979	IO	|	|	|	|	1.88	72.417	0.00	0.18	0.893	O	|	|	|	|	1.73
67.500	0.00	0.23	0.977	IO	|	|	|	|	1.87	72.500	0.00	0.18	0.892	O	|	|	|	|	1.72
67.583	0.00	0.23	0.976	IO	|	|	|	|	1.87	72.583	0.00	0.18	0.891	O	|	|	|	|	1.72
67.667	0.00	0.23	0.974	IO	|	|	|	|	1.87	72.667	0.00	0.18	0.889	O	|	|	|	|	1.72
67.750	0.00	0.23	0.972	IO	|	|	|	|	1.86	72.750	0.00	0.18	0.888	O	|	|	|	|	1.72
67.833	0.00	0.23	0.971	IO	|	|	|	|	1.86	72.833	0.00	0.18	0.887	O	|	|	|	|	1.72
67.917	0.00	0.23	0.969	IO	|	|	|	|	1.86	72.917	0.00	0.18	0.886	O	|	|	|	|	1.71
68.000	0.00	0.23	0.968	IO	|	|	|	|	1.86	73.000	0.00	0.18	0.885	O	|	|	|	|	1.71
68.083	0.00	0.23	0.966	IO	|	|	|	|	1.85	73.083	0.00	0.18	0.883	O	|	|	|	|	1.71
68.167	0.00	0.23	0.965	IO	|	|	|	|	1.85	73.167	0.00	0.17	0.882	O	|	|	|	|	1.71
68.250	0.00	0.23	0.963	IO	|	|	|	|	1.85	73.250	0.00	0.17	0.881	O	|	|	|	|	1.71
68.333	0.00	0.22	0.961	IO	|	|	|	|	1.85	73.333	0.00	0.17	0.880	O	|	|	|	|	1.70
68.417	0.00	0.22	0.960	IO	|	|	|	|	1.84	73.417	0.00	0.17	0.879	O	|	|	|	|	1.70
68.500	0.00	0.22	0.958	IO	|	|	|	|	1.84	73.500	0.00	0.17	0.877	O	|	|	|	|	1.70
68.583	0.00	0.22	0.957	IO	|	|	|	|	1.84	73.583	0.00	0.17	0.876	O	|	|	|	|	1.70
68.667	0.00	0.22	0.955	IO	|	|	|	|	1.83	73.667	0.00	0.17	0.875	O	|	|	|	|	1.69
68.750	0.00	0.22	0.954	IO	|	|	|	|	1.83	73.750	0.00	0.17	0.874	O	|	|	|	|	1.69
68.833	0.00	0.22	0.952	IO	|	|	|	|	1.83	73.833	0.00	0.17	0.873	O	|	|	|	|	1.69

73.917	0.00	0.17	0.872	O	|	|	|	|	1.69	78.917	0.00	0.13	0.810	O	|	|	|	|	1.58
74.000	0.00	0.17	0.870	O	|	|	|	|	1.69	79.000	0.00	0.13	0.810	O	|	|	|	|	1.58
74.083	0.00	0.17	0.869	O	|	|	|	|	1.68	79.083	0.00	0.13	0.809	O	|	|	|	|	1.58
74.167	0.00	0.17	0.868	O	|	|	|	|	1.68	79.167	0.00	0.13	0.808	O	|	|	|	|	1.58
74.250	0.00	0.17	0.867	O	|	|	|	|	1.68	79.250	0.00	0.13	0.807	O	|	|	|	|	1.58
74.333	0.00	0.16	0.866	O	|	|	|	|	1.68	79.333	0.00	0.13	0.806	O	|	|	|	|	1.57
74.417	0.00	0.16	0.865	O	|	|	|	|	1.68	79.417	0.00	0.13	0.805	O	|	|	|	|	1.57
74.500	0.00	0.16	0.864	O	|	|	|	|	1.67	79.500	0.00	0.13	0.804	O	|	|	|	|	1.57
74.583	0.00	0.16	0.862	O	|	|	|	|	1.67	79.583	0.00	0.13	0.803	O	|	|	|	|	1.57
74.667	0.00	0.16	0.861	O	|	|	|	|	1.67	79.667	0.00	0.12	0.803	O	|	|	|	|	1.57
74.750	0.00	0.16	0.860	O	|	|	|	|	1.67	79.750	0.00	0.12	0.802	O	|	|	|	|	1.57
74.833	0.00	0.16	0.859	O	|	|	|	|	1.67	79.833	0.00	0.12	0.801	O	|	|	|	|	1.57
74.917	0.00	0.16	0.858	O	|	|	|	|	1.67	79.917	0.00	0.12	0.800	O	|	|	|	|	1.56
75.000	0.00	0.16	0.857	O	|	|	|	|	1.66	80.000	0.00	0.12	0.799	O	|	|	|	|	1.56
75.083	0.00	0.16	0.856	O	|	|	|	|	1.66	80.083	0.00	0.12	0.798	O	|	|	|	|	1.56
75.167	0.00	0.16	0.855	O	|	|	|	|	1.66	80.167	0.00	0.12	0.797	O	|	|	|	|	1.56
75.250	0.00	0.16	0.854	O	|	|	|	|	1.66	80.250	0.00	0.12	0.797	O	|	|	|	|	1.56
75.333	0.00	0.16	0.853	O	|	|	|	|	1.66	80.333	0.00	0.12	0.796	O	|	|	|	|	1.56
75.417	0.00	0.16	0.852	O	|	|	|	|	1.65	80.417	0.00	0.12	0.795	O	|	|	|	|	1.56
75.500	0.00	0.15	0.850	O	|	|	|	|	1.65	80.500	0.00	0.12	0.794	O	|	|	|	|	1.55
75.583	0.00	0.15	0.849	O	|	|	|	|	1.65	80.583	0.00	0.12	0.793	O	|	|	|	|	1.55
75.667	0.00	0.15	0.848	O	|	|	|	|	1.65	80.667	0.00	0.12	0.792	O	|	|	|	|	1.55
75.750	0.00	0.15	0.847	O	|	|	|	|	1.65	80.750	0.00	0.12	0.792	O	|	|	|	|	1.55
75.833	0.00	0.15	0.846	O	|	|	|	|	1.64	80.833	0.00	0.12	0.791	O	|	|	|	|	1.55
75.917	0.00	0.15	0.845	O	|	|	|	|	1.64	80.917	0.00	0.12	0.790	O	|	|	|	|	1.55
76.000	0.00	0.15	0.844	O	|	|	|	|	1.64	81.000	0.00	0.12	0.789	O	|	|	|	|	1.55
76.083	0.00	0.15	0.843	O	|	|	|	|	1.64	81.083	0.00	0.12	0.788	O	|	|	|	|	1.54
76.167	0.00	0.15	0.842	O	|	|	|	|	1.64	81.167	0.00	0.12	0.788	O	|	|	|	|	1.54
76.250	0.00	0.15	0.841	O	|	|	|	|	1.64	81.250	0.00	0.11	0.787	O	|	|	|	|	1.54
76.333	0.00	0.15	0.840	O	|	|	|	|	1.63	81.333	0.00	0.11	0.786	O	|	|	|	|	1.54
76.417	0.00	0.15	0.839	O	|	|	|	|	1.63	81.417	0.00	0.11	0.785	O	|	|	|	|	1.54
76.500	0.00	0.15	0.838	O	|	|	|	|	1.63	81.500	0.00	0.11	0.785	O	|	|	|	|	1.54
76.583	0.00	0.15	0.837	O	|	|	|	|	1.63	81.583	0.00	0.11	0.784	O	|	|	|	|	1.54
76.667	0.00	0.15	0.836	O	|	|	|	|	1.63	81.667	0.00	0.11	0.783	O	|	|	|	|	1.53
76.750	0.00	0.14	0.835	O	|	|	|	|	1.62	81.750	0.00	0.11	0.782	O	|	|	|	|	1.53
76.833	0.00	0.14	0.834	O	|	|	|	|	1.62	81.833	0.00	0.11	0.781	O	|	|	|	|	1.53
76.917	0.00	0.14	0.833	O	|	|	|	|	1.62	81.917	0.00	0.11	0.781	O	|	|	|	|	1.53
77.000	0.00	0.14	0.832	O	|	|	|	|	1.62	82.000	0.00	0.11	0.780	O	|	|	|	|	1.53
77.083	0.00	0.14	0.831	O	|	|	|	|	1.62	82.083	0.00	0.11	0.779	O	|	|	|	|	1.53
77.167	0.00	0.14	0.830	O	|	|	|	|	1.62	82.167	0.00	0.11	0.778	O	|	|	|	|	1.53
77.250	0.00	0.14	0.829	O	|	|	|	|	1.61	82.250	0.00	0.11	0.778	O	|	|	|	|	1.52
77.333	0.00	0.14	0.828	O	|	|	|	|	1.61	82.333	0.00	0.11	0.777	O	|	|	|	|	1.52
77.417	0.00	0.14	0.827	O	|	|	|	|	1.61	82.417	0.00	0.11	0.776	O	|	|	|	|	1.52
77.500	0.00	0.14	0.826	O	|	|	|	|	1.61	82.500	0.00	0.11	0.775	O	|	|	|	|	1.52
77.583	0.00	0.14	0.825	O	|	|	|	|	1.61	82.583	0.00	0.11	0.775	O	|	|	|	|	1.52
77.667	0.00	0.14	0.824	O	|	|	|	|	1.61	82.667	0.00	0.11	0.774	O	|	|	|	|	1.52
77.750	0.00	0.14	0.823	O	|	|	|	|	1.60	82.750	0.00	0.11	0.773	O	|	|	|	|	1.52
77.833	0.00	0.14	0.822	O	|	|	|	|	1.60	82.833	0.00	0.11	0.772	O	|	|	|	|	1.52
77.917	0.00	0.14	0.821	O	|	|	|	|	1.60	82.917	0.00	0.11	0.772	O	|	|	|	|	1.51
78.000	0.00	0.14	0.820	O	|	|	|	|	1.60	83.000	0.00	0.10	0.771	O	|	|	|	|	1.51
78.083	0.00	0.14	0.820	O	|	|	|	|	1.60	83.083	0.00	0.10	0.770	O	|	|	|	|	1.51
78.167	0.00	0.13	0.819	O	|	|	|	|	1.60	83.167	0.00	0.10	0.770	O	|	|	|	|	1.51
78.250	0.00	0.13	0.818	O	|	|	|	|	1.59	83.250	0.00	0.10	0.769	O	|	|	|	|	1.51
78.333	0.00	0.13	0.817	O	|	|	|	|	1.59	83.333	0.00	0.10	0.768	O	|	|	|	|	1.51
78.417	0.00	0.13	0.816	O	|	|	|	|	1.59	83.417	0.00	0.10	0.767	O	|	|	|	|	1.51
78.500	0.00	0.13	0.815	O	|	|	|	|	1.59	83.500	0.00	0.10	0.767	O	|	|	|	|	1.51
78.583	0.00	0.13	0.814	O	|	|	|	|	1.59	83.583	0.00	0.10	0.766	O	|	|	|	|	1.50
78.667	0.00	0.13	0.813	O	|	|	|	|	1.59	83.667	0.00	0.10	0.765	O	|	|	|	|	1.50
78.750	0.00	0.13	0.812	O	|	|	|	|	1.59	83.750	0.00	0.10	0.765	O	|	|	|	|	1.50
78.833	0.00	0.13	0.811	O	|	|	|	|	1.58	83.833	0.00	0.10	0.764	O	|	|	|	|	1.50

83.917	0.00	0.10	0.763	O	|	|	|	|	1.50	88.917	0.00	0.08	0.727	O	|	|	|	|	1.44
84.000	0.00	0.10	0.763	O	|	|	|	|	1.50	89.000	0.00	0.08	0.726	O	|	|	|	|	1.44
84.083	0.00	0.10	0.762	O	|	|	|	|	1.50	89.083	0.00	0.08	0.726	O	|	|	|	|	1.43
84.167	0.00	0.10	0.761	O	|	|	|	|	1.50	89.167	0.00	0.08	0.725	O	|	|	|	|	1.43
84.250	0.00	0.10	0.761	O	|	|	|	|	1.50	89.250	0.00	0.08	0.725	O	|	|	|	|	1.43
84.333	0.00	0.10	0.760	O	|	|	|	|	1.49	89.333	0.00	0.08	0.724	O	|	|	|	|	1.43
84.417	0.00	0.10	0.759	O	|	|	|	|	1.49	89.417	0.00	0.08	0.724	O	|	|	|	|	1.43
84.500	0.00	0.10	0.759	O	|	|	|	|	1.49	89.500	0.00	0.07	0.723	O	|	|	|	|	1.43
84.583	0.00	0.10	0.758	O	|	|	|	|	1.49	89.583	0.00	0.07	0.723	O	|	|	|	|	1.43
84.667	0.00	0.10	0.757	O	|	|	|	|	1.49	89.667	0.00	0.07	0.722	O	|	|	|	|	1.43
84.750	0.00	0.10	0.757	O	|	|	|	|	1.49	89.750	0.00	0.07	0.722	O	|	|	|	|	1.43
84.833	0.00	0.10	0.756	O	|	|	|	|	1.49	89.833	0.00	0.07	0.721	O	|	|	|	|	1.43
84.917	0.00	0.09	0.755	O	|	|	|	|	1.49	89.917	0.00	0.07	0.721	O	|	|	|	|	1.43
85.000	0.00	0.09	0.755	O	|	|	|	|	1.48	90.000	0.00	0.07	0.720	O	|	|	|	|	1.42
85.083	0.00	0.09	0.754	O	|	|	|	|	1.48	90.083	0.00	0.07	0.720	O	|	|	|	|	1.42
85.167	0.00	0.09	0.753	O	|	|	|	|	1.48	90.167	0.00	0.07	0.719	O	|	|	|	|	1.42
85.250	0.00	0.09	0.753	O	|	|	|	|	1.48	90.250	0.00	0.07	0.719	O	|	|	|	|	1.42
85.333	0.00	0.09	0.752	O	|	|	|	|	1.48	90.333	0.00	0.07	0.718	O	|	|	|	|	1.42
85.417	0.00	0.09	0.751	O	|	|	|	|	1.48	90.417	0.00	0.07	0.718	O	|	|	|	|	1.42
85.500	0.00	0.09	0.751	O	|	|	|	|	1.48	90.500	0.00	0.07	0.717	O	|	|	|	|	1.42
85.583	0.00	0.09	0.750	O	|	|	|	|	1.48	90.583	0.00	0.07	0.717	O	|	|	|	|	1.42
85.667	0.00	0.09	0.749	O	|	|	|	|	1.48	90.667	0.00	0.07	0.716	O	|	|	|	|	1.42
85.750	0.00	0.09	0.749	O	|	|	|	|	1.47	90.750	0.00	0.07	0.716	O	|	|	|	|	1.42
85.833	0.00	0.09	0.748	O	|	|	|	|	1.47	90.833	0.00	0.07	0.715	O	|	|	|	|	1.42
85.917	0.00	0.09	0.748	O	|	|	|	|	1.47	90.917	0.00	0.07	0.715	O	|	|	|	|	1.42
86.000	0.00	0.09	0.747	O	|	|	|	|	1.47	91.000	0.00	0.07	0.714	O	|	|	|	|	1.41
86.083	0.00	0.09	0.746	O	|	|	|	|	1.47	91.083	0.00	0.07	0.714	O	|	|	|	|	1.41
86.167	0.00	0.09	0.746	O	|	|	|	|	1.47	91.167	0.00	0.07	0.713	O	|	|	|	|	1.41
86.250	0.00	0.09	0.745	O	|	|	|	|	1.47	91.250	0.00	0.07	0.713	O	|	|	|	|	1.41
86.333	0.00	0.09	0.744	O	|	|	|	|	1.47	91.333	0.00	0.07	0.712	O	|	|	|	|	1.41
86.417	0.00	0.09	0.744	O	|	|	|	|	1.47	91.417	0.00	0.07	0.712	O	|	|	|	|	1.41
86.500	0.00	0.09	0.743	O	|	|	|	|	1.47	91.500	0.00	0.07	0.711	O	|	|	|	|	1.41
86.583	0.00	0.09	0.743	O	|	|	|	|	1.46	91.583	0.00	0.07	0.711	O	|	|	|	|	1.41
86.667	0.00	0.09	0.742	O	|	|	|	|	1.46	91.667	0.00	0.07	0.711	O	|	|	|	|	1.41
86.750	0.00	0.09	0.741	O	|	|	|	|	1.46	91.750	0.00	0.07	0.710	O	|	|	|	|	1.41
86.833	0.00	0.09	0.741	O	|	|	|	|	1.46	91.833	0.00	0.07	0.710	O	|	|	|	|	1.41
86.917	0.00	0.09	0.740	O	|	|	|	|	1.46	91.917	0.00	0.07	0.709	O	|	|	|	|	1.41
87.000	0.00	0.09	0.740	O	|	|	|	|	1.46	92.000	0.00	0.07	0.709	O	|	|	|	|	1.40
87.083	0.00	0.08	0.739	O	|	|	|	|	1.46	92.083	0.00	0.07	0.708	O	|	|	|	|	1.40
87.167	0.00	0.08	0.739	O	|	|	|	|	1.46	92.167	0.00	0.07	0.708	O	|	|	|	|	1.40
87.250	0.00	0.08	0.738	O	|	|	|	|	1.46	92.250	0.00	0.06	0.707	O	|	|	|	|	1.40
87.333	0.00	0.08	0.737	O	|	|	|	|	1.45	92.333	0.00	0.06	0.707	O	|	|	|	|	1.40
87.417	0.00	0.08	0.737	O	|	|	|	|	1.45	92.417	0.00	0.06	0.706	O	|	|	|	|	1.40
87.500	0.00	0.08	0.736	O	|	|	|	|	1.45	92.500	0.00	0.06	0.706	O	|	|	|	|	1.40
87.583	0.00	0.08	0.736	O	|	|	|	|	1.45	92.583	0.00	0.06	0.706	O	|	|	|	|	1.40
87.667	0.00	0.08	0.735	O	|	|	|	|	1.45	92.667	0.00	0.06	0.705	O	|	|	|	|	1.40
87.750	0.00	0.08	0.735	O	|	|	|	|	1.45	92.750	0.00	0.06	0.705	O	|	|	|	|	1.40
87.833	0.00	0.08	0.734	O	|	|	|	|	1.45	92.833	0.00	0.06	0.704	O	|	|	|	|	1.40
87.917	0.00	0.08	0.733	O	|	|	|	|	1.45	92.917	0.00	0.06	0.704	O	|	|	|	|	1.40
88.000	0.00	0.08	0.733	O	|	|	|	|	1.45	93.000	0.00	0.06	0.703	O	|	|	|	|	1.40
88.083	0.00	0.08	0.732	O	|	|	|	|	1.45	93.083	0.00	0.06	0.703	O	|	|	|	|	1.39
88.167	0.00	0.08	0.732	O	|	|	|	|	1.44	93.167	0.00	0.06	0.703	O	|	|	|	|	1.39
88.250	0.00	0.08	0.731	O	|	|	|	|	1.44	93.250	0.00	0.06	0.702	O	|	|	|	|	1.39
88.333	0.00	0.08	0.731	O	|	|	|	|	1.44	93.333	0.00	0.06	0.702	O	|	|	|	|	1.39
88.417	0.00	0.08	0.730	O	|	|	|	|	1.44	93.417	0.00	0.06	0.701	O	|	|	|	|	1.39
88.500	0.00	0.08	0.730	O	|	|	|	|	1.44	93.500	0.00	0.06	0.701	O	|	|	|	|	1.39
88.583	0.00	0.08	0.729	O	|	|	|	|	1.44	93.583	0.00	0.06	0.700	O	|	|	|	|	1.39
88.667	0.00	0.08	0.728	O	|	|	|	|	1.44	93.667	0.00	0.06	0.700	O	|	|	|	|	1.39
88.750	0.00	0.08	0.728	O	|	|	|	|	1.44	93.750	0.00	0.06	0.700	O	|	|	|	|	1.39
88.833	0.00	0.08	0.727	O	|	|	|	|	1.44	93.833	0.00	0.06	0.699	O	|	|	|	|	1.39

Left Blank Intentionally

413.917	0.00	0.01	0.424	O	|	|	|	|	0.85
414.000	0.00	0.01	0.424	O	|	|	|	|	0.85
414.083	0.00	0.01	0.424	O	|	|	|	|	0.85
414.167	0.00	0.01	0.424	O	|	|	|	|	0.85
414.250	0.00	0.01	0.423	O	|	|	|	|	0.85
414.333	0.00	0.01	0.423	O	|	|	|	|	0.85
414.417	0.00	0.01	0.423	O	|	|	|	|	0.85
414.500	0.00	0.01	0.423	O	|	|	|	|	0.85
414.583	0.00	0.01	0.423	O	|	|	|	|	0.85
414.667	0.00	0.01	0.423	O	|	|	|	|	0.85
414.750	0.00	0.01	0.423	O	|	|	|	|	0.85
414.833	0.00	0.01	0.423	O	|	|	|	|	0.85
414.917	0.00	0.01	0.423	O	|	|	|	|	0.85
415.000	0.00	0.01	0.423	O	|	|	|	|	0.85
415.083	0.00	0.01	0.423	O	|	|	|	|	0.85
415.167	0.00	0.01	0.423	O	|	|	|	|	0.85
415.250	0.00	0.01	0.423	O	|	|	|	|	0.85
415.333	0.00	0.01	0.423	O	|	|	|	|	0.85
415.417	0.00	0.01	0.423	O	|	|	|	|	0.85
415.500	0.00	0.01	0.423	O	|	|	|	|	0.85
415.583	0.00	0.01	0.423	O	|	|	|	|	0.85
415.667	0.00	0.01	0.423	O	|	|	|	|	0.85
415.750	0.00	0.01	0.423	O	|	|	|	|	0.85
415.833	0.00	0.01	0.423	O	|	|	|	|	0.85
415.917	0.00	0.01	0.423	O	|	|	|	|	0.85
416.000	0.00	0.01	0.423	O	|	|	|	|	0.85
416.083	0.00	0.01	0.422	O	|	|	|	|	0.85
416.167	0.00	0.01	0.422	O	|	|	|	|	0.85
416.250	0.00	0.01	0.422	O	|	|	|	|	0.85
416.333	0.00	0.01	0.422	O	|	|	|	|	0.85
416.417	0.00	0.01	0.422	O	|	|	|	|	0.85
416.500	0.00	0.01	0.422	O	|	|	|	|	0.85
416.583	0.00	0.01	0.422	O	|	|	|	|	0.85
416.667	0.00	0.01	0.422	O	|	|	|	|	0.85

Remaining water in basin = 0.42 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.142 (CFS)
Total volume = 3.459 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

10-YR
1, 3, 6, 24-HR STORMS

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

-----------------------------------------------------------------------


TR 37036, PARCEL 1
BASIN M
10Y 1H STORM

-----------------------------------------------------------------------


Program License Serial Number 6406

-----------------------------------------------------------------------
******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR110.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    16
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       32.801 (CFS)
                Total volume =       1.085 (Ac.Ft)
        Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
***********************************************************************



+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
_______________________________________________________________________

User entry of depth-outflow-storage data
-----------------------------------------------------------------------
Total number of inflow hydrograph intervals = 16
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
-----------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
-----------------------------------------------------------------------
                Hydrograph Detention Basin Routing
-----------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
-----------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       8.2    16.40   24.60   32.80 (Ft.)
 0.083    2.40    0.00      0.008  O I      |       |       |       |     0.02
 0.167    5.00    0.00      0.034  O   I    |       |       |       |     0.07
 0.250    6.08    0.00      0.072  O    I   |       |       |       |     0.14
 0.333    6.83    0.00      0.116  O     I  |       |       |       |     0.23
 0.417    7.20    0.00      0.165  O      I |       |       |       |     0.33
 0.500    7.80    0.00      0.216  O      I |       |       |       |     0.44
 0.583    9.36    0.00      0.275  O       |I      |       |       |     0.56
 0.667   11.76    0.01      0.348  O       |  I    |       |       |     0.70
 0.750   16.72    0.01      0.446  O       |      I|       |       |     0.90
 0.833   32.80    0.01      0.617  O       |       |       |      I|     1.24
 0.917   29.90    0.14      0.832  O       |       |       |    I  |     1.62
 1.000   13.32    0.24      0.979  O       |   I   |       |       |     1.88
 1.083    6.09    0.28      1.045  O    I  |       |       |       |     1.99
 1.167    1.76    0.29      1.070  OI      |       |       |       |     2.03
 1.250    0.40    0.29      1.075  O       |       |       |       |     2.04
 1.333    0.09    0.29      1.075  O       |       |       |       |     2.04
 1.417    0.00    0.29      1.073  O       |       |       |       |     2.04
 1.500    0.00    0.29      1.071  O       |       |       |       |     2.03
 1.583    0.00    0.29      1.069  O       |       |       |       |     2.03
 1.667    0.00    0.28      1.067  O       |       |       |       |     2.03
 1.750    0.00    0.28      1.065  O       |       |       |       |     2.03
 1.833    0.00    0.28      1.063  O       |       |       |       |     2.02
 1.917    0.00    0.28      1.061  O       |       |       |       |     2.02
 2.000    0.00    0.28      1.059  O       |       |       |       |     2.02
 2.083    0.00    0.28      1.057  O       |       |       |       |     2.01
 2.167    0.00    0.28      1.056  O       |       |       |       |     2.01
 2.250    0.00    0.28      1.054  O       |       |       |       |     2.01
 2.333    0.00    0.28      1.052  O       |       |       |       |     2.00
 2.417    0.00    0.28      1.050  O       |       |       |       |     2.00
 2.500    0.00    0.28      1.048  O       |       |       |       |     2.00
 2.583    0.00    0.28      1.046  O       |       |       |       |     1.99
 2.667    0.00    0.28      1.044  O       |       |       |       |     1.99
 2.750    0.00    0.28      1.042  O       |       |       |       |     1.99
 2.833    0.00    0.27      1.040  O       |       |       |       |     1.98
 2.917    0.00    0.27      1.038  O       |       |       |       |     1.98
 3.000    0.00    0.27      1.036  O       |       |       |       |     1.98
 3.083    0.00    0.27      1.035  O       |       |       |       |     1.97
 3.167    0.00    0.27      1.033  O       |       |       |       |     1.97
 3.250    0.00    0.27      1.031  O       |       |       |       |     1.97
 3.333    0.00    0.27      1.029  O       |       |       |       |     1.96
 3.417    0.00    0.27      1.027  O       |       |       |       |     1.96
 3.500    0.00    0.26      1.025  O       |       |       |       |     1.96
 3.583    0.00    0.26      1.024  O       |       |       |       |     1.95
 3.667    0.00    0.26      1.022  O       |       |       |       |     1.95
 3.750    0.00    0.26      1.020  O       |       |       |       |     1.95
 3.833    0.00    0.26      1.018  O       |       |       |       |     1.94
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3.917	0.00	0.26	1.016	O	|	|	|	|	1.94	8.917	0.00	0.20	0.922	O	|	|	|	|	1.78
4.000	0.00	0.26	1.015	O	|	|	|	|	1.94	9.000	0.00	0.20	0.921	O	|	|	|	|	1.77
4.083	0.00	0.26	1.013	O	|	|	|	|	1.94	9.083	0.00	0.20	0.919	O	|	|	|	|	1.77
4.167	0.00	0.26	1.011	O	|	|	|	|	1.93	9.167	0.00	0.20	0.918	O	|	|	|	|	1.77
4.250	0.00	0.25	1.009	O	|	|	|	|	1.93	9.250	0.00	0.20	0.917	O	|	|	|	|	1.77
4.333	0.00	0.25	1.008	O	|	|	|	|	1.93	9.333	0.00	0.20	0.915	O	|	|	|	|	1.77
4.417	0.00	0.25	1.006	O	|	|	|	|	1.92	9.417	0.00	0.19	0.914	O	|	|	|	|	1.76
4.500	0.00	0.25	1.004	O	|	|	|	|	1.92	9.500	0.00	0.19	0.913	O	|	|	|	|	1.76
4.583	0.00	0.25	1.002	O	|	|	|	|	1.92	9.583	0.00	0.19	0.911	O	|	|	|	|	1.76
4.667	0.00	0.25	1.001	O	|	|	|	|	1.91	9.667	0.00	0.19	0.910	O	|	|	|	|	1.76
4.750	0.00	0.25	0.999	O	|	|	|	|	1.91	9.750	0.00	0.19	0.909	O	|	|	|	|	1.75
4.833	0.00	0.25	0.997	O	|	|	|	|	1.91	9.833	0.00	0.19	0.907	O	|	|	|	|	1.75
4.917	0.00	0.25	0.996	O	|	|	|	|	1.90	9.917	0.00	0.19	0.906	O	|	|	|	|	1.75
5.000	0.00	0.24	0.994	O	|	|	|	|	1.90	10.000	0.00	0.19	0.905	O	|	|	|	|	1.75
5.083	0.00	0.24	0.992	O	|	|	|	|	1.90	10.083	0.00	0.19	0.903	O	|	|	|	|	1.74
5.167	0.00	0.24	0.990	O	|	|	|	|	1.90	10.167	0.00	0.19	0.902	O	|	|	|	|	1.74
5.250	0.00	0.24	0.989	O	|	|	|	|	1.89	10.250	0.00	0.19	0.901	O	|	|	|	|	1.74
5.333	0.00	0.24	0.987	O	|	|	|	|	1.89	10.333	0.00	0.19	0.900	O	|	|	|	|	1.74
5.417	0.00	0.24	0.985	O	|	|	|	|	1.89	10.417	0.00	0.18	0.898	O	|	|	|	|	1.74
5.500	0.00	0.24	0.984	O	|	|	|	|	1.88	10.500	0.00	0.18	0.897	O	|	|	|	|	1.73
5.583	0.00	0.24	0.982	O	|	|	|	|	1.88	10.583	0.00	0.18	0.896	O	|	|	|	|	1.73
5.667	0.00	0.24	0.981	O	|	|	|	|	1.88	10.667	0.00	0.18	0.895	O	|	|	|	|	1.73
5.750	0.00	0.24	0.979	O	|	|	|	|	1.88	10.750	0.00	0.18	0.893	O	|	|	|	|	1.73
5.833	0.00	0.23	0.977	O	|	|	|	|	1.87	10.833	0.00	0.18	0.892	O	|	|	|	|	1.72
5.917	0.00	0.23	0.976	O	|	|	|	|	1.87	10.917	0.00	0.18	0.891	O	|	|	|	|	1.72
6.000	0.00	0.23	0.974	O	|	|	|	|	1.87	11.000	0.00	0.18	0.890	O	|	|	|	|	1.72
6.083	0.00	0.23	0.973	O	|	|	|	|	1.86	11.083	0.00	0.18	0.888	O	|	|	|	|	1.72
6.167	0.00	0.23	0.971	O	|	|	|	|	1.86	11.167	0.00	0.18	0.887	O	|	|	|	|	1.72
6.250	0.00	0.23	0.969	O	|	|	|	|	1.86	11.250	0.00	0.18	0.886	O	|	|	|	|	1.71
6.333	0.00	0.23	0.968	O	|	|	|	|	1.86	11.333	0.00	0.18	0.885	O	|	|	|	|	1.71
6.417	0.00	0.23	0.966	O	|	|	|	|	1.85	11.417	0.00	0.18	0.883	O	|	|	|	|	1.71
6.500	0.00	0.23	0.965	O	|	|	|	|	1.85	11.500	0.00	0.17	0.882	O	|	|	|	|	1.71
6.583	0.00	0.23	0.963	O	|	|	|	|	1.85	11.583	0.00	0.17	0.881	O	|	|	|	|	1.71
6.667	0.00	0.22	0.962	O	|	|	|	|	1.85	11.667	0.00	0.17	0.880	O	|	|	|	|	1.70
6.750	0.00	0.22	0.960	O	|	|	|	|	1.84	11.750	0.00	0.17	0.879	O	|	|	|	|	1.70
6.833	0.00	0.22	0.958	O	|	|	|	|	1.84	11.833	0.00	0.17	0.877	O	|	|	|	|	1.70
6.917	0.00	0.22	0.957	O	|	|	|	|	1.84	11.917	0.00	0.17	0.876	O	|	|	|	|	1.70
7.000	0.00	0.22	0.955	O	|	|	|	|	1.84	12.000	0.00	0.17	0.875	O	|	|	|	|	1.69
7.083	0.00	0.22	0.954	O	|	|	|	|	1.83	12.083	0.00	0.17	0.874	O	|	|	|	|	1.69
7.167	0.00	0.22	0.952	O	|	|	|	|	1.83	12.167	0.00	0.17	0.873	O	|	|	|	|	1.69
7.250	0.00	0.22	0.951	O	|	|	|	|	1.83	12.250	0.00	0.17	0.872	O	|	|	|	|	1.69
7.333	0.00	0.22	0.949	O	|	|	|	|	1.82	12.333	0.00	0.17	0.870	O	|	|	|	|	1.69
7.417	0.00	0.22	0.948	O	|	|	|	|	1.82	12.417	0.00	0.17	0.869	O	|	|	|	|	1.68
7.500	0.00	0.21	0.946	O	|	|	|	|	1.82	12.500	0.00	0.17	0.868	O	|	|	|	|	1.68
7.583	0.00	0.21	0.945	O	|	|	|	|	1.82	12.583	0.00	0.17	0.867	O	|	|	|	|	1.68
7.667	0.00	0.21	0.943	O	|	|	|	|	1.81	12.667	0.00	0.16	0.866	O	|	|	|	|	1.68
7.750	0.00	0.21	0.942	O	|	|	|	|	1.81	12.750	0.00	0.16	0.865	O	|	|	|	|	1.68
7.833	0.00	0.21	0.941	O	|	|	|	|	1.81	12.833	0.00	0.16	0.864	O	|	|	|	|	1.67
7.917	0.00	0.21	0.939	O	|	|	|	|	1.81	12.917	0.00	0.16	0.863	O	|	|	|	|	1.67
8.000	0.00	0.21	0.938	O	|	|	|	|	1.80	13.000	0.00	0.16	0.861	O	|	|	|	|	1.67
8.083	0.00	0.21	0.936	O	|	|	|	|	1.80	13.083	0.00	0.16	0.860	O	|	|	|	|	1.67
8.167	0.00	0.21	0.935	O	|	|	|	|	1.80	13.167	0.00	0.16	0.859	O	|	|	|	|	1.67
8.250	0.00	0.21	0.933	O	|	|	|	|	1.80	13.250	0.00	0.16	0.858	O	|	|	|	|	1.67
8.333	0.00	0.21	0.932	O	|	|	|	|	1.79	13.333	0.00	0.16	0.857	O	|	|	|	|	1.66
8.417	0.00	0.20	0.931	O	|	|	|	|	1.79	13.417	0.00	0.16	0.856	O	|	|	|	|	1.66
8.500	0.00	0.20	0.929	O	|	|	|	|	1.79	13.500	0.00	0.16	0.855	O	|	|	|	|	1.66
8.583	0.00	0.20	0.928	O	|	|	|	|	1.79	13.583	0.00	0.16	0.854	O	|	|	|	|	1.66
8.667	0.00	0.20	0.926	O	|	|	|	|	1.78	13.667	0.00	0.16	0.853	O	|	|	|	|	1.66
8.750	0.00	0.20	0.925	O	|	|	|	|	1.78	13.750	0.00	0.16	0.852	O	|	|	|	|	1.65
8.833	0.00	0.20	0.924	O	|	|	|	|	1.78	13.833	0.00	0.15	0.851	O	|	|	|	|	1.65

13.917	0.00	0.15	0.849	O	|	|	|	|	1.65	18.917	0.00	0.12	0.793	O	|	|	|	|	1.55
14.000	0.00	0.15	0.848	O	|	|	|	|	1.65	19.000	0.00	0.12	0.793	O	|	|	|	|	1.55
14.083	0.00	0.15	0.847	O	|	|	|	|	1.65	19.083	0.00	0.12	0.792	O	|	|	|	|	1.55
14.167	0.00	0.15	0.846	O	|	|	|	|	1.64	19.167	0.00	0.12	0.791	O	|	|	|	|	1.55
14.250	0.00	0.15	0.845	O	|	|	|	|	1.64	19.250	0.00	0.12	0.790	O	|	|	|	|	1.55
14.333	0.00	0.15	0.844	O	|	|	|	|	1.64	19.333	0.00	0.12	0.789	O	|	|	|	|	1.55
14.417	0.00	0.15	0.843	O	|	|	|	|	1.64	19.417	0.00	0.12	0.789	O	|	|	|	|	1.54
14.500	0.00	0.15	0.842	O	|	|	|	|	1.64	19.500	0.00	0.12	0.788	O	|	|	|	|	1.54
14.583	0.00	0.15	0.841	O	|	|	|	|	1.64	19.583	0.00	0.11	0.787	O	|	|	|	|	1.54
14.667	0.00	0.15	0.840	O	|	|	|	|	1.63	19.667	0.00	0.11	0.786	O	|	|	|	|	1.54
14.750	0.00	0.15	0.839	O	|	|	|	|	1.63	19.750	0.00	0.11	0.785	O	|	|	|	|	1.54
14.833	0.00	0.15	0.838	O	|	|	|	|	1.63	19.833	0.00	0.11	0.785	O	|	|	|	|	1.54
14.917	0.00	0.15	0.837	O	|	|	|	|	1.63	19.917	0.00	0.11	0.784	O	|	|	|	|	1.54
15.000	0.00	0.15	0.836	O	|	|	|	|	1.63	20.000	0.00	0.11	0.783	O	|	|	|	|	1.53
15.083	0.00	0.15	0.835	O	|	|	|	|	1.63	20.083	0.00	0.11	0.782	O	|	|	|	|	1.53
15.167	0.00	0.14	0.834	O	|	|	|	|	1.62	20.167	0.00	0.11	0.781	O	|	|	|	|	1.53
15.250	0.00	0.14	0.833	O	|	|	|	|	1.62	20.250	0.00	0.11	0.781	O	|	|	|	|	1.53
15.333	0.00	0.14	0.832	O	|	|	|	|	1.62	20.333	0.00	0.11	0.780	O	|	|	|	|	1.53
15.417	0.00	0.14	0.831	O	|	|	|	|	1.62	20.417	0.00	0.11	0.779	O	|	|	|	|	1.53
15.500	0.00	0.14	0.830	O	|	|	|	|	1.62	20.500	0.00	0.11	0.778	O	|	|	|	|	1.53
15.583	0.00	0.14	0.829	O	|	|	|	|	1.61	20.583	0.00	0.11	0.778	O	|	|	|	|	1.53
15.667	0.00	0.14	0.828	O	|	|	|	|	1.61	20.667	0.00	0.11	0.777	O	|	|	|	|	1.52
15.750	0.00	0.14	0.827	O	|	|	|	|	1.61	20.750	0.00	0.11	0.776	O	|	|	|	|	1.52
15.833	0.00	0.14	0.826	O	|	|	|	|	1.61	20.833	0.00	0.11	0.775	O	|	|	|	|	1.52
15.917	0.00	0.14	0.825	O	|	|	|	|	1.61	20.917	0.00	0.11	0.775	O	|	|	|	|	1.52
16.000	0.00	0.14	0.824	O	|	|	|	|	1.61	21.000	0.00	0.11	0.774	O	|	|	|	|	1.52
16.083	0.00	0.14	0.823	O	|	|	|	|	1.60	21.083	0.00	0.11	0.773	O	|	|	|	|	1.52
16.167	0.00	0.14	0.822	O	|	|	|	|	1.60	21.167	0.00	0.11	0.773	O	|	|	|	|	1.52
16.250	0.00	0.14	0.821	O	|	|	|	|	1.60	21.250	0.00	0.11	0.772	O	|	|	|	|	1.51
16.333	0.00	0.14	0.821	O	|	|	|	|	1.60	21.333	0.00	0.10	0.771	O	|	|	|	|	1.51
16.417	0.00	0.14	0.820	O	|	|	|	|	1.60	21.417	0.00	0.10	0.770	O	|	|	|	|	1.51
16.500	0.00	0.13	0.819	O	|	|	|	|	1.60	21.500	0.00	0.10	0.770	O	|	|	|	|	1.51
16.583	0.00	0.13	0.818	O	|	|	|	|	1.59	21.583	0.00	0.10	0.769	O	|	|	|	|	1.51
16.667	0.00	0.13	0.817	O	|	|	|	|	1.59	21.667	0.00	0.10	0.768	O	|	|	|	|	1.51
16.750	0.00	0.13	0.816	O	|	|	|	|	1.59	21.750	0.00	0.10	0.767	O	|	|	|	|	1.51
16.833	0.00	0.13	0.815	O	|	|	|	|	1.59	21.833	0.00	0.10	0.767	O	|	|	|	|	1.51
16.917	0.00	0.13	0.814	O	|	|	|	|	1.59	21.917	0.00	0.10	0.766	O	|	|	|	|	1.50
17.000	0.00	0.13	0.813	O	|	|	|	|	1.59	22.000	0.00	0.10	0.765	O	|	|	|	|	1.50
17.083	0.00	0.13	0.812	O	|	|	|	|	1.59	22.083	0.00	0.10	0.765	O	|	|	|	|	1.50
17.167	0.00	0.13	0.811	O	|	|	|	|	1.58	22.167	0.00	0.10	0.764	O	|	|	|	|	1.50
17.250	0.00	0.13	0.810	O	|	|	|	|	1.58	22.250	0.00	0.10	0.763	O	|	|	|	|	1.50
17.333	0.00	0.13	0.810	O	|	|	|	|	1.58	22.333	0.00	0.10	0.763	O	|	|	|	|	1.50
17.417	0.00	0.13	0.809	O	|	|	|	|	1.58	22.417	0.00	0.10	0.762	O	|	|	|	|	1.50
17.500	0.00	0.13	0.808	O	|	|	|	|	1.58	22.500	0.00	0.10	0.761	O	|	|	|	|	1.50
17.583	0.00	0.13	0.807	O	|	|	|	|	1.58	22.583	0.00	0.10	0.761	O	|	|	|	|	1.50
17.667	0.00	0.13	0.806	O	|	|	|	|	1.57	22.667	0.00	0.10	0.760	O	|	|	|	|	1.49
17.750	0.00	0.13	0.805	O	|	|	|	|	1.57	22.750	0.00	0.10	0.759	O	|	|	|	|	1.49
17.833	0.00	0.13	0.804	O	|	|	|	|	1.57	22.833	0.00	0.10	0.759	O	|	|	|	|	1.49
17.917	0.00	0.13	0.803	O	|	|	|	|	1.57	22.917	0.00	0.10	0.758	O	|	|	|	|	1.49
18.000	0.00	0.12	0.803	O	|	|	|	|	1.57	23.000	0.00	0.10	0.757	O	|	|	|	|	1.49
18.083	0.00	0.12	0.802	O	|	|	|	|	1.57	23.083	0.00	0.10	0.757	O	|	|	|	|	1.49
18.167	0.00	0.12	0.801	O	|	|	|	|	1.57	23.167	0.00	0.10	0.756	O	|	|	|	|	1.49
18.250	0.00	0.12	0.800	O	|	|	|	|	1.56	23.250	0.00	0.09	0.755	O	|	|	|	|	1.49
18.333	0.00	0.12	0.799	O	|	|	|	|	1.56	23.333	0.00	0.09	0.755	O	|	|	|	|	1.48
18.417	0.00	0.12	0.798	O	|	|	|	|	1.56	23.417	0.00	0.09	0.754	O	|	|	|	|	1.48
18.500	0.00	0.12	0.798	O	|	|	|	|	1.56	23.500	0.00	0.09	0.753	O	|	|	|	|	1.48
18.583	0.00	0.12	0.797	O	|	|	|	|	1.56	23.583	0.00	0.09	0.753	O	|	|	|	|	1.48
18.667	0.00	0.12	0.796	O	|	|	|	|	1.56	23.667	0.00	0.09	0.752	O	|	|	|	|	1.48
18.750	0.00	0.12	0.795	O	|	|	|	|	1.56	23.750	0.00	0.09	0.751	O	|	|	|	|	1.48
18.833	0.00	0.12	0.794	O	|	|	|	|	1.55	23.833	0.00	0.09	0.751	O	|	|	|	|	1.48

23.917	0.00	0.09	0.750	O	|	|	|	|	1.48	28.917	0.00	0.07	0.717	O	|	|	|	|	1.42
24.000	0.00	0.09	0.749	O	|	|	|	|	1.48	29.000	0.00	0.07	0.716	O	|	|	|	|	1.42
24.083	0.00	0.09	0.749	O	|	|	|	|	1.47	29.083	0.00	0.07	0.716	O	|	|	|	|	1.42
24.167	0.00	0.09	0.748	O	|	|	|	|	1.47	29.167	0.00	0.07	0.715	O	|	|	|	|	1.42
24.250	0.00	0.09	0.748	O	|	|	|	|	1.47	29.250	0.00	0.07	0.715	O	|	|	|	|	1.42
24.333	0.00	0.09	0.747	O	|	|	|	|	1.47	29.333	0.00	0.07	0.714	O	|	|	|	|	1.41
24.417	0.00	0.09	0.746	O	|	|	|	|	1.47	29.417	0.00	0.07	0.714	O	|	|	|	|	1.41
24.500	0.00	0.09	0.746	O	|	|	|	|	1.47	29.500	0.00	0.07	0.713	O	|	|	|	|	1.41
24.583	0.00	0.09	0.745	O	|	|	|	|	1.47	29.583	0.00	0.07	0.713	O	|	|	|	|	1.41
24.667	0.00	0.09	0.745	O	|	|	|	|	1.47	29.667	0.00	0.07	0.712	O	|	|	|	|	1.41
24.750	0.00	0.09	0.744	O	|	|	|	|	1.47	29.750	0.00	0.07	0.712	O	|	|	|	|	1.41
24.833	0.00	0.09	0.743	O	|	|	|	|	1.47	29.833	0.00	0.07	0.712	O	|	|	|	|	1.41
24.917	0.00	0.09	0.743	O	|	|	|	|	1.46	29.917	0.00	0.07	0.711	O	|	|	|	|	1.41
25.000	0.00	0.09	0.742	O	|	|	|	|	1.46	30.000	0.00	0.07	0.711	O	|	|	|	|	1.41
25.083	0.00	0.09	0.742	O	|	|	|	|	1.46	30.083	0.00	0.07	0.710	O	|	|	|	|	1.41
25.167	0.00	0.09	0.741	O	|	|	|	|	1.46	30.167	0.00	0.07	0.710	O	|	|	|	|	1.41
25.250	0.00	0.09	0.740	O	|	|	|	|	1.46	30.250	0.00	0.07	0.709	O	|	|	|	|	1.41
25.333	0.00	0.09	0.740	O	|	|	|	|	1.46	30.333	0.00	0.07	0.709	O	|	|	|	|	1.40
25.417	0.00	0.08	0.739	O	|	|	|	|	1.46	30.417	0.00	0.07	0.708	O	|	|	|	|	1.40
25.500	0.00	0.08	0.739	O	|	|	|	|	1.46	30.500	0.00	0.07	0.708	O	|	|	|	|	1.40
25.583	0.00	0.08	0.738	O	|	|	|	|	1.46	30.583	0.00	0.06	0.707	O	|	|	|	|	1.40
25.667	0.00	0.08	0.737	O	|	|	|	|	1.45	30.667	0.00	0.06	0.707	O	|	|	|	|	1.40
25.750	0.00	0.08	0.737	O	|	|	|	|	1.45	30.750	0.00	0.06	0.707	O	|	|	|	|	1.40
25.833	0.00	0.08	0.736	O	|	|	|	|	1.45	30.833	0.00	0.06	0.706	O	|	|	|	|	1.40
25.917	0.00	0.08	0.736	O	|	|	|	|	1.45	30.917	0.00	0.06	0.706	O	|	|	|	|	1.40
26.000	0.00	0.08	0.735	O	|	|	|	|	1.45	31.000	0.00	0.06	0.705	O	|	|	|	|	1.40
26.083	0.00	0.08	0.735	O	|	|	|	|	1.45	31.083	0.00	0.06	0.705	O	|	|	|	|	1.40
26.167	0.00	0.08	0.734	O	|	|	|	|	1.45	31.167	0.00	0.06	0.704	O	|	|	|	|	1.40
26.250	0.00	0.08	0.733	O	|	|	|	|	1.45	31.250	0.00	0.06	0.704	O	|	|	|	|	1.40
26.333	0.00	0.08	0.733	O	|	|	|	|	1.45	31.333	0.00	0.06	0.703	O	|	|	|	|	1.40
26.417	0.00	0.08	0.732	O	|	|	|	|	1.45	31.417	0.00	0.06	0.703	O	|	|	|	|	1.39
26.500	0.00	0.08	0.732	O	|	|	|	|	1.44	31.500	0.00	0.06	0.703	O	|	|	|	|	1.39
26.583	0.00	0.08	0.731	O	|	|	|	|	1.44	31.583	0.00	0.06	0.702	O	|	|	|	|	1.39
26.667	0.00	0.08	0.731	O	|	|	|	|	1.44	31.667	0.00	0.06	0.702	O	|	|	|	|	1.39
26.750	0.00	0.08	0.730	O	|	|	|	|	1.44	31.750	0.00	0.06	0.701	O	|	|	|	|	1.39
26.833	0.00	0.08	0.730	O	|	|	|	|	1.44	31.833	0.00	0.06	0.701	O	|	|	|	|	1.39
26.917	0.00	0.08	0.729	O	|	|	|	|	1.44	31.917	0.00	0.06	0.700	O	|	|	|	|	1.39
27.000	0.00	0.08	0.729	O	|	|	|	|	1.44	32.000	0.00	0.06	0.700	O	|	|	|	|	1.39
27.083	0.00	0.08	0.728	O	|	|	|	|	1.44	32.083	0.00	0.06	0.700	O	|	|	|	|	1.39
27.167	0.00	0.08	0.727	O	|	|	|	|	1.44	32.167	0.00	0.06	0.699	O	|	|	|	|	1.39
27.250	0.00	0.08	0.727	O	|	|	|	|	1.44	32.250	0.00	0.06	0.699	O	|	|	|	|	1.39
27.333	0.00	0.08	0.726	O	|	|	|	|	1.44	32.333	0.00	0.06	0.698	O	|	|	|	|	1.39
27.417	0.00	0.08	0.726	O	|	|	|	|	1.43	32.417	0.00	0.06	0.698	O	|	|	|	|	1.39
27.500	0.00	0.08	0.725	O	|	|	|	|	1.43	32.500	0.00	0.06	0.698	O	|	|	|	|	1.39
27.583	0.00	0.08	0.725	O	|	|	|	|	1.43	32.583	0.00	0.06	0.697	O	|	|	|	|	1.38
27.667	0.00	0.08	0.724	O	|	|	|	|	1.43	32.667	0.00	0.06	0.697	O	|	|	|	|	1.38
27.750	0.00	0.08	0.724	O	|	|	|	|	1.43	32.750	0.00	0.06	0.696	O	|	|	|	|	1.38
27.833	0.00	0.07	0.723	O	|	|	|	|	1.43	32.833	0.00	0.06	0.696	O	|	|	|	|	1.38
27.917	0.00	0.07	0.723	O	|	|	|	|	1.43	32.917	0.00	0.06	0.696	O	|	|	|	|	1.38
28.000	0.00	0.07	0.722	O	|	|	|	|	1.43	33.000	0.00	0.06	0.695	O	|	|	|	|	1.38
28.083	0.00	0.07	0.722	O	|	|	|	|	1.43	33.083	0.00	0.06	0.695	O	|	|	|	|	1.38
28.167	0.00	0.07	0.721	O	|	|	|	|	1.43	33.167	0.00	0.06	0.694	O	|	|	|	|	1.38
28.250	0.00	0.07	0.721	O	|	|	|	|	1.43	33.250	0.00	0.06	0.694	O	|	|	|	|	1.38
28.333	0.00	0.07	0.720	O	|	|	|	|	1.42	33.333	0.00	0.06	0.694	O	|	|	|	|	1.38
28.417	0.00	0.07	0.720	O	|	|	|	|	1.42	33.417	0.00	0.06	0.693	O	|	|	|	|	1.38
28.500	0.00	0.07	0.719	O	|	|	|	|	1.42	33.500	0.00	0.06	0.693	O	|	|	|	|	1.38
28.583	0.00	0.07	0.719	O	|	|	|	|	1.42	33.583	0.00	0.06	0.693	O	|	|	|	|	1.38
28.667	0.00	0.07	0.718	O	|	|	|	|	1.42	33.667	0.00	0.06	0.692	O	|	|	|	|	1.38
28.750	0.00	0.07	0.718	O	|	|	|	|	1.42	33.750	0.00	0.06	0.692	O	|	|	|	|	1.38
28.833	0.00	0.07	0.717	O	|	|	|	|	1.42	33.833	0.00	0.05	0.691	O	|	|	|	|	1.37

33.917	0.00	0.05	0.691	O	|	|	|	|	1.37	38.917	0.00	0.04	0.671	O	|	|	|	|	1.34
34.000	0.00	0.05	0.691	O	|	|	|	|	1.37	39.000	0.00	0.04	0.671	O	|	|	|	|	1.34
34.083	0.00	0.05	0.690	O	|	|	|	|	1.37	39.083	0.00	0.04	0.671	O	|	|	|	|	1.34
34.167	0.00	0.05	0.690	O	|	|	|	|	1.37	39.167	0.00	0.04	0.670	O	|	|	|	|	1.34
34.250	0.00	0.05	0.690	O	|	|	|	|	1.37	39.250	0.00	0.04	0.670	O	|	|	|	|	1.34
34.333	0.00	0.05	0.689	O	|	|	|	|	1.37	39.333	0.00	0.04	0.670	O	|	|	|	|	1.34
34.417	0.00	0.05	0.689	O	|	|	|	|	1.37	39.417	0.00	0.04	0.669	O	|	|	|	|	1.34
34.500	0.00	0.05	0.688	O	|	|	|	|	1.37	39.500	0.00	0.04	0.669	O	|	|	|	|	1.34
34.583	0.00	0.05	0.688	O	|	|	|	|	1.37	39.583	0.00	0.04	0.669	O	|	|	|	|	1.34
34.667	0.00	0.05	0.688	O	|	|	|	|	1.37	39.667	0.00	0.04	0.669	O	|	|	|	|	1.33
34.750	0.00	0.05	0.687	O	|	|	|	|	1.37	39.750	0.00	0.04	0.668	O	|	|	|	|	1.33
34.833	0.00	0.05	0.687	O	|	|	|	|	1.37	39.833	0.00	0.04	0.668	O	|	|	|	|	1.33
34.917	0.00	0.05	0.687	O	|	|	|	|	1.37	39.917	0.00	0.04	0.668	O	|	|	|	|	1.33
35.000	0.00	0.05	0.686	O	|	|	|	|	1.37	40.000	0.00	0.04	0.667	O	|	|	|	|	1.33
35.083	0.00	0.05	0.686	O	|	|	|	|	1.36	40.083	0.00	0.04	0.667	O	|	|	|	|	1.33
35.167	0.00	0.05	0.686	O	|	|	|	|	1.36	40.167	0.00	0.04	0.667	O	|	|	|	|	1.33
35.250	0.00	0.05	0.685	O	|	|	|	|	1.36	40.250	0.00	0.04	0.667	O	|	|	|	|	1.33
35.333	0.00	0.05	0.685	O	|	|	|	|	1.36	40.333	0.00	0.04	0.666	O	|	|	|	|	1.33
35.417	0.00	0.05	0.684	O	|	|	|	|	1.36	40.417	0.00	0.04	0.666	O	|	|	|	|	1.33
35.500	0.00	0.05	0.684	O	|	|	|	|	1.36	40.500	0.00	0.04	0.666	O	|	|	|	|	1.33
35.583	0.00	0.05	0.684	O	|	|	|	|	1.36	40.583	0.00	0.04	0.666	O	|	|	|	|	1.33
35.667	0.00	0.05	0.683	O	|	|	|	|	1.36	40.667	0.00	0.04	0.665	O	|	|	|	|	1.33
35.750	0.00	0.05	0.683	O	|	|	|	|	1.36	40.750	0.00	0.04	0.665	O	|	|	|	|	1.33
35.833	0.00	0.05	0.683	O	|	|	|	|	1.36	40.833	0.00	0.04	0.665	O	|	|	|	|	1.33
35.917	0.00	0.05	0.682	O	|	|	|	|	1.36	40.917	0.00	0.04	0.665	O	|	|	|	|	1.33
36.000	0.00	0.05	0.682	O	|	|	|	|	1.36	41.000	0.00	0.04	0.664	O	|	|	|	|	1.33
36.083	0.00	0.05	0.682	O	|	|	|	|	1.36	41.083	0.00	0.04	0.664	O	|	|	|	|	1.33
36.167	0.00	0.05	0.681	O	|	|	|	|	1.36	41.167	0.00	0.04	0.664	O	|	|	|	|	1.33
36.250	0.00	0.05	0.681	O	|	|	|	|	1.36	41.250	0.00	0.04	0.663	O	|	|	|	|	1.33
36.333	0.00	0.05	0.681	O	|	|	|	|	1.36	41.333	0.00	0.04	0.663	O	|	|	|	|	1.33
36.417	0.00	0.05	0.680	O	|	|	|	|	1.36	41.417	0.00	0.04	0.663	O	|	|	|	|	1.32
36.500	0.00	0.05	0.680	O	|	|	|	|	1.35	41.500	0.00	0.04	0.663	O	|	|	|	|	1.32
36.583	0.00	0.05	0.680	O	|	|	|	|	1.35	41.583	0.00	0.04	0.662	O	|	|	|	|	1.32
36.667	0.00	0.05	0.679	O	|	|	|	|	1.35	41.667	0.00	0.04	0.662	O	|	|	|	|	1.32
36.750	0.00	0.05	0.679	O	|	|	|	|	1.35	41.750	0.00	0.04	0.662	O	|	|	|	|	1.32
36.833	0.00	0.05	0.679	O	|	|	|	|	1.35	41.833	0.00	0.04	0.662	O	|	|	|	|	1.32
36.917	0.00	0.05	0.678	O	|	|	|	|	1.35	41.917	0.00	0.04	0.661	O	|	|	|	|	1.32
37.000	0.00	0.05	0.678	O	|	|	|	|	1.35	42.000	0.00	0.04	0.661	O	|	|	|	|	1.32
37.083	0.00	0.05	0.678	O	|	|	|	|	1.35	42.083	0.00	0.04	0.661	O	|	|	|	|	1.32
37.167	0.00	0.05	0.678	O	|	|	|	|	1.35	42.167	0.00	0.04	0.661	O	|	|	|	|	1.32
37.250	0.00	0.05	0.677	O	|	|	|	|	1.35	42.250	0.00	0.04	0.660	O	|	|	|	|	1.32
37.333	0.00	0.05	0.677	O	|	|	|	|	1.35	42.333	0.00	0.04	0.660	O	|	|	|	|	1.32
37.417	0.00	0.05	0.677	O	|	|	|	|	1.35	42.417	0.00	0.04	0.660	O	|	|	|	|	1.32
37.500	0.00	0.05	0.676	O	|	|	|	|	1.35	42.500	0.00	0.03	0.660	O	|	|	|	|	1.32
37.583	0.00	0.05	0.676	O	|	|	|	|	1.35	42.583	0.00	0.03	0.660	O	|	|	|	|	1.32
37.667	0.00	0.04	0.676	O	|	|	|	|	1.35	42.667	0.00	0.03	0.659	O	|	|	|	|	1.32
37.750	0.00	0.04	0.675	O	|	|	|	|	1.35	42.750	0.00	0.03	0.659	O	|	|	|	|	1.32
37.833	0.00	0.04	0.675	O	|	|	|	|	1.35	42.833	0.00	0.03	0.659	O	|	|	|	|	1.32
37.917	0.00	0.04	0.675	O	|	|	|	|	1.35	42.917	0.00	0.03	0.659	O	|	|	|	|	1.32
38.000	0.00	0.04	0.674	O	|	|	|	|	1.34	43.000	0.00	0.03	0.658	O	|	|	|	|	1.32
38.083	0.00	0.04	0.674	O	|	|	|	|	1.34	43.083	0.00	0.03	0.658	O	|	|	|	|	1.32
38.167	0.00	0.04	0.674	O	|	|	|	|	1.34	43.167	0.00	0.03	0.658	O	|	|	|	|	1.32
38.250	0.00	0.04	0.673	O	|	|	|	|	1.34	43.250	0.00	0.03	0.658	O	|	|	|	|	1.32
38.333	0.00	0.04	0.673	O	|	|	|	|	1.34	43.333	0.00	0.03	0.657	O	|	|	|	|	1.32
38.417	0.00	0.04	0.673	O	|	|	|	|	1.34	43.417	0.00	0.03	0.657	O	|	|	|	|	1.31
38.500	0.00	0.04	0.673	O	|	|	|	|	1.34	43.500	0.00	0.03	0.657	O	|	|	|	|	1.31
38.583	0.00	0.04	0.672	O	|	|	|	|	1.34	43.583	0.00	0.03	0.657	O	|	|	|	|	1.31
38.667	0.00	0.04	0.672	O	|	|	|	|	1.34	43.667	0.00	0.03	0.656	O	|	|	|	|	1.31
38.750	0.00	0.04	0.672	O	|	|	|	|	1.34	43.750	0.00	0.03	0.656	O	|	|	|	|	1.31
38.833	0.00	0.04	0.671	O	|	|	|	|	1.34	43.833	0.00	0.03	0.656	O	|	|	|	|	1.31

43.917	0.00	0.03	0.656	O	|	|	|	|	1.31	48.917	0.00	0.03	0.644	O	|	|	|	|	1.29
44.000	0.00	0.03	0.656	O	|	|	|	|	1.31	49.000	0.00	0.02	0.644	O	|	|	|	|	1.29
44.083	0.00	0.03	0.655	O	|	|	|	|	1.31	49.083	0.00	0.02	0.644	O	|	|	|	|	1.29
44.167	0.00	0.03	0.655	O	|	|	|	|	1.31	49.167	0.00	0.02	0.643	O	|	|	|	|	1.29
44.250	0.00	0.03	0.655	O	|	|	|	|	1.31	49.250	0.00	0.02	0.643	O	|	|	|	|	1.29
44.333	0.00	0.03	0.655	O	|	|	|	|	1.31	49.333	0.00	0.02	0.643	O	|	|	|	|	1.29
44.417	0.00	0.03	0.654	O	|	|	|	|	1.31	49.417	0.00	0.02	0.643	O	|	|	|	|	1.29
44.500	0.00	0.03	0.654	O	|	|	|	|	1.31	49.500	0.00	0.02	0.643	O	|	|	|	|	1.29
44.583	0.00	0.03	0.654	O	|	|	|	|	1.31	49.583	0.00	0.02	0.643	O	|	|	|	|	1.29
44.667	0.00	0.03	0.654	O	|	|	|	|	1.31	49.667	0.00	0.02	0.642	O	|	|	|	|	1.29
44.750	0.00	0.03	0.654	O	|	|	|	|	1.31	49.750	0.00	0.02	0.642	O	|	|	|	|	1.29
44.833	0.00	0.03	0.653	O	|	|	|	|	1.31	49.833	0.00	0.02	0.642	O	|	|	|	|	1.29
44.917	0.00	0.03	0.653	O	|	|	|	|	1.31	49.917	0.00	0.02	0.642	O	|	|	|	|	1.29
45.000	0.00	0.03	0.653	O	|	|	|	|	1.31	50.000	0.00	0.02	0.642	O	|	|	|	|	1.29
45.083	0.00	0.03	0.653	O	|	|	|	|	1.31	50.083	0.00	0.02	0.642	O	|	|	|	|	1.29
45.167	0.00	0.03	0.653	O	|	|	|	|	1.31	50.167	0.00	0.02	0.641	O	|	|	|	|	1.29
45.250	0.00	0.03	0.652	O	|	|	|	|	1.31	50.250	0.00	0.02	0.641	O	|	|	|	|	1.29
45.333	0.00	0.03	0.652	O	|	|	|	|	1.31	50.333	0.00	0.02	0.641	O	|	|	|	|	1.29
45.417	0.00	0.03	0.652	O	|	|	|	|	1.31	50.417	0.00	0.02	0.641	O	|	|	|	|	1.29
45.500	0.00	0.03	0.652	O	|	|	|	|	1.31	50.500	0.00	0.02	0.641	O	|	|	|	|	1.29
45.583	0.00	0.03	0.652	O	|	|	|	|	1.30	50.583	0.00	0.02	0.641	O	|	|	|	|	1.29
45.667	0.00	0.03	0.651	O	|	|	|	|	1.30	50.667	0.00	0.02	0.641	O	|	|	|	|	1.29
45.750	0.00	0.03	0.651	O	|	|	|	|	1.30	50.750	0.00	0.02	0.640	O	|	|	|	|	1.29
45.833	0.00	0.03	0.651	O	|	|	|	|	1.30	50.833	0.00	0.02	0.640	O	|	|	|	|	1.29
45.917	0.00	0.03	0.651	O	|	|	|	|	1.30	50.917	0.00	0.02	0.640	O	|	|	|	|	1.28
46.000	0.00	0.03	0.651	O	|	|	|	|	1.30	51.000	0.00	0.02	0.640	O	|	|	|	|	1.28
46.083	0.00	0.03	0.650	O	|	|	|	|	1.30	51.083	0.00	0.02	0.640	O	|	|	|	|	1.28
46.167	0.00	0.03	0.650	O	|	|	|	|	1.30	51.167	0.00	0.02	0.640	O	|	|	|	|	1.28
46.250	0.00	0.03	0.650	O	|	|	|	|	1.30	51.250	0.00	0.02	0.639	O	|	|	|	|	1.28
46.333	0.00	0.03	0.650	O	|	|	|	|	1.30	51.333	0.00	0.02	0.639	O	|	|	|	|	1.28
46.417	0.00	0.03	0.650	O	|	|	|	|	1.30	51.417	0.00	0.02	0.639	O	|	|	|	|	1.28
46.500	0.00	0.03	0.649	O	|	|	|	|	1.30	51.500	0.00	0.02	0.639	O	|	|	|	|	1.28
46.583	0.00	0.03	0.649	O	|	|	|	|	1.30	51.583	0.00	0.02	0.639	O	|	|	|	|	1.28
46.667	0.00	0.03	0.649	O	|	|	|	|	1.30	51.667	0.00	0.02	0.639	O	|	|	|	|	1.28
46.750	0.00	0.03	0.649	O	|	|	|	|	1.30	51.750	0.00	0.02	0.639	O	|	|	|	|	1.28
46.833	0.00	0.03	0.649	O	|	|	|	|	1.30	51.833	0.00	0.02	0.638	O	|	|	|	|	1.28
46.917	0.00	0.03	0.648	O	|	|	|	|	1.30	51.917	0.00	0.02	0.638	O	|	|	|	|	1.28
47.000	0.00	0.03	0.648	O	|	|	|	|	1.30	52.000	0.00	0.02	0.638	O	|	|	|	|	1.28
47.083	0.00	0.03	0.648	O	|	|	|	|	1.30	52.083	0.00	0.02	0.638	O	|	|	|	|	1.28
47.167	0.00	0.03	0.648	O	|	|	|	|	1.30	52.167	0.00	0.02	0.638	O	|	|	|	|	1.28
47.250	0.00	0.03	0.648	O	|	|	|	|	1.30	52.250	0.00	0.02	0.638	O	|	|	|	|	1.28
47.333	0.00	0.03	0.647	O	|	|	|	|	1.30	52.333	0.00	0.02	0.637	O	|	|	|	|	1.28
47.417	0.00	0.03	0.647	O	|	|	|	|	1.30	52.417	0.00	0.02	0.637	O	|	|	|	|	1.28
47.500	0.00	0.03	0.647	O	|	|	|	|	1.30	52.500	0.00	0.02	0.637	O	|	|	|	|	1.28
47.583	0.00	0.03	0.647	O	|	|	|	|	1.30	52.583	0.00	0.02	0.637	O	|	|	|	|	1.28
47.667	0.00	0.03	0.647	O	|	|	|	|	1.30	52.667	0.00	0.02	0.637	O	|	|	|	|	1.28
47.750	0.00	0.03	0.646	O	|	|	|	|	1.30	52.750	0.00	0.02	0.637	O	|	|	|	|	1.28
47.833	0.00	0.03	0.646	O	|	|	|	|	1.30	52.833	0.00	0.02	0.637	O	|	|	|	|	1.28
47.917	0.00	0.03	0.646	O	|	|	|	|	1.30	52.917	0.00	0.02	0.637	O	|	|	|	|	1.28
48.000	0.00	0.03	0.646	O	|	|	|	|	1.30	53.000	0.00	0.02	0.636	O	|	|	|	|	1.28
48.083	0.00	0.03	0.646	O	|	|	|	|	1.29	53.083	0.00	0.02	0.636	O	|	|	|	|	1.28
48.167	0.00	0.03	0.646	O	|	|	|	|	1.29	53.167	0.00	0.02	0.636	O	|	|	|	|	1.28
48.250	0.00	0.03	0.645	O	|	|	|	|	1.29	53.250	0.00	0.02	0.636	O	|	|	|	|	1.28
48.333	0.00	0.03	0.645	O	|	|	|	|	1.29	53.333	0.00	0.02	0.636	O	|	|	|	|	1.28
48.417	0.00	0.03	0.645	O	|	|	|	|	1.29	53.417	0.00	0.02	0.636	O	|	|	|	|	1.28
48.500	0.00	0.03	0.645	O	|	|	|	|	1.29	53.500	0.00	0.02	0.636	O	|	|	|	|	1.28
48.583	0.00	0.03	0.645	O	|	|	|	|	1.29	53.583	0.00	0.02	0.635	O	|	|	|	|	1.28
48.667	0.00	0.03	0.645	O	|	|	|	|	1.29	53.667	0.00	0.02	0.635	O	|	|	|	|	1.28
48.750	0.00	0.03	0.644	O	|	|	|	|	1.29	53.750	0.00	0.02	0.635	O	|	|	|	|	1.28
48.833	0.00	0.03	0.644	O	|	|	|	|	1.29	53.833	0.00	0.02	0.635	O	|	|	|	|	1.28

53.917	0.00	0.02	0.635	O	|	|	|	|	1.28	58.917	0.00	0.01	0.628	O	|	|	|	|	1.26
54.000	0.00	0.02	0.635	O	|	|	|	|	1.28	59.000	0.00	0.01	0.628	O	|	|	|	|	1.26
54.083	0.00	0.02	0.635	O	|	|	|	|	1.28	59.083	0.00	0.01	0.628	O	|	|	|	|	1.26
54.167	0.00	0.02	0.634	O	|	|	|	|	1.28	59.167	0.00	0.01	0.628	O	|	|	|	|	1.26
54.250	0.00	0.02	0.634	O	|	|	|	|	1.27	59.250	0.00	0.01	0.627	O	|	|	|	|	1.26
54.333	0.00	0.02	0.634	O	|	|	|	|	1.27	59.333	0.00	0.01	0.627	O	|	|	|	|	1.26
54.417	0.00	0.02	0.634	O	|	|	|	|	1.27	59.417	0.00	0.01	0.627	O	|	|	|	|	1.26
54.500	0.00	0.02	0.634	O	|	|	|	|	1.27	59.500	0.00	0.01	0.627	O	|	|	|	|	1.26
54.583	0.00	0.02	0.634	O	|	|	|	|	1.27	59.583	0.00	0.01	0.627	O	|	|	|	|	1.26
54.667	0.00	0.02	0.634	O	|	|	|	|	1.27	59.667	0.00	0.01	0.627	O	|	|	|	|	1.26
54.750	0.00	0.02	0.634	O	|	|	|	|	1.27	59.750	0.00	0.01	0.627	O	|	|	|	|	1.26
54.833	0.00	0.02	0.633	O	|	|	|	|	1.27	59.833	0.00	0.01	0.627	O	|	|	|	|	1.26
54.917	0.00	0.02	0.633	O	|	|	|	|	1.27	59.917	0.00	0.01	0.627	O	|	|	|	|	1.26
55.000	0.00	0.02	0.633	O	|	|	|	|	1.27	60.000	0.00	0.01	0.627	O	|	|	|	|	1.26
55.083	0.00	0.02	0.633	O	|	|	|	|	1.27	60.083	0.00	0.01	0.626	O	|	|	|	|	1.26
55.167	0.00	0.02	0.633	O	|	|	|	|	1.27	60.167	0.00	0.01	0.626	O	|	|	|	|	1.26
55.250	0.00	0.02	0.633	O	|	|	|	|	1.27	60.250	0.00	0.01	0.626	O	|	|	|	|	1.26
55.333	0.00	0.02	0.633	O	|	|	|	|	1.27	60.333	0.00	0.01	0.626	O	|	|	|	|	1.26
55.417	0.00	0.02	0.633	O	|	|	|	|	1.27	60.417	0.00	0.01	0.626	O	|	|	|	|	1.26
55.500	0.00	0.02	0.632	O	|	|	|	|	1.27	60.500	0.00	0.01	0.626	O	|	|	|	|	1.26
55.583	0.00	0.02	0.632	O	|	|	|	|	1.27	60.583	0.00	0.01	0.626	O	|	|	|	|	1.26
55.667	0.00	0.02	0.632	O	|	|	|	|	1.27	60.667	0.00	0.01	0.626	O	|	|	|	|	1.26
55.750	0.00	0.02	0.632	O	|	|	|	|	1.27	60.750	0.00	0.01	0.626	O	|	|	|	|	1.26
55.833	0.00	0.02	0.632	O	|	|	|	|	1.27	60.833	0.00	0.01	0.626	O	|	|	|	|	1.26
55.917	0.00	0.02	0.632	O	|	|	|	|	1.27	60.917	0.00	0.01	0.625	O	|	|	|	|	1.26
56.000	0.00	0.02	0.632	O	|	|	|	|	1.27	61.000	0.00	0.01	0.625	O	|	|	|	|	1.26
56.083	0.00	0.02	0.632	O	|	|	|	|	1.27	61.083	0.00	0.01	0.625	O	|	|	|	|	1.26
56.167	0.00	0.02	0.631	O	|	|	|	|	1.27	61.167	0.00	0.01	0.625	O	|	|	|	|	1.26
56.250	0.00	0.02	0.631	O	|	|	|	|	1.27	61.250	0.00	0.01	0.625	O	|	|	|	|	1.26
56.333	0.00	0.02	0.631	O	|	|	|	|	1.27	61.333	0.00	0.01	0.625	O	|	|	|	|	1.26
56.417	0.00	0.02	0.631	O	|	|	|	|	1.27	61.417	0.00	0.01	0.625	O	|	|	|	|	1.26
56.500	0.00	0.02	0.631	O	|	|	|	|	1.27	61.500	0.00	0.01	0.625	O	|	|	|	|	1.26
56.583	0.00	0.02	0.631	O	|	|	|	|	1.27	61.583	0.00	0.01	0.625	O	|	|	|	|	1.26
56.667	0.00	0.02	0.631	O	|	|	|	|	1.27	61.667	0.00	0.01	0.625	O	|	|	|	|	1.26
56.750	0.00	0.02	0.631	O	|	|	|	|	1.27	61.750	0.00	0.01	0.625	O	|	|	|	|	1.26
56.833	0.00	0.02	0.631	O	|	|	|	|	1.27	61.833	0.00	0.01	0.624	O	|	|	|	|	1.26
56.917	0.00	0.02	0.630	O	|	|	|	|	1.27	61.917	0.00	0.01	0.624	O	|	|	|	|	1.26
57.000	0.00	0.02	0.630	O	|	|	|	|	1.27	62.000	0.00	0.01	0.624	O	|	|	|	|	1.26
57.083	0.00	0.02	0.630	O	|	|	|	|	1.27	62.083	0.00	0.01	0.624	O	|	|	|	|	1.26
57.167	0.00	0.02	0.630	O	|	|	|	|	1.27	62.167	0.00	0.01	0.624	O	|	|	|	|	1.26
57.250	0.00	0.02	0.630	O	|	|	|	|	1.27	62.250	0.00	0.01	0.624	O	|	|	|	|	1.26
57.333	0.00	0.02	0.630	O	|	|	|	|	1.27	62.333	0.00	0.01	0.624	O	|	|	|	|	1.26
57.417	0.00	0.02	0.630	O	|	|	|	|	1.27	62.417	0.00	0.01	0.624	O	|	|	|	|	1.26
57.500	0.00	0.02	0.630	O	|	|	|	|	1.27	62.500	0.00	0.01	0.624	O	|	|	|	|	1.26
57.583	0.00	0.02	0.630	O	|	|	|	|	1.27	62.583	0.00	0.01	0.624	O	|	|	|	|	1.26
57.667	0.00	0.02	0.629	O	|	|	|	|	1.27	62.667	0.00	0.01	0.624	O	|	|	|	|	1.26
57.750	0.00	0.02	0.629	O	|	|	|	|	1.27	62.750	0.00	0.01	0.624	O	|	|	|	|	1.26
57.833	0.00	0.02	0.629	O	|	|	|	|	1.27	62.833	0.00	0.01	0.623	O	|	|	|	|	1.26
57.917	0.00	0.02	0.629	O	|	|	|	|	1.27	62.917	0.00	0.01	0.623	O	|	|	|	|	1.26
58.000	0.00	0.02	0.629	O	|	|	|	|	1.27	63.000	0.00	0.01	0.623	O	|	|	|	|	1.26
58.083	0.00	0.02	0.629	O	|	|	|	|	1.27	63.083	0.00	0.01	0.623	O	|	|	|	|	1.26
58.167	0.00	0.02	0.629	O	|	|	|	|	1.27	63.167	0.00	0.01	0.623	O	|	|	|	|	1.26
58.250	0.00	0.02	0.629	O	|	|	|	|	1.27	63.250	0.00	0.01	0.623	O	|	|	|	|	1.26
58.333	0.00	0.02	0.629	O	|	|	|	|	1.26	63.333	0.00	0.01	0.623	O	|	|	|	|	1.26
58.417	0.00	0.02	0.628	O	|	|	|	|	1.26	63.417	0.00	0.01	0.623	O	|	|	|	|	1.26
58.500	0.00	0.02	0.628	O	|	|	|	|	1.26	63.500	0.00	0.01	0.623	O	|	|	|	|	1.25
58.583	0.00	0.02	0.628	O	|	|	|	|	1.26	63.583	0.00	0.01	0.623	O	|	|	|	|	1.25
58.667	0.00	0.02	0.628	O	|	|	|	|	1.26	63.667	0.00	0.01	0.623	O	|	|	|	|	1.25
58.750	0.00	0.02	0.628	O	|	|	|	|	1.26	63.750	0.00	0.01	0.623	O	|	|	|	|	1.25
58.833	0.00	0.01	0.628	O	|	|	|	|	1.26	63.833	0.00	0.01	0.622	O	|	|	|	|	1.25

63.917	0.00	0.01	0.622	O	|	|	|	|	1.25	68.917	0.00	0.01	0.618	O	|	|	|	|	1.25
64.000	0.00	0.01	0.622	O	|	|	|	|	1.25	69.000	0.00	0.01	0.618	O	|	|	|	|	1.25
64.083	0.00	0.01	0.622	O	|	|	|	|	1.25	69.083	0.00	0.01	0.618	O	|	|	|	|	1.25
64.167	0.00	0.01	0.622	O	|	|	|	|	1.25	69.167	0.00	0.01	0.618	O	|	|	|	|	1.25
64.250	0.00	0.01	0.622	O	|	|	|	|	1.25	69.250	0.00	0.01	0.618	O	|	|	|	|	1.25
64.333	0.00	0.01	0.622	O	|	|	|	|	1.25	69.333	0.00	0.01	0.618	O	|	|	|	|	1.25
64.417	0.00	0.01	0.622	O	|	|	|	|	1.25	69.417	0.00	0.01	0.618	O	|	|	|	|	1.25
64.500	0.00	0.01	0.622	O	|	|	|	|	1.25	69.500	0.00	0.01	0.618	O	|	|	|	|	1.25
64.583	0.00	0.01	0.622	O	|	|	|	|	1.25	69.583	0.00	0.01	0.618	O	|	|	|	|	1.25
64.667	0.00	0.01	0.622	O	|	|	|	|	1.25	69.667	0.00	0.01	0.617	O	|	|	|	|	1.24
64.750	0.00	0.01	0.622	O	|	|	|	|	1.25	69.750	0.00	0.01	0.617	O	|	|	|	|	1.24
64.833	0.00	0.01	0.622	O	|	|	|	|	1.25	69.833	0.00	0.01	0.617	O	|	|	|	|	1.24
64.917	0.00	0.01	0.621	O	|	|	|	|	1.25	69.917	0.00	0.01	0.617	O	|	|	|	|	1.24
65.000	0.00	0.01	0.621	O	|	|	|	|	1.25	70.000	0.00	0.01	0.617	O	|	|	|	|	1.24
65.083	0.00	0.01	0.621	O	|	|	|	|	1.25	70.083	0.00	0.01	0.617	O	|	|	|	|	1.24
65.167	0.00	0.01	0.621	O	|	|	|	|	1.25	70.167	0.00	0.01	0.617	O	|	|	|	|	1.24
65.250	0.00	0.01	0.621	O	|	|	|	|	1.25	70.250	0.00	0.01	0.617	O	|	|	|	|	1.24
65.333	0.00	0.01	0.621	O	|	|	|	|	1.25	70.333	0.00	0.01	0.617	O	|	|	|	|	1.24
65.417	0.00	0.01	0.621	O	|	|	|	|	1.25	70.417	0.00	0.01	0.617	O	|	|	|	|	1.24
65.500	0.00	0.01	0.621	O	|	|	|	|	1.25	70.500	0.00	0.01	0.617	O	|	|	|	|	1.24
65.583	0.00	0.01	0.621	O	|	|	|	|	1.25	70.583	0.00	0.01	0.617	O	|	|	|	|	1.24
65.667	0.00	0.01	0.621	O	|	|	|	|	1.25	70.667	0.00	0.01	0.617	O	|	|	|	|	1.24
65.750	0.00	0.01	0.621	O	|	|	|	|	1.25	70.750	0.00	0.01	0.617	O	|	|	|	|	1.24
65.833	0.00	0.01	0.621	O	|	|	|	|	1.25	70.833	0.00	0.01	0.617	O	|	|	|	|	1.24
65.917	0.00	0.01	0.621	O	|	|	|	|	1.25	70.917	0.00	0.01	0.616	O	|	|	|	|	1.24
66.000	0.00	0.01	0.621	O	|	|	|	|	1.25	71.000	0.00	0.01	0.616	O	|	|	|	|	1.24
66.083	0.00	0.01	0.620	O	|	|	|	|	1.25	71.083	0.00	0.01	0.616	O	|	|	|	|	1.24
66.167	0.00	0.01	0.620	O	|	|	|	|	1.25	71.167	0.00	0.01	0.616	O	|	|	|	|	1.24
66.250	0.00	0.01	0.620	O	|	|	|	|	1.25	71.250	0.00	0.01	0.616	O	|	|	|	|	1.24
66.333	0.00	0.01	0.620	O	|	|	|	|	1.25	71.333	0.00	0.01	0.616	O	|	|	|	|	1.24
66.417	0.00	0.01	0.620	O	|	|	|	|	1.25	71.417	0.00	0.01	0.616	O	|	|	|	|	1.24
66.500	0.00	0.01	0.620	O	|	|	|	|	1.25	71.500	0.00	0.01	0.616	O	|	|	|	|	1.24
66.583	0.00	0.01	0.620	O	|	|	|	|	1.25	71.583	0.00	0.01	0.616	O	|	|	|	|	1.24
66.667	0.00	0.01	0.620	O	|	|	|	|	1.25	71.667	0.00	0.01	0.616	O	|	|	|	|	1.24
66.750	0.00	0.01	0.620	O	|	|	|	|	1.25	71.750	0.00	0.01	0.616	O	|	|	|	|	1.24
66.833	0.00	0.01	0.620	O	|	|	|	|	1.25	71.833	0.00	0.01	0.616	O	|	|	|	|	1.24
66.917	0.00	0.01	0.620	O	|	|	|	|	1.25	71.917	0.00	0.01	0.616	O	|	|	|	|	1.24
67.000	0.00	0.01	0.620	O	|	|	|	|	1.25	72.000	0.00	0.01	0.616	O	|	|	|	|	1.24
67.083	0.00	0.01	0.620	O	|	|	|	|	1.25	72.083	0.00	0.01	0.616	O	|	|	|	|	1.24
67.167	0.00	0.01	0.620	O	|	|	|	|	1.25	72.167	0.00	0.01	0.615	O	|	|	|	|	1.24
67.250	0.00	0.01	0.619	O	|	|	|	|	1.25	72.250	0.00	0.01	0.615	O	|	|	|	|	1.24
67.333	0.00	0.01	0.619	O	|	|	|	|	1.25	72.333	0.00	0.01	0.615	O	|	|	|	|	1.24
67.417	0.00	0.01	0.619	O	|	|	|	|	1.25	72.417	0.00	0.01	0.615	O	|	|	|	|	1.24
67.500	0.00	0.01	0.619	O	|	|	|	|	1.25	72.500	0.00	0.01	0.615	O	|	|	|	|	1.24
67.583	0.00	0.01	0.619	O	|	|	|	|	1.25	72.583	0.00	0.01	0.615	O	|	|	|	|	1.24
67.667	0.00	0.01	0.619	O	|	|	|	|	1.25	72.667	0.00	0.01	0.615	O	|	|	|	|	1.24
67.750	0.00	0.01	0.619	O	|	|	|	|	1.25	72.750	0.00	0.01	0.615	O	|	|	|	|	1.24
67.833	0.00	0.01	0.619	O	|	|	|	|	1.25	72.833	0.00	0.01	0.615	O	|	|	|	|	1.24
67.917	0.00	0.01	0.619	O	|	|	|	|	1.25	72.917	0.00	0.01	0.615	O	|	|	|	|	1.24
68.000	0.00	0.01	0.619	O	|	|	|	|	1.25	73.000	0.00	0.01	0.615	O	|	|	|	|	1.24
68.083	0.00	0.01	0.619	O	|	|	|	|	1.25	73.083	0.00	0.01	0.615	O	|	|	|	|	1.24
68.167	0.00	0.01	0.619	O	|	|	|	|	1.25	73.167	0.00	0.01	0.615	O	|	|	|	|	1.24
68.250	0.00	0.01	0.619	O	|	|	|	|	1.25	73.250	0.00	0.01	0.615	O	|	|	|	|	1.24
68.333	0.00	0.01	0.619	O	|	|	|	|	1.25	73.333	0.00	0.01	0.614	O	|	|	|	|	1.24
68.417	0.00	0.01	0.619	O	|	|	|	|	1.25	73.417	0.00	0.01	0.614	O	|	|	|	|	1.24
68.500	0.00	0.01	0.618	O	|	|	|	|	1.25	73.500	0.00	0.01	0.614	O	|	|	|	|	1.24
68.583	0.00	0.01	0.618	O	|	|	|	|	1.25	73.583	0.00	0.01	0.614	O	|	|	|	|	1.24
68.667	0.00	0.01	0.618	O	|	|	|	|	1.25	73.667	0.00	0.01	0.614	O	|	|	|	|	1.24
68.750	0.00	0.01	0.618	O	|	|	|	|	1.25	73.750	0.00	0.01	0.614	O	|	|	|	|	1.24
68.833	0.00	0.01	0.618	O	|	|	|	|	1.25	73.833	0.00	0.01	0.614	O	|	|	|	|	1.24

73.917	0.00	0.01	0.614	O	|	|	|	|	1.24	78.917	0.00	0.01	0.610	O	|	|	|	|	1.23
74.000	0.00	0.01	0.614	O	|	|	|	|	1.24	79.000	0.00	0.01	0.610	O	|	|	|	|	1.23
74.083	0.00	0.01	0.614	O	|	|	|	|	1.24	79.083	0.00	0.01	0.610	O	|	|	|	|	1.23
74.167	0.00	0.01	0.614	O	|	|	|	|	1.24	79.167	0.00	0.01	0.610	O	|	|	|	|	1.23
74.250	0.00	0.01	0.614	O	|	|	|	|	1.24	79.250	0.00	0.01	0.610	O	|	|	|	|	1.23
74.333	0.00	0.01	0.614	O	|	|	|	|	1.24	79.333	0.00	0.01	0.610	O	|	|	|	|	1.23
74.417	0.00	0.01	0.614	O	|	|	|	|	1.24	79.417	0.00	0.01	0.610	O	|	|	|	|	1.23
74.500	0.00	0.01	0.614	O	|	|	|	|	1.24	79.500	0.00	0.01	0.609	O	|	|	|	|	1.23
74.583	0.00	0.01	0.613	O	|	|	|	|	1.24	79.583	0.00	0.01	0.609	O	|	|	|	|	1.23
74.667	0.00	0.01	0.613	O	|	|	|	|	1.24	79.667	0.00	0.01	0.609	O	|	|	|	|	1.23
74.750	0.00	0.01	0.613	O	|	|	|	|	1.24	79.750	0.00	0.01	0.609	O	|	|	|	|	1.23
74.833	0.00	0.01	0.613	O	|	|	|	|	1.24	79.833	0.00	0.01	0.609	O	|	|	|	|	1.23
74.917	0.00	0.01	0.613	O	|	|	|	|	1.24	79.917	0.00	0.01	0.609	O	|	|	|	|	1.23
75.000	0.00	0.01	0.613	O	|	|	|	|	1.24	80.000	0.00	0.01	0.609	O	|	|	|	|	1.23
75.083	0.00	0.01	0.613	O	|	|	|	|	1.24	80.083	0.00	0.01	0.609	O	|	|	|	|	1.23
75.167	0.00	0.01	0.613	O	|	|	|	|	1.24	80.167	0.00	0.01	0.609	O	|	|	|	|	1.23
75.250	0.00	0.01	0.613	O	|	|	|	|	1.24	80.250	0.00	0.01	0.609	O	|	|	|	|	1.23
75.333	0.00	0.01	0.613	O	|	|	|	|	1.24	80.333	0.00	0.01	0.609	O	|	|	|	|	1.23
75.417	0.00	0.01	0.613	O	|	|	|	|	1.24	80.417	0.00	0.01	0.609	O	|	|	|	|	1.23
75.500	0.00	0.01	0.613	O	|	|	|	|	1.24	80.500	0.00	0.01	0.609	O	|	|	|	|	1.23
75.583	0.00	0.01	0.613	O	|	|	|	|	1.24	80.583	0.00	0.01	0.609	O	|	|	|	|	1.23
75.667	0.00	0.01	0.613	O	|	|	|	|	1.24	80.667	0.00	0.01	0.608	O	|	|	|	|	1.23
75.750	0.00	0.01	0.612	O	|	|	|	|	1.23	80.750	0.00	0.01	0.608	O	|	|	|	|	1.23
75.833	0.00	0.01	0.612	O	|	|	|	|	1.23	80.833	0.00	0.01	0.608	O	|	|	|	|	1.23
75.917	0.00	0.01	0.612	O	|	|	|	|	1.23	80.917	0.00	0.01	0.608	O	|	|	|	|	1.23
76.000	0.00	0.01	0.612	O	|	|	|	|	1.23	81.000	0.00	0.01	0.608	O	|	|	|	|	1.23
76.083	0.00	0.01	0.612	O	|	|	|	|	1.23	81.083	0.00	0.01	0.608	O	|	|	|	|	1.23
76.167	0.00	0.01	0.612	O	|	|	|	|	1.23	81.167	0.00	0.01	0.608	O	|	|	|	|	1.23
76.250	0.00	0.01	0.612	O	|	|	|	|	1.23	81.250	0.00	0.01	0.608	O	|	|	|	|	1.23
76.333	0.00	0.01	0.612	O	|	|	|	|	1.23	81.333	0.00	0.01	0.608	O	|	|	|	|	1.23
76.417	0.00	0.01	0.612	O	|	|	|	|	1.23	81.417	0.00	0.01	0.608	O	|	|	|	|	1.23
76.500	0.00	0.01	0.612	O	|	|	|	|	1.23	81.500	0.00	0.01	0.608	O	|	|	|	|	1.23
76.583	0.00	0.01	0.612	O	|	|	|	|	1.23	81.583	0.00	0.01	0.608	O	|	|	|	|	1.23
76.667	0.00	0.01	0.612	O	|	|	|	|	1.23	81.667	0.00	0.01	0.608	O	|	|	|	|	1.23
76.750	0.00	0.01	0.612	O	|	|	|	|	1.23	81.750	0.00	0.01	0.608	O	|	|	|	|	1.23
76.833	0.00	0.01	0.612	O	|	|	|	|	1.23	81.833	0.00	0.01	0.608	O	|	|	|	|	1.22
76.917	0.00	0.01	0.612	O	|	|	|	|	1.23	81.917	0.00	0.01	0.607	O	|	|	|	|	1.22
77.000	0.00	0.01	0.611	O	|	|	|	|	1.23	82.000	0.00	0.01	0.607	O	|	|	|	|	1.22
77.083	0.00	0.01	0.611	O	|	|	|	|	1.23	82.083	0.00	0.01	0.607	O	|	|	|	|	1.22
77.167	0.00	0.01	0.611	O	|	|	|	|	1.23	82.167	0.00	0.01	0.607	O	|	|	|	|	1.22
77.250	0.00	0.01	0.611	O	|	|	|	|	1.23	82.250	0.00	0.01	0.607	O	|	|	|	|	1.22
77.333	0.00	0.01	0.611	O	|	|	|	|	1.23	82.333	0.00	0.01	0.607	O	|	|	|	|	1.22
77.417	0.00	0.01	0.611	O	|	|	|	|	1.23	82.417	0.00	0.01	0.607	O	|	|	|	|	1.22
77.500	0.00	0.01	0.611	O	|	|	|	|	1.23	82.500	0.00	0.01	0.607	O	|	|	|	|	1.22
77.583	0.00	0.01	0.611	O	|	|	|	|	1.23	82.583	0.00	0.01	0.607	O	|	|	|	|	1.22
77.667	0.00	0.01	0.611	O	|	|	|	|	1.23	82.667	0.00	0.01	0.607	O	|	|	|	|	1.22
77.750	0.00	0.01	0.611	O	|	|	|	|	1.23	82.750	0.00	0.01	0.607	O	|	|	|	|	1.22
77.833	0.00	0.01	0.611	O	|	|	|	|	1.23	82.833	0.00	0.01	0.607	O	|	|	|	|	1.22
77.917	0.00	0.01	0.611	O	|	|	|	|	1.23	82.917	0.00	0.01	0.607	O	|	|	|	|	1.22
78.000	0.00	0.01	0.611	O	|	|	|	|	1.23	83.000	0.00	0.01	0.607	O	|	|	|	|	1.22
78.083	0.00	0.01	0.611	O	|	|	|	|	1.23	83.083	0.00	0.01	0.607	O	|	|	|	|	1.22
78.167	0.00	0.01	0.611	O	|	|	|	|	1.23	83.167	0.00	0.01	0.606	O	|	|	|	|	1.22
78.250	0.00	0.01	0.610	O	|	|	|	|	1.23	83.250	0.00	0.01	0.606	O	|	|	|	|	1.22
78.333	0.00	0.01	0.610	O	|	|	|	|	1.23	83.333	0.00	0.01	0.606	O	|	|	|	|	1.22
78.417	0.00	0.01	0.610	O	|	|	|	|	1.23	83.417	0.00	0.01	0.606	O	|	|	|	|	1.22
78.500	0.00	0.01	0.610	O	|	|	|	|	1.23	83.500	0.00	0.01	0.606	O	|	|	|	|	1.22
78.583	0.00	0.01	0.610	O	|	|	|	|	1.23	83.583	0.00	0.01	0.606	O	|	|	|	|	1.22
78.667	0.00	0.01	0.610	O	|	|	|	|	1.23	83.667	0.00	0.01	0.606	O	|	|	|	|	1.22
78.750	0.00	0.01	0.610	O	|	|	|	|	1.23	83.750	0.00	0.01	0.606	O	|	|	|	|	1.22
78.833	0.00	0.01	0.610	O	|	|	|	|	1.23	83.833	0.00	0.01	0.606	O	|	|	|	|	1.22

Left Blank Intentionally

413.917	0.00	0.01	0.390	O	|	|	|	0.79
414.000	0.00	0.01	0.390	O	|	|	|	0.79
414.083	0.00	0.01	0.390	O	|	|	|	0.79
414.167	0.00	0.01	0.390	O	|	|	|	0.79
414.250	0.00	0.01	0.390	O	|	|	|	0.79
414.333	0.00	0.01	0.390	O	|	|	|	0.79
414.417	0.00	0.01	0.390	O	|	|	|	0.79
414.500	0.00	0.01	0.390	O	|	|	|	0.79
414.583	0.00	0.01	0.390	O	|	|	|	0.79
414.667	0.00	0.01	0.390	O	|	|	|	0.79
414.750	0.00	0.01	0.390	O	|	|	|	0.79
414.833	0.00	0.01	0.390	O	|	|	|	0.79
414.917	0.00	0.01	0.390	O	|	|	|	0.79
415.000	0.00	0.01	0.390	O	|	|	|	0.79
415.083	0.00	0.01	0.390	O	|	|	|	0.79
415.167	0.00	0.01	0.390	O	|	|	|	0.79
415.250	0.00	0.01	0.390	O	|	|	|	0.79
415.333	0.00	0.01	0.390	O	|	|	|	0.79
415.417	0.00	0.01	0.389	O	|	|	|	0.79
415.500	0.00	0.01	0.389	O	|	|	|	0.79
415.583	0.00	0.01	0.389	O	|	|	|	0.79
415.667	0.00	0.01	0.389	O	|	|	|	0.78
415.750	0.00	0.01	0.389	O	|	|	|	0.78
415.833	0.00	0.01	0.389	O	|	|	|	0.78
415.917	0.00	0.01	0.389	O	|	|	|	0.78
416.000	0.00	0.01	0.389	O	|	|	|	0.78
416.083	0.00	0.01	0.389	O	|	|	|	0.78
416.167	0.00	0.01	0.389	O	|	|	|	0.78
416.250	0.00	0.01	0.389	O	|	|	|	0.78
416.333	0.00	0.01	0.389	O	|	|	|	0.78
416.417	0.00	0.01	0.389	O	|	|	|	0.78
416.500	0.00	0.01	0.389	O	|	|	|	0.78
416.583	0.00	0.01	0.389	O	|	|	|	0.78
416.667	0.00	0.01	0.389	O	|	|	|	0.78

Remaining water in basin = 0.39 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.287 (CFS)
Total volume = 0.696 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

-----------------------------------------------------------------------


TR 37036, PARCEL 1
BASIN M
10Y 3H STORM

-----------------------------------------------------------------------


Program License Serial Number 6406

-----------------------------------------------------------------------
******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR310.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    40
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       23.338 (CFS)
                Total volume =       1.770 (Ac.Ft)
        Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
***********************************************************************



+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
_______________________________________________________________________

User entry of depth-outflow-storage data
-----------------------------------------------------------------------
Total number of inflow hydrograph intervals = 40
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
-----------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
-----------------------------------------------------------------------
                  Hydrograph Detention Basin Routing
-----------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
-----------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       5.8    11.67   17.50   23.34 (Ft.)
 0.083    1.26    0.00      0.004  OI      |       |       |       |     0.01
 0.167    2.61    0.00      0.018  O  I    |       |       |       |     0.04
 0.250    2.70    0.00      0.036  O  I    |       |       |       |     0.07
 0.333    2.99    0.00      0.056  O   I   |       |       |       |     0.11
 0.417    3.41    0.00      0.078  O   I   |       |       |       |     0.16
 0.500    3.77    0.00      0.102  O    I  |       |       |       |     0.21
 0.583    3.81    0.00      0.128  O    I  |       |       |       |     0.26
 0.667    3.87    0.00      0.155  O    I  |       |       |       |     0.31
 0.750    4.14    0.00      0.182  O    I  |       |       |       |     0.37
 0.833    3.90    0.00      0.210  O    I  |       |       |       |     0.42
 0.917    3.71    0.00      0.236  O    I  |       |       |       |     0.48
 1.000    3.95    0.00      0.263  O    I  |       |       |       |     0.53
 1.083    4.54    0.00      0.292  O     I |       |       |       |     0.59
 1.167    5.00    0.01      0.325  O     I |       |       |       |     0.65
 1.250    5.10    0.01      0.359  O     I |       |       |       |     0.72
 1.333    4.95    0.01      0.394  O     I |       |       |       |     0.79
 1.417    5.34    0.01      0.429  O      I|       |       |       |     0.87
 1.500    6.01    0.01      0.468  O       I       |       |       |     0.94
 1.583    5.94    0.01      0.509  O       I       |       |       |     1.03
 1.667    5.99    0.01      0.550  O       I       |       |       |     1.11
 1.750    6.84    0.01      0.595  O       |I      |       |       |     1.20
 1.833    7.31    0.02      0.643  O       | I     |       |       |     1.29
 1.917    7.06    0.06      0.692  O       |I      |       |       |     1.38
 2.000    6.97    0.09      0.740  O       |I      |       |       |     1.46
 2.083    7.13    0.12      0.788  O       |I      |       |       |     1.54
 2.167    8.43    0.15      0.841  O       |  I    |       |       |     1.63
 2.250   11.07    0.19      0.907  O       |      I|       |       |     1.75
 2.333   10.62    0.24      0.980  O       |     I |       |       |     1.88
 2.417   13.91    0.28      1.063  O       |       |  I    |       |     2.02
 2.500   19.93    0.32      1.177  O       |       |       |  I    |     2.21
 2.583   23.34    0.36      1.324  O       |       |       |      I|     2.45
 2.667   21.66    0.40      1.476  O       |       |       |    I  |     2.70
 2.750   13.04    0.43      1.593  O       |       |I      |       |     2.89
 2.833    6.70    0.45      1.658  O       |I      |       |       |     3.00
 2.917    5.06    0.47      1.695  O     I |       |       |       |     3.05
 3.000    3.26    0.48      1.720  O   I   |       |       |       |     3.09
 3.083    1.24    0.49      1.733  OI      |       |       |       |     3.11
 3.167    0.35    0.49      1.735  O       |       |       |       |     3.11
 3.250    0.11    0.49      1.733  O       |       |       |       |     3.11
 3.333    0.02    0.49      1.730  O       |       |       |       |     3.10
 3.417    0.00    0.48      1.727  O       |       |       |       |     3.10
 3.500    0.00    0.48      1.723  O       |       |       |       |     3.09
 3.583    0.00    0.48      1.720  O       |       |       |       |     3.09
 3.667    0.00    0.48      1.717  O       |       |       |       |     3.08
 3.750    0.00    0.48      1.714  O       |       |       |       |     3.08
 3.833    0.00    0.48      1.710  O       |       |       |       |     3.07
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3.917	0.00	0.47	1.707	O	|	|	|	|	3.07	8.917	0.00	0.41	1.526	O	|	|	|	|	2.78
4.000	0.00	0.47	1.704	O	|	|	|	|	3.07	9.000	0.00	0.41	1.523	O	|	|	|	|	2.78
4.083	0.00	0.47	1.700	O	|	|	|	|	3.06	9.083	0.00	0.41	1.520	O	|	|	|	|	2.77
4.167	0.00	0.47	1.697	O	|	|	|	|	3.06	9.167	0.00	0.41	1.517	O	|	|	|	|	2.77
4.250	0.00	0.47	1.694	O	|	|	|	|	3.05	9.250	0.00	0.41	1.514	O	|	|	|	|	2.76
4.333	0.00	0.47	1.691	O	|	|	|	|	3.05	9.333	0.00	0.41	1.512	O	|	|	|	|	2.76
4.417	0.00	0.46	1.688	O	|	|	|	|	3.04	9.417	0.00	0.41	1.509	O	|	|	|	|	2.75
4.500	0.00	0.46	1.684	O	|	|	|	|	3.04	9.500	0.00	0.41	1.506	O	|	|	|	|	2.75
4.583	0.00	0.46	1.681	O	|	|	|	|	3.03	9.583	0.00	0.41	1.503	O	|	|	|	|	2.74
4.667	0.00	0.46	1.678	O	|	|	|	|	3.03	9.667	0.00	0.41	1.500	O	|	|	|	|	2.74
4.750	0.00	0.46	1.675	O	|	|	|	|	3.02	9.750	0.00	0.40	1.498	O	|	|	|	|	2.73
4.833	0.00	0.46	1.672	O	|	|	|	|	3.02	9.833	0.00	0.40	1.495	O	|	|	|	|	2.73
4.917	0.00	0.45	1.669	O	|	|	|	|	3.01	9.917	0.00	0.40	1.492	O	|	|	|	|	2.72
5.000	0.00	0.45	1.665	O	|	|	|	|	3.01	10.000	0.00	0.40	1.489	O	|	|	|	|	2.72
5.083	0.00	0.45	1.662	O	|	|	|	|	3.00	10.083	0.00	0.40	1.486	O	|	|	|	|	2.72
5.167	0.00	0.45	1.659	O	|	|	|	|	3.00	10.167	0.00	0.40	1.484	O	|	|	|	|	2.71
5.250	0.00	0.45	1.656	O	|	|	|	|	2.99	10.250	0.00	0.40	1.481	O	|	|	|	|	2.71
5.333	0.00	0.45	1.653	O	|	|	|	|	2.99	10.333	0.00	0.40	1.478	O	|	|	|	|	2.70
5.417	0.00	0.45	1.650	O	|	|	|	|	2.98	10.417	0.00	0.40	1.475	O	|	|	|	|	2.70
5.500	0.00	0.45	1.647	O	|	|	|	|	2.98	10.500	0.00	0.40	1.473	O	|	|	|	|	2.69
5.583	0.00	0.45	1.644	O	|	|	|	|	2.97	10.583	0.00	0.40	1.470	O	|	|	|	|	2.69
5.667	0.00	0.44	1.641	O	|	|	|	|	2.97	10.667	0.00	0.40	1.467	O	|	|	|	|	2.68
5.750	0.00	0.44	1.638	O	|	|	|	|	2.96	10.750	0.00	0.40	1.465	O	|	|	|	|	2.68
5.833	0.00	0.44	1.635	O	|	|	|	|	2.96	10.833	0.00	0.39	1.462	O	|	|	|	|	2.68
5.917	0.00	0.44	1.632	O	|	|	|	|	2.95	10.917	0.00	0.39	1.459	O	|	|	|	|	2.67
6.000	0.00	0.44	1.629	O	|	|	|	|	2.95	11.000	0.00	0.39	1.456	O	|	|	|	|	2.67
6.083	0.00	0.44	1.626	O	|	|	|	|	2.94	11.083	0.00	0.39	1.454	O	|	|	|	|	2.66
6.167	0.00	0.44	1.623	O	|	|	|	|	2.94	11.167	0.00	0.39	1.451	O	|	|	|	|	2.66
6.250	0.00	0.44	1.620	O	|	|	|	|	2.93	11.250	0.00	0.39	1.448	O	|	|	|	|	2.65
6.333	0.00	0.44	1.616	O	|	|	|	|	2.93	11.333	0.00	0.39	1.446	O	|	|	|	|	2.65
6.417	0.00	0.44	1.613	O	|	|	|	|	2.92	11.417	0.00	0.39	1.443	O	|	|	|	|	2.64
6.500	0.00	0.44	1.610	O	|	|	|	|	2.92	11.500	0.00	0.39	1.440	O	|	|	|	|	2.64
6.583	0.00	0.44	1.607	O	|	|	|	|	2.91	11.583	0.00	0.39	1.438	O	|	|	|	|	2.64
6.667	0.00	0.43	1.604	O	|	|	|	|	2.91	11.667	0.00	0.39	1.435	O	|	|	|	|	2.63
6.750	0.00	0.43	1.601	O	|	|	|	|	2.90	11.750	0.00	0.39	1.432	O	|	|	|	|	2.63
6.833	0.00	0.43	1.599	O	|	|	|	|	2.90	11.833	0.00	0.39	1.430	O	|	|	|	|	2.62
6.917	0.00	0.43	1.596	O	|	|	|	|	2.89	11.917	0.00	0.39	1.427	O	|	|	|	|	2.62
7.000	0.00	0.43	1.593	O	|	|	|	|	2.89	12.000	0.00	0.38	1.424	O	|	|	|	|	2.61
7.083	0.00	0.43	1.590	O	|	|	|	|	2.88	12.083	0.00	0.38	1.422	O	|	|	|	|	2.61
7.167	0.00	0.43	1.587	O	|	|	|	|	2.88	12.167	0.00	0.38	1.419	O	|	|	|	|	2.60
7.250	0.00	0.43	1.584	O	|	|	|	|	2.87	12.250	0.00	0.38	1.416	O	|	|	|	|	2.60
7.333	0.00	0.43	1.581	O	|	|	|	|	2.87	12.333	0.00	0.38	1.414	O	|	|	|	|	2.60
7.417	0.00	0.43	1.578	O	|	|	|	|	2.87	12.417	0.00	0.38	1.411	O	|	|	|	|	2.59
7.500	0.00	0.43	1.575	O	|	|	|	|	2.86	12.500	0.00	0.38	1.408	O	|	|	|	|	2.59
7.583	0.00	0.43	1.572	O	|	|	|	|	2.86	12.583	0.00	0.38	1.406	O	|	|	|	|	2.58
7.667	0.00	0.42	1.569	O	|	|	|	|	2.85	12.667	0.00	0.38	1.403	O	|	|	|	|	2.58
7.750	0.00	0.42	1.566	O	|	|	|	|	2.85	12.750	0.00	0.38	1.401	O	|	|	|	|	2.57
7.833	0.00	0.42	1.563	O	|	|	|	|	2.84	12.833	0.00	0.38	1.398	O	|	|	|	|	2.57
7.917	0.00	0.42	1.560	O	|	|	|	|	2.84	12.917	0.00	0.38	1.395	O	|	|	|	|	2.57
8.000	0.00	0.42	1.557	O	|	|	|	|	2.83	13.000	0.00	0.38	1.393	O	|	|	|	|	2.56
8.083	0.00	0.42	1.554	O	|	|	|	|	2.83	13.083	0.00	0.37	1.390	O	|	|	|	|	2.56
8.167	0.00	0.42	1.552	O	|	|	|	|	2.82	13.167	0.00	0.37	1.388	O	|	|	|	|	2.55
8.250	0.00	0.42	1.549	O	|	|	|	|	2.82	13.250	0.00	0.37	1.385	O	|	|	|	|	2.55
8.333	0.00	0.42	1.546	O	|	|	|	|	2.81	13.333	0.00	0.37	1.383	O	|	|	|	|	2.55
8.417	0.00	0.42	1.543	O	|	|	|	|	2.81	13.417	0.00	0.37	1.380	O	|	|	|	|	2.54
8.500	0.00	0.42	1.540	O	|	|	|	|	2.80	13.500	0.00	0.37	1.377	O	|	|	|	|	2.54
8.583	0.00	0.42	1.537	O	|	|	|	|	2.80	13.583	0.00	0.37	1.375	O	|	|	|	|	2.53
8.667	0.00	0.41	1.534	O	|	|	|	|	2.79	13.667	0.00	0.37	1.372	O	|	|	|	|	2.53
8.750	0.00	0.41	1.531	O	|	|	|	|	2.79	13.750	0.00	0.37	1.370	O	|	|	|	|	2.52
8.833	0.00	0.41	1.529	O	|	|	|	|	2.78	13.833	0.00	0.37	1.367	O	|	|	|	|	2.52

13.917	0.00	0.37	1.365	O	|	|	|	|	2.52	18.917	0.00	0.33	1.221	O	|	|	|	|	2.28
14.000	0.00	0.37	1.362	O	|	|	|	|	2.51	19.000	0.00	0.33	1.219	O	|	|	|	|	2.28
14.083	0.00	0.37	1.360	O	|	|	|	|	2.51	19.083	0.00	0.33	1.217	O	|	|	|	|	2.27
14.167	0.00	0.37	1.357	O	|	|	|	|	2.50	19.167	0.00	0.33	1.214	O	|	|	|	|	2.27
14.250	0.00	0.36	1.355	O	|	|	|	|	2.50	19.250	0.00	0.33	1.212	O	|	|	|	|	2.27
14.333	0.00	0.36	1.352	O	|	|	|	|	2.50	19.333	0.00	0.32	1.210	O	|	|	|	|	2.26
14.417	0.00	0.36	1.350	O	|	|	|	|	2.49	19.417	0.00	0.32	1.208	O	|	|	|	|	2.26
14.500	0.00	0.36	1.347	O	|	|	|	|	2.49	19.500	0.00	0.32	1.205	O	|	|	|	|	2.25
14.583	0.00	0.36	1.345	O	|	|	|	|	2.48	19.583	0.00	0.32	1.203	O	|	|	|	|	2.25
14.667	0.00	0.36	1.342	O	|	|	|	|	2.48	19.667	0.00	0.32	1.201	O	|	|	|	|	2.25
14.750	0.00	0.36	1.340	O	|	|	|	|	2.47	19.750	0.00	0.32	1.199	O	|	|	|	|	2.24
14.833	0.00	0.36	1.337	O	|	|	|	|	2.47	19.833	0.00	0.32	1.197	O	|	|	|	|	2.24
14.917	0.00	0.36	1.335	O	|	|	|	|	2.47	19.917	0.00	0.32	1.194	O	|	|	|	|	2.24
15.000	0.00	0.36	1.332	O	|	|	|	|	2.46	20.000	0.00	0.32	1.192	O	|	|	|	|	2.23
15.083	0.00	0.36	1.330	O	|	|	|	|	2.46	20.083	0.00	0.32	1.190	O	|	|	|	|	2.23
15.167	0.00	0.36	1.327	O	|	|	|	|	2.45	20.167	0.00	0.32	1.188	O	|	|	|	|	2.23
15.250	0.00	0.36	1.325	O	|	|	|	|	2.45	20.250	0.00	0.32	1.186	O	|	|	|	|	2.22
15.333	0.00	0.36	1.322	O	|	|	|	|	2.45	20.333	0.00	0.32	1.183	O	|	|	|	|	2.22
15.417	0.00	0.36	1.320	O	|	|	|	|	2.44	20.417	0.00	0.32	1.181	O	|	|	|	|	2.22
15.500	0.00	0.35	1.317	O	|	|	|	|	2.44	20.500	0.00	0.32	1.179	O	|	|	|	|	2.21
15.583	0.00	0.35	1.315	O	|	|	|	|	2.43	20.583	0.00	0.32	1.177	O	|	|	|	|	2.21
15.667	0.00	0.35	1.313	O	|	|	|	|	2.43	20.667	0.00	0.31	1.175	O	|	|	|	|	2.20
15.750	0.00	0.35	1.310	O	|	|	|	|	2.43	20.750	0.00	0.31	1.173	O	|	|	|	|	2.20
15.833	0.00	0.35	1.308	O	|	|	|	|	2.42	20.833	0.00	0.31	1.170	O	|	|	|	|	2.20
15.917	0.00	0.35	1.305	O	|	|	|	|	2.42	20.917	0.00	0.31	1.168	O	|	|	|	|	2.19
16.000	0.00	0.35	1.303	O	|	|	|	|	2.41	21.000	0.00	0.31	1.166	O	|	|	|	|	2.19
16.083	0.00	0.35	1.300	O	|	|	|	|	2.41	21.083	0.00	0.31	1.164	O	|	|	|	|	2.19
16.167	0.00	0.35	1.298	O	|	|	|	|	2.41	21.167	0.00	0.31	1.162	O	|	|	|	|	2.18
16.250	0.00	0.35	1.296	O	|	|	|	|	2.40	21.250	0.00	0.31	1.160	O	|	|	|	|	2.18
16.333	0.00	0.35	1.293	O	|	|	|	|	2.40	21.333	0.00	0.31	1.158	O	|	|	|	|	2.18
16.417	0.00	0.35	1.291	O	|	|	|	|	2.39	21.417	0.00	0.31	1.155	O	|	|	|	|	2.17
16.500	0.00	0.35	1.288	O	|	|	|	|	2.39	21.500	0.00	0.31	1.153	O	|	|	|	|	2.17
16.583	0.00	0.35	1.286	O	|	|	|	|	2.39	21.583	0.00	0.31	1.151	O	|	|	|	|	2.17
16.667	0.00	0.35	1.284	O	|	|	|	|	2.38	21.667	0.00	0.31	1.149	O	|	|	|	|	2.16
16.750	0.00	0.34	1.281	O	|	|	|	|	2.38	21.750	0.00	0.31	1.147	O	|	|	|	|	2.16
16.833	0.00	0.34	1.279	O	|	|	|	|	2.38	21.833	0.00	0.31	1.145	O	|	|	|	|	2.16
16.917	0.00	0.34	1.277	O	|	|	|	|	2.37	21.917	0.00	0.31	1.143	O	|	|	|	|	2.15
17.000	0.00	0.34	1.274	O	|	|	|	|	2.37	22.000	0.00	0.31	1.141	O	|	|	|	|	2.15
17.083	0.00	0.34	1.272	O	|	|	|	|	2.36	22.083	0.00	0.30	1.138	O	|	|	|	|	2.15
17.167	0.00	0.34	1.270	O	|	|	|	|	2.36	22.167	0.00	0.30	1.136	O	|	|	|	|	2.14
17.250	0.00	0.34	1.267	O	|	|	|	|	2.36	22.250	0.00	0.30	1.134	O	|	|	|	|	2.14
17.333	0.00	0.34	1.265	O	|	|	|	|	2.35	22.333	0.00	0.30	1.132	O	|	|	|	|	2.13
17.417	0.00	0.34	1.263	O	|	|	|	|	2.35	22.417	0.00	0.30	1.130	O	|	|	|	|	2.13
17.500	0.00	0.34	1.260	O	|	|	|	|	2.34	22.500	0.00	0.30	1.128	O	|	|	|	|	2.13
17.583	0.00	0.34	1.258	O	|	|	|	|	2.34	22.583	0.00	0.30	1.126	O	|	|	|	|	2.12
17.667	0.00	0.34	1.256	O	|	|	|	|	2.34	22.667	0.00	0.30	1.124	O	|	|	|	|	2.12
17.750	0.00	0.34	1.253	O	|	|	|	|	2.33	22.750	0.00	0.30	1.122	O	|	|	|	|	2.12
17.833	0.00	0.34	1.251	O	|	|	|	|	2.33	22.833	0.00	0.30	1.120	O	|	|	|	|	2.11
17.917	0.00	0.34	1.249	O	|	|	|	|	2.33	22.917	0.00	0.30	1.118	O	|	|	|	|	2.11
18.000	0.00	0.33	1.246	O	|	|	|	|	2.32	23.000	0.00	0.30	1.116	O	|	|	|	|	2.11
18.083	0.00	0.33	1.244	O	|	|	|	|	2.32	23.083	0.00	0.30	1.114	O	|	|	|	|	2.10
18.167	0.00	0.33	1.242	O	|	|	|	|	2.31	23.167	0.00	0.30	1.112	O	|	|	|	|	2.10
18.250	0.00	0.33	1.239	O	|	|	|	|	2.31	23.250	0.00	0.30	1.109	O	|	|	|	|	2.10
18.333	0.00	0.33	1.237	O	|	|	|	|	2.31	23.333	0.00	0.30	1.107	O	|	|	|	|	2.09
18.417	0.00	0.33	1.235	O	|	|	|	|	2.30	23.417	0.00	0.30	1.105	O	|	|	|	|	2.09
18.500	0.00	0.33	1.233	O	|	|	|	|	2.30	23.500	0.00	0.29	1.103	O	|	|	|	|	2.09
18.583	0.00	0.33	1.230	O	|	|	|	|	2.30	23.583	0.00	0.29	1.101	O	|	|	|	|	2.08
18.667	0.00	0.33	1.228	O	|	|	|	|	2.29	23.667	0.00	0.29	1.099	O	|	|	|	|	2.08
18.750	0.00	0.33	1.226	O	|	|	|	|	2.29	23.750	0.00	0.29	1.097	O	|	|	|	|	2.08
18.833	0.00	0.33	1.223	O	|	|	|	|	2.28	23.833	0.00	0.29	1.095	O	|	|	|	|	2.07

23.917	0.00	0.29	1.093	O	|	|	|	|	2.07	28.917	0.00	0.24	0.982	O	|	|	|	|	1.88
24.000	0.00	0.29	1.091	O	|	|	|	|	2.07	29.000	0.00	0.24	0.981	O	|	|	|	|	1.88
24.083	0.00	0.29	1.089	O	|	|	|	|	2.06	29.083	0.00	0.24	0.979	O	|	|	|	|	1.88
24.167	0.00	0.29	1.087	O	|	|	|	|	2.06	29.167	0.00	0.23	0.977	O	|	|	|	|	1.87
24.250	0.00	0.29	1.085	O	|	|	|	|	2.06	29.250	0.00	0.23	0.976	O	|	|	|	|	1.87
24.333	0.00	0.29	1.083	O	|	|	|	|	2.05	29.333	0.00	0.23	0.974	O	|	|	|	|	1.87
24.417	0.00	0.29	1.081	O	|	|	|	|	2.05	29.417	0.00	0.23	0.973	O	|	|	|	|	1.87
24.500	0.00	0.29	1.079	O	|	|	|	|	2.05	29.500	0.00	0.23	0.971	O	|	|	|	|	1.86
24.583	0.00	0.29	1.077	O	|	|	|	|	2.04	29.583	0.00	0.23	0.970	O	|	|	|	|	1.86
24.667	0.00	0.29	1.075	O	|	|	|	|	2.04	29.667	0.00	0.23	0.968	O	|	|	|	|	1.86
24.750	0.00	0.29	1.073	O	|	|	|	|	2.04	29.750	0.00	0.23	0.966	O	|	|	|	|	1.85
24.833	0.00	0.29	1.071	O	|	|	|	|	2.04	29.833	0.00	0.23	0.965	O	|	|	|	|	1.85
24.917	0.00	0.29	1.069	O	|	|	|	|	2.03	29.917	0.00	0.23	0.963	O	|	|	|	|	1.85
25.000	0.00	0.28	1.067	O	|	|	|	|	2.03	30.000	0.00	0.22	0.962	O	|	|	|	|	1.85
25.083	0.00	0.28	1.065	O	|	|	|	|	2.03	30.083	0.00	0.22	0.960	O	|	|	|	|	1.84
25.167	0.00	0.28	1.064	O	|	|	|	|	2.02	30.167	0.00	0.22	0.959	O	|	|	|	|	1.84
25.250	0.00	0.28	1.062	O	|	|	|	|	2.02	30.250	0.00	0.22	0.957	O	|	|	|	|	1.84
25.333	0.00	0.28	1.060	O	|	|	|	|	2.02	30.333	0.00	0.22	0.956	O	|	|	|	|	1.84
25.417	0.00	0.28	1.058	O	|	|	|	|	2.01	30.417	0.00	0.22	0.954	O	|	|	|	|	1.83
25.500	0.00	0.28	1.056	O	|	|	|	|	2.01	30.500	0.00	0.22	0.953	O	|	|	|	|	1.83
25.583	0.00	0.28	1.054	O	|	|	|	|	2.01	30.583	0.00	0.22	0.951	O	|	|	|	|	1.83
25.667	0.00	0.28	1.052	O	|	|	|	|	2.00	30.667	0.00	0.22	0.950	O	|	|	|	|	1.82
25.750	0.00	0.28	1.050	O	|	|	|	|	2.00	30.750	0.00	0.22	0.948	O	|	|	|	|	1.82
25.833	0.00	0.28	1.048	O	|	|	|	|	2.00	30.833	0.00	0.22	0.947	O	|	|	|	|	1.82
25.917	0.00	0.28	1.046	O	|	|	|	|	1.99	30.917	0.00	0.21	0.945	O	|	|	|	|	1.82
26.000	0.00	0.28	1.044	O	|	|	|	|	1.99	31.000	0.00	0.21	0.944	O	|	|	|	|	1.81
26.083	0.00	0.28	1.042	O	|	|	|	|	1.99	31.083	0.00	0.21	0.942	O	|	|	|	|	1.81
26.167	0.00	0.27	1.040	O	|	|	|	|	1.98	31.167	0.00	0.21	0.941	O	|	|	|	|	1.81
26.250	0.00	0.27	1.039	O	|	|	|	|	1.98	31.250	0.00	0.21	0.939	O	|	|	|	|	1.81
26.333	0.00	0.27	1.037	O	|	|	|	|	1.98	31.333	0.00	0.21	0.938	O	|	|	|	|	1.80
26.417	0.00	0.27	1.035	O	|	|	|	|	1.97	31.417	0.00	0.21	0.936	O	|	|	|	|	1.80
26.500	0.00	0.27	1.033	O	|	|	|	|	1.97	31.500	0.00	0.21	0.935	O	|	|	|	|	1.80
26.583	0.00	0.27	1.031	O	|	|	|	|	1.97	31.583	0.00	0.21	0.933	O	|	|	|	|	1.80
26.667	0.00	0.27	1.029	O	|	|	|	|	1.96	31.667	0.00	0.21	0.932	O	|	|	|	|	1.79
26.750	0.00	0.27	1.027	O	|	|	|	|	1.96	31.750	0.00	0.21	0.931	O	|	|	|	|	1.79
26.833	0.00	0.26	1.026	O	|	|	|	|	1.96	31.833	0.00	0.20	0.929	O	|	|	|	|	1.79
26.917	0.00	0.26	1.024	O	|	|	|	|	1.95	31.917	0.00	0.20	0.928	O	|	|	|	|	1.79
27.000	0.00	0.26	1.022	O	|	|	|	|	1.95	32.000	0.00	0.20	0.926	O	|	|	|	|	1.78
27.083	0.00	0.26	1.020	O	|	|	|	|	1.95	32.083	0.00	0.20	0.925	O	|	|	|	|	1.78
27.167	0.00	0.26	1.018	O	|	|	|	|	1.94	32.167	0.00	0.20	0.924	O	|	|	|	|	1.78
27.250	0.00	0.26	1.017	O	|	|	|	|	1.94	32.250	0.00	0.20	0.922	O	|	|	|	|	1.78
27.333	0.00	0.26	1.015	O	|	|	|	|	1.94	32.333	0.00	0.20	0.921	O	|	|	|	|	1.77
27.417	0.00	0.26	1.013	O	|	|	|	|	1.94	32.417	0.00	0.20	0.920	O	|	|	|	|	1.77
27.500	0.00	0.26	1.011	O	|	|	|	|	1.93	32.500	0.00	0.20	0.918	O	|	|	|	|	1.77
27.583	0.00	0.25	1.009	O	|	|	|	|	1.93	32.583	0.00	0.20	0.917	O	|	|	|	|	1.77
27.667	0.00	0.25	1.008	O	|	|	|	|	1.93	32.667	0.00	0.20	0.915	O	|	|	|	|	1.77
27.750	0.00	0.25	1.006	O	|	|	|	|	1.92	32.750	0.00	0.19	0.914	O	|	|	|	|	1.76
27.833	0.00	0.25	1.004	O	|	|	|	|	1.92	32.833	0.00	0.19	0.913	O	|	|	|	|	1.76
27.917	0.00	0.25	1.003	O	|	|	|	|	1.92	32.917	0.00	0.19	0.911	O	|	|	|	|	1.76
28.000	0.00	0.25	1.001	O	|	|	|	|	1.91	33.000	0.00	0.19	0.910	O	|	|	|	|	1.76
28.083	0.00	0.25	0.999	O	|	|	|	|	1.91	33.083	0.00	0.19	0.909	O	|	|	|	|	1.75
28.167	0.00	0.25	0.997	O	|	|	|	|	1.91	33.167	0.00	0.19	0.907	O	|	|	|	|	1.75
28.250	0.00	0.25	0.996	O	|	|	|	|	1.91	33.250	0.00	0.19	0.906	O	|	|	|	|	1.75
28.333	0.00	0.24	0.994	O	|	|	|	|	1.90	33.333	0.00	0.19	0.905	O	|	|	|	|	1.75
28.417	0.00	0.24	0.992	O	|	|	|	|	1.90	33.417	0.00	0.19	0.904	O	|	|	|	|	1.74
28.500	0.00	0.24	0.991	O	|	|	|	|	1.90	33.500	0.00	0.19	0.902	O	|	|	|	|	1.74
28.583	0.00	0.24	0.989	O	|	|	|	|	1.89	33.583	0.00	0.19	0.901	O	|	|	|	|	1.74
28.667	0.00	0.24	0.987	O	|	|	|	|	1.89	33.667	0.00	0.19	0.900	O	|	|	|	|	1.74
28.750	0.00	0.24	0.986	O	|	|	|	|	1.89	33.750	0.00	0.18	0.898	O	|	|	|	|	1.74
28.833	0.00	0.24	0.984	O	|	|	|	|	1.88	33.833	0.00	0.18	0.897	O	|	|	|	|	1.73

33.917	0.00	0.18	0.896	O	|	|	|	|	1.73	38.917	0.00	0.14	0.829	O	|	|	|	|	1.61
34.000	0.00	0.18	0.895	O	|	|	|	|	1.73	39.000	0.00	0.14	0.828	O	|	|	|	|	1.61
34.083	0.00	0.18	0.893	O	|	|	|	|	1.73	39.083	0.00	0.14	0.827	O	|	|	|	|	1.61
34.167	0.00	0.18	0.892	O	|	|	|	|	1.72	39.167	0.00	0.14	0.826	O	|	|	|	|	1.61
34.250	0.00	0.18	0.891	O	|	|	|	|	1.72	39.250	0.00	0.14	0.825	O	|	|	|	|	1.61
34.333	0.00	0.18	0.890	O	|	|	|	|	1.72	39.333	0.00	0.14	0.824	O	|	|	|	|	1.61
34.417	0.00	0.18	0.888	O	|	|	|	|	1.72	39.417	0.00	0.14	0.823	O	|	|	|	|	1.60
34.500	0.00	0.18	0.887	O	|	|	|	|	1.72	39.500	0.00	0.14	0.823	O	|	|	|	|	1.60
34.583	0.00	0.18	0.886	O	|	|	|	|	1.71	39.583	0.00	0.14	0.822	O	|	|	|	|	1.60
34.667	0.00	0.18	0.885	O	|	|	|	|	1.71	39.667	0.00	0.14	0.821	O	|	|	|	|	1.60
34.750	0.00	0.18	0.884	O	|	|	|	|	1.71	39.750	0.00	0.14	0.820	O	|	|	|	|	1.60
34.833	0.00	0.17	0.882	O	|	|	|	|	1.71	39.833	0.00	0.13	0.819	O	|	|	|	|	1.60
34.917	0.00	0.17	0.881	O	|	|	|	|	1.71	39.917	0.00	0.13	0.818	O	|	|	|	|	1.60
35.000	0.00	0.17	0.880	O	|	|	|	|	1.70	40.000	0.00	0.13	0.817	O	|	|	|	|	1.59
35.083	0.00	0.17	0.879	O	|	|	|	|	1.70	40.083	0.00	0.13	0.816	O	|	|	|	|	1.59
35.167	0.00	0.17	0.878	O	|	|	|	|	1.70	40.167	0.00	0.13	0.815	O	|	|	|	|	1.59
35.250	0.00	0.17	0.876	O	|	|	|	|	1.70	40.250	0.00	0.13	0.814	O	|	|	|	|	1.59
35.333	0.00	0.17	0.875	O	|	|	|	|	1.70	40.333	0.00	0.13	0.813	O	|	|	|	|	1.59
35.417	0.00	0.17	0.874	O	|	|	|	|	1.69	40.417	0.00	0.13	0.812	O	|	|	|	|	1.59
35.500	0.00	0.17	0.873	O	|	|	|	|	1.69	40.500	0.00	0.13	0.811	O	|	|	|	|	1.58
35.583	0.00	0.17	0.872	O	|	|	|	|	1.69	40.583	0.00	0.13	0.811	O	|	|	|	|	1.58
35.667	0.00	0.17	0.871	O	|	|	|	|	1.69	40.667	0.00	0.13	0.810	O	|	|	|	|	1.58
35.750	0.00	0.17	0.869	O	|	|	|	|	1.69	40.750	0.00	0.13	0.809	O	|	|	|	|	1.58
35.833	0.00	0.17	0.868	O	|	|	|	|	1.68	40.833	0.00	0.13	0.808	O	|	|	|	|	1.58
35.917	0.00	0.17	0.867	O	|	|	|	|	1.68	40.917	0.00	0.13	0.807	O	|	|	|	|	1.58
36.000	0.00	0.16	0.866	O	|	|	|	|	1.68	41.000	0.00	0.13	0.806	O	|	|	|	|	1.57
36.083	0.00	0.16	0.865	O	|	|	|	|	1.68	41.083	0.00	0.13	0.805	O	|	|	|	|	1.57
36.167	0.00	0.16	0.864	O	|	|	|	|	1.68	41.167	0.00	0.13	0.804	O	|	|	|	|	1.57
36.250	0.00	0.16	0.863	O	|	|	|	|	1.67	41.250	0.00	0.13	0.804	O	|	|	|	|	1.57
36.333	0.00	0.16	0.862	O	|	|	|	|	1.67	41.333	0.00	0.12	0.803	O	|	|	|	|	1.57
36.417	0.00	0.16	0.860	O	|	|	|	|	1.67	41.417	0.00	0.12	0.802	O	|	|	|	|	1.57
36.500	0.00	0.16	0.859	O	|	|	|	|	1.67	41.500	0.00	0.12	0.801	O	|	|	|	|	1.57
36.583	0.00	0.16	0.858	O	|	|	|	|	1.67	41.583	0.00	0.12	0.800	O	|	|	|	|	1.56
36.667	0.00	0.16	0.857	O	|	|	|	|	1.66	41.667	0.00	0.12	0.799	O	|	|	|	|	1.56
36.750	0.00	0.16	0.856	O	|	|	|	|	1.66	41.750	0.00	0.12	0.798	O	|	|	|	|	1.56
36.833	0.00	0.16	0.855	O	|	|	|	|	1.66	41.833	0.00	0.12	0.798	O	|	|	|	|	1.56
36.917	0.00	0.16	0.854	O	|	|	|	|	1.66	41.917	0.00	0.12	0.797	O	|	|	|	|	1.56
37.000	0.00	0.16	0.853	O	|	|	|	|	1.66	42.000	0.00	0.12	0.796	O	|	|	|	|	1.56
37.083	0.00	0.16	0.852	O	|	|	|	|	1.65	42.083	0.00	0.12	0.795	O	|	|	|	|	1.56
37.167	0.00	0.15	0.851	O	|	|	|	|	1.65	42.167	0.00	0.12	0.794	O	|	|	|	|	1.55
37.250	0.00	0.15	0.850	O	|	|	|	|	1.65	42.250	0.00	0.12	0.793	O	|	|	|	|	1.55
37.333	0.00	0.15	0.849	O	|	|	|	|	1.65	42.333	0.00	0.12	0.793	O	|	|	|	|	1.55
37.417	0.00	0.15	0.847	O	|	|	|	|	1.65	42.417	0.00	0.12	0.792	O	|	|	|	|	1.55
37.500	0.00	0.15	0.846	O	|	|	|	|	1.64	42.500	0.00	0.12	0.791	O	|	|	|	|	1.55
37.583	0.00	0.15	0.845	O	|	|	|	|	1.64	42.583	0.00	0.12	0.790	O	|	|	|	|	1.55
37.667	0.00	0.15	0.844	O	|	|	|	|	1.64	42.667	0.00	0.12	0.789	O	|	|	|	|	1.55
37.750	0.00	0.15	0.843	O	|	|	|	|	1.64	42.750	0.00	0.12	0.789	O	|	|	|	|	1.54
37.833	0.00	0.15	0.842	O	|	|	|	|	1.64	42.833	0.00	0.12	0.788	O	|	|	|	|	1.54
37.917	0.00	0.15	0.841	O	|	|	|	|	1.64	42.917	0.00	0.11	0.787	O	|	|	|	|	1.54
38.000	0.00	0.15	0.840	O	|	|	|	|	1.63	43.000	0.00	0.11	0.786	O	|	|	|	|	1.54
38.083	0.00	0.15	0.839	O	|	|	|	|	1.63	43.083	0.00	0.11	0.785	O	|	|	|	|	1.54
38.167	0.00	0.15	0.838	O	|	|	|	|	1.63	43.167	0.00	0.11	0.785	O	|	|	|	|	1.54
38.250	0.00	0.15	0.837	O	|	|	|	|	1.63	43.250	0.00	0.11	0.784	O	|	|	|	|	1.54
38.333	0.00	0.15	0.836	O	|	|	|	|	1.63	43.333	0.00	0.11	0.783	O	|	|	|	|	1.53
38.417	0.00	0.15	0.835	O	|	|	|	|	1.63	43.417	0.00	0.11	0.782	O	|	|	|	|	1.53
38.500	0.00	0.14	0.834	O	|	|	|	|	1.62	43.500	0.00	0.11	0.782	O	|	|	|	|	1.53
38.583	0.00	0.14	0.833	O	|	|	|	|	1.62	43.583	0.00	0.11	0.781	O	|	|	|	|	1.53
38.667	0.00	0.14	0.832	O	|	|	|	|	1.62	43.667	0.00	0.11	0.780	O	|	|	|	|	1.53
38.750	0.00	0.14	0.831	O	|	|	|	|	1.62	43.750	0.00	0.11	0.779	O	|	|	|	|	1.53
38.833	0.00	0.14	0.830	O	|	|	|	|	1.62	43.833	0.00	0.11	0.779	O	|	|	|	|	1.53

43.917	0.00	0.11	0.778	O					1.53	48.917	0.00	0.08	0.738	O					1.46
44.000	0.00	0.11	0.777	O					1.52	49.000	0.00	0.08	0.737	O					1.45
44.083	0.00	0.11	0.776	O					1.52	49.083	0.00	0.08	0.737	O					1.45
44.167	0.00	0.11	0.776	O					1.52	49.167	0.00	0.08	0.736	O					1.45
44.250	0.00	0.11	0.775	O					1.52	49.250	0.00	0.08	0.736	O					1.45
44.333	0.00	0.11	0.774	O					1.52	49.333	0.00	0.08	0.735	O					1.45
44.417	0.00	0.11	0.773	O					1.52	49.417	0.00	0.08	0.735	O					1.45
44.500	0.00	0.11	0.773	O					1.52	49.500	0.00	0.08	0.734	O					1.45
44.583	0.00	0.11	0.772	O					1.51	49.583	0.00	0.08	0.734	O					1.45
44.667	0.00	0.10	0.771	O					1.51	49.667	0.00	0.08	0.733	O					1.45
44.750	0.00	0.10	0.770	O					1.51	49.750	0.00	0.08	0.732	O					1.45
44.833	0.00	0.10	0.770	O					1.51	49.833	0.00	0.08	0.732	O					1.45
44.917	0.00	0.10	0.769	O					1.51	49.917	0.00	0.08	0.731	O					1.44
45.000	0.00	0.10	0.768	O					1.51	50.000	0.00	0.08	0.731	O					1.44
45.083	0.00	0.10	0.768	O					1.51	50.083	0.00	0.08	0.730	O					1.44
45.167	0.00	0.10	0.767	O					1.51	50.167	0.00	0.08	0.730	O					1.44
45.250	0.00	0.10	0.766	O					1.50	50.250	0.00	0.08	0.729	O					1.44
45.333	0.00	0.10	0.765	O					1.50	50.333	0.00	0.08	0.729	O					1.44
45.417	0.00	0.10	0.765	O					1.50	50.417	0.00	0.08	0.728	O					1.44
45.500	0.00	0.10	0.764	O					1.50	50.500	0.00	0.08	0.728	O					1.44
45.583	0.00	0.10	0.763	O					1.50	50.583	0.00	0.08	0.727	O					1.44
45.667	0.00	0.10	0.763	O					1.50	50.667	0.00	0.08	0.726	O					1.44
45.750	0.00	0.10	0.762	O					1.50	50.750	0.00	0.08	0.726	O					1.43
45.833	0.00	0.10	0.761	O					1.50	50.833	0.00	0.08	0.725	O					1.43
45.917	0.00	0.10	0.761	O					1.50	50.917	0.00	0.08	0.725	O					1.43
46.000	0.00	0.10	0.760	O					1.49	51.000	0.00	0.08	0.724	O					1.43
46.083	0.00	0.10	0.759	O					1.49	51.083	0.00	0.08	0.724	O					1.43
46.167	0.00	0.10	0.759	O					1.49	51.167	0.00	0.07	0.723	O					1.43
46.250	0.00	0.10	0.758	O					1.49	51.250	0.00	0.07	0.723	O					1.43
46.333	0.00	0.10	0.757	O					1.49	51.333	0.00	0.07	0.722	O					1.43
46.417	0.00	0.10	0.757	O					1.49	51.417	0.00	0.07	0.722	O					1.43
46.500	0.00	0.10	0.756	O					1.49	51.500	0.00	0.07	0.721	O					1.43
46.583	0.00	0.09	0.755	O					1.49	51.583	0.00	0.07	0.721	O					1.43
46.667	0.00	0.09	0.755	O					1.48	51.667	0.00	0.07	0.720	O					1.42
46.750	0.00	0.09	0.754	O					1.48	51.750	0.00	0.07	0.720	O					1.42
46.833	0.00	0.09	0.753	O					1.48	51.833	0.00	0.07	0.719	O					1.42
46.917	0.00	0.09	0.753	O					1.48	51.917	0.00	0.07	0.719	O					1.42
47.000	0.00	0.09	0.752	O					1.48	52.000	0.00	0.07	0.718	O					1.42
47.083	0.00	0.09	0.751	O					1.48	52.083	0.00	0.07	0.718	O					1.42
47.167	0.00	0.09	0.751	O					1.48	52.167	0.00	0.07	0.717	O					1.42
47.250	0.00	0.09	0.750	O					1.48	52.250	0.00	0.07	0.717	O					1.42
47.333	0.00	0.09	0.750	O					1.48	52.333	0.00	0.07	0.716	O					1.42
47.417	0.00	0.09	0.749	O					1.47	52.417	0.00	0.07	0.716	O					1.42
47.500	0.00	0.09	0.748	O					1.47	52.500	0.00	0.07	0.715	O					1.42
47.583	0.00	0.09	0.748	O					1.47	52.583	0.00	0.07	0.715	O					1.42
47.667	0.00	0.09	0.747	O					1.47	52.667	0.00	0.07	0.714	O					1.41
47.750	0.00	0.09	0.746	O					1.47	52.750	0.00	0.07	0.714	O					1.41
47.833	0.00	0.09	0.746	O					1.47	52.833	0.00	0.07	0.713	O					1.41
47.917	0.00	0.09	0.745	O					1.47	52.917	0.00	0.07	0.713	O					1.41
48.000	0.00	0.09	0.745	O					1.47	53.000	0.00	0.07	0.712	O					1.41
48.083	0.00	0.09	0.744	O					1.47	53.083	0.00	0.07	0.712	O					1.41
48.167	0.00	0.09	0.743	O					1.47	53.167	0.00	0.07	0.712	O					1.41
48.250	0.00	0.09	0.743	O					1.46	53.250	0.00	0.07	0.711	O					1.41
48.333	0.00	0.09	0.742	O					1.46	53.333	0.00	0.07	0.711	O					1.41
48.417	0.00	0.09	0.742	O					1.46	53.417	0.00	0.07	0.710	O					1.41
48.500	0.00	0.09	0.741	O					1.46	53.500	0.00	0.07	0.710	O					1.41
48.583	0.00	0.09	0.740	O					1.46	53.583	0.00	0.07	0.709	O					1.41
48.667	0.00	0.09	0.740	O					1.46	53.667	0.00	0.07	0.709	O					1.40
48.750	0.00	0.08	0.739	O					1.46	53.750	0.00	0.07	0.708	O					1.40
48.833	0.00	0.08	0.739	O					1.46	53.833	0.00	0.07	0.708	O					1.40

53.917	0.00	0.06	0.707	O	|	|	|	|	1.40	58.917	0.00	0.05	0.684	O	|	|	|	|	1.36
54.000	0.00	0.06	0.707	O	|	|	|	|	1.40	59.000	0.00	0.05	0.683	O	|	|	|	|	1.36
54.083	0.00	0.06	0.707	O	|	|	|	|	1.40	59.083	0.00	0.05	0.683	O	|	|	|	|	1.36
54.167	0.00	0.06	0.706	O	|	|	|	|	1.40	59.167	0.00	0.05	0.683	O	|	|	|	|	1.36
54.250	0.00	0.06	0.706	O	|	|	|	|	1.40	59.250	0.00	0.05	0.682	O	|	|	|	|	1.36
54.333	0.00	0.06	0.705	O	|	|	|	|	1.40	59.333	0.00	0.05	0.682	O	|	|	|	|	1.36
54.417	0.00	0.06	0.705	O	|	|	|	|	1.40	59.417	0.00	0.05	0.682	O	|	|	|	|	1.36
54.500	0.00	0.06	0.704	O	|	|	|	|	1.40	59.500	0.00	0.05	0.681	O	|	|	|	|	1.36
54.583	0.00	0.06	0.704	O	|	|	|	|	1.40	59.583	0.00	0.05	0.681	O	|	|	|	|	1.36
54.667	0.00	0.06	0.704	O	|	|	|	|	1.40	59.667	0.00	0.05	0.681	O	|	|	|	|	1.36
54.750	0.00	0.06	0.703	O	|	|	|	|	1.39	59.750	0.00	0.05	0.680	O	|	|	|	|	1.36
54.833	0.00	0.06	0.703	O	|	|	|	|	1.39	59.833	0.00	0.05	0.680	O	|	|	|	|	1.35
54.917	0.00	0.06	0.702	O	|	|	|	|	1.39	59.917	0.00	0.05	0.680	O	|	|	|	|	1.35
55.000	0.00	0.06	0.702	O	|	|	|	|	1.39	60.000	0.00	0.05	0.679	O	|	|	|	|	1.35
55.083	0.00	0.06	0.701	O	|	|	|	|	1.39	60.083	0.00	0.05	0.679	O	|	|	|	|	1.35
55.167	0.00	0.06	0.701	O	|	|	|	|	1.39	60.167	0.00	0.05	0.679	O	|	|	|	|	1.35
55.250	0.00	0.06	0.701	O	|	|	|	|	1.39	60.250	0.00	0.05	0.678	O	|	|	|	|	1.35
55.333	0.00	0.06	0.700	O	|	|	|	|	1.39	60.333	0.00	0.05	0.678	O	|	|	|	|	1.35
55.417	0.00	0.06	0.700	O	|	|	|	|	1.39	60.417	0.00	0.05	0.678	O	|	|	|	|	1.35
55.500	0.00	0.06	0.699	O	|	|	|	|	1.39	60.500	0.00	0.05	0.678	O	|	|	|	|	1.35
55.583	0.00	0.06	0.699	O	|	|	|	|	1.39	60.583	0.00	0.05	0.677	O	|	|	|	|	1.35
55.667	0.00	0.06	0.698	O	|	|	|	|	1.39	60.667	0.00	0.05	0.677	O	|	|	|	|	1.35
55.750	0.00	0.06	0.698	O	|	|	|	|	1.39	60.750	0.00	0.05	0.677	O	|	|	|	|	1.35
55.833	0.00	0.06	0.698	O	|	|	|	|	1.39	60.833	0.00	0.05	0.676	O	|	|	|	|	1.35
55.917	0.00	0.06	0.697	O	|	|	|	|	1.38	60.917	0.00	0.05	0.676	O	|	|	|	|	1.35
56.000	0.00	0.06	0.697	O	|	|	|	|	1.38	61.000	0.00	0.04	0.676	O	|	|	|	|	1.35
56.083	0.00	0.06	0.696	O	|	|	|	|	1.38	61.083	0.00	0.04	0.675	O	|	|	|	|	1.35
56.167	0.00	0.06	0.696	O	|	|	|	|	1.38	61.167	0.00	0.04	0.675	O	|	|	|	|	1.35
56.250	0.00	0.06	0.696	O	|	|	|	|	1.38	61.250	0.00	0.04	0.675	O	|	|	|	|	1.35
56.333	0.00	0.06	0.695	O	|	|	|	|	1.38	61.333	0.00	0.04	0.674	O	|	|	|	|	1.34
56.417	0.00	0.06	0.695	O	|	|	|	|	1.38	61.417	0.00	0.04	0.674	O	|	|	|	|	1.34
56.500	0.00	0.06	0.694	O	|	|	|	|	1.38	61.500	0.00	0.04	0.674	O	|	|	|	|	1.34
56.583	0.00	0.06	0.694	O	|	|	|	|	1.38	61.583	0.00	0.04	0.674	O	|	|	|	|	1.34
56.667	0.00	0.06	0.694	O	|	|	|	|	1.38	61.667	0.00	0.04	0.673	O	|	|	|	|	1.34
56.750	0.00	0.06	0.693	O	|	|	|	|	1.38	61.750	0.00	0.04	0.673	O	|	|	|	|	1.34
56.833	0.00	0.06	0.693	O	|	|	|	|	1.38	61.833	0.00	0.04	0.673	O	|	|	|	|	1.34
56.917	0.00	0.06	0.693	O	|	|	|	|	1.38	61.917	0.00	0.04	0.672	O	|	|	|	|	1.34
57.000	0.00	0.06	0.692	O	|	|	|	|	1.38	62.000	0.00	0.04	0.672	O	|	|	|	|	1.34
57.083	0.00	0.06	0.692	O	|	|	|	|	1.38	62.083	0.00	0.04	0.672	O	|	|	|	|	1.34
57.167	0.00	0.05	0.691	O	|	|	|	|	1.37	62.167	0.00	0.04	0.671	O	|	|	|	|	1.34
57.250	0.00	0.05	0.691	O	|	|	|	|	1.37	62.250	0.00	0.04	0.671	O	|	|	|	|	1.34
57.333	0.00	0.05	0.691	O	|	|	|	|	1.37	62.333	0.00	0.04	0.671	O	|	|	|	|	1.34
57.417	0.00	0.05	0.690	O	|	|	|	|	1.37	62.417	0.00	0.04	0.671	O	|	|	|	|	1.34
57.500	0.00	0.05	0.690	O	|	|	|	|	1.37	62.500	0.00	0.04	0.670	O	|	|	|	|	1.34
57.583	0.00	0.05	0.690	O	|	|	|	|	1.37	62.583	0.00	0.04	0.670	O	|	|	|	|	1.34
57.667	0.00	0.05	0.689	O	|	|	|	|	1.37	62.667	0.00	0.04	0.670	O	|	|	|	|	1.34
57.750	0.00	0.05	0.689	O	|	|	|	|	1.37	62.750	0.00	0.04	0.669	O	|	|	|	|	1.34
57.833	0.00	0.05	0.688	O	|	|	|	|	1.37	62.833	0.00	0.04	0.669	O	|	|	|	|	1.34
57.917	0.00	0.05	0.688	O	|	|	|	|	1.37	62.917	0.00	0.04	0.669	O	|	|	|	|	1.34
58.000	0.00	0.05	0.688	O	|	|	|	|	1.37	63.000	0.00	0.04	0.669	O	|	|	|	|	1.33
58.083	0.00	0.05	0.687	O	|	|	|	|	1.37	63.083	0.00	0.04	0.668	O	|	|	|	|	1.33
58.167	0.00	0.05	0.687	O	|	|	|	|	1.37	63.167	0.00	0.04	0.668	O	|	|	|	|	1.33
58.250	0.00	0.05	0.687	O	|	|	|	|	1.37	63.250	0.00	0.04	0.668	O	|	|	|	|	1.33
58.333	0.00	0.05	0.686	O	|	|	|	|	1.37	63.333	0.00	0.04	0.667	O	|	|	|	|	1.33
58.417	0.00	0.05	0.686	O	|	|	|	|	1.36	63.417	0.00	0.04	0.667	O	|	|	|	|	1.33
58.500	0.00	0.05	0.686	O	|	|	|	|	1.36	63.500	0.00	0.04	0.667	O	|	|	|	|	1.33
58.583	0.00	0.05	0.685	O	|	|	|	|	1.36	63.583	0.00	0.04	0.667	O	|	|	|	|	1.33
58.667	0.00	0.05	0.685	O	|	|	|	|	1.36	63.667	0.00	0.04	0.666	O	|	|	|	|	1.33
58.750	0.00	0.05	0.685	O	|	|	|	|	1.36	63.750	0.00	0.04	0.666	O	|	|	|	|	1.33
58.833	0.00	0.05	0.684	O	|	|	|	|	1.36	63.833	0.00	0.04	0.666	O	|	|	|	|	1.33

63.917	0.00	0.04	0.666	O	|	|	|	|	1.33	68.917	0.00	0.03	0.652	O	|	|	|	|	1.31
64.000	0.00	0.04	0.665	O	|	|	|	|	1.33	69.000	0.00	0.03	0.651	O	|	|	|	|	1.30
64.083	0.00	0.04	0.665	O	|	|	|	|	1.33	69.083	0.00	0.03	0.651	O	|	|	|	|	1.30
64.167	0.00	0.04	0.665	O	|	|	|	|	1.33	69.167	0.00	0.03	0.651	O	|	|	|	|	1.30
64.250	0.00	0.04	0.665	O	|	|	|	|	1.33	69.250	0.00	0.03	0.651	O	|	|	|	|	1.30
64.333	0.00	0.04	0.664	O	|	|	|	|	1.33	69.333	0.00	0.03	0.651	O	|	|	|	|	1.30
64.417	0.00	0.04	0.664	O	|	|	|	|	1.33	69.417	0.00	0.03	0.650	O	|	|	|	|	1.30
64.500	0.00	0.04	0.664	O	|	|	|	|	1.33	69.500	0.00	0.03	0.650	O	|	|	|	|	1.30
64.583	0.00	0.04	0.664	O	|	|	|	|	1.33	69.583	0.00	0.03	0.650	O	|	|	|	|	1.30
64.667	0.00	0.04	0.663	O	|	|	|	|	1.33	69.667	0.00	0.03	0.650	O	|	|	|	|	1.30
64.750	0.00	0.04	0.663	O	|	|	|	|	1.32	69.750	0.00	0.03	0.650	O	|	|	|	|	1.30
64.833	0.00	0.04	0.663	O	|	|	|	|	1.32	69.833	0.00	0.03	0.649	O	|	|	|	|	1.30
64.917	0.00	0.04	0.662	O	|	|	|	|	1.32	69.917	0.00	0.03	0.649	O	|	|	|	|	1.30
65.000	0.00	0.04	0.662	O	|	|	|	|	1.32	70.000	0.00	0.03	0.649	O	|	|	|	|	1.30
65.083	0.00	0.04	0.662	O	|	|	|	|	1.32	70.083	0.00	0.03	0.649	O	|	|	|	|	1.30
65.167	0.00	0.04	0.662	O	|	|	|	|	1.32	70.167	0.00	0.03	0.649	O	|	|	|	|	1.30
65.250	0.00	0.04	0.661	O	|	|	|	|	1.32	70.250	0.00	0.03	0.648	O	|	|	|	|	1.30
65.333	0.00	0.04	0.661	O	|	|	|	|	1.32	70.333	0.00	0.03	0.648	O	|	|	|	|	1.30
65.417	0.00	0.04	0.661	O	|	|	|	|	1.32	70.417	0.00	0.03	0.648	O	|	|	|	|	1.30
65.500	0.00	0.04	0.661	O	|	|	|	|	1.32	70.500	0.00	0.03	0.648	O	|	|	|	|	1.30
65.583	0.00	0.04	0.661	O	|	|	|	|	1.32	70.583	0.00	0.03	0.648	O	|	|	|	|	1.30
65.667	0.00	0.04	0.660	O	|	|	|	|	1.32	70.667	0.00	0.03	0.647	O	|	|	|	|	1.30
65.750	0.00	0.04	0.660	O	|	|	|	|	1.32	70.750	0.00	0.03	0.647	O	|	|	|	|	1.30
65.833	0.00	0.03	0.660	O	|	|	|	|	1.32	70.833	0.00	0.03	0.647	O	|	|	|	|	1.30
65.917	0.00	0.03	0.660	O	|	|	|	|	1.32	70.917	0.00	0.03	0.647	O	|	|	|	|	1.30
66.000	0.00	0.03	0.659	O	|	|	|	|	1.32	71.000	0.00	0.03	0.647	O	|	|	|	|	1.30
66.083	0.00	0.03	0.659	O	|	|	|	|	1.32	71.083	0.00	0.03	0.646	O	|	|	|	|	1.30
66.167	0.00	0.03	0.659	O	|	|	|	|	1.32	71.167	0.00	0.03	0.646	O	|	|	|	|	1.30
66.250	0.00	0.03	0.659	O	|	|	|	|	1.32	71.250	0.00	0.03	0.646	O	|	|	|	|	1.30
66.333	0.00	0.03	0.658	O	|	|	|	|	1.32	71.333	0.00	0.03	0.646	O	|	|	|	|	1.30
66.417	0.00	0.03	0.658	O	|	|	|	|	1.32	71.417	0.00	0.03	0.646	O	|	|	|	|	1.29
66.500	0.00	0.03	0.658	O	|	|	|	|	1.32	71.500	0.00	0.03	0.646	O	|	|	|	|	1.29
66.583	0.00	0.03	0.658	O	|	|	|	|	1.32	71.583	0.00	0.03	0.645	O	|	|	|	|	1.29
66.667	0.00	0.03	0.657	O	|	|	|	|	1.32	71.667	0.00	0.03	0.645	O	|	|	|	|	1.29
66.750	0.00	0.03	0.657	O	|	|	|	|	1.31	71.750	0.00	0.03	0.645	O	|	|	|	|	1.29
66.833	0.00	0.03	0.657	O	|	|	|	|	1.31	71.833	0.00	0.03	0.645	O	|	|	|	|	1.29
66.917	0.00	0.03	0.657	O	|	|	|	|	1.31	71.917	0.00	0.03	0.645	O	|	|	|	|	1.29
67.000	0.00	0.03	0.657	O	|	|	|	|	1.31	72.000	0.00	0.03	0.645	O	|	|	|	|	1.29
67.083	0.00	0.03	0.656	O	|	|	|	|	1.31	72.083	0.00	0.03	0.644	O	|	|	|	|	1.29
67.167	0.00	0.03	0.656	O	|	|	|	|	1.31	72.167	0.00	0.03	0.644	O	|	|	|	|	1.29
67.250	0.00	0.03	0.656	O	|	|	|	|	1.31	72.250	0.00	0.03	0.644	O	|	|	|	|	1.29
67.333	0.00	0.03	0.656	O	|	|	|	|	1.31	72.333	0.00	0.02	0.644	O	|	|	|	|	1.29
67.417	0.00	0.03	0.655	O	|	|	|	|	1.31	72.417	0.00	0.02	0.644	O	|	|	|	|	1.29
67.500	0.00	0.03	0.655	O	|	|	|	|	1.31	72.500	0.00	0.02	0.643	O	|	|	|	|	1.29
67.583	0.00	0.03	0.655	O	|	|	|	|	1.31	72.583	0.00	0.02	0.643	O	|	|	|	|	1.29
67.667	0.00	0.03	0.655	O	|	|	|	|	1.31	72.667	0.00	0.02	0.643	O	|	|	|	|	1.29
67.750	0.00	0.03	0.654	O	|	|	|	|	1.31	72.750	0.00	0.02	0.643	O	|	|	|	|	1.29
67.833	0.00	0.03	0.654	O	|	|	|	|	1.31	72.833	0.00	0.02	0.643	O	|	|	|	|	1.29
67.917	0.00	0.03	0.654	O	|	|	|	|	1.31	72.917	0.00	0.02	0.643	O	|	|	|	|	1.29
68.000	0.00	0.03	0.654	O	|	|	|	|	1.31	73.000	0.00	0.02	0.642	O	|	|	|	|	1.29
68.083	0.00	0.03	0.654	O	|	|	|	|	1.31	73.083	0.00	0.02	0.642	O	|	|	|	|	1.29
68.167	0.00	0.03	0.653	O	|	|	|	|	1.31	73.167	0.00	0.02	0.642	O	|	|	|	|	1.29
68.250	0.00	0.03	0.653	O	|	|	|	|	1.31	73.250	0.00	0.02	0.642	O	|	|	|	|	1.29
68.333	0.00	0.03	0.653	O	|	|	|	|	1.31	73.333	0.00	0.02	0.642	O	|	|	|	|	1.29
68.417	0.00	0.03	0.653	O	|	|	|	|	1.31	73.417	0.00	0.02	0.642	O	|	|	|	|	1.29
68.500	0.00	0.03	0.653	O	|	|	|	|	1.31	73.500	0.00	0.02	0.641	O	|	|	|	|	1.29
68.583	0.00	0.03	0.652	O	|	|	|	|	1.31	73.583	0.00	0.02	0.641	O	|	|	|	|	1.29
68.667	0.00	0.03	0.652	O	|	|	|	|	1.31	73.667	0.00	0.02	0.641	O	|	|	|	|	1.29
68.750	0.00	0.03	0.652	O	|	|	|	|	1.31	73.750	0.00	0.02	0.641	O	|	|	|	|	1.29
68.833	0.00	0.03	0.652	O	|	|	|	|	1.31	73.833	0.00	0.02	0.641	O	|	|	|	|	1.29

73.917	0.00	0.02	0.641	O	|	|	|	|	1.29	78.917	0.00	0.02	0.632	O	|	|	|	|	1.27
74.000	0.00	0.02	0.641	O	|	|	|	|	1.29	79.000	0.00	0.02	0.632	O	|	|	|	|	1.27
74.083	0.00	0.02	0.640	O	|	|	|	|	1.29	79.083	0.00	0.02	0.632	O	|	|	|	|	1.27
74.167	0.00	0.02	0.640	O	|	|	|	|	1.29	79.167	0.00	0.02	0.632	O	|	|	|	|	1.27
74.250	0.00	0.02	0.640	O	|	|	|	|	1.28	79.250	0.00	0.02	0.632	O	|	|	|	|	1.27
74.333	0.00	0.02	0.640	O	|	|	|	|	1.28	79.333	0.00	0.02	0.632	O	|	|	|	|	1.27
74.417	0.00	0.02	0.640	O	|	|	|	|	1.28	79.417	0.00	0.02	0.632	O	|	|	|	|	1.27
74.500	0.00	0.02	0.640	O	|	|	|	|	1.28	79.500	0.00	0.02	0.631	O	|	|	|	|	1.27
74.583	0.00	0.02	0.639	O	|	|	|	|	1.28	79.583	0.00	0.02	0.631	O	|	|	|	|	1.27
74.667	0.00	0.02	0.639	O	|	|	|	|	1.28	79.667	0.00	0.02	0.631	O	|	|	|	|	1.27
74.750	0.00	0.02	0.639	O	|	|	|	|	1.28	79.750	0.00	0.02	0.631	O	|	|	|	|	1.27
74.833	0.00	0.02	0.639	O	|	|	|	|	1.28	79.833	0.00	0.02	0.631	O	|	|	|	|	1.27
74.917	0.00	0.02	0.639	O	|	|	|	|	1.28	79.917	0.00	0.02	0.631	O	|	|	|	|	1.27
75.000	0.00	0.02	0.639	O	|	|	|	|	1.28	80.000	0.00	0.02	0.631	O	|	|	|	|	1.27
75.083	0.00	0.02	0.639	O	|	|	|	|	1.28	80.083	0.00	0.02	0.631	O	|	|	|	|	1.27
75.167	0.00	0.02	0.638	O	|	|	|	|	1.28	80.167	0.00	0.02	0.631	O	|	|	|	|	1.27
75.250	0.00	0.02	0.638	O	|	|	|	|	1.28	80.250	0.00	0.02	0.630	O	|	|	|	|	1.27
75.333	0.00	0.02	0.638	O	|	|	|	|	1.28	80.333	0.00	0.02	0.630	O	|	|	|	|	1.27
75.417	0.00	0.02	0.638	O	|	|	|	|	1.28	80.417	0.00	0.02	0.630	O	|	|	|	|	1.27
75.500	0.00	0.02	0.638	O	|	|	|	|	1.28	80.500	0.00	0.02	0.630	O	|	|	|	|	1.27
75.583	0.00	0.02	0.638	O	|	|	|	|	1.28	80.583	0.00	0.02	0.630	O	|	|	|	|	1.27
75.667	0.00	0.02	0.638	O	|	|	|	|	1.28	80.667	0.00	0.02	0.630	O	|	|	|	|	1.27
75.750	0.00	0.02	0.637	O	|	|	|	|	1.28	80.750	0.00	0.02	0.630	O	|	|	|	|	1.27
75.833	0.00	0.02	0.637	O	|	|	|	|	1.28	80.833	0.00	0.02	0.630	O	|	|	|	|	1.27
75.917	0.00	0.02	0.637	O	|	|	|	|	1.28	80.917	0.00	0.02	0.630	O	|	|	|	|	1.27
76.000	0.00	0.02	0.637	O	|	|	|	|	1.28	81.000	0.00	0.02	0.629	O	|	|	|	|	1.27
76.083	0.00	0.02	0.637	O	|	|	|	|	1.28	81.083	0.00	0.02	0.629	O	|	|	|	|	1.27
76.167	0.00	0.02	0.637	O	|	|	|	|	1.28	81.167	0.00	0.02	0.629	O	|	|	|	|	1.27
76.250	0.00	0.02	0.637	O	|	|	|	|	1.28	81.250	0.00	0.02	0.629	O	|	|	|	|	1.27
76.333	0.00	0.02	0.636	O	|	|	|	|	1.28	81.333	0.00	0.02	0.629	O	|	|	|	|	1.27
76.417	0.00	0.02	0.636	O	|	|	|	|	1.28	81.417	0.00	0.02	0.629	O	|	|	|	|	1.27
76.500	0.00	0.02	0.636	O	|	|	|	|	1.28	81.500	0.00	0.02	0.629	O	|	|	|	|	1.27
76.583	0.00	0.02	0.636	O	|	|	|	|	1.28	81.583	0.00	0.02	0.629	O	|	|	|	|	1.27
76.667	0.00	0.02	0.636	O	|	|	|	|	1.28	81.667	0.00	0.02	0.629	O	|	|	|	|	1.26
76.750	0.00	0.02	0.636	O	|	|	|	|	1.28	81.750	0.00	0.02	0.628	O	|	|	|	|	1.26
76.833	0.00	0.02	0.636	O	|	|	|	|	1.28	81.833	0.00	0.02	0.628	O	|	|	|	|	1.26
76.917	0.00	0.02	0.635	O	|	|	|	|	1.28	81.917	0.00	0.02	0.628	O	|	|	|	|	1.26
77.000	0.00	0.02	0.635	O	|	|	|	|	1.28	82.000	0.00	0.02	0.628	O	|	|	|	|	1.26
77.083	0.00	0.02	0.635	O	|	|	|	|	1.28	82.083	0.00	0.02	0.628	O	|	|	|	|	1.26
77.167	0.00	0.02	0.635	O	|	|	|	|	1.28	82.167	0.00	0.01	0.628	O	|	|	|	|	1.26
77.250	0.00	0.02	0.635	O	|	|	|	|	1.28	82.250	0.00	0.01	0.628	O	|	|	|	|	1.26
77.333	0.00	0.02	0.635	O	|	|	|	|	1.28	82.333	0.00	0.01	0.628	O	|	|	|	|	1.26
77.417	0.00	0.02	0.635	O	|	|	|	|	1.28	82.417	0.00	0.01	0.628	O	|	|	|	|	1.26
77.500	0.00	0.02	0.634	O	|	|	|	|	1.28	82.500	0.00	0.01	0.628	O	|	|	|	|	1.26
77.583	0.00	0.02	0.634	O	|	|	|	|	1.28	82.583	0.00	0.01	0.627	O	|	|	|	|	1.26
77.667	0.00	0.02	0.634	O	|	|	|	|	1.27	82.667	0.00	0.01	0.627	O	|	|	|	|	1.26
77.750	0.00	0.02	0.634	O	|	|	|	|	1.27	82.750	0.00	0.01	0.627	O	|	|	|	|	1.26
77.833	0.00	0.02	0.634	O	|	|	|	|	1.27	82.833	0.00	0.01	0.627	O	|	|	|	|	1.26
77.917	0.00	0.02	0.634	O	|	|	|	|	1.27	82.917	0.00	0.01	0.627	O	|	|	|	|	1.26
78.000	0.00	0.02	0.634	O	|	|	|	|	1.27	83.000	0.00	0.01	0.627	O	|	|	|	|	1.26
78.083	0.00	0.02	0.634	O	|	|	|	|	1.27	83.083	0.00	0.01	0.627	O	|	|	|	|	1.26
78.167	0.00	0.02	0.633	O	|	|	|	|	1.27	83.167	0.00	0.01	0.627	O	|	|	|	|	1.26
78.250	0.00	0.02	0.633	O	|	|	|	|	1.27	83.250	0.00	0.01	0.627	O	|	|	|	|	1.26
78.333	0.00	0.02	0.633	O	|	|	|	|	1.27	83.333	0.00	0.01	0.627	O	|	|	|	|	1.26
78.417	0.00	0.02	0.633	O	|	|	|	|	1.27	83.417	0.00	0.01	0.626	O	|	|	|	|	1.26
78.500	0.00	0.02	0.633	O	|	|	|	|	1.27	83.500	0.00	0.01	0.626	O	|	|	|	|	1.26
78.583	0.00	0.02	0.633	O	|	|	|	|	1.27	83.583	0.00	0.01	0.626	O	|	|	|	|	1.26
78.667	0.00	0.02	0.633	O	|	|	|	|	1.27	83.667	0.00	0.01	0.626	O	|	|	|	|	1.26
78.750	0.00	0.02	0.633	O	|	|	|	|	1.27	83.750	0.00	0.01	0.626	O	|	|	|	|	1.26
78.833	0.00	0.02	0.632	O	|	|	|	|	1.27	83.833	0.00	0.01	0.626	O	|	|	|	|	1.26

83.917	0.00	0.01	0.626	O	|	|	|	|	1.26	88.917	0.00	0.01	0.621	O	|	|	|	|	1.25
84.000	0.00	0.01	0.626	O	|	|	|	|	1.26	89.000	0.00	0.01	0.621	O	|	|	|	|	1.25
84.083	0.00	0.01	0.626	O	|	|	|	|	1.26	89.083	0.00	0.01	0.621	O	|	|	|	|	1.25
84.167	0.00	0.01	0.626	O	|	|	|	|	1.26	89.167	0.00	0.01	0.621	O	|	|	|	|	1.25
84.250	0.00	0.01	0.625	O	|	|	|	|	1.26	89.250	0.00	0.01	0.621	O	|	|	|	|	1.25
84.333	0.00	0.01	0.625	O	|	|	|	|	1.26	89.333	0.00	0.01	0.621	O	|	|	|	|	1.25
84.417	0.00	0.01	0.625	O	|	|	|	|	1.26	89.417	0.00	0.01	0.620	O	|	|	|	|	1.25
84.500	0.00	0.01	0.625	O	|	|	|	|	1.26	89.500	0.00	0.01	0.620	O	|	|	|	|	1.25
84.583	0.00	0.01	0.625	O	|	|	|	|	1.26	89.583	0.00	0.01	0.620	O	|	|	|	|	1.25
84.667	0.00	0.01	0.625	O	|	|	|	|	1.26	89.667	0.00	0.01	0.620	O	|	|	|	|	1.25
84.750	0.00	0.01	0.625	O	|	|	|	|	1.26	89.750	0.00	0.01	0.620	O	|	|	|	|	1.25
84.833	0.00	0.01	0.625	O	|	|	|	|	1.26	89.833	0.00	0.01	0.620	O	|	|	|	|	1.25
84.917	0.00	0.01	0.625	O	|	|	|	|	1.26	89.917	0.00	0.01	0.620	O	|	|	|	|	1.25
85.000	0.00	0.01	0.625	O	|	|	|	|	1.26	90.000	0.00	0.01	0.620	O	|	|	|	|	1.25
85.083	0.00	0.01	0.625	O	|	|	|	|	1.26	90.083	0.00	0.01	0.620	O	|	|	|	|	1.25
85.167	0.00	0.01	0.624	O	|	|	|	|	1.26	90.167	0.00	0.01	0.620	O	|	|	|	|	1.25
85.250	0.00	0.01	0.624	O	|	|	|	|	1.26	90.250	0.00	0.01	0.620	O	|	|	|	|	1.25
85.333	0.00	0.01	0.624	O	|	|	|	|	1.26	90.333	0.00	0.01	0.620	O	|	|	|	|	1.25
85.417	0.00	0.01	0.624	O	|	|	|	|	1.26	90.417	0.00	0.01	0.620	O	|	|	|	|	1.25
85.500	0.00	0.01	0.624	O	|	|	|	|	1.26	90.500	0.00	0.01	0.620	O	|	|	|	|	1.25
85.583	0.00	0.01	0.624	O	|	|	|	|	1.26	90.583	0.00	0.01	0.619	O	|	|	|	|	1.25
85.667	0.00	0.01	0.624	O	|	|	|	|	1.26	90.667	0.00	0.01	0.619	O	|	|	|	|	1.25
85.750	0.00	0.01	0.624	O	|	|	|	|	1.26	90.750	0.00	0.01	0.619	O	|	|	|	|	1.25
85.833	0.00	0.01	0.624	O	|	|	|	|	1.26	90.833	0.00	0.01	0.619	O	|	|	|	|	1.25
85.917	0.00	0.01	0.624	O	|	|	|	|	1.26	90.917	0.00	0.01	0.619	O	|	|	|	|	1.25
86.000	0.00	0.01	0.624	O	|	|	|	|	1.26	91.000	0.00	0.01	0.619	O	|	|	|	|	1.25
86.083	0.00	0.01	0.624	O	|	|	|	|	1.26	91.083	0.00	0.01	0.619	O	|	|	|	|	1.25
86.167	0.00	0.01	0.623	O	|	|	|	|	1.26	91.167	0.00	0.01	0.619	O	|	|	|	|	1.25
86.250	0.00	0.01	0.623	O	|	|	|	|	1.26	91.250	0.00	0.01	0.619	O	|	|	|	|	1.25
86.333	0.00	0.01	0.623	O	|	|	|	|	1.26	91.333	0.00	0.01	0.619	O	|	|	|	|	1.25
86.417	0.00	0.01	0.623	O	|	|	|	|	1.26	91.417	0.00	0.01	0.619	O	|	|	|	|	1.25
86.500	0.00	0.01	0.623	O	|	|	|	|	1.26	91.500	0.00	0.01	0.619	O	|	|	|	|	1.25
86.583	0.00	0.01	0.623	O	|	|	|	|	1.26	91.583	0.00	0.01	0.619	O	|	|	|	|	1.25
86.667	0.00	0.01	0.623	O	|	|	|	|	1.26	91.667	0.00	0.01	0.619	O	|	|	|	|	1.25
86.750	0.00	0.01	0.623	O	|	|	|	|	1.26	91.750	0.00	0.01	0.619	O	|	|	|	|	1.25
86.833	0.00	0.01	0.623	O	|	|	|	|	1.25	91.833	0.00	0.01	0.618	O	|	|	|	|	1.25
86.917	0.00	0.01	0.623	O	|	|	|	|	1.25	91.917	0.00	0.01	0.618	O	|	|	|	|	1.25
87.000	0.00	0.01	0.623	O	|	|	|	|	1.25	92.000	0.00	0.01	0.618	O	|	|	|	|	1.25
87.083	0.00	0.01	0.623	O	|	|	|	|	1.25	92.083	0.00	0.01	0.618	O	|	|	|	|	1.25
87.167	0.00	0.01	0.622	O	|	|	|	|	1.25	92.167	0.00	0.01	0.618	O	|	|	|	|	1.25
87.250	0.00	0.01	0.622	O	|	|	|	|	1.25	92.250	0.00	0.01	0.618	O	|	|	|	|	1.25
87.333	0.00	0.01	0.622	O	|	|	|	|	1.25	92.333	0.00	0.01	0.618	O	|	|	|	|	1.25
87.417	0.00	0.01	0.622	O	|	|	|	|	1.25	92.417	0.00	0.01	0.618	O	|	|	|	|	1.25
87.500	0.00	0.01	0.622	O	|	|	|	|	1.25	92.500	0.00	0.01	0.618	O	|	|	|	|	1.25
87.583	0.00	0.01	0.622	O	|	|	|	|	1.25	92.583	0.00	0.01	0.618	O	|	|	|	|	1.25
87.667	0.00	0.01	0.622	O	|	|	|	|	1.25	92.667	0.00	0.01	0.618	O	|	|	|	|	1.25
87.750	0.00	0.01	0.622	O	|	|	|	|	1.25	92.750	0.00	0.01	0.618	O	|	|	|	|	1.25
87.833	0.00	0.01	0.622	O	|	|	|	|	1.25	92.833	0.00	0.01	0.618	O	|	|	|	|	1.25
87.917	0.00	0.01	0.622	O	|	|	|	|	1.25	92.917	0.00	0.01	0.618	O	|	|	|	|	1.25
88.000	0.00	0.01	0.622	O	|	|	|	|	1.25	93.000	0.00	0.01	0.617	O	|	|	|	|	1.24
88.083	0.00	0.01	0.622	O	|	|	|	|	1.25	93.083	0.00	0.01	0.617	O	|	|	|	|	1.24
88.167	0.00	0.01	0.622	O	|	|	|	|	1.25	93.167	0.00	0.01	0.617	O	|	|	|	|	1.24
88.250	0.00	0.01	0.621	O	|	|	|	|	1.25	93.250	0.00	0.01	0.617	O	|	|	|	|	1.24
88.333	0.00	0.01	0.621	O	|	|	|	|	1.25	93.333	0.00	0.01	0.617	O	|	|	|	|	1.24
88.417	0.00	0.01	0.621	O	|	|	|	|	1.25	93.417	0.00	0.01	0.617	O	|	|	|	|	1.24
88.500	0.00	0.01	0.621	O	|	|	|	|	1.25	93.500	0.00	0.01	0.617	O	|	|	|	|	1.24
88.583	0.00	0.01	0.621	O	|	|	|	|	1.25	93.583	0.00	0.01	0.617	O	|	|	|	|	1.24
88.667	0.00	0.01	0.621	O	|	|	|	|	1.25	93.667	0.00	0.01	0.617	O	|	|	|	|	1.24
88.750	0.00	0.01	0.621	O	|	|	|	|	1.25	93.750	0.00	0.01	0.617	O	|	|	|	|	1.24
88.833	0.00	0.01	0.621	O	|	|	|	|	1.25	93.833	0.00	0.01	0.617	O	|	|	|	|	1.24

Left Blank Intentionally

413.917	0.00	0.01	0.403	O	|	|	|	0.81
414.000	0.00	0.01	0.403	O	|	|	|	0.81
414.083	0.00	0.01	0.402	O	|	|	|	0.81
414.167	0.00	0.01	0.402	O	|	|	|	0.81
414.250	0.00	0.01	0.402	O	|	|	|	0.81
414.333	0.00	0.01	0.402	O	|	|	|	0.81
414.417	0.00	0.01	0.402	O	|	|	|	0.81
414.500	0.00	0.01	0.402	O	|	|	|	0.81
414.583	0.00	0.01	0.402	O	|	|	|	0.81
414.667	0.00	0.01	0.402	O	|	|	|	0.81
414.750	0.00	0.01	0.402	O	|	|	|	0.81
414.833	0.00	0.01	0.402	O	|	|	|	0.81
414.917	0.00	0.01	0.402	O	|	|	|	0.81
415.000	0.00	0.01	0.402	O	|	|	|	0.81
415.083	0.00	0.01	0.402	O	|	|	|	0.81
415.167	0.00	0.01	0.402	O	|	|	|	0.81
415.250	0.00	0.01	0.402	O	|	|	|	0.81
415.333	0.00	0.01	0.402	O	|	|	|	0.81
415.417	0.00	0.01	0.402	O	|	|	|	0.81
415.500	0.00	0.01	0.402	O	|	|	|	0.81
415.583	0.00	0.01	0.402	O	|	|	|	0.81
415.667	0.00	0.01	0.402	O	|	|	|	0.81
415.750	0.00	0.01	0.402	O	|	|	|	0.81
415.833	0.00	0.01	0.402	O	|	|	|	0.81
415.917	0.00	0.01	0.402	O	|	|	|	0.81
416.000	0.00	0.01	0.401	O	|	|	|	0.81
416.083	0.00	0.01	0.401	O	|	|	|	0.81
416.167	0.00	0.01	0.401	O	|	|	|	0.81
416.250	0.00	0.01	0.401	O	|	|	|	0.81
416.333	0.00	0.01	0.401	O	|	|	|	0.81
416.417	0.00	0.01	0.401	O	|	|	|	0.81
416.500	0.00	0.01	0.401	O	|	|	|	0.81
416.583	0.00	0.01	0.401	O	|	|	|	0.81
416.667	0.00	0.01	0.401	O	|	|	|	0.81

Remaining water in basin = 0.40 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.488 (CFS)
Total volume = 1.369 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

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TR 37036, PARCEL 1
BASIN M
10Y 6H STORM

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Program License Serial Number 6406

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******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR610.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    76
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       19.478 (CFS)
                Total volume =       2.210 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 76
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
------------------------------------------------------------------------
------------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
------------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
------------------------------------------------------------------------
                  Hydrograph Detention Basin Routing
------------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
------------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       4.9    9.74   14.61  19.48 (Ft.)
 0.083   0.63    0.00      0.002  OI      |      |      |      |      0.00
 0.167   1.44    0.00      0.009  O I     |      |      |      |      0.02
 0.250   1.71    0.00      0.020  O I     |      |      |      |      0.04
 0.333   1.80    0.00      0.032  O I     |      |      |      |      0.07
 0.417   1.83    0.00      0.045  O  I    |      |      |      |      0.09
 0.500   1.96    0.00      0.058  O  I    |      |      |      |      0.12
 0.583   2.10    0.00      0.072  O  I    |      |      |      |      0.14
 0.667   2.13    0.00      0.086  O  I    |      |      |      |      0.17
 0.750   2.14    0.00      0.101  O  I    |      |      |      |      0.20
 0.833   2.14    0.00      0.116  O  I    |      |      |      |      0.23
 0.917   2.14    0.00      0.131  O  I    |      |      |      |      0.26
 1.000   2.27    0.00      0.146  O  I    |      |      |      |      0.29
 1.083   2.41    0.00      0.162  O  I    |      |      |      |      0.33
 1.167   2.43    0.00      0.178  O  I    |      |      |      |      0.36
 1.250   2.45    0.00      0.195  O   I   |      |      |      |      0.39
 1.333   2.45    0.00      0.212  O   I   |      |      |      |      0.43
 1.417   2.45    0.00      0.229  O   I   |      |      |      |      0.46
 1.500   2.45    0.00      0.246  O   I   |      |      |      |      0.50
 1.583   2.45    0.00      0.263  O   I   |      |      |      |      0.53
 1.667   2.45    0.00      0.279  O   I   |      |      |      |      0.56
 1.750   2.45    0.00      0.296  O   I   |      |      |      |      0.60
 1.833   2.45    0.01      0.313  O   I   |      |      |      |      0.63
 1.917   2.45    0.01      0.330  O   I   |      |      |      |      0.67
 2.000   2.58    0.01      0.347  O   I   |      |      |      |      0.70
 2.083   2.58    0.01      0.365  O   I   |      |      |      |      0.74
 2.167   2.60    0.01      0.383  O   I   |      |      |      |      0.77
 2.250   2.72    0.01      0.401  O   I   |      |      |      |      0.81
 2.333   2.74    0.01      0.420  O   I   |      |      |      |      0.85
 2.417   2.75    0.01      0.439  O   I   |      |      |      |      0.88
 2.500   2.76    0.01      0.458  O   I   |      |      |      |      0.92
 2.583   2.76    0.01      0.477  O   I   |      |      |      |      0.96
 2.667   2.76    0.01      0.496  O   I   |      |      |      |      1.00
 2.750   2.88    0.01      0.515  O   I   |      |      |      |      1.04
 2.833   3.02    0.01      0.535  O   I   |      |      |      |      1.08
 2.917   3.05    0.01      0.556  O    I  |      |      |      |      1.12
 3.000   3.06    0.01      0.577  O    I  |      |      |      |      1.16
 3.083   3.06    0.01      0.598  O    I  |      |      |      |      1.21
 3.167   3.19    0.01      0.619  O    I  |      |      |      |      1.25
 3.250   3.32    0.02      0.642  O    I  |      |      |      |      1.29
 3.333   3.35    0.04      0.664  O    I  |      |      |      |      1.33
 3.417   3.49    0.05      0.688  O    I  |      |      |      |      1.37
 3.500   3.76    0.07      0.712  O     I |      |      |      |      1.41
 3.583   4.05    0.08      0.739  O     I |      |      |      |      1.46
 3.667   4.22    0.10      0.766  O     I |      |      |      |      1.51
 3.750   4.39    0.12      0.795  O      I|      |      |      |      1.56
 3.833   4.54    0.14      0.825  O      I|      |      |      |      1.61
```

3.917	4.70	0.16	0.856	O	I	|				1.66	8.917	0.00	0.61	1.977	IO	|				3.47
4.000	4.85	0.18	0.888	O	I	|				1.72	9.000	0.00	0.61	1.973	IO	|				3.47
4.083	5.01	0.20	0.920	O	I					1.77	9.083	0.00	0.61	1.969	O	|				3.46
4.167	5.28	0.22	0.954	O	I					1.83	9.167	0.00	0.60	1.965	O	|				3.45
4.250	5.58	0.24	0.990	O	|	I				1.90	9.250	0.00	0.60	1.961	O	|				3.45
4.333	5.88	0.27	1.028	O	|	I				1.96	9.333	0.00	0.60	1.957	O	|				3.44
4.417	6.19	0.28	1.068	O		I				2.03	9.417	0.00	0.60	1.952	O	|				3.44
4.500	6.37	0.30	1.109	O		I				2.10	9.500	0.00	0.60	1.948	O	|				3.43
4.583	6.54	0.31	1.151	O		I				2.17	9.583	0.00	0.59	1.944	O	|				3.42
4.667	6.81	0.32	1.195	O		I				2.24	9.667	0.00	0.59	1.940	O	|				3.42
4.750	7.11	0.33	1.241	O		I				2.31	9.750	0.00	0.59	1.936	O	|				3.41
4.833	7.28	0.35	1.288	O		I				2.39	9.833	0.00	0.59	1.932	O	|				3.41
4.917	7.46	0.36	1.336	O		I				2.47	9.917	0.00	0.59	1.928	O	|				3.40
5.000	7.73	0.37	1.386	O		I				2.55	10.000	0.00	0.58	1.924	O	|				3.39
5.083	8.56	0.39	1.440	O		I				2.64	10.083	0.00	0.58	1.920	O	|				3.39
5.167	10.39	0.41	1.502	O		|	I			2.74	10.167	0.00	0.58	1.916	O	|				3.38
5.250	12.38	0.43	1.578	O			I			2.86	10.250	0.00	0.58	1.912	O	|				3.38
5.333	14.04	0.45	1.666	O			I	|		3.01	10.333	0.00	0.58	1.908	O	|				3.37
5.417	16.10	0.50	1.766	O			|	I		3.16	10.417	0.00	0.57	1.904	O	|				3.36
5.500	19.48	0.56	1.885	O			|		I	3.34	10.500	0.00	0.57	1.900	O	|				3.36
5.583	14.89	0.62	1.999	|O			I			3.51	10.583	0.00	0.57	1.896	O	|				3.35
5.667	6.71	0.66	2.069	|O		I				3.61	10.667	0.00	0.57	1.892	O	|				3.35
5.750	3.62	0.67	2.100	|O	I					3.66	10.750	0.00	0.57	1.888	O	|				3.34
5.833	2.25	0.68	2.116	|O I						3.68	10.833	0.00	0.56	1.884	O	|				3.33
5.917	1.41	0.69	2.124	|OI						3.69	10.917	0.00	0.56	1.880	O	|				3.33
6.000	0.91	0.69	2.127	|O						3.70	11.000	0.00	0.56	1.877	O	|				3.32
6.083	0.44	0.69	2.127	IO						3.70	11.083	0.00	0.56	1.873	O	|				3.32
6.167	0.11	0.69	2.124	IO						3.69	11.167	0.00	0.56	1.869	O	|				3.31
6.250	0.04	0.68	2.120	IO						3.69	11.250	0.00	0.55	1.865	O	|				3.31
6.333	0.01	0.68	2.115	IO						3.68	11.333	0.00	0.55	1.861	O	|				3.30
6.417	0.00	0.68	2.110	IO						3.67	11.417	0.00	0.55	1.858	O	|				3.29
6.500	0.00	0.68	2.106	IO						3.67	11.500	0.00	0.55	1.854	O	|				3.29
6.583	0.00	0.67	2.101	IO						3.66	11.583	0.00	0.55	1.850	O	|				3.28
6.667	0.00	0.67	2.097	IO						3.65	11.667	0.00	0.54	1.846	O	|				3.28
6.750	0.00	0.67	2.092	IO						3.64	11.750	0.00	0.54	1.842	O	|				3.27
6.833	0.00	0.67	2.087	IO						3.64	11.833	0.00	0.54	1.839	O	|				3.27
6.917	0.00	0.66	2.083	IO						3.63	11.917	0.00	0.54	1.835	O	|				3.26
7.000	0.00	0.66	2.078	IO						3.62	12.000	0.00	0.54	1.831	O	|				3.26
7.083	0.00	0.66	2.074	IO						3.62	12.083	0.00	0.54	1.828	O	|				3.25
7.167	0.00	0.66	2.069	IO						3.61	12.167	0.00	0.53	1.824	O	|				3.24
7.250	0.00	0.66	2.065	IO						3.60	12.250	0.00	0.53	1.820	O	|				3.24
7.333	0.00	0.65	2.060	IO						3.60	12.333	0.00	0.53	1.817	O	|				3.23
7.417	0.00	0.65	2.056	IO						3.59	12.417	0.00	0.53	1.813	O	|				3.23
7.500	0.00	0.65	2.051	IO						3.58	12.500	0.00	0.53	1.809	O	|				3.22
7.583	0.00	0.65	2.047	IO						3.58	12.583	0.00	0.52	1.806	O	|				3.22
7.667	0.00	0.64	2.042	IO						3.57	12.667	0.00	0.52	1.802	O	|				3.21
7.750	0.00	0.64	2.038	IO						3.56	12.750	0.00	0.52	1.799	O	|				3.21
7.833	0.00	0.64	2.033	IO						3.56	12.833	0.00	0.52	1.795	O	|				3.20
7.917	0.00	0.64	2.029	IO						3.55	12.917	0.00	0.52	1.791	O	|				3.20
8.000	0.00	0.64	2.025	IO						3.54	13.000	0.00	0.51	1.788	O	|				3.19
8.083	0.00	0.63	2.020	IO						3.54	13.083	0.00	0.51	1.784	O	|				3.19
8.167	0.00	0.63	2.016	IO						3.53	13.167	0.00	0.51	1.781	O	|				3.18
8.250	0.00	0.63	2.012	IO						3.52	13.250	0.00	0.51	1.777	O	|				3.18
8.333	0.00	0.63	2.007	IO						3.52	13.333	0.00	0.51	1.774	O	|				3.17
8.417	0.00	0.62	2.003	IO						3.51	13.417	0.00	0.51	1.770	O	|				3.16
8.500	0.00	0.62	1.999	IO						3.51	13.500	0.00	0.50	1.767	O	|				3.16
8.583	0.00	0.62	1.994	IO						3.50	13.583	0.00	0.50	1.763	O	|				3.15
8.667	0.00	0.62	1.990	IO						3.49	13.667	0.00	0.50	1.760	O	|				3.15
8.750	0.00	0.62	1.986	IO						3.49	13.750	0.00	0.50	1.756	O	|				3.14
8.833	0.00	0.61	1.982	IO						3.48	13.833	0.00	0.50	1.753	O	|				3.14

13.917	0.00	0.50	1.750	O	|	|	|	|	3.13	18.917	0.00	0.42	1.562	O	|	|	|	|	2.84
14.000	0.00	0.49	1.746	O	|	|	|	|	3.13	19.000	0.00	0.42	1.560	O	|	|	|	|	2.84
14.083	0.00	0.49	1.743	O	|	|	|	|	3.12	19.083	0.00	0.42	1.557	O	|	|	|	|	2.83
14.167	0.00	0.49	1.739	O	|	|	|	|	3.12	19.167	0.00	0.42	1.554	O	|	|	|	|	2.83
14.250	0.00	0.49	1.736	O	|	|	|	|	3.11	19.250	0.00	0.42	1.551	O	|	|	|	|	2.82
14.333	0.00	0.49	1.733	O	|	|	|	|	3.11	19.333	0.00	0.42	1.548	O	|	|	|	|	2.82
14.417	0.00	0.49	1.729	O	|	|	|	|	3.10	19.417	0.00	0.42	1.545	O	|	|	|	|	2.81
14.500	0.00	0.48	1.726	O	|	|	|	|	3.10	19.500	0.00	0.42	1.542	O	|	|	|	|	2.81
14.583	0.00	0.48	1.723	O	|	|	|	|	3.09	19.583	0.00	0.42	1.539	O	|	|	|	|	2.80
14.667	0.00	0.48	1.719	O	|	|	|	|	3.09	19.667	0.00	0.42	1.536	O	|	|	|	|	2.80
14.750	0.00	0.48	1.716	O	|	|	|	|	3.08	19.750	0.00	0.41	1.534	O	|	|	|	|	2.79
14.833	0.00	0.48	1.713	O	|	|	|	|	3.08	19.833	0.00	0.41	1.531	O	|	|	|	|	2.79
14.917	0.00	0.48	1.709	O	|	|	|	|	3.07	19.917	0.00	0.41	1.528	O	|	|	|	|	2.78
15.000	0.00	0.47	1.706	O	|	|	|	|	3.07	20.000	0.00	0.41	1.525	O	|	|	|	|	2.78
15.083	0.00	0.47	1.703	O	|	|	|	|	3.06	20.083	0.00	0.41	1.522	O	|	|	|	|	2.77
15.167	0.00	0.47	1.700	O	|	|	|	|	3.06	20.167	0.00	0.41	1.519	O	|	|	|	|	2.77
15.250	0.00	0.47	1.696	O	|	|	|	|	3.05	20.250	0.00	0.41	1.517	O	|	|	|	|	2.76
15.333	0.00	0.47	1.693	O	|	|	|	|	3.05	20.333	0.00	0.41	1.514	O	|	|	|	|	2.76
15.417	0.00	0.47	1.690	O	|	|	|	|	3.04	20.417	0.00	0.41	1.511	O	|	|	|	|	2.76
15.500	0.00	0.46	1.687	O	|	|	|	|	3.04	20.500	0.00	0.41	1.508	O	|	|	|	|	2.75
15.583	0.00	0.46	1.684	O	|	|	|	|	3.04	20.583	0.00	0.41	1.505	O	|	|	|	|	2.75
15.667	0.00	0.46	1.680	O	|	|	|	|	3.03	20.667	0.00	0.41	1.503	O	|	|	|	|	2.74
15.750	0.00	0.46	1.677	O	|	|	|	|	3.03	20.750	0.00	0.41	1.500	O	|	|	|	|	2.74
15.833	0.00	0.46	1.674	O	|	|	|	|	3.02	20.833	0.00	0.40	1.497	O	|	|	|	|	2.73
15.917	0.00	0.46	1.671	O	|	|	|	|	3.02	20.917	0.00	0.40	1.494	O	|	|	|	|	2.73
16.000	0.00	0.45	1.668	O	|	|	|	|	3.01	21.000	0.00	0.40	1.491	O	|	|	|	|	2.72
16.083	0.00	0.45	1.665	O	|	|	|	|	3.01	21.083	0.00	0.40	1.489	O	|	|	|	|	2.72
16.167	0.00	0.45	1.662	O	|	|	|	|	3.00	21.167	0.00	0.40	1.486	O	|	|	|	|	2.71
16.250	0.00	0.45	1.659	O	|	|	|	|	3.00	21.250	0.00	0.40	1.483	O	|	|	|	|	2.71
16.333	0.00	0.45	1.655	O	|	|	|	|	2.99	21.333	0.00	0.40	1.480	O	|	|	|	|	2.71
16.417	0.00	0.45	1.652	O	|	|	|	|	2.99	21.417	0.00	0.40	1.478	O	|	|	|	|	2.70
16.500	0.00	0.45	1.649	O	|	|	|	|	2.98	21.500	0.00	0.40	1.475	O	|	|	|	|	2.70
16.583	0.00	0.45	1.646	O	|	|	|	|	2.98	21.583	0.00	0.40	1.472	O	|	|	|	|	2.69
16.667	0.00	0.45	1.643	O	|	|	|	|	2.97	21.667	0.00	0.40	1.469	O	|	|	|	|	2.69
16.750	0.00	0.44	1.640	O	|	|	|	|	2.97	21.750	0.00	0.40	1.467	O	|	|	|	|	2.68
16.833	0.00	0.44	1.637	O	|	|	|	|	2.96	21.833	0.00	0.40	1.464	O	|	|	|	|	2.68
16.917	0.00	0.44	1.634	O	|	|	|	|	2.96	21.917	0.00	0.39	1.461	O	|	|	|	|	2.67
17.000	0.00	0.44	1.631	O	|	|	|	|	2.95	22.000	0.00	0.39	1.458	O	|	|	|	|	2.67
17.083	0.00	0.44	1.628	O	|	|	|	|	2.95	22.083	0.00	0.39	1.456	O	|	|	|	|	2.67
17.167	0.00	0.44	1.625	O	|	|	|	|	2.94	22.167	0.00	0.39	1.453	O	|	|	|	|	2.66
17.250	0.00	0.44	1.622	O	|	|	|	|	2.94	22.250	0.00	0.39	1.450	O	|	|	|	|	2.66
17.333	0.00	0.44	1.619	O	|	|	|	|	2.93	22.333	0.00	0.39	1.448	O	|	|	|	|	2.65
17.417	0.00	0.44	1.616	O	|	|	|	|	2.93	22.417	0.00	0.39	1.445	O	|	|	|	|	2.65
17.500	0.00	0.44	1.613	O	|	|	|	|	2.92	22.500	0.00	0.39	1.442	O	|	|	|	|	2.64
17.583	0.00	0.44	1.610	O	|	|	|	|	2.92	22.583	0.00	0.39	1.440	O	|	|	|	|	2.64
17.667	0.00	0.44	1.607	O	|	|	|	|	2.91	22.667	0.00	0.39	1.437	O	|	|	|	|	2.63
17.750	0.00	0.43	1.604	O	|	|	|	|	2.91	22.750	0.00	0.39	1.434	O	|	|	|	|	2.63
17.833	0.00	0.43	1.601	O	|	|	|	|	2.90	22.833	0.00	0.39	1.432	O	|	|	|	|	2.63
17.917	0.00	0.43	1.598	O	|	|	|	|	2.90	22.917	0.00	0.39	1.429	O	|	|	|	|	2.62
18.000	0.00	0.43	1.595	O	|	|	|	|	2.89	23.000	0.00	0.38	1.426	O	|	|	|	|	2.62
18.083	0.00	0.43	1.592	O	|	|	|	|	2.89	23.083	0.00	0.38	1.424	O	|	|	|	|	2.61
18.167	0.00	0.43	1.589	O	|	|	|	|	2.88	23.167	0.00	0.38	1.421	O	|	|	|	|	2.61
18.250	0.00	0.43	1.586	O	|	|	|	|	2.88	23.250	0.00	0.38	1.418	O	|	|	|	|	2.60
18.333	0.00	0.43	1.583	O	|	|	|	|	2.87	23.333	0.00	0.38	1.416	O	|	|	|	|	2.60
18.417	0.00	0.43	1.580	O	|	|	|	|	2.87	23.417	0.00	0.38	1.413	O	|	|	|	|	2.60
18.500	0.00	0.43	1.577	O	|	|	|	|	2.86	23.500	0.00	0.38	1.410	O	|	|	|	|	2.59
18.583	0.00	0.43	1.574	O	|	|	|	|	2.86	23.583	0.00	0.38	1.408	O	|	|	|	|	2.59
18.667	0.00	0.43	1.571	O	|	|	|	|	2.85	23.667	0.00	0.38	1.405	O	|	|	|	|	2.58
18.750	0.00	0.42	1.568	O	|	|	|	|	2.85	23.750	0.00	0.38	1.403	O	|	|	|	|	2.58
18.833	0.00	0.42	1.565	O	|	|	|	|	2.84	23.833	0.00	0.38	1.400	O	|	|	|	|	2.57

23.917	0.00	0.38	1.397	O	|	|	|	|	2.57	28.917	0.00	0.34	1.250	O	|	|	|	|	2.33
24.000	0.00	0.38	1.395	O	|	|	|	|	2.57	29.000	0.00	0.34	1.248	O	|	|	|	|	2.32
24.083	0.00	0.38	1.392	O	|	|	|	|	2.56	29.083	0.00	0.33	1.246	O	|	|	|	|	2.32
24.167	0.00	0.37	1.390	O	|	|	|	|	2.56	29.167	0.00	0.33	1.243	O	|	|	|	|	2.32
24.250	0.00	0.37	1.387	O	|	|	|	|	2.55	29.250	0.00	0.33	1.241	O	|	|	|	|	2.31
24.333	0.00	0.37	1.385	O	|	|	|	|	2.55	29.333	0.00	0.33	1.239	O	|	|	|	|	2.31
24.417	0.00	0.37	1.382	O	|	|	|	|	2.54	29.417	0.00	0.33	1.237	O	|	|	|	|	2.31
24.500	0.00	0.37	1.379	O	|	|	|	|	2.54	29.500	0.00	0.33	1.234	O	|	|	|	|	2.30
24.583	0.00	0.37	1.377	O	|	|	|	|	2.54	29.583	0.00	0.33	1.232	O	|	|	|	|	2.30
24.667	0.00	0.37	1.374	O	|	|	|	|	2.53	29.667	0.00	0.33	1.230	O	|	|	|	|	2.29
24.750	0.00	0.37	1.372	O	|	|	|	|	2.53	29.750	0.00	0.33	1.227	O	|	|	|	|	2.29
24.833	0.00	0.37	1.369	O	|	|	|	|	2.52	29.833	0.00	0.33	1.225	O	|	|	|	|	2.29
24.917	0.00	0.37	1.367	O	|	|	|	|	2.52	29.917	0.00	0.33	1.223	O	|	|	|	|	2.28
25.000	0.00	0.37	1.364	O	|	|	|	|	2.51	30.000	0.00	0.33	1.221	O	|	|	|	|	2.28
25.083	0.00	0.37	1.362	O	|	|	|	|	2.51	30.083	0.00	0.33	1.218	O	|	|	|	|	2.28
25.167	0.00	0.37	1.359	O	|	|	|	|	2.51	30.167	0.00	0.33	1.216	O	|	|	|	|	2.27
25.250	0.00	0.37	1.357	O	|	|	|	|	2.50	30.250	0.00	0.33	1.214	O	|	|	|	|	2.27
25.333	0.00	0.36	1.354	O	|	|	|	|	2.50	30.333	0.00	0.33	1.212	O	|	|	|	|	2.27
25.417	0.00	0.36	1.352	O	|	|	|	|	2.49	30.417	0.00	0.32	1.209	O	|	|	|	|	2.26
25.500	0.00	0.36	1.349	O	|	|	|	|	2.49	30.500	0.00	0.32	1.207	O	|	|	|	|	2.26
25.583	0.00	0.36	1.347	O	|	|	|	|	2.49	30.583	0.00	0.32	1.205	O	|	|	|	|	2.25
25.667	0.00	0.36	1.344	O	|	|	|	|	2.48	30.667	0.00	0.32	1.203	O	|	|	|	|	2.25
25.750	0.00	0.36	1.342	O	|	|	|	|	2.48	30.750	0.00	0.32	1.201	O	|	|	|	|	2.25
25.833	0.00	0.36	1.339	O	|	|	|	|	2.47	30.833	0.00	0.32	1.198	O	|	|	|	|	2.24
25.917	0.00	0.36	1.337	O	|	|	|	|	2.47	30.917	0.00	0.32	1.196	O	|	|	|	|	2.24
26.000	0.00	0.36	1.334	O	|	|	|	|	2.47	31.000	0.00	0.32	1.194	O	|	|	|	|	2.24
26.083	0.00	0.36	1.332	O	|	|	|	|	2.46	31.083	0.00	0.32	1.192	O	|	|	|	|	2.23
26.167	0.00	0.36	1.329	O	|	|	|	|	2.46	31.167	0.00	0.32	1.189	O	|	|	|	|	2.23
26.250	0.00	0.36	1.327	O	|	|	|	|	2.45	31.250	0.00	0.32	1.187	O	|	|	|	|	2.23
26.333	0.00	0.36	1.324	O	|	|	|	|	2.45	31.333	0.00	0.32	1.185	O	|	|	|	|	2.22
26.417	0.00	0.36	1.322	O	|	|	|	|	2.45	31.417	0.00	0.32	1.183	O	|	|	|	|	2.22
26.500	0.00	0.36	1.319	O	|	|	|	|	2.44	31.500	0.00	0.32	1.181	O	|	|	|	|	2.21
26.583	0.00	0.35	1.317	O	|	|	|	|	2.44	31.583	0.00	0.32	1.179	O	|	|	|	|	2.21
26.667	0.00	0.35	1.314	O	|	|	|	|	2.43	31.667	0.00	0.32	1.176	O	|	|	|	|	2.21
26.750	0.00	0.35	1.312	O	|	|	|	|	2.43	31.750	0.00	0.31	1.174	O	|	|	|	|	2.20
26.833	0.00	0.35	1.310	O	|	|	|	|	2.43	31.833	0.00	0.31	1.172	O	|	|	|	|	2.20
26.917	0.00	0.35	1.307	O	|	|	|	|	2.42	31.917	0.00	0.31	1.170	O	|	|	|	|	2.20
27.000	0.00	0.35	1.305	O	|	|	|	|	2.42	32.000	0.00	0.31	1.168	O	|	|	|	|	2.19
27.083	0.00	0.35	1.302	O	|	|	|	|	2.41	32.083	0.00	0.31	1.166	O	|	|	|	|	2.19
27.167	0.00	0.35	1.300	O	|	|	|	|	2.41	32.167	0.00	0.31	1.163	O	|	|	|	|	2.19
27.250	0.00	0.35	1.298	O	|	|	|	|	2.41	32.250	0.00	0.31	1.161	O	|	|	|	|	2.18
27.333	0.00	0.35	1.295	O	|	|	|	|	2.40	32.333	0.00	0.31	1.159	O	|	|	|	|	2.18
27.417	0.00	0.35	1.293	O	|	|	|	|	2.40	32.417	0.00	0.31	1.157	O	|	|	|	|	2.18
27.500	0.00	0.35	1.290	O	|	|	|	|	2.39	32.500	0.00	0.31	1.155	O	|	|	|	|	2.17
27.583	0.00	0.35	1.288	O	|	|	|	|	2.39	32.583	0.00	0.31	1.153	O	|	|	|	|	2.17
27.667	0.00	0.35	1.286	O	|	|	|	|	2.39	32.667	0.00	0.31	1.151	O	|	|	|	|	2.16
27.750	0.00	0.34	1.283	O	|	|	|	|	2.38	32.750	0.00	0.31	1.149	O	|	|	|	|	2.16
27.833	0.00	0.34	1.281	O	|	|	|	|	2.38	32.833	0.00	0.31	1.146	O	|	|	|	|	2.16
27.917	0.00	0.34	1.278	O	|	|	|	|	2.37	32.917	0.00	0.31	1.144	O	|	|	|	|	2.15
28.000	0.00	0.34	1.276	O	|	|	|	|	2.37	33.000	0.00	0.31	1.142	O	|	|	|	|	2.15
28.083	0.00	0.34	1.274	O	|	|	|	|	2.37	33.083	0.00	0.31	1.140	O	|	|	|	|	2.15
28.167	0.00	0.34	1.271	O	|	|	|	|	2.36	33.167	0.00	0.30	1.138	O	|	|	|	|	2.14
28.250	0.00	0.34	1.269	O	|	|	|	|	2.36	33.250	0.00	0.30	1.136	O	|	|	|	|	2.14
28.333	0.00	0.34	1.267	O	|	|	|	|	2.36	33.333	0.00	0.30	1.134	O	|	|	|	|	2.14
28.417	0.00	0.34	1.264	O	|	|	|	|	2.35	33.417	0.00	0.30	1.132	O	|	|	|	|	2.13
28.500	0.00	0.34	1.262	O	|	|	|	|	2.35	33.500	0.00	0.30	1.130	O	|	|	|	|	2.13
28.583	0.00	0.34	1.260	O	|	|	|	|	2.34	33.583	0.00	0.30	1.128	O	|	|	|	|	2.13
28.667	0.00	0.34	1.257	O	|	|	|	|	2.34	33.667	0.00	0.30	1.125	O	|	|	|	|	2.12
28.750	0.00	0.34	1.255	O	|	|	|	|	2.34	33.750	0.00	0.30	1.123	O	|	|	|	|	2.12
28.833	0.00	0.34	1.253	O	|	|	|	|	2.33	33.833	0.00	0.30	1.121	O	|	|	|	|	2.12

33.917	0.00	0.30	1.119	O	|	|	|	|	2.11	38.917	0.00	0.25	1.004	O	|	|	|	|	1.92
34.000	0.00	0.30	1.117	O	|	|	|	|	2.11	39.000	0.00	0.25	1.002	O	|	|	|	|	1.92
34.083	0.00	0.30	1.115	O	|	|	|	|	2.11	39.083	0.00	0.25	1.000	O	|	|	|	|	1.91
34.167	0.00	0.30	1.113	O	|	|	|	|	2.10	39.167	0.00	0.25	0.999	O	|	|	|	|	1.91
34.250	0.00	0.30	1.111	O	|	|	|	|	2.10	39.250	0.00	0.25	0.997	O	|	|	|	|	1.91
34.333	0.00	0.30	1.109	O	|	|	|	|	2.10	39.333	0.00	0.25	0.995	O	|	|	|	|	1.90
34.417	0.00	0.30	1.107	O	|	|	|	|	2.09	39.417	0.00	0.24	0.994	O	|	|	|	|	1.90
34.500	0.00	0.30	1.105	O	|	|	|	|	2.09	39.500	0.00	0.24	0.992	O	|	|	|	|	1.90
34.583	0.00	0.29	1.103	O	|	|	|	|	2.09	39.583	0.00	0.24	0.990	O	|	|	|	|	1.90
34.667	0.00	0.29	1.101	O	|	|	|	|	2.08	39.667	0.00	0.24	0.989	O	|	|	|	|	1.89
34.750	0.00	0.29	1.099	O	|	|	|	|	2.08	39.750	0.00	0.24	0.987	O	|	|	|	|	1.89
34.833	0.00	0.29	1.097	O	|	|	|	|	2.08	39.833	0.00	0.24	0.985	O	|	|	|	|	1.89
34.917	0.00	0.29	1.095	O	|	|	|	|	2.07	39.917	0.00	0.24	0.984	O	|	|	|	|	1.88
35.000	0.00	0.29	1.093	O	|	|	|	|	2.07	40.000	0.00	0.24	0.982	O	|	|	|	|	1.88
35.083	0.00	0.29	1.091	O	|	|	|	|	2.07	40.083	0.00	0.24	0.980	O	|	|	|	|	1.88
35.167	0.00	0.29	1.089	O	|	|	|	|	2.06	40.167	0.00	0.24	0.979	O	|	|	|	|	1.88
35.250	0.00	0.29	1.087	O	|	|	|	|	2.06	40.250	0.00	0.23	0.977	O	|	|	|	|	1.87
35.333	0.00	0.29	1.085	O	|	|	|	|	2.06	40.333	0.00	0.23	0.976	O	|	|	|	|	1.87
35.417	0.00	0.29	1.083	O	|	|	|	|	2.05	40.417	0.00	0.23	0.974	O	|	|	|	|	1.87
35.500	0.00	0.29	1.081	O	|	|	|	|	2.05	40.500	0.00	0.23	0.972	O	|	|	|	|	1.86
35.583	0.00	0.29	1.079	O	|	|	|	|	2.05	40.583	0.00	0.23	0.971	O	|	|	|	|	1.86
35.667	0.00	0.29	1.077	O	|	|	|	|	2.04	40.667	0.00	0.23	0.969	O	|	|	|	|	1.86
35.750	0.00	0.29	1.075	O	|	|	|	|	2.04	40.750	0.00	0.23	0.968	O	|	|	|	|	1.86
35.833	0.00	0.29	1.073	O	|	|	|	|	2.04	40.833	0.00	0.23	0.966	O	|	|	|	|	1.85
35.917	0.00	0.29	1.071	O	|	|	|	|	2.03	40.917	0.00	0.23	0.964	O	|	|	|	|	1.85
36.000	0.00	0.29	1.069	O	|	|	|	|	2.03	41.000	0.00	0.23	0.963	O	|	|	|	|	1.85
36.083	0.00	0.28	1.067	O	|	|	|	|	2.03	41.083	0.00	0.22	0.961	O	|	|	|	|	1.85
36.167	0.00	0.28	1.065	O	|	|	|	|	2.02	41.167	0.00	0.22	0.960	O	|	|	|	|	1.84
36.250	0.00	0.28	1.063	O	|	|	|	|	2.02	41.250	0.00	0.22	0.958	O	|	|	|	|	1.84
36.333	0.00	0.28	1.061	O	|	|	|	|	2.02	41.333	0.00	0.22	0.957	O	|	|	|	|	1.84
36.417	0.00	0.28	1.059	O	|	|	|	|	2.02	41.417	0.00	0.22	0.955	O	|	|	|	|	1.83
36.500	0.00	0.28	1.057	O	|	|	|	|	2.01	41.500	0.00	0.22	0.954	O	|	|	|	|	1.83
36.583	0.00	0.28	1.055	O	|	|	|	|	2.01	41.583	0.00	0.22	0.952	O	|	|	|	|	1.83
36.667	0.00	0.28	1.053	O	|	|	|	|	2.01	41.667	0.00	0.22	0.951	O	|	|	|	|	1.83
36.750	0.00	0.28	1.051	O	|	|	|	|	2.00	41.750	0.00	0.22	0.949	O	|	|	|	|	1.82
36.833	0.00	0.28	1.049	O	|	|	|	|	2.00	41.833	0.00	0.22	0.948	O	|	|	|	|	1.82
36.917	0.00	0.28	1.048	O	|	|	|	|	2.00	41.917	0.00	0.21	0.946	O	|	|	|	|	1.82
37.000	0.00	0.28	1.046	O	|	|	|	|	1.99	42.000	0.00	0.21	0.945	O	|	|	|	|	1.82
37.083	0.00	0.28	1.044	O	|	|	|	|	1.99	42.083	0.00	0.21	0.943	O	|	|	|	|	1.81
37.167	0.00	0.27	1.042	O	|	|	|	|	1.99	42.167	0.00	0.21	0.942	O	|	|	|	|	1.81
37.250	0.00	0.27	1.040	O	|	|	|	|	1.98	42.250	0.00	0.21	0.940	O	|	|	|	|	1.81
37.333	0.00	0.27	1.038	O	|	|	|	|	1.98	42.333	0.00	0.21	0.939	O	|	|	|	|	1.81
37.417	0.00	0.27	1.036	O	|	|	|	|	1.98	42.417	0.00	0.21	0.937	O	|	|	|	|	1.80
37.500	0.00	0.27	1.034	O	|	|	|	|	1.97	42.500	0.00	0.21	0.936	O	|	|	|	|	1.80
37.583	0.00	0.27	1.032	O	|	|	|	|	1.97	42.583	0.00	0.21	0.935	O	|	|	|	|	1.80
37.667	0.00	0.27	1.031	O	|	|	|	|	1.97	42.667	0.00	0.21	0.933	O	|	|	|	|	1.80
37.750	0.00	0.27	1.029	O	|	|	|	|	1.96	42.750	0.00	0.21	0.932	O	|	|	|	|	1.79
37.833	0.00	0.27	1.027	O	|	|	|	|	1.96	42.833	0.00	0.20	0.930	O	|	|	|	|	1.79
37.917	0.00	0.26	1.025	O	|	|	|	|	1.96	42.917	0.00	0.20	0.929	O	|	|	|	|	1.79
38.000	0.00	0.26	1.023	O	|	|	|	|	1.95	43.000	0.00	0.20	0.928	O	|	|	|	|	1.79
38.083	0.00	0.26	1.022	O	|	|	|	|	1.95	43.083	0.00	0.20	0.926	O	|	|	|	|	1.78
38.167	0.00	0.26	1.020	O	|	|	|	|	1.95	43.167	0.00	0.20	0.925	O	|	|	|	|	1.78
38.250	0.00	0.26	1.018	O	|	|	|	|	1.94	43.250	0.00	0.20	0.923	O	|	|	|	|	1.78
38.333	0.00	0.26	1.016	O	|	|	|	|	1.94	43.333	0.00	0.20	0.922	O	|	|	|	|	1.78
38.417	0.00	0.26	1.014	O	|	|	|	|	1.94	43.417	0.00	0.20	0.921	O	|	|	|	|	1.77
38.500	0.00	0.26	1.013	O	|	|	|	|	1.93	43.500	0.00	0.20	0.919	O	|	|	|	|	1.77
38.583	0.00	0.26	1.011	O	|	|	|	|	1.93	43.583	0.00	0.20	0.918	O	|	|	|	|	1.77
38.667	0.00	0.25	1.009	O	|	|	|	|	1.93	43.667	0.00	0.20	0.917	O	|	|	|	|	1.77
38.750	0.00	0.25	1.007	O	|	|	|	|	1.93	43.750	0.00	0.20	0.915	O	|	|	|	|	1.76
38.833	0.00	0.25	1.006	O	|	|	|	|	1.92	43.833	0.00	0.19	0.914	O	|	|	|	|	1.76

43.917	0.00	0.19	0.912	O	|	|	|	|	1.76	48.917	0.00	0.15	0.842	O	|	|	|	|	1.64
44.000	0.00	0.19	0.911	O	|	|	|	|	1.76	49.000	0.00	0.15	0.841	O	|	|	|	|	1.64
44.083	0.00	0.19	0.910	O	|	|	|	|	1.76	49.083	0.00	0.15	0.840	O	|	|	|	|	1.63
44.167	0.00	0.19	0.909	O	|	|	|	|	1.75	49.167	0.00	0.15	0.839	O	|	|	|	|	1.63
44.250	0.00	0.19	0.907	O	|	|	|	|	1.75	49.250	0.00	0.15	0.838	O	|	|	|	|	1.63
44.333	0.00	0.19	0.906	O	|	|	|	|	1.75	49.333	0.00	0.15	0.837	O	|	|	|	|	1.63
44.417	0.00	0.19	0.905	O	|	|	|	|	1.75	49.417	0.00	0.15	0.836	O	|	|	|	|	1.63
44.500	0.00	0.19	0.903	O	|	|	|	|	1.74	49.500	0.00	0.14	0.835	O	|	|	|	|	1.62
44.583	0.00	0.19	0.902	O	|	|	|	|	1.74	49.583	0.00	0.14	0.834	O	|	|	|	|	1.62
44.667	0.00	0.19	0.901	O	|	|	|	|	1.74	49.667	0.00	0.14	0.833	O	|	|	|	|	1.62
44.750	0.00	0.19	0.899	O	|	|	|	|	1.74	49.750	0.00	0.14	0.832	O	|	|	|	|	1.62
44.833	0.00	0.18	0.898	O	|	|	|	|	1.74	49.833	0.00	0.14	0.831	O	|	|	|	|	1.62
44.917	0.00	0.18	0.897	O	|	|	|	|	1.73	49.917	0.00	0.14	0.830	O	|	|	|	|	1.62
45.000	0.00	0.18	0.896	O	|	|	|	|	1.73	50.000	0.00	0.14	0.829	O	|	|	|	|	1.61
45.083	0.00	0.18	0.894	O	|	|	|	|	1.73	50.083	0.00	0.14	0.828	O	|	|	|	|	1.61
45.167	0.00	0.18	0.893	O	|	|	|	|	1.73	50.167	0.00	0.14	0.827	O	|	|	|	|	1.61
45.250	0.00	0.18	0.892	O	|	|	|	|	1.72	50.250	0.00	0.14	0.826	O	|	|	|	|	1.61
45.333	0.00	0.18	0.891	O	|	|	|	|	1.72	50.333	0.00	0.14	0.825	O	|	|	|	|	1.61
45.417	0.00	0.18	0.889	O	|	|	|	|	1.72	50.417	0.00	0.14	0.824	O	|	|	|	|	1.61
45.500	0.00	0.18	0.888	O	|	|	|	|	1.72	50.500	0.00	0.14	0.823	O	|	|	|	|	1.60
45.583	0.00	0.18	0.887	O	|	|	|	|	1.72	50.583	0.00	0.14	0.822	O	|	|	|	|	1.60
45.667	0.00	0.18	0.886	O	|	|	|	|	1.71	50.667	0.00	0.14	0.821	O	|	|	|	|	1.60
45.750	0.00	0.18	0.884	O	|	|	|	|	1.71	50.750	0.00	0.14	0.820	O	|	|	|	|	1.60
45.833	0.00	0.18	0.883	O	|	|	|	|	1.71	50.833	0.00	0.14	0.819	O	|	|	|	|	1.60
45.917	0.00	0.17	0.882	O	|	|	|	|	1.71	50.917	0.00	0.13	0.819	O	|	|	|	|	1.60
46.000	0.00	0.17	0.881	O	|	|	|	|	1.71	51.000	0.00	0.13	0.818	O	|	|	|	|	1.59
46.083	0.00	0.17	0.880	O	|	|	|	|	1.70	51.083	0.00	0.13	0.817	O	|	|	|	|	1.59
46.167	0.00	0.17	0.878	O	|	|	|	|	1.70	51.167	0.00	0.13	0.816	O	|	|	|	|	1.59
46.250	0.00	0.17	0.877	O	|	|	|	|	1.70	51.250	0.00	0.13	0.815	O	|	|	|	|	1.59
46.333	0.00	0.17	0.876	O	|	|	|	|	1.70	51.333	0.00	0.13	0.814	O	|	|	|	|	1.59
46.417	0.00	0.17	0.875	O	|	|	|	|	1.69	51.417	0.00	0.13	0.813	O	|	|	|	|	1.59
46.500	0.00	0.17	0.874	O	|	|	|	|	1.69	51.500	0.00	0.13	0.812	O	|	|	|	|	1.59
46.583	0.00	0.17	0.873	O	|	|	|	|	1.69	51.583	0.00	0.13	0.811	O	|	|	|	|	1.58
46.667	0.00	0.17	0.871	O	|	|	|	|	1.69	51.667	0.00	0.13	0.810	O	|	|	|	|	1.58
46.750	0.00	0.17	0.870	O	|	|	|	|	1.69	51.750	0.00	0.13	0.809	O	|	|	|	|	1.58
46.833	0.00	0.17	0.869	O	|	|	|	|	1.68	51.833	0.00	0.13	0.809	O	|	|	|	|	1.58
46.917	0.00	0.17	0.868	O	|	|	|	|	1.68	51.917	0.00	0.13	0.808	O	|	|	|	|	1.58
47.000	0.00	0.17	0.867	O	|	|	|	|	1.68	52.000	0.00	0.13	0.807	O	|	|	|	|	1.58
47.083	0.00	0.16	0.866	O	|	|	|	|	1.68	52.083	0.00	0.13	0.806	O	|	|	|	|	1.57
47.167	0.00	0.16	0.865	O	|	|	|	|	1.68	52.167	0.00	0.13	0.805	O	|	|	|	|	1.57
47.250	0.00	0.16	0.863	O	|	|	|	|	1.67	52.250	0.00	0.13	0.804	O	|	|	|	|	1.57
47.333	0.00	0.16	0.862	O	|	|	|	|	1.67	52.333	0.00	0.13	0.803	O	|	|	|	|	1.57
47.417	0.00	0.16	0.861	O	|	|	|	|	1.67	52.417	0.00	0.12	0.802	O	|	|	|	|	1.57
47.500	0.00	0.16	0.860	O	|	|	|	|	1.67	52.500	0.00	0.12	0.802	O	|	|	|	|	1.57
47.583	0.00	0.16	0.859	O	|	|	|	|	1.67	52.583	0.00	0.12	0.801	O	|	|	|	|	1.57
47.667	0.00	0.16	0.858	O	|	|	|	|	1.67	52.667	0.00	0.12	0.800	O	|	|	|	|	1.56
47.750	0.00	0.16	0.857	O	|	|	|	|	1.66	52.750	0.00	0.12	0.799	O	|	|	|	|	1.56
47.833	0.00	0.16	0.856	O	|	|	|	|	1.66	52.833	0.00	0.12	0.798	O	|	|	|	|	1.56
47.917	0.00	0.16	0.855	O	|	|	|	|	1.66	52.917	0.00	0.12	0.797	O	|	|	|	|	1.56
48.000	0.00	0.16	0.854	O	|	|	|	|	1.66	53.000	0.00	0.12	0.797	O	|	|	|	|	1.56
48.083	0.00	0.16	0.853	O	|	|	|	|	1.66	53.083	0.00	0.12	0.796	O	|	|	|	|	1.56
48.167	0.00	0.16	0.851	O	|	|	|	|	1.65	53.167	0.00	0.12	0.795	O	|	|	|	|	1.56
48.250	0.00	0.15	0.850	O	|	|	|	|	1.65	53.250	0.00	0.12	0.794	O	|	|	|	|	1.55
48.333	0.00	0.15	0.849	O	|	|	|	|	1.65	53.333	0.00	0.12	0.793	O	|	|	|	|	1.55
48.417	0.00	0.15	0.848	O	|	|	|	|	1.65	53.417	0.00	0.12	0.792	O	|	|	|	|	1.55
48.500	0.00	0.15	0.847	O	|	|	|	|	1.65	53.500	0.00	0.12	0.792	O	|	|	|	|	1.55
48.583	0.00	0.15	0.846	O	|	|	|	|	1.64	53.583	0.00	0.12	0.791	O	|	|	|	|	1.55
48.667	0.00	0.15	0.845	O	|	|	|	|	1.64	53.667	0.00	0.12	0.790	O	|	|	|	|	1.55
48.750	0.00	0.15	0.844	O	|	|	|	|	1.64	53.750	0.00	0.12	0.789	O	|	|	|	|	1.55
48.833	0.00	0.15	0.843	O	|	|	|	|	1.64	53.833	0.00	0.12	0.788	O	|	|	|	|	1.54

53.917	0.00	0.12	0.788	O	|	|	|	|	1.54	58.917	0.00	0.09	0.746	O	|	|	|	|	1.47
54.000	0.00	0.11	0.787	O	|	|	|	|	1.54	59.000	0.00	0.09	0.745	O	|	|	|	|	1.47
54.083	0.00	0.11	0.786	O	|	|	|	|	1.54	59.083	0.00	0.09	0.744	O	|	|	|	|	1.47
54.167	0.00	0.11	0.785	O	|	|	|	|	1.54	59.167	0.00	0.09	0.744	O	|	|	|	|	1.47
54.250	0.00	0.11	0.784	O	|	|	|	|	1.54	59.250	0.00	0.09	0.743	O	|	|	|	|	1.46
54.333	0.00	0.11	0.784	O	|	|	|	|	1.54	59.333	0.00	0.09	0.743	O	|	|	|	|	1.46
54.417	0.00	0.11	0.783	O	|	|	|	|	1.53	59.417	0.00	0.09	0.742	O	|	|	|	|	1.46
54.500	0.00	0.11	0.782	O	|	|	|	|	1.53	59.500	0.00	0.09	0.741	O	|	|	|	|	1.46
54.583	0.00	0.11	0.781	O	|	|	|	|	1.53	59.583	0.00	0.09	0.741	O	|	|	|	|	1.46
54.667	0.00	0.11	0.781	O	|	|	|	|	1.53	59.667	0.00	0.09	0.740	O	|	|	|	|	1.46
54.750	0.00	0.11	0.780	O	|	|	|	|	1.53	59.750	0.00	0.09	0.740	O	|	|	|	|	1.46
54.833	0.00	0.11	0.779	O	|	|	|	|	1.53	59.833	0.00	0.08	0.739	O	|	|	|	|	1.46
54.917	0.00	0.11	0.778	O	|	|	|	|	1.53	59.917	0.00	0.08	0.739	O	|	|	|	|	1.46
55.000	0.00	0.11	0.778	O	|	|	|	|	1.52	60.000	0.00	0.08	0.738	O	|	|	|	|	1.46
55.083	0.00	0.11	0.777	O	|	|	|	|	1.52	60.083	0.00	0.08	0.737	O	|	|	|	|	1.45
55.167	0.00	0.11	0.776	O	|	|	|	|	1.52	60.167	0.00	0.08	0.737	O	|	|	|	|	1.45
55.250	0.00	0.11	0.775	O	|	|	|	|	1.52	60.250	0.00	0.08	0.736	O	|	|	|	|	1.45
55.333	0.00	0.11	0.775	O	|	|	|	|	1.52	60.333	0.00	0.08	0.736	O	|	|	|	|	1.45
55.417	0.00	0.11	0.774	O	|	|	|	|	1.52	60.417	0.00	0.08	0.735	O	|	|	|	|	1.45
55.500	0.00	0.11	0.773	O	|	|	|	|	1.52	60.500	0.00	0.08	0.735	O	|	|	|	|	1.45
55.583	0.00	0.11	0.772	O	|	|	|	|	1.52	60.583	0.00	0.08	0.734	O	|	|	|	|	1.45
55.667	0.00	0.11	0.772	O	|	|	|	|	1.51	60.667	0.00	0.08	0.733	O	|	|	|	|	1.45
55.750	0.00	0.10	0.771	O	|	|	|	|	1.51	60.750	0.00	0.08	0.733	O	|	|	|	|	1.45
55.833	0.00	0.10	0.770	O	|	|	|	|	1.51	60.833	0.00	0.08	0.732	O	|	|	|	|	1.45
55.917	0.00	0.10	0.770	O	|	|	|	|	1.51	60.917	0.00	0.08	0.732	O	|	|	|	|	1.44
56.000	0.00	0.10	0.769	O	|	|	|	|	1.51	61.000	0.00	0.08	0.731	O	|	|	|	|	1.44
56.083	0.00	0.10	0.768	O	|	|	|	|	1.51	61.083	0.00	0.08	0.731	O	|	|	|	|	1.44
56.167	0.00	0.10	0.767	O	|	|	|	|	1.51	61.167	0.00	0.08	0.730	O	|	|	|	|	1.44
56.250	0.00	0.10	0.767	O	|	|	|	|	1.51	61.250	0.00	0.08	0.730	O	|	|	|	|	1.44
56.333	0.00	0.10	0.766	O	|	|	|	|	1.50	61.333	0.00	0.08	0.729	O	|	|	|	|	1.44
56.417	0.00	0.10	0.765	O	|	|	|	|	1.50	61.417	0.00	0.08	0.728	O	|	|	|	|	1.44
56.500	0.00	0.10	0.765	O	|	|	|	|	1.50	61.500	0.00	0.08	0.728	O	|	|	|	|	1.44
56.583	0.00	0.10	0.764	O	|	|	|	|	1.50	61.583	0.00	0.08	0.727	O	|	|	|	|	1.44
56.667	0.00	0.10	0.763	O	|	|	|	|	1.50	61.667	0.00	0.08	0.727	O	|	|	|	|	1.44
56.750	0.00	0.10	0.763	O	|	|	|	|	1.50	61.750	0.00	0.08	0.726	O	|	|	|	|	1.44
56.833	0.00	0.10	0.762	O	|	|	|	|	1.50	61.833	0.00	0.08	0.726	O	|	|	|	|	1.43
56.917	0.00	0.10	0.761	O	|	|	|	|	1.50	61.917	0.00	0.08	0.725	O	|	|	|	|	1.43
57.000	0.00	0.10	0.760	O	|	|	|	|	1.50	62.000	0.00	0.08	0.725	O	|	|	|	|	1.43
57.083	0.00	0.10	0.760	O	|	|	|	|	1.49	62.083	0.00	0.08	0.724	O	|	|	|	|	1.43
57.167	0.00	0.10	0.759	O	|	|	|	|	1.49	62.167	0.00	0.08	0.724	O	|	|	|	|	1.43
57.250	0.00	0.10	0.758	O	|	|	|	|	1.49	62.250	0.00	0.07	0.723	O	|	|	|	|	1.43
57.333	0.00	0.10	0.758	O	|	|	|	|	1.49	62.333	0.00	0.07	0.723	O	|	|	|	|	1.43
57.417	0.00	0.10	0.757	O	|	|	|	|	1.49	62.417	0.00	0.07	0.722	O	|	|	|	|	1.43
57.500	0.00	0.10	0.756	O	|	|	|	|	1.49	62.500	0.00	0.07	0.722	O	|	|	|	|	1.43
57.583	0.00	0.10	0.756	O	|	|	|	|	1.49	62.583	0.00	0.07	0.721	O	|	|	|	|	1.43
57.667	0.00	0.09	0.755	O	|	|	|	|	1.49	62.667	0.00	0.07	0.721	O	|	|	|	|	1.43
57.750	0.00	0.09	0.755	O	|	|	|	|	1.48	62.750	0.00	0.07	0.720	O	|	|	|	|	1.42
57.833	0.00	0.09	0.754	O	|	|	|	|	1.48	62.833	0.00	0.07	0.720	O	|	|	|	|	1.42
57.917	0.00	0.09	0.753	O	|	|	|	|	1.48	62.917	0.00	0.07	0.719	O	|	|	|	|	1.42
58.000	0.00	0.09	0.753	O	|	|	|	|	1.48	63.000	0.00	0.07	0.719	O	|	|	|	|	1.42
58.083	0.00	0.09	0.752	O	|	|	|	|	1.48	63.083	0.00	0.07	0.718	O	|	|	|	|	1.42
58.167	0.00	0.09	0.751	O	|	|	|	|	1.48	63.167	0.00	0.07	0.718	O	|	|	|	|	1.42
58.250	0.00	0.09	0.751	O	|	|	|	|	1.48	63.250	0.00	0.07	0.717	O	|	|	|	|	1.42
58.333	0.00	0.09	0.750	O	|	|	|	|	1.48	63.333	0.00	0.07	0.717	O	|	|	|	|	1.42
58.417	0.00	0.09	0.749	O	|	|	|	|	1.48	63.417	0.00	0.07	0.716	O	|	|	|	|	1.42
58.500	0.00	0.09	0.749	O	|	|	|	|	1.47	63.500	0.00	0.07	0.716	O	|	|	|	|	1.42
58.583	0.00	0.09	0.748	O	|	|	|	|	1.47	63.583	0.00	0.07	0.715	O	|	|	|	|	1.42
58.667	0.00	0.09	0.748	O	|	|	|	|	1.47	63.667	0.00	0.07	0.715	O	|	|	|	|	1.42
58.750	0.00	0.09	0.747	O	|	|	|	|	1.47	63.750	0.00	0.07	0.714	O	|	|	|	|	1.41
58.833	0.00	0.09	0.746	O	|	|	|	|	1.47	63.833	0.00	0.07	0.714	O	|	|	|	|	1.41

63.917	0.00	0.07	0.713	O	|	|	|	|	1.41	68.917	0.00	0.05	0.688	O	|	|	|	|	1.37
64.000	0.00	0.07	0.713	O	|	|	|	|	1.41	69.000	0.00	0.05	0.688	O	|	|	|	|	1.37
64.083	0.00	0.07	0.712	O	|	|	|	|	1.41	69.083	0.00	0.05	0.688	O	|	|	|	|	1.37
64.167	0.00	0.07	0.712	O	|	|	|	|	1.41	69.167	0.00	0.05	0.687	O	|	|	|	|	1.37
64.250	0.00	0.07	0.711	O	|	|	|	|	1.41	69.250	0.00	0.05	0.687	O	|	|	|	|	1.37
64.333	0.00	0.07	0.711	O	|	|	|	|	1.41	69.333	0.00	0.05	0.687	O	|	|	|	|	1.37
64.417	0.00	0.07	0.711	O	|	|	|	|	1.41	69.417	0.00	0.05	0.686	O	|	|	|	|	1.37
64.500	0.00	0.07	0.710	O	|	|	|	|	1.41	69.500	0.00	0.05	0.686	O	|	|	|	|	1.36
64.583	0.00	0.07	0.710	O	|	|	|	|	1.41	69.583	0.00	0.05	0.685	O	|	|	|	|	1.36
64.667	0.00	0.07	0.709	O	|	|	|	|	1.41	69.667	0.00	0.05	0.685	O	|	|	|	|	1.36
64.750	0.00	0.07	0.709	O	|	|	|	|	1.40	69.750	0.00	0.05	0.685	O	|	|	|	|	1.36
64.833	0.00	0.07	0.708	O	|	|	|	|	1.40	69.833	0.00	0.05	0.684	O	|	|	|	|	1.36
64.917	0.00	0.07	0.708	O	|	|	|	|	1.40	69.917	0.00	0.05	0.684	O	|	|	|	|	1.36
65.000	0.00	0.06	0.707	O	|	|	|	|	1.40	70.000	0.00	0.05	0.684	O	|	|	|	|	1.36
65.083	0.00	0.06	0.707	O	|	|	|	|	1.40	70.083	0.00	0.05	0.683	O	|	|	|	|	1.36
65.167	0.00	0.06	0.706	O	|	|	|	|	1.40	70.167	0.00	0.05	0.683	O	|	|	|	|	1.36
65.250	0.00	0.06	0.706	O	|	|	|	|	1.40	70.250	0.00	0.05	0.683	O	|	|	|	|	1.36
65.333	0.00	0.06	0.706	O	|	|	|	|	1.40	70.333	0.00	0.05	0.682	O	|	|	|	|	1.36
65.417	0.00	0.06	0.705	O	|	|	|	|	1.40	70.417	0.00	0.05	0.682	O	|	|	|	|	1.36
65.500	0.00	0.06	0.705	O	|	|	|	|	1.40	70.500	0.00	0.05	0.682	O	|	|	|	|	1.36
65.583	0.00	0.06	0.704	O	|	|	|	|	1.40	70.583	0.00	0.05	0.681	O	|	|	|	|	1.36
65.667	0.00	0.06	0.704	O	|	|	|	|	1.40	70.667	0.00	0.05	0.681	O	|	|	|	|	1.36
65.750	0.00	0.06	0.703	O	|	|	|	|	1.40	70.750	0.00	0.05	0.681	O	|	|	|	|	1.36
65.833	0.00	0.06	0.703	O	|	|	|	|	1.39	70.833	0.00	0.05	0.680	O	|	|	|	|	1.36
65.917	0.00	0.06	0.703	O	|	|	|	|	1.39	70.917	0.00	0.05	0.680	O	|	|	|	|	1.35
66.000	0.00	0.06	0.702	O	|	|	|	|	1.39	71.000	0.00	0.05	0.680	O	|	|	|	|	1.35
66.083	0.00	0.06	0.702	O	|	|	|	|	1.39	71.083	0.00	0.05	0.679	O	|	|	|	|	1.35
66.167	0.00	0.06	0.701	O	|	|	|	|	1.39	71.167	0.00	0.05	0.679	O	|	|	|	|	1.35
66.250	0.00	0.06	0.701	O	|	|	|	|	1.39	71.250	0.00	0.05	0.679	O	|	|	|	|	1.35
66.333	0.00	0.06	0.700	O	|	|	|	|	1.39	71.333	0.00	0.05	0.678	O	|	|	|	|	1.35
66.417	0.00	0.06	0.700	O	|	|	|	|	1.39	71.417	0.00	0.05	0.678	O	|	|	|	|	1.35
66.500	0.00	0.06	0.700	O	|	|	|	|	1.39	71.500	0.00	0.05	0.678	O	|	|	|	|	1.35
66.583	0.00	0.06	0.699	O	|	|	|	|	1.39	71.583	0.00	0.05	0.677	O	|	|	|	|	1.35
66.667	0.00	0.06	0.699	O	|	|	|	|	1.39	71.667	0.00	0.05	0.677	O	|	|	|	|	1.35
66.750	0.00	0.06	0.698	O	|	|	|	|	1.39	71.750	0.00	0.05	0.677	O	|	|	|	|	1.35
66.833	0.00	0.06	0.698	O	|	|	|	|	1.39	71.833	0.00	0.05	0.677	O	|	|	|	|	1.35
66.917	0.00	0.06	0.698	O	|	|	|	|	1.39	71.917	0.00	0.05	0.676	O	|	|	|	|	1.35
67.000	0.00	0.06	0.697	O	|	|	|	|	1.38	72.000	0.00	0.05	0.676	O	|	|	|	|	1.35
67.083	0.00	0.06	0.697	O	|	|	|	|	1.38	72.083	0.00	0.04	0.676	O	|	|	|	|	1.35
67.167	0.00	0.06	0.696	O	|	|	|	|	1.38	72.167	0.00	0.04	0.675	O	|	|	|	|	1.35
67.250	0.00	0.06	0.696	O	|	|	|	|	1.38	72.250	0.00	0.04	0.675	O	|	|	|	|	1.35
67.333	0.00	0.06	0.696	O	|	|	|	|	1.38	72.333	0.00	0.04	0.675	O	|	|	|	|	1.35
67.417	0.00	0.06	0.695	O	|	|	|	|	1.38	72.417	0.00	0.04	0.674	O	|	|	|	|	1.34
67.500	0.00	0.06	0.695	O	|	|	|	|	1.38	72.500	0.00	0.04	0.674	O	|	|	|	|	1.34
67.583	0.00	0.06	0.694	O	|	|	|	|	1.38	72.583	0.00	0.04	0.674	O	|	|	|	|	1.34
67.667	0.00	0.06	0.694	O	|	|	|	|	1.38	72.667	0.00	0.04	0.673	O	|	|	|	|	1.34
67.750	0.00	0.06	0.694	O	|	|	|	|	1.38	72.750	0.00	0.04	0.673	O	|	|	|	|	1.34
67.833	0.00	0.06	0.693	O	|	|	|	|	1.38	72.833	0.00	0.04	0.673	O	|	|	|	|	1.34
67.917	0.00	0.06	0.693	O	|	|	|	|	1.38	72.917	0.00	0.04	0.673	O	|	|	|	|	1.34
68.000	0.00	0.06	0.692	O	|	|	|	|	1.38	73.000	0.00	0.04	0.672	O	|	|	|	|	1.34
68.083	0.00	0.06	0.692	O	|	|	|	|	1.38	73.083	0.00	0.04	0.672	O	|	|	|	|	1.34
68.167	0.00	0.06	0.692	O	|	|	|	|	1.38	73.167	0.00	0.04	0.672	O	|	|	|	|	1.34
68.250	0.00	0.05	0.691	O	|	|	|	|	1.37	73.250	0.00	0.04	0.671	O	|	|	|	|	1.34
68.333	0.00	0.05	0.691	O	|	|	|	|	1.37	73.333	0.00	0.04	0.671	O	|	|	|	|	1.34
68.417	0.00	0.05	0.691	O	|	|	|	|	1.37	73.417	0.00	0.04	0.671	O	|	|	|	|	1.34
68.500	0.00	0.05	0.690	O	|	|	|	|	1.37	73.500	0.00	0.04	0.671	O	|	|	|	|	1.34
68.583	0.00	0.05	0.690	O	|	|	|	|	1.37	73.583	0.00	0.04	0.670	O	|	|	|	|	1.34
68.667	0.00	0.05	0.689	O	|	|	|	|	1.37	73.667	0.00	0.04	0.670	O	|	|	|	|	1.34
68.750	0.00	0.05	0.689	O	|	|	|	|	1.37	73.750	0.00	0.04	0.670	O	|	|	|	|	1.34
68.833	0.00	0.05	0.689	O	|	|	|	|	1.37	73.833	0.00	0.04	0.669	O	|	|	|	|	1.34

73.917	0.00	0.04	0.669	O	|	|	|	|	1.34	78.917	0.00	0.03	0.654	O	|	|	|	|	1.31
74.000	0.00	0.04	0.669	O	|	|	|	|	1.34	79.000	0.00	0.03	0.654	O	|	|	|	|	1.31
74.083	0.00	0.04	0.669	O	|	|	|	|	1.33	79.083	0.00	0.03	0.654	O	|	|	|	|	1.31
74.167	0.00	0.04	0.668	O	|	|	|	|	1.33	79.167	0.00	0.03	0.654	O	|	|	|	|	1.31
74.250	0.00	0.04	0.668	O	|	|	|	|	1.33	79.250	0.00	0.03	0.653	O	|	|	|	|	1.31
74.333	0.00	0.04	0.668	O	|	|	|	|	1.33	79.333	0.00	0.03	0.653	O	|	|	|	|	1.31
74.417	0.00	0.04	0.667	O	|	|	|	|	1.33	79.417	0.00	0.03	0.653	O	|	|	|	|	1.31
74.500	0.00	0.04	0.667	O	|	|	|	|	1.33	79.500	0.00	0.03	0.653	O	|	|	|	|	1.31
74.583	0.00	0.04	0.667	O	|	|	|	|	1.33	79.583	0.00	0.03	0.653	O	|	|	|	|	1.31
74.667	0.00	0.04	0.667	O	|	|	|	|	1.33	79.667	0.00	0.03	0.652	O	|	|	|	|	1.31
74.750	0.00	0.04	0.666	O	|	|	|	|	1.33	79.750	0.00	0.03	0.652	O	|	|	|	|	1.31
74.833	0.00	0.04	0.666	O	|	|	|	|	1.33	79.833	0.00	0.03	0.652	O	|	|	|	|	1.31
74.917	0.00	0.04	0.666	O	|	|	|	|	1.33	79.917	0.00	0.03	0.652	O	|	|	|	|	1.31
75.000	0.00	0.04	0.666	O	|	|	|	|	1.33	80.000	0.00	0.03	0.651	O	|	|	|	|	1.30
75.083	0.00	0.04	0.665	O	|	|	|	|	1.33	80.083	0.00	0.03	0.651	O	|	|	|	|	1.30
75.167	0.00	0.04	0.665	O	|	|	|	|	1.33	80.167	0.00	0.03	0.651	O	|	|	|	|	1.30
75.250	0.00	0.04	0.665	O	|	|	|	|	1.33	80.250	0.00	0.03	0.651	O	|	|	|	|	1.30
75.333	0.00	0.04	0.664	O	|	|	|	|	1.33	80.333	0.00	0.03	0.651	O	|	|	|	|	1.30
75.417	0.00	0.04	0.664	O	|	|	|	|	1.33	80.417	0.00	0.03	0.650	O	|	|	|	|	1.30
75.500	0.00	0.04	0.664	O	|	|	|	|	1.33	80.500	0.00	0.03	0.650	O	|	|	|	|	1.30
75.583	0.00	0.04	0.664	O	|	|	|	|	1.33	80.583	0.00	0.03	0.650	O	|	|	|	|	1.30
75.667	0.00	0.04	0.663	O	|	|	|	|	1.33	80.667	0.00	0.03	0.650	O	|	|	|	|	1.30
75.750	0.00	0.04	0.663	O	|	|	|	|	1.33	80.750	0.00	0.03	0.650	O	|	|	|	|	1.30
75.833	0.00	0.04	0.663	O	|	|	|	|	1.32	80.833	0.00	0.03	0.649	O	|	|	|	|	1.30
75.917	0.00	0.04	0.663	O	|	|	|	|	1.32	80.917	0.00	0.03	0.649	O	|	|	|	|	1.30
76.000	0.00	0.04	0.662	O	|	|	|	|	1.32	81.000	0.00	0.03	0.649	O	|	|	|	|	1.30
76.083	0.00	0.04	0.662	O	|	|	|	|	1.32	81.083	0.00	0.03	0.649	O	|	|	|	|	1.30
76.167	0.00	0.04	0.662	O	|	|	|	|	1.32	81.167	0.00	0.03	0.649	O	|	|	|	|	1.30
76.250	0.00	0.04	0.662	O	|	|	|	|	1.32	81.250	0.00	0.03	0.649	O	|	|	|	|	1.30
76.333	0.00	0.04	0.661	O	|	|	|	|	1.32	81.333	0.00	0.03	0.648	O	|	|	|	|	1.30
76.417	0.00	0.04	0.661	O	|	|	|	|	1.32	81.417	0.00	0.03	0.648	O	|	|	|	|	1.30
76.500	0.00	0.04	0.661	O	|	|	|	|	1.32	81.500	0.00	0.03	0.648	O	|	|	|	|	1.30
76.583	0.00	0.04	0.661	O	|	|	|	|	1.32	81.583	0.00	0.03	0.648	O	|	|	|	|	1.30
76.667	0.00	0.04	0.660	O	|	|	|	|	1.32	81.667	0.00	0.03	0.648	O	|	|	|	|	1.30
76.750	0.00	0.04	0.660	O	|	|	|	|	1.32	81.750	0.00	0.03	0.647	O	|	|	|	|	1.30
76.833	0.00	0.04	0.660	O	|	|	|	|	1.32	81.833	0.00	0.03	0.647	O	|	|	|	|	1.30
76.917	0.00	0.03	0.660	O	|	|	|	|	1.32	81.917	0.00	0.03	0.647	O	|	|	|	|	1.30
77.000	0.00	0.03	0.659	O	|	|	|	|	1.32	82.000	0.00	0.03	0.647	O	|	|	|	|	1.30
77.083	0.00	0.03	0.659	O	|	|	|	|	1.32	82.083	0.00	0.03	0.647	O	|	|	|	|	1.30
77.167	0.00	0.03	0.659	O	|	|	|	|	1.32	82.167	0.00	0.03	0.646	O	|	|	|	|	1.30
77.250	0.00	0.03	0.659	O	|	|	|	|	1.32	82.250	0.00	0.03	0.646	O	|	|	|	|	1.30
77.333	0.00	0.03	0.659	O	|	|	|	|	1.32	82.333	0.00	0.03	0.646	O	|	|	|	|	1.30
77.417	0.00	0.03	0.658	O	|	|	|	|	1.32	82.417	0.00	0.03	0.646	O	|	|	|	|	1.30
77.500	0.00	0.03	0.658	O	|	|	|	|	1.32	82.500	0.00	0.03	0.646	O	|	|	|	|	1.29
77.583	0.00	0.03	0.658	O	|	|	|	|	1.32	82.583	0.00	0.03	0.646	O	|	|	|	|	1.29
77.667	0.00	0.03	0.658	O	|	|	|	|	1.32	82.667	0.00	0.03	0.645	O	|	|	|	|	1.29
77.750	0.00	0.03	0.657	O	|	|	|	|	1.32	82.750	0.00	0.03	0.645	O	|	|	|	|	1.29
77.833	0.00	0.03	0.657	O	|	|	|	|	1.31	82.833	0.00	0.03	0.645	O	|	|	|	|	1.29
77.917	0.00	0.03	0.657	O	|	|	|	|	1.31	82.917	0.00	0.03	0.645	O	|	|	|	|	1.29
78.000	0.00	0.03	0.657	O	|	|	|	|	1.31	83.000	0.00	0.03	0.645	O	|	|	|	|	1.29
78.083	0.00	0.03	0.656	O	|	|	|	|	1.31	83.083	0.00	0.03	0.644	O	|	|	|	|	1.29
78.167	0.00	0.03	0.656	O	|	|	|	|	1.31	83.167	0.00	0.03	0.644	O	|	|	|	|	1.29
78.250	0.00	0.03	0.656	O	|	|	|	|	1.31	83.250	0.00	0.03	0.644	O	|	|	|	|	1.29
78.333	0.00	0.03	0.656	O	|	|	|	|	1.31	83.333	0.00	0.03	0.644	O	|	|	|	|	1.29
78.417	0.00	0.03	0.656	O	|	|	|	|	1.31	83.417	0.00	0.02	0.644	O	|	|	|	|	1.29
78.500	0.00	0.03	0.655	O	|	|	|	|	1.31	83.500	0.00	0.02	0.644	O	|	|	|	|	1.29
78.583	0.00	0.03	0.655	O	|	|	|	|	1.31	83.583	0.00	0.02	0.643	O	|	|	|	|	1.29
78.667	0.00	0.03	0.655	O	|	|	|	|	1.31	83.667	0.00	0.02	0.643	O	|	|	|	|	1.29
78.750	0.00	0.03	0.655	O	|	|	|	|	1.31	83.750	0.00	0.02	0.643	O	|	|	|	|	1.29
78.833	0.00	0.03	0.654	O	|	|	|	|	1.31	83.833	0.00	0.02	0.643	O	|	|	|	|	1.29

83.917	0.00	0.02	0.643	O	|	|	|	|	1.29	88.917	0.00	0.02	0.634	O	|	|	|	|	1.27
84.000	0.00	0.02	0.643	O	|	|	|	|	1.29	89.000	0.00	0.02	0.634	O	|	|	|	|	1.27
84.083	0.00	0.02	0.642	O	|	|	|	|	1.29	89.083	0.00	0.02	0.634	O	|	|	|	|	1.27
84.167	0.00	0.02	0.642	O	|	|	|	|	1.29	89.167	0.00	0.02	0.634	O	|	|	|	|	1.27
84.250	0.00	0.02	0.642	O	|	|	|	|	1.29	89.250	0.00	0.02	0.633	O	|	|	|	|	1.27
84.333	0.00	0.02	0.642	O	|	|	|	|	1.29	89.333	0.00	0.02	0.633	O	|	|	|	|	1.27
84.417	0.00	0.02	0.642	O	|	|	|	|	1.29	89.417	0.00	0.02	0.633	O	|	|	|	|	1.27
84.500	0.00	0.02	0.642	O	|	|	|	|	1.29	89.500	0.00	0.02	0.633	O	|	|	|	|	1.27
84.583	0.00	0.02	0.641	O	|	|	|	|	1.29	89.583	0.00	0.02	0.633	O	|	|	|	|	1.27
84.667	0.00	0.02	0.641	O	|	|	|	|	1.29	89.667	0.00	0.02	0.633	O	|	|	|	|	1.27
84.750	0.00	0.02	0.641	O	|	|	|	|	1.29	89.750	0.00	0.02	0.633	O	|	|	|	|	1.27
84.833	0.00	0.02	0.641	O	|	|	|	|	1.29	89.833	0.00	0.02	0.633	O	|	|	|	|	1.27
84.917	0.00	0.02	0.641	O	|	|	|	|	1.29	89.917	0.00	0.02	0.632	O	|	|	|	|	1.27
85.000	0.00	0.02	0.641	O	|	|	|	|	1.29	90.000	0.00	0.02	0.632	O	|	|	|	|	1.27
85.083	0.00	0.02	0.640	O	|	|	|	|	1.29	90.083	0.00	0.02	0.632	O	|	|	|	|	1.27
85.167	0.00	0.02	0.640	O	|	|	|	|	1.29	90.167	0.00	0.02	0.632	O	|	|	|	|	1.27
85.250	0.00	0.02	0.640	O	|	|	|	|	1.29	90.250	0.00	0.02	0.632	O	|	|	|	|	1.27
85.333	0.00	0.02	0.640	O	|	|	|	|	1.28	90.333	0.00	0.02	0.632	O	|	|	|	|	1.27
85.417	0.00	0.02	0.640	O	|	|	|	|	1.28	90.417	0.00	0.02	0.632	O	|	|	|	|	1.27
85.500	0.00	0.02	0.640	O	|	|	|	|	1.28	90.500	0.00	0.02	0.632	O	|	|	|	|	1.27
85.583	0.00	0.02	0.640	O	|	|	|	|	1.28	90.583	0.00	0.02	0.631	O	|	|	|	|	1.27
85.667	0.00	0.02	0.639	O	|	|	|	|	1.28	90.667	0.00	0.02	0.631	O	|	|	|	|	1.27
85.750	0.00	0.02	0.639	O	|	|	|	|	1.28	90.750	0.00	0.02	0.631	O	|	|	|	|	1.27
85.833	0.00	0.02	0.639	O	|	|	|	|	1.28	90.833	0.00	0.02	0.631	O	|	|	|	|	1.27
85.917	0.00	0.02	0.639	O	|	|	|	|	1.28	90.917	0.00	0.02	0.631	O	|	|	|	|	1.27
86.000	0.00	0.02	0.639	O	|	|	|	|	1.28	91.000	0.00	0.02	0.631	O	|	|	|	|	1.27
86.083	0.00	0.02	0.639	O	|	|	|	|	1.28	91.083	0.00	0.02	0.631	O	|	|	|	|	1.27
86.167	0.00	0.02	0.639	O	|	|	|	|	1.28	91.167	0.00	0.02	0.631	O	|	|	|	|	1.27
86.250	0.00	0.02	0.638	O	|	|	|	|	1.28	91.250	0.00	0.02	0.631	O	|	|	|	|	1.27
86.333	0.00	0.02	0.638	O	|	|	|	|	1.28	91.333	0.00	0.02	0.630	O	|	|	|	|	1.27
86.417	0.00	0.02	0.638	O	|	|	|	|	1.28	91.417	0.00	0.02	0.630	O	|	|	|	|	1.27
86.500	0.00	0.02	0.638	O	|	|	|	|	1.28	91.500	0.00	0.02	0.630	O	|	|	|	|	1.27
86.583	0.00	0.02	0.638	O	|	|	|	|	1.28	91.583	0.00	0.02	0.630	O	|	|	|	|	1.27
86.667	0.00	0.02	0.638	O	|	|	|	|	1.28	91.667	0.00	0.02	0.630	O	|	|	|	|	1.27
86.750	0.00	0.02	0.637	O	|	|	|	|	1.28	91.750	0.00	0.02	0.630	O	|	|	|	|	1.27
86.833	0.00	0.02	0.637	O	|	|	|	|	1.28	91.833	0.00	0.02	0.630	O	|	|	|	|	1.27
86.917	0.00	0.02	0.637	O	|	|	|	|	1.28	91.917	0.00	0.02	0.630	O	|	|	|	|	1.27
87.000	0.00	0.02	0.637	O	|	|	|	|	1.28	92.000	0.00	0.02	0.630	O	|	|	|	|	1.27
87.083	0.00	0.02	0.637	O	|	|	|	|	1.28	92.083	0.00	0.02	0.629	O	|	|	|	|	1.27
87.167	0.00	0.02	0.637	O	|	|	|	|	1.28	92.167	0.00	0.02	0.629	O	|	|	|	|	1.27
87.250	0.00	0.02	0.637	O	|	|	|	|	1.28	92.250	0.00	0.02	0.629	O	|	|	|	|	1.27
87.333	0.00	0.02	0.636	O	|	|	|	|	1.28	92.333	0.00	0.02	0.629	O	|	|	|	|	1.27
87.417	0.00	0.02	0.636	O	|	|	|	|	1.28	92.417	0.00	0.02	0.629	O	|	|	|	|	1.27
87.500	0.00	0.02	0.636	O	|	|	|	|	1.28	92.500	0.00	0.02	0.629	O	|	|	|	|	1.27
87.583	0.00	0.02	0.636	O	|	|	|	|	1.28	92.583	0.00	0.02	0.629	O	|	|	|	|	1.27
87.667	0.00	0.02	0.636	O	|	|	|	|	1.28	92.667	0.00	0.02	0.629	O	|	|	|	|	1.27
87.750	0.00	0.02	0.636	O	|	|	|	|	1.28	92.750	0.00	0.02	0.629	O	|	|	|	|	1.26
87.833	0.00	0.02	0.636	O	|	|	|	|	1.28	92.833	0.00	0.02	0.628	O	|	|	|	|	1.26
87.917	0.00	0.02	0.636	O	|	|	|	|	1.28	92.917	0.00	0.02	0.628	O	|	|	|	|	1.26
88.000	0.00	0.02	0.635	O	|	|	|	|	1.28	93.000	0.00	0.02	0.628	O	|	|	|	|	1.26
88.083	0.00	0.02	0.635	O	|	|	|	|	1.28	93.083	0.00	0.02	0.628	O	|	|	|	|	1.26
88.167	0.00	0.02	0.635	O	|	|	|	|	1.28	93.167	0.00	0.02	0.628	O	|	|	|	|	1.26
88.250	0.00	0.02	0.635	O	|	|	|	|	1.28	93.250	0.00	0.01	0.628	O	|	|	|	|	1.26
88.333	0.00	0.02	0.635	O	|	|	|	|	1.28	93.333	0.00	0.01	0.628	O	|	|	|	|	1.26
88.417	0.00	0.02	0.635	O	|	|	|	|	1.28	93.417	0.00	0.01	0.628	O	|	|	|	|	1.26
88.500	0.00	0.02	0.635	O	|	|	|	|	1.28	93.500	0.00	0.01	0.628	O	|	|	|	|	1.26
88.583	0.00	0.02	0.634	O	|	|	|	|	1.28	93.583	0.00	0.01	0.628	O	|	|	|	|	1.26
88.667	0.00	0.02	0.634	O	|	|	|	|	1.27	93.667	0.00	0.01	0.627	O	|	|	|	|	1.26
88.750	0.00	0.02	0.634	O	|	|	|	|	1.27	93.750	0.00	0.01	0.627	O	|	|	|	|	1.26
88.833	0.00	0.02	0.634	O	|	|	|	|	1.27	93.833	0.00	0.01	0.627	O	|	|	|	|	1.26

Left Blank Intentionally

413.917	0.00	0.01	0.409	O	|	|	|	|	0.82
414.000	0.00	0.01	0.409	O	|	|	|	|	0.82
414.083	0.00	0.01	0.408	O	|	|	|	|	0.82
414.167	0.00	0.01	0.408	O	|	|	|	|	0.82
414.250	0.00	0.01	0.408	O	|	|	|	|	0.82
414.333	0.00	0.01	0.408	O	|	|	|	|	0.82
414.417	0.00	0.01	0.408	O	|	|	|	|	0.82
414.500	0.00	0.01	0.408	O	|	|	|	|	0.82
414.583	0.00	0.01	0.408	O	|	|	|	|	0.82
414.667	0.00	0.01	0.408	O	|	|	|	|	0.82
414.750	0.00	0.01	0.408	O	|	|	|	|	0.82
414.833	0.00	0.01	0.408	O	|	|	|	|	0.82
414.917	0.00	0.01	0.408	O	|	|	|	|	0.82
415.000	0.00	0.01	0.408	O	|	|	|	|	0.82
415.083	0.00	0.01	0.408	O	|	|	|	|	0.82
415.167	0.00	0.01	0.408	O	|	|	|	|	0.82
415.250	0.00	0.01	0.408	O	|	|	|	|	0.82
415.333	0.00	0.01	0.408	O	|	|	|	|	0.82
415.417	0.00	0.01	0.408	O	|	|	|	|	0.82
415.500	0.00	0.01	0.408	O	|	|	|	|	0.82
415.583	0.00	0.01	0.408	O	|	|	|	|	0.82
415.667	0.00	0.01	0.408	O	|	|	|	|	0.82
415.750	0.00	0.01	0.408	O	|	|	|	|	0.82
415.833	0.00	0.01	0.408	O	|	|	|	|	0.82
415.917	0.00	0.01	0.407	O	|	|	|	|	0.82
416.000	0.00	0.01	0.407	O	|	|	|	|	0.82
416.083	0.00	0.01	0.407	O	|	|	|	|	0.82
416.167	0.00	0.01	0.407	O	|	|	|	|	0.82
416.250	0.00	0.01	0.407	O	|	|	|	|	0.82
416.333	0.00	0.01	0.407	O	|	|	|	|	0.82
416.417	0.00	0.01	0.407	O	|	|	|	|	0.82
416.500	0.00	0.01	0.407	O	|	|	|	|	0.82
416.583	0.00	0.01	0.407	O	|	|	|	|	0.82
416.667	0.00	0.01	0.407	O	|	|	|	|	0.82

Remaining water in basin = 0.41 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.687 (CFS)
Total volume = 1.803 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

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TR 37036, PARCEL 1
BASIN M
10Y 24H STORM

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Program License Serial Number 6406

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******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR2410.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =   292
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =        8.031 (CFS)
                Total volume =       4.880 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 292
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
------------------------------------------------------------------------
------------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
------------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
------------------------------------------------------------------------
                  Hydrograph Detention Basin Routing
------------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
------------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       2.0    4.02    6.02    8.03 (Ft.)
 0.083    0.20    0.00      0.001  O       |       |       |       |     0.00
 0.167    0.40    0.00      0.003  OI      |       |       |       |     0.01
 0.250    0.45    0.00      0.006  OI      |       |       |       |     0.01
 0.333    0.56    0.00      0.009  O I     |       |       |       |     0.02
 0.417    0.67    0.00      0.013  O I     |       |       |       |     0.03
 0.500    0.70    0.00      0.018  O I     |       |       |       |     0.04
 0.583    0.71    0.00      0.023  O I     |       |       |       |     0.05
 0.667    0.71    0.00      0.028  O I     |       |       |       |     0.06
 0.750    0.71    0.00      0.033  O I     |       |       |       |     0.07
 0.833    0.81    0.00      0.038  O  I    |       |       |       |     0.08
 0.917    0.91    0.00      0.044  O  I    |       |       |       |     0.09
 1.000    0.93    0.00      0.050  O  I    |       |       |       |     0.10
 1.083    0.84    0.00      0.056  O  I    |       |       |       |     0.11
 1.167    0.74    0.00      0.062  O I     |       |       |       |     0.12
 1.250    0.72    0.00      0.067  O I     |       |       |       |     0.13
 1.333    0.71    0.00      0.072  O I     |       |       |       |     0.14
 1.417    0.71    0.00      0.077  O I     |       |       |       |     0.15
 1.500    0.71    0.00      0.081  O I     |       |       |       |     0.16
 1.583    0.71    0.00      0.086  O I     |       |       |       |     0.17
 1.667    0.71    0.00      0.091  O I     |       |       |       |     0.18
 1.750    0.71    0.00      0.096  O I     |       |       |       |     0.19
 1.833    0.81    0.00      0.101  O  I    |       |       |       |     0.20
 1.917    0.91    0.00      0.107  O  I    |       |       |       |     0.22
 2.000    0.93    0.00      0.113  O  I    |       |       |       |     0.23
 2.083    0.94    0.00      0.120  O  I    |       |       |       |     0.24
 2.167    0.94    0.00      0.126  O  I    |       |       |       |     0.25
 2.250    0.94    0.00      0.133  O  I    |       |       |       |     0.27
 2.333    0.94    0.00      0.139  O  I    |       |       |       |     0.28
 2.417    0.94    0.00      0.146  O  I    |       |       |       |     0.29
 2.500    0.94    0.00      0.152  O  I    |       |       |       |     0.31
 2.583    1.04    0.00      0.159  O   I   |       |       |       |     0.32
 2.667    1.15    0.00      0.167  O   I   |       |       |       |     0.34
 2.750    1.17    0.00      0.175  O   I   |       |       |       |     0.35
 2.833    1.18    0.00      0.183  O   I   |       |       |       |     0.37
 2.917    1.18    0.00      0.191  O   I   |       |       |       |     0.38
 3.000    1.18    0.00      0.199  O   I   |       |       |       |     0.40
 3.083    1.18    0.00      0.207  O   I   |       |       |       |     0.42
 3.167    1.18    0.00      0.215  O   I   |       |       |       |     0.43
 3.250    1.18    0.00      0.223  O   I   |       |       |       |     0.45
 3.333    1.18    0.00      0.231  O   I   |       |       |       |     0.47
 3.417    1.18    0.00      0.240  O   I   |       |       |       |     0.48
 3.500    1.18    0.00      0.248  O   I   |       |       |       |     0.50
 3.583    1.18    0.00      0.256  O   I   |       |       |       |     0.52
 3.667    1.18    0.00      0.264  O   I   |       |       |       |     0.53
 3.750    1.18    0.00      0.272  O   I   |       |       |       |     0.55
 3.833    1.28    0.00      0.280  O    I  |       |       |       |     0.57
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3.917	1.38	0.00	0.289	O	I	|	|	|	|	0.58	8.917	3.98	0.32	1.206	|O	|	I|	|	|	2.26
4.000	1.40	0.00	0.299	O	I	|	|	|	|	0.60	9.000	4.00	0.33	1.231	|O	|	I|	|	|	2.30
4.083	1.41	0.00	0.309	O	I	|	|	|	|	0.62	9.083	4.21	0.34	1.257	|O	|	I	|	|	2.34
4.167	1.42	0.01	0.318	O	I	|	|	|	|	0.64	9.167	4.42	0.35	1.284	|O	|	|I	|	|	2.38
4.250	1.42	0.01	0.328	O	I	|	|	|	|	0.66	9.250	4.46	0.35	1.312	|O	|	|I	|	|	2.43
4.333	1.52	0.01	0.338	O	I	|	|	|	|	0.68	9.333	4.58	0.36	1.341	|O	|	| I	|	|	2.48
4.417	1.62	0.01	0.349	O	I	|	|	|	|	0.70	9.417	4.69	0.37	1.370	|O	|	| I	|	|	2.53
4.500	1.64	0.01	0.360	O	I	|	|	|	|	0.73	9.500	4.71	0.38	1.400	|O	|	| I	|	|	2.57
4.583	1.65	0.01	0.371	O	I	|	|	|	|	0.75	9.583	4.82	0.39	1.430	|O	|	| I	|	|	2.62
4.667	1.65	0.01	0.383	O	I	|	|	|	|	0.77	9.667	4.93	0.39	1.461	|O	|	| I	|	|	2.67
4.750	1.65	0.01	0.394	O	I	|	|	|	|	0.79	9.750	4.95	0.40	1.493	|O	|	| I	|	|	2.73
4.833	1.75	0.01	0.406	O	I	|	|	|	|	0.82	9.833	5.05	0.41	1.524	|O	|	| I	|	|	2.78
4.917	1.86	0.01	0.418	O	I|	|	|	|	|	0.84	9.917	5.16	0.42	1.557	|O	|	| I	|	|	2.83
5.000	1.88	0.01	0.431	O	I|	|	|	|	|	0.87	10.000	5.18	0.43	1.589	|O	|	| I	|	|	2.88
5.083	1.69	0.01	0.443	O	I	|	|	|	|	0.89	10.083	4.51	0.44	1.620	|O	|	|I	|	|	2.93
5.167	1.49	0.01	0.454	O	I	|	|	|	|	0.92	10.167	3.78	0.45	1.645	|O	|	I|	|	|	2.98
5.250	1.44	0.01	0.464	O	I	|	|	|	|	0.94	10.250	3.63	0.45	1.668	|O	|	I |	|	|	3.01
5.333	1.52	0.01	0.474	O	I	|	|	|	|	0.96	10.333	3.57	0.46	1.689	|O	|	I |	|	|	3.04
5.417	1.62	0.01	0.485	O	I	|	|	|	|	0.98	10.417	3.54	0.48	1.710	|O	|	I |	|	|	3.08
5.500	1.64	0.01	0.496	O	I	|	|	|	|	1.00	10.500	3.54	0.49	1.731	|O	|	I |	|	|	3.11
5.583	1.75	0.01	0.508	O	I	|	|	|	|	1.02	10.583	4.03	0.50	1.754	|O	|	I	|	|	3.14
5.667	1.86	0.01	0.520	O	I|	|	|	|	|	1.05	10.667	4.55	0.51	1.780	| O	|	| I	|	|	3.18
5.750	1.88	0.01	0.533	O	I|	|	|	|	|	1.07	10.750	4.66	0.53	1.808	| O	|	| I	|	|	3.22
5.833	1.89	0.01	0.546	O	I|	|	|	|	|	1.10	10.833	4.71	0.54	1.837	| O	|	| I	|	|	3.26
5.917	1.89	0.01	0.559	O	I|	|	|	|	|	1.13	10.917	4.72	0.55	1.866	| O	|	| I	|	|	3.31
6.000	1.89	0.01	0.572	O	I|	|	|	|	|	1.15	11.000	4.72	0.57	1.894	| O	|	| I	|	|	3.35
6.083	1.99	0.01	0.585	O	I|	|	|	|	|	1.18	11.083	4.63	0.58	1.923	| O	|	| I	|	|	3.39
6.167	2.09	0.01	0.599	O	I	|	|	|	|	1.21	11.167	4.52	0.60	1.950	| O	|	| I	|	|	3.43
6.250	2.11	0.01	0.613	O	I	|	|	|	|	1.24	11.250	4.50	0.61	1.977	| O	|	|I	|	|	3.47
6.333	2.12	0.02	0.628	O	I	|	|	|	|	1.26	11.333	4.49	0.62	2.004	| O	|	|I	|	|	3.51
6.417	2.13	0.02	0.642	O	I	|	|	|	|	1.29	11.417	4.49	0.64	2.030	| O	|	|I	|	|	3.55
6.500	2.13	0.03	0.657	O	I	|	|	|	|	1.31	11.500	4.49	0.65	2.057	| O	|	|I	|	|	3.59
6.583	2.22	0.04	0.672	O	I	|	|	|	|	1.34	11.583	4.29	0.66	2.082	| O	|	|I	|	|	3.63
6.667	2.33	0.05	0.687	O	|I	|	|	|	|	1.37	11.667	4.08	0.68	2.107	| O	|	I	|	|	3.67
6.750	2.35	0.06	0.703	O	|I	|	|	|	|	1.39	11.750	4.04	0.69	2.130	| O	|	I	|	|	3.70
6.833	2.36	0.07	0.718	O	|I	|	|	|	|	1.42	11.833	4.12	0.70	2.153	| O	|	I	|	|	3.74
6.917	2.36	0.08	0.734	O	|I	|	|	|	|	1.45	11.917	4.22	0.71	2.177	| O	|	I	|	|	3.77
7.000	2.36	0.09	0.750	O	|I	|	|	|	|	1.48	12.000	4.24	0.72	2.201	| O	|	I	|	|	3.81
7.083	2.36	0.10	0.765	O	|I	|	|	|	|	1.50	12.083	4.93	0.74	2.228	| O	|	| I	|	|	3.85
7.167	2.36	0.11	0.781	O	|I	|	|	|	|	1.53	12.167	5.67	0.75	2.259	| O	|	| I |	|	3.89
7.250	2.36	0.12	0.796	O	|I	|	|	|	|	1.56	12.250	5.82	0.77	2.293	| O	|	| I|	|	3.95
7.333	2.46	0.13	0.812	O	|I	|	|	|	|	1.59	12.333	5.98	0.79	2.329	| O	|	| I|	|	4.00
7.417	2.56	0.14	0.829	O	| I	|	|	|	|	1.61	12.417	6.11	0.81	2.365	| O	|	| I	|	4.05
7.500	2.59	0.15	0.845	O	| I	|	|	|	|	1.64	12.500	6.13	0.82	2.401	| O	|	| I	|	4.10
7.583	2.69	0.16	0.862	O	| I	|	|	|	|	1.67	12.583	6.33	0.84	2.439	| O	|	|I	|	4.15
7.667	2.80	0.17	0.880	O	| I	|	|	|	|	1.70	12.667	6.55	0.86	2.477	| O	|	| I	|	4.20
7.750	2.82	0.18	0.898	O	| I	|	|	|	|	1.74	12.750	6.59	0.88	2.516	| O	|	| I	|	4.25
7.833	2.93	0.20	0.917	O	| I	|	|	|	|	1.77	12.833	6.70	0.89	2.556	| O	|	| I	|	4.31
7.917	3.04	0.21	0.936	O	| I	|	|	|	|	1.80	12.917	6.82	0.91	2.596	| O	|	| I	|	4.36
8.000	3.06	0.22	0.955	O	| I	|	|	|	|	1.84	13.000	6.84	0.93	2.637	| O	|	| I	|	4.41
8.083	3.26	0.23	0.976	O	| I	|	|	|	|	1.87	13.083	7.34	0.95	2.679	| O	|	| I	|	4.47
8.167	3.47	0.25	0.997	O	| I	|	|	|	|	1.91	13.167	7.86	0.97	2.725	| O	|	| I|	|	4.53
8.250	3.52	0.26	1.019	|O	| I	|	|	|	|	1.95	13.250	7.97	0.99	2.773	| O	|	| I|	|	4.60
8.333	3.54	0.27	1.042	|O	| I	|	|	|	|	1.99	13.333	8.01	1.02	2.821	| O	|	| I|	|	4.66
8.417	3.54	0.28	1.064	|O	| I	|	|	|	|	2.02	13.417	8.03	1.04	2.869	| O	|	| I	|	4.73
8.500	3.54	0.29	1.087	|O	| I	|	|	|	|	2.06	13.500	8.03	1.06	2.917	| O	|	| I	|	4.79
8.583	3.64	0.30	1.110	|O	| I	|	|	|	|	2.10	13.583	6.95	1.08	2.961	| O	|	| I	|	4.85
8.667	3.75	0.30	1.133	|O	| I	|	|	|	|	2.14	13.667	5.81	1.10	2.998	| O	|	| I|	|	4.90
8.750	3.77	0.31	1.157	|O	| I|	|	|	|	|	2.17	13.750	5.57	1.11	3.029	| O	|	| I |	|	4.95
8.833	3.87	0.32	1.181	|O	| I|	|	|	|	|	2.21	13.833	5.47	1.13	3.060	| O	|	| I |	|	4.99

13.917	5.43	1.14	3.089	O		I			5.02
14.000	5.43	1.15	3.119	O		I			5.06
14.083	5.82	1.16	3.150	O		I			5.10
14.167	6.24	1.18	3.183	O		I			5.14
14.250	6.33	1.19	3.218	O		I			5.19
14.333	6.27	1.20	3.254	O		I			5.23
14.417	6.18	1.70	3.286	O		I			5.27
14.500	6.15	2.54	3.314	O		I			5.30
14.583	6.14	3.22	3.337	O		I			5.33
14.667	6.14	3.77	3.355	O		I			5.35
14.750	6.14	4.22	3.370	O		I			5.37
14.833	6.04	4.57	3.381	O		I			5.39
14.917	5.94	4.84	3.390	O	I				5.40
15.000	5.92	5.04	3.397	O	I				5.41
15.083	5.81	5.20	3.402	O	I				5.41
15.167	5.70	5.30	3.406	OI					5.42
15.250	5.68	5.38	3.408	OI					5.42
15.333	5.57	5.42	3.410	OI					5.42
15.417	**5.47**	**5.44**	**3.410**	**O**					**5.42**
15.500	**5.44**	**5.44**	**3.410**	**O**					**5.42**
15.583	5.04	5.41	3.409	IO					5.42
15.667	4.62	5.30	3.406	I O					5.42
15.750	4.54	5.16	3.401	I O					5.41
15.833	4.50	5.04	3.397	I O					5.41
15.917	4.49	4.94	3.394	I O					5.40
16.000	4.49	4.85	3.391	I O					5.40
16.083	3.02	4.65	3.384	I	O				5.39
16.167	1.46	4.19	3.369	I	O				5.37
16.250	1.13	3.65	3.351	I	O				5.35
16.333	1.00	3.16	3.335	I	O				5.33
16.417	0.94	2.75	3.321	I	O				5.31
16.500	0.94	2.41	3.310	I	O				5.30
16.583	0.85	2.12	3.300	I	O				5.29
16.667	0.74	1.87	3.292	I	O				5.28
16.750	0.72	1.66	3.285	I	O				5.27
16.833	0.71	1.48	3.279	I	O				5.26
16.917	0.71	1.34	3.274	I	O				5.26
17.000	0.71	1.22	3.270	I O					5.25
17.083	0.90	1.21	3.267	IO					5.25
17.167	1.11	1.21	3.266	O					5.25
17.250	1.16	1.21	3.266	O					5.24
17.333	1.17	1.21	3.265	O					5.24
17.417	1.18	1.21	3.265	O					5.24
17.500	1.18	1.21	3.265	O					5.24
17.583	1.18	1.21	3.265	O					5.24
17.667	1.18	1.21	3.265	O					5.24
17.750	1.18	1.21	3.264	O					5.24
17.833	1.08	1.21	3.264	O					5.24
17.917	0.98	1.21	3.263	IO					5.24
18.000	0.96	1.21	3.261	IO					5.24
18.083	0.95	1.21	3.259	IO					5.24
18.167	0.94	1.20	3.257	IO					5.23
18.250	0.94	1.20	3.256	IO					5.23
18.333	0.94	1.20	3.254	IO					5.23
18.417	0.94	1.20	3.252	IO					5.23
18.500	0.94	1.20	3.250	IO					5.23
18.583	0.85	1.20	3.248	IO					5.22
18.667	0.74	1.20	3.245	I O					5.22
18.750	0.72	1.20	3.242	I O					5.22
18.833	0.61	1.20	3.239	I O					5.21
18.917	0.51	1.20	3.234	I O					5.21
19.000	0.48	1.19	3.229	I O					5.20
19.083	0.57	1.19	3.225	I O					5.19
19.167	0.67	1.19	3.221	I O					5.19
19.250	0.70	1.19	3.217	I O					5.18
19.333	0.80	1.19	3.214	IO					5.18
19.417	0.91	1.19	3.212	IO					5.18
19.500	0.93	1.19	3.210	IO					5.18
19.583	0.84	1.19	3.208	IO					5.17
19.667	0.74	1.18	3.206	I O					5.17
19.750	0.72	1.18	3.202	I O					5.17
19.833	0.61	1.18	3.199	I O					5.16
19.917	0.51	1.18	3.195	I O					5.16
20.000	0.48	1.18	3.190	I O					5.15
20.083	0.57	1.18	3.185	I O					5.14
20.167	0.67	1.17	3.182	I O					5.14
20.250	0.70	1.17	3.178	I O					5.14
20.333	0.71	1.17	3.175	I O					5.13
20.417	0.71	1.17	3.172	I O					5.13
20.500	0.71	1.17	3.169	I O					5.12
20.583	0.71	1.17	3.165	I O					5.12
20.667	0.71	1.17	3.162	I O					5.12
20.750	0.71	1.17	3.159	I O					5.11
20.833	0.61	1.16	3.156	I O					5.11
20.917	0.51	1.16	3.151	I O					5.10
21.000	0.48	1.16	3.147	I O					5.10
21.083	0.57	1.16	3.143	I O					5.09
21.167	0.67	1.16	3.139	I O					5.09
21.250	0.70	1.16	3.136	I O					5.08
21.333	0.61	1.15	3.132	I O					5.08
21.417	0.51	1.15	3.128	I O					5.07
21.500	0.48	1.15	3.124	I O					5.07
21.583	0.57	1.15	3.119	I O					5.06
21.667	0.67	1.15	3.116	I O					5.06
21.750	0.70	1.15	3.112	I O					5.05
21.833	0.61	1.15	3.109	I O					5.05
21.917	0.51	1.14	3.105	I O					5.04
22.000	0.48	1.14	3.101	I O					5.04
22.083	0.57	1.14	3.096	I O					5.03
22.167	0.67	1.14	3.093	I O					5.03
22.250	0.70	1.14	3.090	I O					5.02
22.333	0.61	1.14	3.086	I O					5.02
22.417	0.51	1.13	3.082	I O					5.02
22.500	0.48	1.13	3.078	I O					5.01
22.583	0.48	1.13	3.073	I O					5.00
22.667	0.47	1.13	3.069	I O					5.00
22.750	0.47	1.13	3.064	I O					4.99
22.833	0.47	1.13	3.060	I O					4.99
22.917	0.47	1.12	3.055	I O					4.98
23.000	0.47	1.12	3.051	I O					4.97
23.083	0.47	1.12	3.046	I O					4.97
23.167	0.47	1.12	3.042	I O					4.96
23.250	0.47	1.12	3.038	I O					4.96
23.333	0.47	1.11	3.033	I O					4.95
23.417	0.47	1.11	3.029	I O					4.94
23.500	0.47	1.11	3.024	I O					4.94
23.583	0.47	1.11	3.020	I O					4.93
23.667	0.47	1.11	3.016	I O					4.93
23.750	0.47	1.10	3.011	I O					4.92
23.833	0.47	1.10	3.007	I O					4.91

23.917	0.47	1.10	3.003	|I	O	|	|	|	|	4.91	28.917	0.00	0.91	2.595	I	O	|	|	|	|	4.36
24.000	0.47	1.10	2.998	|I	O	|	|	|	|	4.90	29.000	0.00	0.91	2.589	I	O	|	|	|	|	4.35
24.083	0.28	1.09	2.993	|I	O	|	|	|	|	4.90	29.083	0.00	0.91	2.583	I	O	|	|	|	|	4.34
24.167	0.07	1.09	2.987	I	O	|	|	|	|	4.89	29.167	0.00	0.90	2.576	I	O	|	|	|	|	4.33
24.250	0.02	1.09	2.980	I	O	|	|	|	|	4.88	29.250	0.00	0.90	2.570	I	O	|	|	|	|	4.32
24.333	0.01	1.09	2.972	I	O	|	|	|	|	4.87	29.333	0.00	0.90	2.564	I	O	|	|	|	|	4.32
24.417	0.00	1.08	2.965	I	O	|	|	|	|	4.86	29.417	0.00	0.89	2.558	I	O	|	|	|	|	4.31
24.500	0.00	1.08	2.958	I	O	|	|	|	|	4.85	29.500	0.00	0.89	2.552	I	O	|	|	|	|	4.30
24.583	0.00	1.07	2.950	I	O	|	|	|	|	4.84	29.583	0.00	0.89	2.546	I	O	|	|	|	|	4.29
24.667	0.00	1.07	2.943	I	O	|	|	|	|	4.83	29.667	0.00	0.89	2.539	I	O	|	|	|	|	4.28
24.750	0.00	1.07	2.935	I	O	|	|	|	|	4.82	29.750	0.00	0.88	2.533	I	O	|	|	|	|	4.27
24.833	0.00	1.06	2.928	I	O	|	|	|	|	4.81	29.833	0.00	0.88	2.527	I	O	|	|	|	|	4.27
24.917	0.00	1.06	2.921	I	O	|	|	|	|	4.80	29.917	0.00	0.88	2.521	I	O	|	|	|	|	4.26
25.000	0.00	1.06	2.913	I	O	|	|	|	|	4.79	30.000	0.00	0.88	2.515	I	O	|	|	|	|	4.25
25.083	0.00	1.05	2.906	I	O	|	|	|	|	4.78	30.083	0.00	0.87	2.509	I	O	|	|	|	|	4.24
25.167	0.00	1.05	2.899	I	O	|	|	|	|	4.77	30.167	0.00	0.87	2.503	I	O	|	|	|	|	4.23
25.250	0.00	1.05	2.892	I	O	|	|	|	|	4.76	30.250	0.00	0.87	2.497	I	O	|	|	|	|	4.23
25.333	0.00	1.04	2.884	I	O	|	|	|	|	4.75	30.333	0.00	0.86	2.491	I	O	|	|	|	|	4.22
25.417	0.00	1.04	2.877	I	O	|	|	|	|	4.74	30.417	0.00	0.86	2.485	I	O	|	|	|	|	4.21
25.500	0.00	1.04	2.870	I	O	|	|	|	|	4.73	30.500	0.00	0.86	2.479	I	O	|	|	|	|	4.20
25.583	0.00	1.03	2.863	I	O	|	|	|	|	4.72	30.583	0.00	0.86	2.473	I	O	|	|	|	|	4.19
25.667	0.00	1.03	2.856	I	O	|	|	|	|	4.71	30.667	0.00	0.85	2.468	I	O	|	|	|	|	4.19
25.750	0.00	1.03	2.849	I	O	|	|	|	|	4.70	30.750	0.00	0.85	2.462	I	O	|	|	|	|	4.18
25.833	0.00	1.03	2.842	I	O	|	|	|	|	4.69	30.833	0.00	0.85	2.456	I	O	|	|	|	|	4.17
25.917	0.00	1.02	2.835	I	O	|	|	|	|	4.68	30.917	0.00	0.85	2.450	I	O	|	|	|	|	4.16
26.000	0.00	1.02	2.828	I	O	|	|	|	|	4.67	31.000	0.00	0.84	2.444	I	O	|	|	|	|	4.15
26.083	0.00	1.02	2.821	I	O	|	|	|	|	4.66	31.083	0.00	0.84	2.438	I	O	|	|	|	|	4.15
26.167	0.00	1.01	2.814	I	O	|	|	|	|	4.65	31.167	0.00	0.84	2.433	I	O	|	|	|	|	4.14
26.250	0.00	1.01	2.807	I	O	|	|	|	|	4.64	31.250	0.00	0.83	2.427	I	O	|	|	|	|	4.13
26.333	0.00	1.01	2.800	I	O	|	|	|	|	4.63	31.333	0.00	0.83	2.421	I	O	|	|	|	|	4.12
26.417	0.00	1.00	2.793	I	O	|	|	|	|	4.63	31.417	0.00	0.83	2.415	I	O	|	|	|	|	4.12
26.500	0.00	1.00	2.786	I	O	|	|	|	|	4.62	31.500	0.00	0.83	2.410	I	O	|	|	|	|	4.11
26.583	0.00	1.00	2.779	I	O	|	|	|	|	4.61	31.583	0.00	0.82	2.404	I	O	|	|	|	|	4.10
26.667	0.00	0.99	2.772	I	O	|	|	|	|	4.60	31.667	0.00	0.82	2.398	I	O	|	|	|	|	4.09
26.750	0.00	0.99	2.765	I	O	|	|	|	|	4.59	31.750	0.00	0.82	2.393	I	O	|	|	|	|	4.08
26.833	0.00	0.99	2.759	I	O	|	|	|	|	4.58	31.833	0.00	0.82	2.387	I	O	|	|	|	|	4.08
26.917	0.00	0.98	2.752	I	O	|	|	|	|	4.57	31.917	0.00	0.81	2.382	I	O	|	|	|	|	4.07
27.000	0.00	0.98	2.745	I	O	|	|	|	|	4.56	32.000	0.00	0.81	2.376	I	O	|	|	|	|	4.06
27.083	0.00	0.98	2.738	I	O	|	|	|	|	4.55	32.083	0.00	0.81	2.370	I	O	|	|	|	|	4.05
27.167	0.00	0.97	2.732	I	O	|	|	|	|	4.54	32.167	0.00	0.81	2.365	I	O	|	|	|	|	4.05
27.250	0.00	0.97	2.725	I	O	|	|	|	|	4.53	32.250	0.00	0.80	2.359	I	O	|	|	|	|	4.04
27.333	0.00	0.97	2.718	I	O	|	|	|	|	4.52	32.333	0.00	0.80	2.354	I	O	|	|	|	|	4.03
27.417	0.00	0.97	2.712	I	O	|	|	|	|	4.52	32.417	0.00	0.80	2.348	I	O	|	|	|	|	4.02
27.500	0.00	0.96	2.705	I	O	|	|	|	|	4.51	32.500	0.00	0.80	2.343	I	O	|	|	|	|	4.02
27.583	0.00	0.96	2.698	I	O	|	|	|	|	4.50	32.583	0.00	0.79	2.337	I	O	|	|	|	|	4.01
27.667	0.00	0.96	2.692	I	O	|	|	|	|	4.49	32.667	0.00	0.79	2.332	I	O	|	|	|	|	4.00
27.750	0.00	0.95	2.685	I	O	|	|	|	|	4.48	32.750	0.00	0.79	2.326	I	O	|	|	|	|	3.99
27.833	0.00	0.95	2.679	I	O	|	|	|	|	4.47	32.833	0.00	0.79	2.321	I	O	|	|	|	|	3.99
27.917	0.00	0.95	2.672	I	O	|	|	|	|	4.46	32.917	0.00	0.78	2.316	I	O	|	|	|	|	3.98
28.000	0.00	0.94	2.665	I	O	|	|	|	|	4.45	33.000	0.00	0.78	2.310	I	O	|	|	|	|	3.97
28.083	0.00	0.94	2.659	I	O	|	|	|	|	4.44	33.083	0.00	0.78	2.305	I	O	|	|	|	|	3.96
28.167	0.00	0.94	2.653	I	O	|	|	|	|	4.44	33.167	0.00	0.77	2.299	I	O	|	|	|	|	3.95
28.250	0.00	0.94	2.646	I	O	|	|	|	|	4.43	33.250	0.00	0.77	2.294	I	O	|	|	|	|	3.95
28.333	0.00	0.93	2.640	I	O	|	|	|	|	4.42	33.333	0.00	0.77	2.289	I	O	|	|	|	|	3.94
28.417	0.00	0.93	2.633	I	O	|	|	|	|	4.41	33.417	0.00	0.77	2.284	I	O	|	|	|	|	3.93
28.500	0.00	0.93	2.627	I	O	|	|	|	|	4.40	33.500	0.00	0.76	2.278	I	O	|	|	|	|	3.92
28.583	0.00	0.92	2.620	I	O	|	|	|	|	4.39	33.583	0.00	0.76	2.273	I	O	|	|	|	|	3.91
28.667	0.00	0.92	2.614	I	O	|	|	|	|	4.38	33.667	0.00	0.76	2.268	I	O	|	|	|	|	3.91
28.750	0.00	0.92	2.608	I	O	|	|	|	|	4.38	33.750	0.00	0.76	2.263	I	O	|	|	|	|	3.90
28.833	0.00	0.91	2.601	I	O	|	|	|	|	4.37	33.833	0.00	0.75	2.257	I	O	|	|	|	|	3.89

33.917	0.00	0.75	2.252	I	O					3.88	38.917	0.00	0.61	1.972	I	O					3.47
34.000	0.00	0.75	2.247	I	O					3.88	39.000	0.00	0.61	1.968	I	O					3.46
34.083	0.00	0.75	2.242	I	O					3.87	39.083	0.00	0.60	1.964	I	O					3.45
34.167	0.00	0.74	2.237	I	O					3.86	39.167	0.00	0.60	1.960	I	O					3.45
34.250	0.00	0.74	2.232	I	O					3.85	39.250	0.00	0.60	1.956	I	O					3.44
34.333	0.00	0.74	2.227	I	O					3.85	39.333	0.00	0.60	1.952	I	O					3.44
34.417	0.00	0.73	2.221	I	O					3.84	39.417	0.00	0.60	1.948	I	O					3.43
34.500	0.00	0.73	2.216	I	O					3.83	39.500	0.00	0.59	1.943	I	O					3.42
34.583	0.00	0.73	2.211	I	O					3.82	39.583	0.00	0.59	1.939	I	O					3.42
34.667	0.00	0.73	2.206	I	O					3.82	39.667	0.00	0.59	1.935	I	O					3.41
34.750	0.00	0.72	2.201	I	O					3.81	39.750	0.00	0.59	1.931	I	O					3.40
34.833	0.00	0.72	2.196	I	O					3.80	39.833	0.00	0.59	1.927	I	O					3.40
34.917	0.00	0.72	2.191	I	O					3.79	39.917	0.00	0.58	1.923	I	O					3.39
35.000	0.00	0.72	2.186	I	O					3.79	40.000	0.00	0.58	1.919	I	O					3.39
35.083	0.00	0.71	2.182	I	O					3.78	40.083	0.00	0.58	1.915	I	O					3.38
35.167	0.00	0.71	2.177	I	O					3.77	40.167	0.00	0.58	1.911	I	O					3.37
35.250	0.00	0.71	2.172	I	O					3.76	40.250	0.00	0.58	1.907	I	O					3.37
35.333	0.00	0.71	2.167	I	O					3.76	40.333	0.00	0.57	1.903	I	O					3.36
35.417	0.00	0.70	2.162	I	O					3.75	40.417	0.00	0.57	1.899	I	O					3.36
35.500	0.00	0.70	2.157	I	O					3.74	40.500	0.00	0.57	1.895	I	O					3.35
35.583	0.00	0.70	2.152	I	O					3.73	40.583	0.00	0.57	1.891	I	O					3.35
35.667	0.00	0.70	2.148	I	O					3.73	40.667	0.00	0.57	1.888	I	O					3.34
35.750	0.00	0.69	2.143	I	O					3.72	40.750	0.00	0.56	1.884	I	O					3.33
35.833	0.00	0.69	2.138	I	O					3.71	40.833	0.00	0.56	1.880	I	O					3.33
35.917	0.00	0.69	2.133	I	O					3.71	40.917	0.00	0.56	1.876	I	O					3.32
36.000	0.00	0.69	2.128	I	O					3.70	41.000	0.00	0.56	1.872	I	O					3.32
36.083	0.00	0.69	2.124	I	O					3.69	41.083	0.00	0.56	1.868	I	O					3.31
36.167	0.00	0.68	2.119	I	O					3.69	41.167	0.00	0.55	1.864	I	O					3.31
36.250	0.00	0.68	2.114	I	O					3.68	41.250	0.00	0.55	1.861	I	O					3.30
36.333	0.00	0.68	2.110	I	O					3.67	41.333	0.00	0.55	1.857	I	O					3.29
36.417	0.00	0.68	2.105	I	O					3.66	41.417	0.00	0.55	1.853	I	O					3.29
36.500	0.00	0.67	2.100	I	O					3.66	41.500	0.00	0.55	1.849	I	O					3.28
36.583	0.00	0.67	2.096	I	O					3.65	41.583	0.00	0.54	1.846	I	O					3.28
36.667	0.00	0.67	2.091	I	O					3.64	41.667	0.00	0.54	1.842	I	O					3.27
36.750	0.00	0.67	2.086	I	O					3.64	41.750	0.00	0.54	1.838	I	O					3.27
36.833	0.00	0.66	2.082	I	O					3.63	41.833	0.00	0.54	1.834	I	O					3.26
36.917	0.00	0.66	2.077	I	O					3.62	41.917	0.00	0.54	1.831	I	O					3.25
37.000	0.00	0.66	2.073	I	O					3.62	42.000	0.00	0.53	1.827	I	O					3.25
37.083	0.00	0.66	2.068	I	O					3.61	42.083	0.00	0.53	1.823	I	O					3.24
37.167	0.00	0.65	2.064	I	O					3.60	42.167	0.00	0.53	1.820	I	O					3.24
37.250	0.00	0.65	2.059	I	O					3.60	42.250	0.00	0.53	1.816	I	O					3.23
37.333	0.00	0.65	2.055	I	O					3.59	42.333	0.00	0.53	1.812	I	O					3.23
37.417	0.00	0.65	2.050	I	O					3.58	42.417	0.00	0.53	1.809	I	O					3.22
37.500	0.00	0.65	2.046	I	O					3.58	42.500	0.00	0.52	1.805	I	O					3.22
37.583	0.00	0.64	2.041	I	O					3.57	42.583	0.00	0.52	1.801	I	O					3.21
37.667	0.00	0.64	2.037	I	O					3.56	42.667	0.00	0.52	1.798	I	O					3.21
37.750	0.00	0.64	2.033	I	O					3.56	42.750	0.00	0.52	1.794	I	O					3.20
37.833	0.00	0.64	2.028	I	O					3.55	42.833	0.00	0.52	1.791	I	O					3.20
37.917	0.00	0.63	2.024	I	O					3.54	42.917	0.00	0.51	1.787	I	O					3.19
38.000	0.00	0.63	2.019	I	O					3.54	43.000	0.00	0.51	1.784	I	O					3.18
38.083	0.00	0.63	2.015	I	O					3.53	43.083	0.00	0.51	1.780	I	O					3.18
38.167	0.00	0.63	2.011	I	O					3.52	43.167	0.00	0.51	1.777	I	O					3.17
38.250	0.00	0.63	2.006	I	O					3.52	43.250	0.00	0.51	1.773	I	O					3.17
38.333	0.00	0.62	2.002	I	O					3.51	43.333	0.00	0.51	1.770	I	O					3.16
38.417	0.00	0.62	1.998	I	O					3.50	43.417	0.00	0.50	1.766	I	O					3.16
38.500	0.00	0.62	1.994	I	O					3.50	43.500	0.00	0.50	1.763	I	O					3.15
38.583	0.00	0.62	1.989	I	O					3.49	43.583	0.00	0.50	1.759	I	O					3.15
38.667	0.00	0.61	1.985	I	O					3.49	43.667	0.00	0.50	1.756	I	O					3.14
38.750	0.00	0.61	1.981	I	O					3.48	43.750	0.00	0.50	1.752	I	O					3.14
38.833	0.00	0.61	1.977	I	O					3.47	43.833	0.00	0.50	1.749	I	O					3.13

43.917	0.00	0.49	1.746	IO	|	|	|	|	3.13	48.917	0.00	0.42	1.559	IO	|	|	|	|	2.83
44.000	0.00	0.49	1.742	IO	|	|	|	|	3.12	49.000	0.00	0.42	1.556	IO	|	|	|	|	2.83
44.083	0.00	0.49	1.739	IO	|	|	|	|	3.12	49.083	0.00	0.42	1.553	IO	|	|	|	|	2.82
44.167	0.00	0.49	1.735	IO	|	|	|	|	3.11	49.167	0.00	0.42	1.550	IO	|	|	|	|	2.82
44.250	0.00	0.49	1.732	IO	|	|	|	|	3.11	49.250	0.00	0.42	1.547	IO	|	|	|	|	2.82
44.333	0.00	0.48	1.729	IO	|	|	|	|	3.10	49.333	0.00	0.42	1.545	IO	|	|	|	|	2.81
44.417	0.00	0.48	1.725	IO	|	|	|	|	3.10	49.417	0.00	0.42	1.542	IO	|	|	|	|	2.81
44.500	0.00	0.48	1.722	IO	|	|	|	|	3.09	49.500	0.00	0.42	1.539	IO	|	|	|	|	2.80
44.583	0.00	0.48	1.719	IO	|	|	|	|	3.09	49.583	0.00	0.42	1.536	IO	|	|	|	|	2.80
44.667	0.00	0.48	1.715	IO	|	|	|	|	3.08	49.667	0.00	0.41	1.533	IO	|	|	|	|	2.79
44.750	0.00	0.48	1.712	IO	|	|	|	|	3.08	49.750	0.00	0.41	1.530	IO	|	|	|	|	2.79
44.833	0.00	0.47	1.709	IO	|	|	|	|	3.07	49.833	0.00	0.41	1.527	IO	|	|	|	|	2.78
44.917	0.00	0.47	1.706	IO	|	|	|	|	3.07	49.917	0.00	0.41	1.525	IO	|	|	|	|	2.78
45.000	0.00	0.47	1.702	IO	|	|	|	|	3.06	50.000	0.00	0.41	1.522	IO	|	|	|	|	2.77
45.083	0.00	0.47	1.699	IO	|	|	|	|	3.06	50.083	0.00	0.41	1.519	IO	|	|	|	|	2.77
45.167	0.00	0.47	1.696	IO	|	|	|	|	3.05	50.167	0.00	0.41	1.516	IO	|	|	|	|	2.76
45.250	0.00	0.47	1.693	IO	|	|	|	|	3.05	50.250	0.00	0.41	1.513	IO	|	|	|	|	2.76
45.333	0.00	0.46	1.689	IO	|	|	|	|	3.04	50.333	0.00	0.41	1.510	IO	|	|	|	|	2.75
45.417	0.00	0.46	1.686	IO	|	|	|	|	3.04	50.417	0.00	0.41	1.508	IO	|	|	|	|	2.75
45.500	0.00	0.46	1.683	IO	|	|	|	|	3.03	50.500	0.00	0.41	1.505	IO	|	|	|	|	2.75
45.583	0.00	0.46	1.680	IO	|	|	|	|	3.03	50.583	0.00	0.41	1.502	IO	|	|	|	|	2.74
45.667	0.00	0.46	1.677	IO	|	|	|	|	3.03	50.667	0.00	0.41	1.499	IO	|	|	|	|	2.74
45.750	0.00	0.46	1.674	IO	|	|	|	|	3.02	50.750	0.00	0.40	1.496	IO	|	|	|	|	2.73
45.833	0.00	0.46	1.670	IO	|	|	|	|	3.02	50.833	0.00	0.40	1.494	IO	|	|	|	|	2.73
45.917	0.00	0.45	1.667	IO	|	|	|	|	3.01	50.917	0.00	0.40	1.491	IO	|	|	|	|	2.72
46.000	0.00	0.45	1.664	IO	|	|	|	|	3.01	51.000	0.00	0.40	1.488	IO	|	|	|	|	2.72
46.083	0.00	0.45	1.661	IO	|	|	|	|	3.00	51.083	0.00	0.40	1.485	IO	|	|	|	|	2.71
46.167	0.00	0.45	1.658	IO	|	|	|	|	3.00	51.167	0.00	0.40	1.483	IO	|	|	|	|	2.71
46.250	0.00	0.45	1.655	IO	|	|	|	|	2.99	51.250	0.00	0.40	1.480	IO	|	|	|	|	2.70
46.333	0.00	0.45	1.652	IO	|	|	|	|	2.99	51.333	0.00	0.40	1.477	IO	|	|	|	|	2.70
46.417	0.00	0.45	1.649	IO	|	|	|	|	2.98	51.417	0.00	0.40	1.474	IO	|	|	|	|	2.70
46.500	0.00	0.45	1.646	IO	|	|	|	|	2.98	51.500	0.00	0.40	1.472	IO	|	|	|	|	2.69
46.583	0.00	0.45	1.643	IO	|	|	|	|	2.97	51.583	0.00	0.40	1.469	IO	|	|	|	|	2.69
46.667	0.00	0.44	1.640	IO	|	|	|	|	2.97	51.667	0.00	0.40	1.466	IO	|	|	|	|	2.68
46.750	0.00	0.44	1.636	IO	|	|	|	|	2.96	51.750	0.00	0.40	1.463	IO	|	|	|	|	2.68
46.833	0.00	0.44	1.633	IO	|	|	|	|	2.96	51.833	0.00	0.39	1.461	IO	|	|	|	|	2.67
46.917	0.00	0.44	1.630	IO	|	|	|	|	2.95	51.917	0.00	0.39	1.458	IO	|	|	|	|	2.67
47.000	0.00	0.44	1.627	IO	|	|	|	|	2.95	52.000	0.00	0.39	1.455	IO	|	|	|	|	2.66
47.083	0.00	0.44	1.624	IO	|	|	|	|	2.94	52.083	0.00	0.39	1.453	IO	|	|	|	|	2.66
47.167	0.00	0.44	1.621	IO	|	|	|	|	2.94	52.167	0.00	0.39	1.450	IO	|	|	|	|	2.66
47.250	0.00	0.44	1.618	IO	|	|	|	|	2.93	52.250	0.00	0.39	1.447	IO	|	|	|	|	2.65
47.333	0.00	0.44	1.615	IO	|	|	|	|	2.93	52.333	0.00	0.39	1.444	IO	|	|	|	|	2.65
47.417	0.00	0.44	1.612	IO	|	|	|	|	2.92	52.417	0.00	0.39	1.442	IO	|	|	|	|	2.64
47.500	0.00	0.44	1.609	IO	|	|	|	|	2.92	52.500	0.00	0.39	1.439	IO	|	|	|	|	2.64
47.583	0.00	0.44	1.606	IO	|	|	|	|	2.91	52.583	0.00	0.39	1.436	IO	|	|	|	|	2.63
47.667	0.00	0.43	1.603	IO	|	|	|	|	2.91	52.667	0.00	0.39	1.434	IO	|	|	|	|	2.63
47.750	0.00	0.43	1.600	IO	|	|	|	|	2.90	52.750	0.00	0.39	1.431	IO	|	|	|	|	2.62
47.833	0.00	0.43	1.597	IO	|	|	|	|	2.90	52.833	0.00	0.39	1.428	IO	|	|	|	|	2.62
47.917	0.00	0.43	1.594	IO	|	|	|	|	2.89	52.917	0.00	0.38	1.426	IO	|	|	|	|	2.62
48.000	0.00	0.43	1.591	IO	|	|	|	|	2.89	53.000	0.00	0.38	1.423	IO	|	|	|	|	2.61
48.083	0.00	0.43	1.588	IO	|	|	|	|	2.88	53.083	0.00	0.38	1.421	IO	|	|	|	|	2.61
48.167	0.00	0.43	1.585	IO	|	|	|	|	2.88	53.167	0.00	0.38	1.418	IO	|	|	|	|	2.60
48.250	0.00	0.43	1.582	IO	|	|	|	|	2.87	53.250	0.00	0.38	1.415	IO	|	|	|	|	2.60
48.333	0.00	0.43	1.580	IO	|	|	|	|	2.87	53.333	0.00	0.38	1.413	IO	|	|	|	|	2.59
48.417	0.00	0.43	1.577	IO	|	|	|	|	2.86	53.417	0.00	0.38	1.410	IO	|	|	|	|	2.59
48.500	0.00	0.43	1.574	IO	|	|	|	|	2.86	53.500	0.00	0.38	1.407	IO	|	|	|	|	2.59
48.583	0.00	0.43	1.571	IO	|	|	|	|	2.85	53.583	0.00	0.38	1.405	IO	|	|	|	|	2.58
48.667	0.00	0.42	1.568	IO	|	|	|	|	2.85	53.667	0.00	0.38	1.402	IO	|	|	|	|	2.58
48.750	0.00	0.42	1.565	IO	|	|	|	|	2.84	53.750	0.00	0.38	1.400	IO	|	|	|	|	2.57
48.833	0.00	0.42	1.562	IO	|	|	|	|	2.84	53.833	0.00	0.38	1.397	IO	|	|	|	|	2.57

53.917	0.00	0.38	1.394	IO	|	|	|	|	2.56	58.917	0.00	0.34	1.248	IO	|	|	|	|	2.32
54.000	0.00	0.38	1.392	IO	|	|	|	|	2.56	59.000	0.00	0.33	1.245	IO	|	|	|	|	2.32
54.083	0.00	0.37	1.389	IO	|	|	|	|	2.56	59.083	0.00	0.33	1.243	IO	|	|	|	|	2.32
54.167	0.00	0.37	1.387	IO	|	|	|	|	2.55	59.167	0.00	0.33	1.241	IO	|	|	|	|	2.31
54.250	0.00	0.37	1.384	IO	|	|	|	|	2.55	59.250	0.00	0.33	1.238	IO	|	|	|	|	2.31
54.333	0.00	0.37	1.381	IO	|	|	|	|	2.54	59.333	0.00	0.33	1.236	IO	|	|	|	|	2.31
54.417	0.00	0.37	1.379	IO	|	|	|	|	2.54	59.417	0.00	0.33	1.234	IO	|	|	|	|	2.30
54.500	0.00	0.37	1.376	IO	|	|	|	|	2.54	59.500	0.00	0.33	1.232	IO	|	|	|	|	2.30
54.583	0.00	0.37	1.374	IO	|	|	|	|	2.53	59.583	0.00	0.33	1.229	IO	|	|	|	|	2.29
54.667	0.00	0.37	1.371	IO	|	|	|	|	2.53	59.667	0.00	0.33	1.227	IO	|	|	|	|	2.29
54.750	0.00	0.37	1.369	IO	|	|	|	|	2.52	59.750	0.00	0.33	1.225	IO	|	|	|	|	2.29
54.833	0.00	0.37	1.366	IO	|	|	|	|	2.52	59.833	0.00	0.33	1.223	IO	|	|	|	|	2.28
54.917	0.00	0.37	1.364	IO	|	|	|	|	2.51	59.917	0.00	0.33	1.220	IO	|	|	|	|	2.28
55.000	0.00	0.37	1.361	IO	|	|	|	|	2.51	60.000	0.00	0.33	1.218	IO	|	|	|	|	2.28
55.083	0.00	0.37	1.359	IO	|	|	|	|	2.51	60.083	0.00	0.33	1.216	IO	|	|	|	|	2.27
55.167	0.00	0.37	1.356	IO	|	|	|	|	2.50	60.167	0.00	0.33	1.214	IO	|	|	|	|	2.27
55.250	0.00	0.36	1.354	IO	|	|	|	|	2.50	60.250	0.00	0.32	1.211	IO	|	|	|	|	2.26
55.333	0.00	0.36	1.351	IO	|	|	|	|	2.49	60.333	0.00	0.32	1.209	IO	|	|	|	|	2.26
55.417	0.00	0.36	1.349	IO	|	|	|	|	2.49	60.417	0.00	0.32	1.207	IO	|	|	|	|	2.26
55.500	0.00	0.36	1.346	IO	|	|	|	|	2.49	60.500	0.00	0.32	1.205	IO	|	|	|	|	2.25
55.583	0.00	0.36	1.344	IO	|	|	|	|	2.48	60.583	0.00	0.32	1.202	IO	|	|	|	|	2.25
55.667	0.00	0.36	1.341	IO	|	|	|	|	2.48	60.667	0.00	0.32	1.200	IO	|	|	|	|	2.25
55.750	0.00	0.36	1.339	IO	|	|	|	|	2.47	60.750	0.00	0.32	1.198	IO	|	|	|	|	2.24
55.833	0.00	0.36	1.336	IO	|	|	|	|	2.47	60.833	0.00	0.32	1.196	IO	|	|	|	|	2.24
55.917	0.00	0.36	1.334	IO	|	|	|	|	2.46	60.917	0.00	0.32	1.193	IO	|	|	|	|	2.24
56.000	0.00	0.36	1.331	IO	|	|	|	|	2.46	61.000	0.00	0.32	1.191	IO	|	|	|	|	2.23
56.083	0.00	0.36	1.329	IO	|	|	|	|	2.46	61.083	0.00	0.32	1.189	IO	|	|	|	|	2.23
56.167	0.00	0.36	1.326	IO	|	|	|	|	2.45	61.167	0.00	0.32	1.187	IO	|	|	|	|	2.22
56.250	0.00	0.36	1.324	IO	|	|	|	|	2.45	61.250	0.00	0.32	1.185	IO	|	|	|	|	2.22
56.333	0.00	0.36	1.321	IO	|	|	|	|	2.44	61.333	0.00	0.32	1.183	IO	|	|	|	|	2.22
56.417	0.00	0.35	1.319	IO	|	|	|	|	2.44	61.417	0.00	0.32	1.180	IO	|	|	|	|	2.21
56.500	0.00	0.35	1.316	IO	|	|	|	|	2.44	61.500	0.00	0.32	1.178	IO	|	|	|	|	2.21
56.583	0.00	0.35	1.314	IO	|	|	|	|	2.43	61.583	0.00	0.32	1.176	IO	|	|	|	|	2.21
56.667	0.00	0.35	1.312	IO	|	|	|	|	2.43	61.667	0.00	0.31	1.174	IO	|	|	|	|	2.20
56.750	0.00	0.35	1.309	IO	|	|	|	|	2.42	61.750	0.00	0.31	1.172	IO	|	|	|	|	2.20
56.833	0.00	0.35	1.307	IO	|	|	|	|	2.42	61.833	0.00	0.31	1.170	IO	|	|	|	|	2.20
56.917	0.00	0.35	1.304	IO	|	|	|	|	2.42	61.917	0.00	0.31	1.167	IO	|	|	|	|	2.19
57.000	0.00	0.35	1.302	IO	|	|	|	|	2.41	62.000	0.00	0.31	1.165	IO	|	|	|	|	2.19
57.083	0.00	0.35	1.299	IO	|	|	|	|	2.41	62.083	0.00	0.31	1.163	IO	|	|	|	|	2.19
57.167	0.00	0.35	1.297	IO	|	|	|	|	2.41	62.167	0.00	0.31	1.161	IO	|	|	|	|	2.18
57.250	0.00	0.35	1.295	IO	|	|	|	|	2.40	62.250	0.00	0.31	1.159	IO	|	|	|	|	2.18
57.333	0.00	0.35	1.292	IO	|	|	|	|	2.40	62.333	0.00	0.31	1.157	IO	|	|	|	|	2.17
57.417	0.00	0.35	1.290	IO	|	|	|	|	2.39	62.417	0.00	0.31	1.155	IO	|	|	|	|	2.17
57.500	0.00	0.35	1.287	IO	|	|	|	|	2.39	62.500	0.00	0.31	1.152	IO	|	|	|	|	2.17
57.583	0.00	0.35	1.285	IO	|	|	|	|	2.39	62.583	0.00	0.31	1.150	IO	|	|	|	|	2.16
57.667	0.00	0.34	1.283	IO	|	|	|	|	2.38	62.667	0.00	0.31	1.148	IO	|	|	|	|	2.16
57.750	0.00	0.34	1.280	IO	|	|	|	|	2.38	62.750	0.00	0.31	1.146	IO	|	|	|	|	2.16
57.833	0.00	0.34	1.278	IO	|	|	|	|	2.37	62.833	0.00	0.31	1.144	IO	|	|	|	|	2.15
57.917	0.00	0.34	1.276	IO	|	|	|	|	2.37	62.917	0.00	0.31	1.142	IO	|	|	|	|	2.15
58.000	0.00	0.34	1.273	IO	|	|	|	|	2.37	63.000	0.00	0.30	1.140	IO	|	|	|	|	2.15
58.083	0.00	0.34	1.271	IO	|	|	|	|	2.36	63.083	0.00	0.30	1.138	IO	|	|	|	|	2.14
58.167	0.00	0.34	1.269	IO	|	|	|	|	2.36	63.167	0.00	0.30	1.136	IO	|	|	|	|	2.14
58.250	0.00	0.34	1.266	IO	|	|	|	|	2.35	63.250	0.00	0.30	1.133	IO	|	|	|	|	2.14
58.333	0.00	0.34	1.264	IO	|	|	|	|	2.35	63.333	0.00	0.30	1.131	IO	|	|	|	|	2.13
58.417	0.00	0.34	1.262	IO	|	|	|	|	2.35	63.417	0.00	0.30	1.129	IO	|	|	|	|	2.13
58.500	0.00	0.34	1.259	IO	|	|	|	|	2.34	63.500	0.00	0.30	1.127	IO	|	|	|	|	2.13
58.583	0.00	0.34	1.257	IO	|	|	|	|	2.34	63.583	0.00	0.30	1.125	IO	|	|	|	|	2.12
58.667	0.00	0.34	1.255	IO	|	|	|	|	2.34	63.667	0.00	0.30	1.123	IO	|	|	|	|	2.12
58.750	0.00	0.34	1.252	IO	|	|	|	|	2.33	63.750	0.00	0.30	1.121	IO	|	|	|	|	2.12
58.833	0.00	0.34	1.250	IO	|	|	|	|	2.33	63.833	0.00	0.30	1.119	IO	|	|	|	|	2.11

63.917	0.00	0.30	1.117	IO	|	|	|	|	2.11	68.917	0.00	0.25	1.002	O	|	|	|	|	1.92
64.000	0.00	0.30	1.115	IO	|	|	|	|	2.11	69.000	0.00	0.25	1.000	O	|	|	|	|	1.91
64.083	0.00	0.30	1.113	IO	|	|	|	|	2.10	69.083	0.00	0.25	0.998	O	|	|	|	|	1.91
64.167	0.00	0.30	1.111	IO	|	|	|	|	2.10	69.167	0.00	0.25	0.997	O	|	|	|	|	1.91
64.250	0.00	0.30	1.109	IO	|	|	|	|	2.10	69.250	0.00	0.25	0.995	O	|	|	|	|	1.90
64.333	0.00	0.30	1.107	IO	|	|	|	|	2.09	69.333	0.00	0.24	0.993	O	|	|	|	|	1.90
64.417	0.00	0.30	1.105	IO	|	|	|	|	2.09	69.417	0.00	0.24	0.992	O	|	|	|	|	1.90
64.500	0.00	0.29	1.103	IO	|	|	|	|	2.09	69.500	0.00	0.24	0.990	O	|	|	|	|	1.90
64.583	0.00	0.29	1.101	IO	|	|	|	|	2.08	69.583	0.00	0.24	0.988	O	|	|	|	|	1.89
64.667	0.00	0.29	1.098	IO	|	|	|	|	2.08	69.667	0.00	0.24	0.987	O	|	|	|	|	1.89
64.750	0.00	0.29	1.096	IO	|	|	|	|	2.08	69.750	0.00	0.24	0.985	O	|	|	|	|	1.89
64.833	0.00	0.29	1.094	IO	|	|	|	|	2.07	69.833	0.00	0.24	0.983	O	|	|	|	|	1.88
64.917	0.00	0.29	1.092	IO	|	|	|	|	2.07	69.917	0.00	0.24	0.982	O	|	|	|	|	1.88
65.000	0.00	0.29	1.090	IO	|	|	|	|	2.07	70.000	0.00	0.24	0.980	O	|	|	|	|	1.88
65.083	0.00	0.29	1.088	IO	|	|	|	|	2.06	70.083	0.00	0.24	0.978	O	|	|	|	|	1.88
65.167	0.00	0.29	1.086	IO	|	|	|	|	2.06	70.167	0.00	0.23	0.977	O	|	|	|	|	1.87
65.250	0.00	0.29	1.084	IO	|	|	|	|	2.06	70.250	0.00	0.23	0.975	O	|	|	|	|	1.87
65.333	0.00	0.29	1.082	IO	|	|	|	|	2.05	70.333	0.00	0.23	0.974	O	|	|	|	|	1.87
65.417	0.00	0.29	1.080	IO	|	|	|	|	2.05	70.417	0.00	0.23	0.972	O	|	|	|	|	1.86
65.500	0.00	0.29	1.078	IO	|	|	|	|	2.05	70.500	0.00	0.23	0.970	O	|	|	|	|	1.86
65.583	0.00	0.29	1.076	IO	|	|	|	|	2.04	70.583	0.00	0.23	0.969	O	|	|	|	|	1.86
65.667	0.00	0.29	1.075	IO	|	|	|	|	2.04	70.667	0.00	0.23	0.967	O	|	|	|	|	1.86
65.750	0.00	0.29	1.073	IO	|	|	|	|	2.04	70.750	0.00	0.23	0.966	O	|	|	|	|	1.85
65.833	0.00	0.29	1.071	IO	|	|	|	|	2.03	70.833	0.00	0.23	0.964	O	|	|	|	|	1.85
65.917	0.00	0.29	1.069	IO	|	|	|	|	2.03	70.917	0.00	0.23	0.963	O	|	|	|	|	1.85
66.000	0.00	0.28	1.067	IO	|	|	|	|	2.03	71.000	0.00	0.22	0.961	O	|	|	|	|	1.84
66.083	0.00	0.28	1.065	IO	|	|	|	|	2.02	71.083	0.00	0.22	0.960	O	|	|	|	|	1.84
66.167	0.00	0.28	1.063	IO	|	|	|	|	2.02	71.167	0.00	0.22	0.958	O	|	|	|	|	1.84
66.250	0.00	0.28	1.061	IO	|	|	|	|	2.02	71.250	0.00	0.22	0.956	O	|	|	|	|	1.84
66.333	0.00	0.28	1.059	IO	|	|	|	|	2.01	71.333	0.00	0.22	0.955	O	|	|	|	|	1.83
66.417	0.00	0.28	1.057	IO	|	|	|	|	2.01	71.417	0.00	0.22	0.953	O	|	|	|	|	1.83
66.500	0.00	0.28	1.055	IO	|	|	|	|	2.01	71.500	0.00	0.22	0.952	O	|	|	|	|	1.83
66.583	0.00	0.28	1.053	IO	|	|	|	|	2.00	71.583	0.00	0.22	0.950	O	|	|	|	|	1.83
66.667	0.00	0.28	1.051	IO	|	|	|	|	2.00	71.667	0.00	0.22	0.949	O	|	|	|	|	1.82
66.750	0.00	0.28	1.049	IO	|	|	|	|	2.00	71.750	0.00	0.22	0.947	O	|	|	|	|	1.82
66.833	0.00	0.28	1.047	IO	|	|	|	|	2.00	71.833	0.00	0.21	0.946	O	|	|	|	|	1.82
66.917	0.00	0.28	1.045	IO	|	|	|	|	1.99	71.917	0.00	0.21	0.944	O	|	|	|	|	1.82
67.000	0.00	0.28	1.043	IO	|	|	|	|	1.99	72.000	0.00	0.21	0.943	O	|	|	|	|	1.81
67.083	0.00	0.27	1.042	IO	|	|	|	|	1.99	72.083	0.00	0.21	0.942	O	|	|	|	|	1.81
67.167	0.00	0.27	1.040	IO	|	|	|	|	1.98	72.167	0.00	0.21	0.940	O	|	|	|	|	1.81
67.250	0.00	0.27	1.038	IO	|	|	|	|	1.98	72.250	0.00	0.21	0.939	O	|	|	|	|	1.81
67.333	0.00	0.27	1.036	IO	|	|	|	|	1.98	72.333	0.00	0.21	0.937	O	|	|	|	|	1.80
67.417	0.00	0.27	1.034	IO	|	|	|	|	1.97	72.417	0.00	0.21	0.936	O	|	|	|	|	1.80
67.500	0.00	0.27	1.032	IO	|	|	|	|	1.97	72.500	0.00	0.21	0.934	O	|	|	|	|	1.80
67.583	0.00	0.27	1.030	IO	|	|	|	|	1.97	72.583	0.00	0.21	0.933	O	|	|	|	|	1.80
67.667	0.00	0.27	1.028	IO	|	|	|	|	1.96	72.667	0.00	0.21	0.931	O	|	|	|	|	1.79
67.750	0.00	0.27	1.027	IO	|	|	|	|	1.96	72.750	0.00	0.20	0.930	O	|	|	|	|	1.79
67.833	0.00	0.26	1.025	IO	|	|	|	|	1.96	72.833	0.00	0.20	0.929	O	|	|	|	|	1.79
67.917	0.00	0.26	1.023	IO	|	|	|	|	1.95	72.917	0.00	0.20	0.927	O	|	|	|	|	1.79
68.000	0.00	0.26	1.021	IO	|	|	|	|	1.95	73.000	0.00	0.20	0.926	O	|	|	|	|	1.78
68.083	0.00	0.26	1.019	IO	|	|	|	|	1.95	73.083	0.00	0.20	0.924	O	|	|	|	|	1.78
68.167	0.00	0.26	1.018	IO	|	|	|	|	1.94	73.167	0.00	0.20	0.923	O	|	|	|	|	1.78
68.250	0.00	0.26	1.016	IO	|	|	|	|	1.94	73.250	0.00	0.20	0.922	O	|	|	|	|	1.78
68.333	0.00	0.26	1.014	IO	|	|	|	|	1.94	73.333	0.00	0.20	0.920	O	|	|	|	|	1.77
68.417	0.00	0.26	1.012	IO	|	|	|	|	1.93	73.417	0.00	0.20	0.919	O	|	|	|	|	1.77
68.500	0.00	0.26	1.011	IO	|	|	|	|	1.93	73.500	0.00	0.20	0.918	O	|	|	|	|	1.77
68.583	0.00	0.25	1.009	IO	|	|	|	|	1.93	73.583	0.00	0.20	0.916	O	|	|	|	|	1.77
68.667	0.00	0.25	1.007	IO	|	|	|	|	1.93	73.667	0.00	0.20	0.915	O	|	|	|	|	1.76
68.750	0.00	0.25	1.005	IO	|	|	|	|	1.92	73.750	0.00	0.19	0.914	O	|	|	|	|	1.76
68.833	0.00	0.25	1.004	O	|	|	|	|	1.92	73.833	0.00	0.19	0.912	O	|	|	|	|	1.76

73.917	0.00	0.19	0.911	O	|	|	|	|	1.76	78.917	0.00	0.15	0.841	O	|	|	|	|	1.64
74.000	0.00	0.19	0.910	O	|	|	|	|	1.76	79.000	0.00	0.15	0.840	O	|	|	|	|	1.63
74.083	0.00	0.19	0.908	O	|	|	|	|	1.75	79.083	0.00	0.15	0.839	O	|	|	|	|	1.63
74.167	0.00	0.19	0.907	O	|	|	|	|	1.75	79.167	0.00	0.15	0.838	O	|	|	|	|	1.63
74.250	0.00	0.19	0.906	O	|	|	|	|	1.75	79.250	0.00	0.15	0.837	O	|	|	|	|	1.63
74.333	0.00	0.19	0.904	O	|	|	|	|	1.75	79.333	0.00	0.15	0.836	O	|	|	|	|	1.63
74.417	0.00	0.19	0.903	O	|	|	|	|	1.74	79.417	0.00	0.14	0.835	O	|	|	|	|	1.62
74.500	0.00	0.19	0.902	O	|	|	|	|	1.74	79.500	0.00	0.14	0.834	O	|	|	|	|	1.62
74.583	0.00	0.19	0.900	O	|	|	|	|	1.74	79.583	0.00	0.14	0.833	O	|	|	|	|	1.62
74.667	0.00	0.19	0.899	O	|	|	|	|	1.74	79.667	0.00	0.14	0.832	O	|	|	|	|	1.62
74.750	0.00	0.18	0.898	O	|	|	|	|	1.73	79.750	0.00	0.14	0.831	O	|	|	|	|	1.62
74.833	0.00	0.18	0.897	O	|	|	|	|	1.73	79.833	0.00	0.14	0.830	O	|	|	|	|	1.62
74.917	0.00	0.18	0.895	O	|	|	|	|	1.73	79.917	0.00	0.14	0.829	O	|	|	|	|	1.61
75.000	0.00	0.18	0.894	O	|	|	|	|	1.73	80.000	0.00	0.14	0.828	O	|	|	|	|	1.61
75.083	0.00	0.18	0.893	O	|	|	|	|	1.73	80.083	0.00	0.14	0.827	O	|	|	|	|	1.61
75.167	0.00	0.18	0.892	O	|	|	|	|	1.72	80.167	0.00	0.14	0.826	O	|	|	|	|	1.61
75.250	0.00	0.18	0.890	O	|	|	|	|	1.72	80.250	0.00	0.14	0.825	O	|	|	|	|	1.61
75.333	0.00	0.18	0.889	O	|	|	|	|	1.72	80.333	0.00	0.14	0.824	O	|	|	|	|	1.61
75.417	0.00	0.18	0.888	O	|	|	|	|	1.72	80.417	0.00	0.14	0.823	O	|	|	|	|	1.60
75.500	0.00	0.18	0.887	O	|	|	|	|	1.72	80.500	0.00	0.14	0.822	O	|	|	|	|	1.60
75.583	0.00	0.18	0.885	O	|	|	|	|	1.71	80.583	0.00	0.14	0.821	O	|	|	|	|	1.60
75.667	0.00	0.18	0.884	O	|	|	|	|	1.71	80.667	0.00	0.14	0.820	O	|	|	|	|	1.60
75.750	0.00	0.18	0.883	O	|	|	|	|	1.71	80.750	0.00	0.14	0.819	O	|	|	|	|	1.60
75.833	0.00	0.17	0.882	O	|	|	|	|	1.71	80.833	0.00	0.13	0.818	O	|	|	|	|	1.60
75.917	0.00	0.17	0.881	O	|	|	|	|	1.70	80.917	0.00	0.13	0.817	O	|	|	|	|	1.59
76.000	0.00	0.17	0.879	O	|	|	|	|	1.70	81.000	0.00	0.13	0.817	O	|	|	|	|	1.59
76.083	0.00	0.17	0.878	O	|	|	|	|	1.70	81.083	0.00	0.13	0.816	O	|	|	|	|	1.59
76.167	0.00	0.17	0.877	O	|	|	|	|	1.70	81.167	0.00	0.13	0.815	O	|	|	|	|	1.59
76.250	0.00	0.17	0.876	O	|	|	|	|	1.70	81.250	0.00	0.13	0.814	O	|	|	|	|	1.59
76.333	0.00	0.17	0.875	O	|	|	|	|	1.69	81.333	0.00	0.13	0.813	O	|	|	|	|	1.59
76.417	0.00	0.17	0.874	O	|	|	|	|	1.69	81.417	0.00	0.13	0.812	O	|	|	|	|	1.58
76.500	0.00	0.17	0.872	O	|	|	|	|	1.69	81.500	0.00	0.13	0.811	O	|	|	|	|	1.58
76.583	0.00	0.17	0.871	O	|	|	|	|	1.69	81.583	0.00	0.13	0.810	O	|	|	|	|	1.58
76.667	0.00	0.17	0.870	O	|	|	|	|	1.69	81.667	0.00	0.13	0.809	O	|	|	|	|	1.58
76.750	0.00	0.17	0.869	O	|	|	|	|	1.68	81.750	0.00	0.13	0.808	O	|	|	|	|	1.58
76.833	0.00	0.17	0.868	O	|	|	|	|	1.68	81.833	0.00	0.13	0.808	O	|	|	|	|	1.58
76.917	0.00	0.16	0.867	O	|	|	|	|	1.68	81.917	0.00	0.13	0.807	O	|	|	|	|	1.58
77.000	0.00	0.16	0.866	O	|	|	|	|	1.68	82.000	0.00	0.13	0.806	O	|	|	|	|	1.57
77.083	0.00	0.16	0.864	O	|	|	|	|	1.68	82.083	0.00	0.13	0.805	O	|	|	|	|	1.57
77.167	0.00	0.16	0.863	O	|	|	|	|	1.67	82.167	0.00	0.13	0.804	O	|	|	|	|	1.57
77.250	0.00	0.16	0.862	O	|	|	|	|	1.67	82.250	0.00	0.13	0.803	O	|	|	|	|	1.57
77.333	0.00	0.16	0.861	O	|	|	|	|	1.67	82.333	0.00	0.12	0.802	O	|	|	|	|	1.57
77.417	0.00	0.16	0.860	O	|	|	|	|	1.67	82.417	0.00	0.12	0.801	O	|	|	|	|	1.57
77.500	0.00	0.16	0.859	O	|	|	|	|	1.67	82.500	0.00	0.12	0.801	O	|	|	|	|	1.57
77.583	0.00	0.16	0.858	O	|	|	|	|	1.66	82.583	0.00	0.12	0.800	O	|	|	|	|	1.56
77.667	0.00	0.16	0.857	O	|	|	|	|	1.66	82.667	0.00	0.12	0.799	O	|	|	|	|	1.56
77.750	0.00	0.16	0.856	O	|	|	|	|	1.66	82.750	0.00	0.12	0.798	O	|	|	|	|	1.56
77.833	0.00	0.16	0.854	O	|	|	|	|	1.66	82.833	0.00	0.12	0.797	O	|	|	|	|	1.56
77.917	0.00	0.16	0.853	O	|	|	|	|	1.66	82.917	0.00	0.12	0.796	O	|	|	|	|	1.56
78.000	0.00	0.16	0.852	O	|	|	|	|	1.66	83.000	0.00	0.12	0.796	O	|	|	|	|	1.56
78.083	0.00	0.16	0.851	O	|	|	|	|	1.65	83.083	0.00	0.12	0.795	O	|	|	|	|	1.55
78.167	0.00	0.15	0.850	O	|	|	|	|	1.65	83.167	0.00	0.12	0.794	O	|	|	|	|	1.55
78.250	0.00	0.15	0.849	O	|	|	|	|	1.65	83.250	0.00	0.12	0.793	O	|	|	|	|	1.55
78.333	0.00	0.15	0.848	O	|	|	|	|	1.65	83.333	0.00	0.12	0.792	O	|	|	|	|	1.55
78.417	0.00	0.15	0.847	O	|	|	|	|	1.65	83.417	0.00	0.12	0.791	O	|	|	|	|	1.55
78.500	0.00	0.15	0.846	O	|	|	|	|	1.64	83.500	0.00	0.12	0.791	O	|	|	|	|	1.55
78.583	0.00	0.15	0.845	O	|	|	|	|	1.64	83.583	0.00	0.12	0.790	O	|	|	|	|	1.55
78.667	0.00	0.15	0.844	O	|	|	|	|	1.64	83.667	0.00	0.12	0.789	O	|	|	|	|	1.54
78.750	0.00	0.15	0.843	O	|	|	|	|	1.64	83.750	0.00	0.12	0.788	O	|	|	|	|	1.54
78.833	0.00	0.15	0.842	O	|	|	|	|	1.64	83.833	0.00	0.12	0.787	O	|	|	|	|	1.54

83.917	0.00	0.11	0.787	O					1.54	88.917	0.00	0.09	0.745	O					1.47
84.000	0.00	0.11	0.786	O					1.54	89.000	0.00	0.09	0.744	O					1.47
84.083	0.00	0.11	0.785	O					1.54	89.083	0.00	0.09	0.744	O					1.47
84.167	0.00	0.11	0.784	O					1.54	89.167	0.00	0.09	0.743	O					1.46
84.250	0.00	0.11	0.784	O					1.54	89.250	0.00	0.09	0.743	O					1.46
84.333	0.00	0.11	0.783	O					1.53	89.333	0.00	0.09	0.742	O					1.46
84.417	0.00	0.11	0.782	O					1.53	89.417	0.00	0.09	0.741	O					1.46
84.500	0.00	0.11	0.781	O					1.53	89.500	0.00	0.09	0.741	O					1.46
84.583	0.00	0.11	0.780	O					1.53	89.583	0.00	0.09	0.740	O					1.46
84.667	0.00	0.11	0.780	O					1.53	89.667	0.00	0.09	0.740	O					1.46
84.750	0.00	0.11	0.779	O					1.53	89.750	0.00	0.08	0.739	O					1.46
84.833	0.00	0.11	0.778	O					1.53	89.833	0.00	0.08	0.738	O					1.46
84.917	0.00	0.11	0.777	O					1.52	89.917	0.00	0.08	0.738	O					1.46
85.000	0.00	0.11	0.777	O					1.52	90.000	0.00	0.08	0.737	O					1.45
85.083	0.00	0.11	0.776	O					1.52	90.083	0.00	0.08	0.737	O					1.45
85.167	0.00	0.11	0.775	O					1.52	90.167	0.00	0.08	0.736	O					1.45
85.250	0.00	0.11	0.774	O					1.52	90.250	0.00	0.08	0.736	O					1.45
85.333	0.00	0.11	0.774	O					1.52	90.333	0.00	0.08	0.735	O					1.45
85.417	0.00	0.11	0.773	O					1.52	90.417	0.00	0.08	0.734	O					1.45
85.500	0.00	0.11	0.772	O					1.52	90.500	0.00	0.08	0.734	O					1.45
85.583	0.00	0.11	0.772	O					1.51	90.583	0.00	0.08	0.733	O					1.45
85.667	0.00	0.10	0.771	O					1.51	90.667	0.00	0.08	0.733	O					1.45
85.750	0.00	0.10	0.770	O					1.51	90.750	0.00	0.08	0.732	O					1.45
85.833	0.00	0.10	0.769	O					1.51	90.833	0.00	0.08	0.732	O					1.44
85.917	0.00	0.10	0.769	O					1.51	90.917	0.00	0.08	0.731	O					1.44
86.000	0.00	0.10	0.768	O					1.51	91.000	0.00	0.08	0.731	O					1.44
86.083	0.00	0.10	0.767	O					1.51	91.083	0.00	0.08	0.730	O					1.44
86.167	0.00	0.10	0.767	O					1.51	91.167	0.00	0.08	0.729	O					1.44
86.250	0.00	0.10	0.766	O					1.50	91.250	0.00	0.08	0.729	O					1.44
86.333	0.00	0.10	0.765	O					1.50	91.333	0.00	0.08	0.728	O					1.44
86.417	0.00	0.10	0.764	O					1.50	91.417	0.00	0.08	0.728	O					1.44
86.500	0.00	0.10	0.764	O					1.50	91.500	0.00	0.08	0.727	O					1.44
86.583	0.00	0.10	0.763	O					1.50	91.583	0.00	0.08	0.727	O					1.44
86.667	0.00	0.10	0.762	O					1.50	91.667	0.00	0.08	0.726	O					1.44
86.750	0.00	0.10	0.762	O					1.50	91.750	0.00	0.08	0.726	O					1.43
86.833	0.00	0.10	0.761	O					1.50	91.833	0.00	0.08	0.725	O					1.43
86.917	0.00	0.10	0.760	O					1.49	91.917	0.00	0.08	0.725	O					1.43
87.000	0.00	0.10	0.760	O					1.49	92.000	0.00	0.08	0.724	O					1.43
87.083	0.00	0.10	0.759	O					1.49	92.083	0.00	0.08	0.724	O					1.43
87.167	0.00	0.10	0.758	O					1.49	92.167	0.00	0.07	0.723	O					1.43
87.250	0.00	0.10	0.758	O					1.49	92.250	0.00	0.07	0.723	O					1.43
87.333	0.00	0.10	0.757	O					1.49	92.333	0.00	0.07	0.722	O					1.43
87.417	0.00	0.10	0.756	O					1.49	92.417	0.00	0.07	0.722	O					1.43
87.500	0.00	0.10	0.756	O					1.49	92.500	0.00	0.07	0.721	O					1.43
87.583	0.00	0.09	0.755	O					1.49	92.583	0.00	0.07	0.721	O					1.43
87.667	0.00	0.09	0.754	O					1.48	92.667	0.00	0.07	0.720	O					1.42
87.750	0.00	0.09	0.754	O					1.48	92.750	0.00	0.07	0.720	O					1.42
87.833	0.00	0.09	0.753	O					1.48	92.833	0.00	0.07	0.719	O					1.42
87.917	0.00	0.09	0.752	O					1.48	92.917	0.00	0.07	0.719	O					1.42
88.000	0.00	0.09	0.752	O					1.48	93.000	0.00	0.07	0.718	O					1.42
88.083	0.00	0.09	0.751	O					1.48	93.083	0.00	0.07	0.718	O					1.42
88.167	0.00	0.09	0.751	O					1.48	93.167	0.00	0.07	0.717	O					1.42
88.250	0.00	0.09	0.750	O					1.48	93.250	0.00	0.07	0.717	O					1.42
88.333	0.00	0.09	0.749	O					1.48	93.333	0.00	0.07	0.716	O					1.42
88.417	0.00	0.09	0.749	O					1.47	93.417	0.00	0.07	0.716	O					1.42
88.500	0.00	0.09	0.748	O					1.47	93.500	0.00	0.07	0.715	O					1.42
88.583	0.00	0.09	0.747	O					1.47	93.583	0.00	0.07	0.715	O					1.42
88.667	0.00	0.09	0.747	O					1.47	93.667	0.00	0.07	0.714	O					1.41
88.750	0.00	0.09	0.746	O					1.47	93.750	0.00	0.07	0.714	O					1.41
88.833	0.00	0.09	0.746	O					1.47	93.833	0.00	0.07	0.713	O					1.41

Left Blank Intentionally

413.917	0.00	0.01	0.425	O	|	|	|	|	0.86
414.000	0.00	0.01	0.425	O	|	|	|	|	0.86
414.083	0.00	0.01	0.425	O	|	|	|	|	0.86
414.167	0.00	0.01	0.425	O	|	|	|	|	0.86
414.250	0.00	0.01	0.425	O	|	|	|	|	0.86
414.333	0.00	0.01	0.425	O	|	|	|	|	0.86
414.417	0.00	0.01	0.425	O	|	|	|	|	0.86
414.500	0.00	0.01	0.425	O	|	|	|	|	0.86
414.583	0.00	0.01	0.425	O	|	|	|	|	0.86
414.667	0.00	0.01	0.425	O	|	|	|	|	0.86
414.750	0.00	0.01	0.425	O	|	|	|	|	0.86
414.833	0.00	0.01	0.425	O	|	|	|	|	0.86
414.917	0.00	0.01	0.425	O	|	|	|	|	0.86
415.000	0.00	0.01	0.425	O	|	|	|	|	0.86
415.083	0.00	0.01	0.425	O	|	|	|	|	0.86
415.167	0.00	0.01	0.424	O	|	|	|	|	0.86
415.250	0.00	0.01	0.424	O	|	|	|	|	0.86
415.333	0.00	0.01	0.424	O	|	|	|	|	0.86
415.417	0.00	0.01	0.424	O	|	|	|	|	0.86
415.500	0.00	0.01	0.424	O	|	|	|	|	0.86
415.583	0.00	0.01	0.424	O	|	|	|	|	0.86
415.667	0.00	0.01	0.424	O	|	|	|	|	0.86
415.750	0.00	0.01	0.424	O	|	|	|	|	0.86
415.833	0.00	0.01	0.424	O	|	|	|	|	0.86
415.917	0.00	0.01	0.424	O	|	|	|	|	0.85
416.000	0.00	0.01	0.424	O	|	|	|	|	0.85
416.083	0.00	0.01	0.424	O	|	|	|	|	0.85
416.167	0.00	0.01	0.424	O	|	|	|	|	0.85
416.250	0.00	0.01	0.424	O	|	|	|	|	0.85
416.333	0.00	0.01	0.424	O	|	|	|	|	0.85
416.417	0.00	0.01	0.424	O	|	|	|	|	0.85
416.500	0.00	0.01	0.424	O	|	|	|	|	0.85
416.583	0.00	0.01	0.424	O	|	|	|	|	0.85
416.667	0.00	0.01	0.424	O	|	|	|	|	0.85

Remaining water in basin = 0.42 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 5.444 (CFS)
Total volume = 4.456 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

100-YR
1, 3, 6, 24-HR STORMS

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

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TR 37036, PARCEL 1
BASIN M
100Y 1H STORM

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Program License Serial Number 6406

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******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR1100.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    16
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       54.170 (CFS)
                Total volume =       1.843 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 16
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
------------------------------------------------------------------------
------------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
------------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
------------------------------------------------------------------------
                  Hydrograph Detention Basin Routing
------------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
------------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0      13.5   27.08   40.63   54.17 (Ft.)
 0.083    3.69    0.00      0.013  O I     |       |       |       |     0.03
 0.167    7.70    0.00      0.052  O   I   |       |       |       |     0.10
 0.250    9.82    0.00      0.112  O    I  |       |       |       |     0.23
 0.333   11.46    0.00      0.185  O     I |       |       |       |     0.37
 0.417   12.30    0.00      0.267  O      I|       |       |       |     0.54
 0.500   13.88    0.01      0.357  O       I       |       |       |     0.72
 0.583   17.27    0.01      0.465  O       | I     |       |       |     0.94
 0.667   21.57    0.01      0.598  O       |   I   |       |       |     1.21
 0.750   29.36    0.11      0.773  O       |       |I      |       |     1.52
 0.833   54.17    0.28      1.060  O       |       |       |      I|     2.02
 0.917   49.73    0.38      1.415  O       |       |       |    I  |     2.60
 1.000   22.81    0.45      1.662  O       |    I  |       |       |     3.00
 1.083   10.06    0.51      1.772  O    I  |       |       |       |     3.17
 1.167    2.93    0.53      1.813  OI      |       |       |       |     3.23
 1.250    0.68    0.53      1.822  O       |       |       |       |     3.24
 1.333    0.15    0.53      1.821  O       |       |       |       |     3.24
 1.417    0.00    0.53      1.818  O       |       |       |       |     3.24
 1.500    0.00    0.53      1.814  O       |       |       |       |     3.23
 1.583    0.00    0.53      1.811  O       |       |       |       |     3.22
 1.667    0.00    0.52      1.807  O       |       |       |       |     3.22
 1.750    0.00    0.52      1.803  O       |       |       |       |     3.21
 1.833    0.00    0.52      1.800  O       |       |       |       |     3.21
 1.917    0.00    0.52      1.796  O       |       |       |       |     3.20
 2.000    0.00    0.52      1.793  O       |       |       |       |     3.20
 2.083    0.00    0.52      1.789  O       |       |       |       |     3.19
 2.167    0.00    0.51      1.786  O       |       |       |       |     3.19
 2.250    0.00    0.51      1.782  O       |       |       |       |     3.18
 2.333    0.00    0.51      1.779  O       |       |       |       |     3.18
 2.417    0.00    0.51      1.775  O       |       |       |       |     3.17
 2.500    0.00    0.51      1.772  O       |       |       |       |     3.17
 2.583    0.00    0.50      1.768  O       |       |       |       |     3.16
 2.667    0.00    0.50      1.765  O       |       |       |       |     3.16
 2.750    0.00    0.50      1.761  O       |       |       |       |     3.15
 2.833    0.00    0.50      1.758  O       |       |       |       |     3.15
 2.917    0.00    0.50      1.754  O       |       |       |       |     3.14
 3.000    0.00    0.50      1.751  O       |       |       |       |     3.14
 3.083    0.00    0.49      1.747  O       |       |       |       |     3.13
 3.167    0.00    0.49      1.744  O       |       |       |       |     3.13
 3.250    0.00    0.49      1.741  O       |       |       |       |     3.12
 3.333    0.00    0.49      1.737  O       |       |       |       |     3.12
 3.417    0.00    0.49      1.734  O       |       |       |       |     3.11
 3.500    0.00    0.49      1.731  O       |       |       |       |     3.11
 3.583    0.00    0.48      1.727  O       |       |       |       |     3.10
 3.667    0.00    0.48      1.724  O       |       |       |       |     3.10
 3.750    0.00    0.48      1.721  O       |       |       |       |     3.09
 3.833    0.00    0.48      1.717  O       |       |       |       |     3.09
```

3.917	0.00	0.48	1.714	O	|	|	|	|	3.08	8.917	0.00	0.41	1.532	O	|	|	|	|	2.79
4.000	0.00	0.48	1.711	O	|	|	|	|	3.08	9.000	0.00	0.41	1.529	O	|	|	|	|	2.79
4.083	0.00	0.47	1.707	O	|	|	|	|	3.07	9.083	0.00	0.41	1.526	O	|	|	|	|	2.78
4.167	0.00	0.47	1.704	O	|	|	|	|	3.07	9.167	0.00	0.41	1.523	O	|	|	|	|	2.78
4.250	0.00	0.47	1.701	O	|	|	|	|	3.06	9.250	0.00	0.41	1.520	O	|	|	|	|	2.77
4.333	0.00	0.47	1.698	O	|	|	|	|	3.06	9.333	0.00	0.41	1.518	O	|	|	|	|	2.77
4.417	0.00	0.47	1.694	O	|	|	|	|	3.05	9.417	0.00	0.41	1.515	O	|	|	|	|	2.76
4.500	0.00	0.47	1.691	O	|	|	|	|	3.05	9.500	0.00	0.41	1.512	O	|	|	|	|	2.76
4.583	0.00	0.46	1.688	O	|	|	|	|	3.04	9.583	0.00	0.41	1.509	O	|	|	|	|	2.75
4.667	0.00	0.46	1.685	O	|	|	|	|	3.04	9.667	0.00	0.41	1.506	O	|	|	|	|	2.75
4.750	0.00	0.46	1.682	O	|	|	|	|	3.03	9.750	0.00	0.41	1.504	O	|	|	|	|	2.74
4.833	0.00	0.46	1.678	O	|	|	|	|	3.03	9.833	0.00	0.41	1.501	O	|	|	|	|	2.74
4.917	0.00	0.46	1.675	O	|	|	|	|	3.02	9.917	0.00	0.40	1.498	O	|	|	|	|	2.73
5.000	0.00	0.46	1.672	O	|	|	|	|	3.02	10.000	0.00	0.40	1.495	O	|	|	|	|	2.73
5.083	0.00	0.45	1.669	O	|	|	|	|	3.01	10.083	0.00	0.40	1.492	O	|	|	|	|	2.73
5.167	0.00	0.45	1.666	O	|	|	|	|	3.01	10.167	0.00	0.40	1.490	O	|	|	|	|	2.72
5.250	0.00	0.45	1.663	O	|	|	|	|	3.00	10.250	0.00	0.40	1.487	O	|	|	|	|	2.72
5.333	0.00	0.45	1.660	O	|	|	|	|	3.00	10.333	0.00	0.40	1.484	O	|	|	|	|	2.71
5.417	0.00	0.45	1.657	O	|	|	|	|	2.99	10.417	0.00	0.40	1.481	O	|	|	|	|	2.71
5.500	0.00	0.45	1.653	O	|	|	|	|	2.99	10.500	0.00	0.40	1.479	O	|	|	|	|	2.70
5.583	0.00	0.45	1.650	O	|	|	|	|	2.98	10.583	0.00	0.40	1.476	O	|	|	|	|	2.70
5.667	0.00	0.45	1.647	O	|	|	|	|	2.98	10.667	0.00	0.40	1.473	O	|	|	|	|	2.69
5.750	0.00	0.45	1.644	O	|	|	|	|	2.97	10.750	0.00	0.40	1.470	O	|	|	|	|	2.69
5.833	0.00	0.44	1.641	O	|	|	|	|	2.97	10.833	0.00	0.40	1.468	O	|	|	|	|	2.68
5.917	0.00	0.44	1.638	O	|	|	|	|	2.96	10.917	0.00	0.40	1.465	O	|	|	|	|	2.68
6.000	0.00	0.44	1.635	O	|	|	|	|	2.96	11.000	0.00	0.39	1.462	O	|	|	|	|	2.68
6.083	0.00	0.44	1.632	O	|	|	|	|	2.95	11.083	0.00	0.39	1.459	O	|	|	|	|	2.67
6.167	0.00	0.44	1.629	O	|	|	|	|	2.95	11.167	0.00	0.39	1.457	O	|	|	|	|	2.67
6.250	0.00	0.44	1.626	O	|	|	|	|	2.94	11.250	0.00	0.39	1.454	O	|	|	|	|	2.66
6.333	0.00	0.44	1.623	O	|	|	|	|	2.94	11.333	0.00	0.39	1.451	O	|	|	|	|	2.66
6.417	0.00	0.44	1.620	O	|	|	|	|	2.93	11.417	0.00	0.39	1.449	O	|	|	|	|	2.65
6.500	0.00	0.44	1.617	O	|	|	|	|	2.93	11.500	0.00	0.39	1.446	O	|	|	|	|	2.65
6.583	0.00	0.44	1.614	O	|	|	|	|	2.92	11.583	0.00	0.39	1.443	O	|	|	|	|	2.64
6.667	0.00	0.44	1.611	O	|	|	|	|	2.92	11.667	0.00	0.39	1.441	O	|	|	|	|	2.64
6.750	0.00	0.44	1.608	O	|	|	|	|	2.91	11.750	0.00	0.39	1.438	O	|	|	|	|	2.64
6.833	0.00	0.43	1.605	O	|	|	|	|	2.91	11.833	0.00	0.39	1.435	O	|	|	|	|	2.63
6.917	0.00	0.43	1.602	O	|	|	|	|	2.90	11.917	0.00	0.39	1.433	O	|	|	|	|	2.63
7.000	0.00	0.43	1.599	O	|	|	|	|	2.90	12.000	0.00	0.39	1.430	O	|	|	|	|	2.62
7.083	0.00	0.43	1.596	O	|	|	|	|	2.89	12.083	0.00	0.39	1.427	O	|	|	|	|	2.62
7.167	0.00	0.43	1.593	O	|	|	|	|	2.89	12.167	0.00	0.38	1.425	O	|	|	|	|	2.61
7.250	0.00	0.43	1.590	O	|	|	|	|	2.89	12.250	0.00	0.38	1.422	O	|	|	|	|	2.61
7.333	0.00	0.43	1.587	O	|	|	|	|	2.88	12.333	0.00	0.38	1.419	O	|	|	|	|	2.61
7.417	0.00	0.43	1.584	O	|	|	|	|	2.88	12.417	0.00	0.38	1.417	O	|	|	|	|	2.60
7.500	0.00	0.43	1.581	O	|	|	|	|	2.87	12.500	0.00	0.38	1.414	O	|	|	|	|	2.60
7.583	0.00	0.43	1.578	O	|	|	|	|	2.87	12.583	0.00	0.38	1.411	O	|	|	|	|	2.59
7.667	0.00	0.43	1.575	O	|	|	|	|	2.86	12.667	0.00	0.38	1.409	O	|	|	|	|	2.59
7.750	0.00	0.43	1.572	O	|	|	|	|	2.86	12.750	0.00	0.38	1.406	O	|	|	|	|	2.58
7.833	0.00	0.42	1.569	O	|	|	|	|	2.85	12.833	0.00	0.38	1.404	O	|	|	|	|	2.58
7.917	0.00	0.42	1.566	O	|	|	|	|	2.85	12.917	0.00	0.38	1.401	O	|	|	|	|	2.58
8.000	0.00	0.42	1.563	O	|	|	|	|	2.84	13.000	0.00	0.38	1.398	O	|	|	|	|	2.57
8.083	0.00	0.42	1.561	O	|	|	|	|	2.84	13.083	0.00	0.38	1.396	O	|	|	|	|	2.57
8.167	0.00	0.42	1.558	O	|	|	|	|	2.83	13.167	0.00	0.38	1.393	O	|	|	|	|	2.56
8.250	0.00	0.42	1.555	O	|	|	|	|	2.83	13.250	0.00	0.37	1.391	O	|	|	|	|	2.56
8.333	0.00	0.42	1.552	O	|	|	|	|	2.82	13.333	0.00	0.37	1.388	O	|	|	|	|	2.55
8.417	0.00	0.42	1.549	O	|	|	|	|	2.82	13.417	0.00	0.37	1.385	O	|	|	|	|	2.55
8.500	0.00	0.42	1.546	O	|	|	|	|	2.81	13.500	0.00	0.37	1.383	O	|	|	|	|	2.55
8.583	0.00	0.42	1.543	O	|	|	|	|	2.81	13.583	0.00	0.37	1.380	O	|	|	|	|	2.54
8.667	0.00	0.42	1.540	O	|	|	|	|	2.80	13.667	0.00	0.37	1.378	O	|	|	|	|	2.54
8.750	0.00	0.42	1.537	O	|	|	|	|	2.80	13.750	0.00	0.37	1.375	O	|	|	|	|	2.53
8.833	0.00	0.42	1.535	O	|	|	|	|	2.79	13.833	0.00	0.37	1.373	O	|	|	|	|	2.53

13.917	0.00	0.37	1.370	O	|	|	|	|	2.52	18.917	0.00	0.33	1.226	O	|	|	|	|	2.29
14.000	0.00	0.37	1.368	O	|	|	|	|	2.52	19.000	0.00	0.33	1.224	O	|	|	|	|	2.28
14.083	0.00	0.37	1.365	O	|	|	|	|	2.52	19.083	0.00	0.33	1.221	O	|	|	|	|	2.28
14.167	0.00	0.37	1.362	O	|	|	|	|	2.51	19.167	0.00	0.33	1.219	O	|	|	|	|	2.28
14.250	0.00	0.37	1.360	O	|	|	|	|	2.51	19.250	0.00	0.33	1.217	O	|	|	|	|	2.27
14.333	0.00	0.37	1.357	O	|	|	|	|	2.50	19.333	0.00	0.33	1.215	O	|	|	|	|	2.27
14.417	0.00	0.36	1.355	O	|	|	|	|	2.50	19.417	0.00	0.33	1.212	O	|	|	|	|	2.27
14.500	0.00	0.36	1.352	O	|	|	|	|	2.50	19.500	0.00	0.32	1.210	O	|	|	|	|	2.26
14.583	0.00	0.36	1.350	O	|	|	|	|	2.49	19.583	0.00	0.32	1.208	O	|	|	|	|	2.26
14.667	0.00	0.36	1.347	O	|	|	|	|	2.49	19.667	0.00	0.32	1.206	O	|	|	|	|	2.26
14.750	0.00	0.36	1.345	O	|	|	|	|	2.48	19.750	0.00	0.32	1.204	O	|	|	|	|	2.25
14.833	0.00	0.36	1.342	O	|	|	|	|	2.48	19.833	0.00	0.32	1.201	O	|	|	|	|	2.25
14.917	0.00	0.36	1.340	O	|	|	|	|	2.48	19.917	0.00	0.32	1.199	O	|	|	|	|	2.24
15.000	0.00	0.36	1.337	O	|	|	|	|	2.47	20.000	0.00	0.32	1.197	O	|	|	|	|	2.24
15.083	0.00	0.36	1.335	O	|	|	|	|	2.47	20.083	0.00	0.32	1.195	O	|	|	|	|	2.24
15.167	0.00	0.36	1.332	O	|	|	|	|	2.46	20.167	0.00	0.32	1.192	O	|	|	|	|	2.23
15.250	0.00	0.36	1.330	O	|	|	|	|	2.46	20.250	0.00	0.32	1.190	O	|	|	|	|	2.23
15.333	0.00	0.36	1.328	O	|	|	|	|	2.46	20.333	0.00	0.32	1.188	O	|	|	|	|	2.23
15.417	0.00	0.36	1.325	O	|	|	|	|	2.45	20.417	0.00	0.32	1.186	O	|	|	|	|	2.22
15.500	0.00	0.36	1.323	O	|	|	|	|	2.45	20.500	0.00	0.32	1.184	O	|	|	|	|	2.22
15.583	0.00	0.36	1.320	O	|	|	|	|	2.44	20.583	0.00	0.32	1.182	O	|	|	|	|	2.22
15.667	0.00	0.35	1.318	O	|	|	|	|	2.44	20.667	0.00	0.32	1.179	O	|	|	|	|	2.21
15.750	0.00	0.35	1.315	O	|	|	|	|	2.43	20.750	0.00	0.32	1.177	O	|	|	|	|	2.21
15.833	0.00	0.35	1.313	O	|	|	|	|	2.43	20.833	0.00	0.31	1.175	O	|	|	|	|	2.20
15.917	0.00	0.35	1.310	O	|	|	|	|	2.43	20.917	0.00	0.31	1.173	O	|	|	|	|	2.20
16.000	0.00	0.35	1.308	O	|	|	|	|	2.42	21.000	0.00	0.31	1.171	O	|	|	|	|	2.20
16.083	0.00	0.35	1.306	O	|	|	|	|	2.42	21.083	0.00	0.31	1.168	O	|	|	|	|	2.19
16.167	0.00	0.35	1.303	O	|	|	|	|	2.42	21.167	0.00	0.31	1.166	O	|	|	|	|	2.19
16.250	0.00	0.35	1.301	O	|	|	|	|	2.41	21.250	0.00	0.31	1.164	O	|	|	|	|	2.19
16.333	0.00	0.35	1.298	O	|	|	|	|	2.41	21.333	0.00	0.31	1.162	O	|	|	|	|	2.18
16.417	0.00	0.35	1.296	O	|	|	|	|	2.40	21.417	0.00	0.31	1.160	O	|	|	|	|	2.18
16.500	0.00	0.35	1.294	O	|	|	|	|	2.40	21.500	0.00	0.31	1.158	O	|	|	|	|	2.18
16.583	0.00	0.35	1.291	O	|	|	|	|	2.40	21.583	0.00	0.31	1.156	O	|	|	|	|	2.17
16.667	0.00	0.35	1.289	O	|	|	|	|	2.39	21.667	0.00	0.31	1.154	O	|	|	|	|	2.17
16.750	0.00	0.35	1.286	O	|	|	|	|	2.39	21.750	0.00	0.31	1.151	O	|	|	|	|	2.17
16.833	0.00	0.35	1.284	O	|	|	|	|	2.38	21.833	0.00	0.31	1.149	O	|	|	|	|	2.16
16.917	0.00	0.34	1.282	O	|	|	|	|	2.38	21.917	0.00	0.31	1.147	O	|	|	|	|	2.16
17.000	0.00	0.34	1.279	O	|	|	|	|	2.38	22.000	0.00	0.31	1.145	O	|	|	|	|	2.16
17.083	0.00	0.34	1.277	O	|	|	|	|	2.37	22.083	0.00	0.31	1.143	O	|	|	|	|	2.15
17.167	0.00	0.34	1.275	O	|	|	|	|	2.37	22.167	0.00	0.31	1.141	O	|	|	|	|	2.15
17.250	0.00	0.34	1.272	O	|	|	|	|	2.36	22.250	0.00	0.30	1.139	O	|	|	|	|	2.15
17.333	0.00	0.34	1.270	O	|	|	|	|	2.36	22.333	0.00	0.30	1.137	O	|	|	|	|	2.14
17.417	0.00	0.34	1.267	O	|	|	|	|	2.36	22.417	0.00	0.30	1.135	O	|	|	|	|	2.14
17.500	0.00	0.34	1.265	O	|	|	|	|	2.35	22.500	0.00	0.30	1.132	O	|	|	|	|	2.14
17.583	0.00	0.34	1.263	O	|	|	|	|	2.35	22.583	0.00	0.30	1.130	O	|	|	|	|	2.13
17.667	0.00	0.34	1.260	O	|	|	|	|	2.35	22.667	0.00	0.30	1.128	O	|	|	|	|	2.13
17.750	0.00	0.34	1.258	O	|	|	|	|	2.34	22.750	0.00	0.30	1.126	O	|	|	|	|	2.12
17.833	0.00	0.34	1.256	O	|	|	|	|	2.34	22.833	0.00	0.30	1.124	O	|	|	|	|	2.12
17.917	0.00	0.34	1.253	O	|	|	|	|	2.33	22.917	0.00	0.30	1.122	O	|	|	|	|	2.12
18.000	0.00	0.34	1.251	O	|	|	|	|	2.33	23.000	0.00	0.30	1.120	O	|	|	|	|	2.11
18.083	0.00	0.34	1.249	O	|	|	|	|	2.33	23.083	0.00	0.30	1.118	O	|	|	|	|	2.11
18.167	0.00	0.33	1.247	O	|	|	|	|	2.32	23.167	0.00	0.30	1.116	O	|	|	|	|	2.11
18.250	0.00	0.33	1.244	O	|	|	|	|	2.32	23.250	0.00	0.30	1.114	O	|	|	|	|	2.10
18.333	0.00	0.33	1.242	O	|	|	|	|	2.31	23.333	0.00	0.30	1.112	O	|	|	|	|	2.10
18.417	0.00	0.33	1.240	O	|	|	|	|	2.31	23.417	0.00	0.30	1.110	O	|	|	|	|	2.10
18.500	0.00	0.33	1.237	O	|	|	|	|	2.31	23.500	0.00	0.30	1.108	O	|	|	|	|	2.09
18.583	0.00	0.33	1.235	O	|	|	|	|	2.30	23.583	0.00	0.30	1.106	O	|	|	|	|	2.09
18.667	0.00	0.33	1.233	O	|	|	|	|	2.30	23.667	0.00	0.29	1.104	O	|	|	|	|	2.09
18.750	0.00	0.33	1.231	O	|	|	|	|	2.30	23.750	0.00	0.29	1.102	O	|	|	|	|	2.08
18.833	0.00	0.33	1.228	O	|	|	|	|	2.29	23.833	0.00	0.29	1.100	O	|	|	|	|	2.08

23.917	0.00	0.29	1.098	O	|	|	|	|	2.08	28.917	0.00	0.24	0.986	O	|	|	|	|	1.89
24.000	0.00	0.29	1.096	O	|	|	|	|	2.07	29.000	0.00	0.24	0.984	O	|	|	|	|	1.89
24.083	0.00	0.29	1.094	O	|	|	|	|	2.07	29.083	0.00	0.24	0.983	O	|	|	|	|	1.88
24.167	0.00	0.29	1.092	O	|	|	|	|	2.07	29.167	0.00	0.24	0.981	O	|	|	|	|	1.88
24.250	0.00	0.29	1.089	O	|	|	|	|	2.06	29.250	0.00	0.24	0.979	O	|	|	|	|	1.88
24.333	0.00	0.29	1.087	O	|	|	|	|	2.06	29.333	0.00	0.23	0.978	O	|	|	|	|	1.87
24.417	0.00	0.29	1.085	O	|	|	|	|	2.06	29.417	0.00	0.23	0.976	O	|	|	|	|	1.87
24.500	0.00	0.29	1.083	O	|	|	|	|	2.05	29.500	0.00	0.23	0.974	O	|	|	|	|	1.87
24.583	0.00	0.29	1.082	O	|	|	|	|	2.05	29.583	0.00	0.23	0.973	O	|	|	|	|	1.87
24.667	0.00	0.29	1.080	O	|	|	|	|	2.05	29.667	0.00	0.23	0.971	O	|	|	|	|	1.86
24.750	0.00	0.29	1.078	O	|	|	|	|	2.05	29.750	0.00	0.23	0.970	O	|	|	|	|	1.86
24.833	0.00	0.29	1.076	O	|	|	|	|	2.04	29.833	0.00	0.23	0.968	O	|	|	|	|	1.86
24.917	0.00	0.29	1.074	O	|	|	|	|	2.04	29.917	0.00	0.23	0.967	O	|	|	|	|	1.85
25.000	0.00	0.29	1.072	O	|	|	|	|	2.04	30.000	0.00	0.23	0.965	O	|	|	|	|	1.85
25.083	0.00	0.29	1.070	O	|	|	|	|	2.03	30.083	0.00	0.23	0.963	O	|	|	|	|	1.85
25.167	0.00	0.28	1.068	O	|	|	|	|	2.03	30.167	0.00	0.22	0.962	O	|	|	|	|	1.85
25.250	0.00	0.28	1.066	O	|	|	|	|	2.03	30.250	0.00	0.22	0.960	O	|	|	|	|	1.84
25.333	0.00	0.28	1.064	O	|	|	|	|	2.02	30.333	0.00	0.22	0.959	O	|	|	|	|	1.84
25.417	0.00	0.28	1.062	O	|	|	|	|	2.02	30.417	0.00	0.22	0.957	O	|	|	|	|	1.84
25.500	0.00	0.28	1.060	O	|	|	|	|	2.02	30.500	0.00	0.22	0.956	O	|	|	|	|	1.84
25.583	0.00	0.28	1.058	O	|	|	|	|	2.01	30.583	0.00	0.22	0.954	O	|	|	|	|	1.83
25.667	0.00	0.28	1.056	O	|	|	|	|	2.01	30.667	0.00	0.22	0.953	O	|	|	|	|	1.83
25.750	0.00	0.28	1.054	O	|	|	|	|	2.01	30.750	0.00	0.22	0.951	O	|	|	|	|	1.83
25.833	0.00	0.28	1.052	O	|	|	|	|	2.00	30.833	0.00	0.22	0.950	O	|	|	|	|	1.83
25.917	0.00	0.28	1.050	O	|	|	|	|	2.00	30.917	0.00	0.22	0.948	O	|	|	|	|	1.82
26.000	0.00	0.28	1.048	O	|	|	|	|	2.00	31.000	0.00	0.22	0.947	O	|	|	|	|	1.82
26.083	0.00	0.28	1.046	O	|	|	|	|	1.99	31.083	0.00	0.21	0.945	O	|	|	|	|	1.82
26.167	0.00	0.28	1.044	O	|	|	|	|	1.99	31.167	0.00	0.21	0.944	O	|	|	|	|	1.81
26.250	0.00	0.28	1.043	O	|	|	|	|	1.99	31.250	0.00	0.21	0.942	O	|	|	|	|	1.81
26.333	0.00	0.27	1.041	O	|	|	|	|	1.98	31.333	0.00	0.21	0.941	O	|	|	|	|	1.81
26.417	0.00	0.27	1.039	O	|	|	|	|	1.98	31.417	0.00	0.21	0.939	O	|	|	|	|	1.81
26.500	0.00	0.27	1.037	O	|	|	|	|	1.98	31.500	0.00	0.21	0.938	O	|	|	|	|	1.80
26.583	0.00	0.27	1.035	O	|	|	|	|	1.97	31.583	0.00	0.21	0.937	O	|	|	|	|	1.80
26.667	0.00	0.27	1.033	O	|	|	|	|	1.97	31.667	0.00	0.21	0.935	O	|	|	|	|	1.80
26.750	0.00	0.27	1.031	O	|	|	|	|	1.97	31.750	0.00	0.21	0.934	O	|	|	|	|	1.80
26.833	0.00	0.27	1.029	O	|	|	|	|	1.96	31.833	0.00	0.21	0.932	O	|	|	|	|	1.79
26.917	0.00	0.27	1.028	O	|	|	|	|	1.96	31.917	0.00	0.21	0.931	O	|	|	|	|	1.79
27.000	0.00	0.26	1.026	O	|	|	|	|	1.96	32.000	0.00	0.20	0.929	O	|	|	|	|	1.79
27.083	0.00	0.26	1.024	O	|	|	|	|	1.95	32.083	0.00	0.20	0.928	O	|	|	|	|	1.79
27.167	0.00	0.26	1.022	O	|	|	|	|	1.95	32.167	0.00	0.20	0.927	O	|	|	|	|	1.78
27.250	0.00	0.26	1.020	O	|	|	|	|	1.95	32.250	0.00	0.20	0.925	O	|	|	|	|	1.78
27.333	0.00	0.26	1.019	O	|	|	|	|	1.95	32.333	0.00	0.20	0.924	O	|	|	|	|	1.78
27.417	0.00	0.26	1.017	O	|	|	|	|	1.94	32.417	0.00	0.20	0.922	O	|	|	|	|	1.78
27.500	0.00	0.26	1.015	O	|	|	|	|	1.94	32.500	0.00	0.20	0.921	O	|	|	|	|	1.78
27.583	0.00	0.26	1.013	O	|	|	|	|	1.94	32.583	0.00	0.20	0.920	O	|	|	|	|	1.77
27.667	0.00	0.26	1.011	O	|	|	|	|	1.93	32.667	0.00	0.20	0.918	O	|	|	|	|	1.77
27.750	0.00	0.25	1.010	O	|	|	|	|	1.93	32.750	0.00	0.20	0.917	O	|	|	|	|	1.77
27.833	0.00	0.25	1.008	O	|	|	|	|	1.93	32.833	0.00	0.20	0.916	O	|	|	|	|	1.77
27.917	0.00	0.25	1.006	O	|	|	|	|	1.92	32.917	0.00	0.19	0.914	O	|	|	|	|	1.76
28.000	0.00	0.25	1.004	O	|	|	|	|	1.92	33.000	0.00	0.19	0.913	O	|	|	|	|	1.76
28.083	0.00	0.25	1.003	O	|	|	|	|	1.92	33.083	0.00	0.19	0.912	O	|	|	|	|	1.76
28.167	0.00	0.25	1.001	O	|	|	|	|	1.91	33.167	0.00	0.19	0.910	O	|	|	|	|	1.76
28.250	0.00	0.25	0.999	O	|	|	|	|	1.91	33.250	0.00	0.19	0.909	O	|	|	|	|	1.75
28.333	0.00	0.25	0.998	O	|	|	|	|	1.91	33.333	0.00	0.19	0.908	O	|	|	|	|	1.75
28.417	0.00	0.25	0.996	O	|	|	|	|	1.91	33.417	0.00	0.19	0.906	O	|	|	|	|	1.75
28.500	0.00	0.24	0.994	O	|	|	|	|	1.90	33.500	0.00	0.19	0.905	O	|	|	|	|	1.75
28.583	0.00	0.24	0.993	O	|	|	|	|	1.90	33.583	0.00	0.19	0.904	O	|	|	|	|	1.74
28.667	0.00	0.24	0.991	O	|	|	|	|	1.90	33.667	0.00	0.19	0.902	O	|	|	|	|	1.74
28.750	0.00	0.24	0.989	O	|	|	|	|	1.89	33.750	0.00	0.19	0.901	O	|	|	|	|	1.74
28.833	0.00	0.24	0.988	O	|	|	|	|	1.89	33.833	0.00	0.19	0.900	O	|	|	|	|	1.74

33.917	0.00	0.18	0.899	O	|	|	|	|	1.74	38.917	0.00	0.14	0.831	O	|	|	|	|	1.62
34.000	0.00	0.18	0.897	O	|	|	|	|	1.73	39.000	0.00	0.14	0.830	O	|	|	|	|	1.62
34.083	0.00	0.18	0.896	O	|	|	|	|	1.73	39.083	0.00	0.14	0.829	O	|	|	|	|	1.62
34.167	0.00	0.18	0.895	O	|	|	|	|	1.73	39.167	0.00	0.14	0.828	O	|	|	|	|	1.61
34.250	0.00	0.18	0.894	O	|	|	|	|	1.73	39.250	0.00	0.14	0.827	O	|	|	|	|	1.61
34.333	0.00	0.18	0.892	O	|	|	|	|	1.72	39.333	0.00	0.14	0.826	O	|	|	|	|	1.61
34.417	0.00	0.18	0.891	O	|	|	|	|	1.72	39.417	0.00	0.14	0.825	O	|	|	|	|	1.61
34.500	0.00	0.18	0.890	O	|	|	|	|	1.72	39.500	0.00	0.14	0.825	O	|	|	|	|	1.61
34.583	0.00	0.18	0.889	O	|	|	|	|	1.72	39.583	0.00	0.14	0.824	O	|	|	|	|	1.61
34.667	0.00	0.18	0.887	O	|	|	|	|	1.72	39.667	0.00	0.14	0.823	O	|	|	|	|	1.60
34.750	0.00	0.18	0.886	O	|	|	|	|	1.71	39.750	0.00	0.14	0.822	O	|	|	|	|	1.60
34.833	0.00	0.18	0.885	O	|	|	|	|	1.71	39.833	0.00	0.14	0.821	O	|	|	|	|	1.60
34.917	0.00	0.18	0.884	O	|	|	|	|	1.71	39.917	0.00	0.14	0.820	O	|	|	|	|	1.60
35.000	0.00	0.17	0.883	O	|	|	|	|	1.71	40.000	0.00	0.13	0.819	O	|	|	|	|	1.60
35.083	0.00	0.17	0.881	O	|	|	|	|	1.71	40.083	0.00	0.13	0.818	O	|	|	|	|	1.60
35.167	0.00	0.17	0.880	O	|	|	|	|	1.70	40.167	0.00	0.13	0.817	O	|	|	|	|	1.59
35.250	0.00	0.17	0.879	O	|	|	|	|	1.70	40.250	0.00	0.13	0.816	O	|	|	|	|	1.59
35.333	0.00	0.17	0.878	O	|	|	|	|	1.70	40.333	0.00	0.13	0.815	O	|	|	|	|	1.59
35.417	0.00	0.17	0.877	O	|	|	|	|	1.70	40.417	0.00	0.13	0.814	O	|	|	|	|	1.59
35.500	0.00	0.17	0.875	O	|	|	|	|	1.70	40.500	0.00	0.13	0.813	O	|	|	|	|	1.59
35.583	0.00	0.17	0.874	O	|	|	|	|	1.69	40.583	0.00	0.13	0.812	O	|	|	|	|	1.59
35.667	0.00	0.17	0.873	O	|	|	|	|	1.69	40.667	0.00	0.13	0.812	O	|	|	|	|	1.58
35.750	0.00	0.17	0.872	O	|	|	|	|	1.69	40.750	0.00	0.13	0.811	O	|	|	|	|	1.58
35.833	0.00	0.17	0.871	O	|	|	|	|	1.69	40.833	0.00	0.13	0.810	O	|	|	|	|	1.58
35.917	0.00	0.17	0.870	O	|	|	|	|	1.69	40.917	0.00	0.13	0.809	O	|	|	|	|	1.58
36.000	0.00	0.17	0.868	O	|	|	|	|	1.68	41.000	0.00	0.13	0.808	O	|	|	|	|	1.58
36.083	0.00	0.17	0.867	O	|	|	|	|	1.68	41.083	0.00	0.13	0.807	O	|	|	|	|	1.58
36.167	0.00	0.16	0.866	O	|	|	|	|	1.68	41.167	0.00	0.13	0.806	O	|	|	|	|	1.57
36.250	0.00	0.16	0.865	O	|	|	|	|	1.68	41.250	0.00	0.13	0.805	O	|	|	|	|	1.57
36.333	0.00	0.16	0.864	O	|	|	|	|	1.68	41.333	0.00	0.13	0.805	O	|	|	|	|	1.57
36.417	0.00	0.16	0.863	O	|	|	|	|	1.67	41.417	0.00	0.13	0.804	O	|	|	|	|	1.57
36.500	0.00	0.16	0.862	O	|	|	|	|	1.67	41.500	0.00	0.12	0.803	O	|	|	|	|	1.57
36.583	0.00	0.16	0.861	O	|	|	|	|	1.67	41.583	0.00	0.12	0.802	O	|	|	|	|	1.57
36.667	0.00	0.16	0.859	O	|	|	|	|	1.67	41.667	0.00	0.12	0.801	O	|	|	|	|	1.57
36.750	0.00	0.16	0.858	O	|	|	|	|	1.67	41.750	0.00	0.12	0.800	O	|	|	|	|	1.56
36.833	0.00	0.16	0.857	O	|	|	|	|	1.66	41.833	0.00	0.12	0.799	O	|	|	|	|	1.56
36.917	0.00	0.16	0.856	O	|	|	|	|	1.66	41.917	0.00	0.12	0.799	O	|	|	|	|	1.56
37.000	0.00	0.16	0.855	O	|	|	|	|	1.66	42.000	0.00	0.12	0.798	O	|	|	|	|	1.56
37.083	0.00	0.16	0.854	O	|	|	|	|	1.66	42.083	0.00	0.12	0.797	O	|	|	|	|	1.56
37.167	0.00	0.16	0.853	O	|	|	|	|	1.66	42.167	0.00	0.12	0.796	O	|	|	|	|	1.56
37.250	0.00	0.16	0.852	O	|	|	|	|	1.65	42.250	0.00	0.12	0.795	O	|	|	|	|	1.56
37.333	0.00	0.15	0.851	O	|	|	|	|	1.65	42.333	0.00	0.12	0.794	O	|	|	|	|	1.55
37.417	0.00	0.15	0.850	O	|	|	|	|	1.65	42.417	0.00	0.12	0.794	O	|	|	|	|	1.55
37.500	0.00	0.15	0.849	O	|	|	|	|	1.65	42.500	0.00	0.12	0.793	O	|	|	|	|	1.55
37.583	0.00	0.15	0.848	O	|	|	|	|	1.65	42.583	0.00	0.12	0.792	O	|	|	|	|	1.55
37.667	0.00	0.15	0.847	O	|	|	|	|	1.65	42.667	0.00	0.12	0.791	O	|	|	|	|	1.55
37.750	0.00	0.15	0.845	O	|	|	|	|	1.64	42.750	0.00	0.12	0.790	O	|	|	|	|	1.55
37.833	0.00	0.15	0.844	O	|	|	|	|	1.64	42.833	0.00	0.12	0.790	O	|	|	|	|	1.55
37.917	0.00	0.15	0.843	O	|	|	|	|	1.64	42.917	0.00	0.12	0.789	O	|	|	|	|	1.54
38.000	0.00	0.15	0.842	O	|	|	|	|	1.64	43.000	0.00	0.12	0.788	O	|	|	|	|	1.54
38.083	0.00	0.15	0.841	O	|	|	|	|	1.64	43.083	0.00	0.11	0.787	O	|	|	|	|	1.54
38.167	0.00	0.15	0.840	O	|	|	|	|	1.63	43.167	0.00	0.11	0.786	O	|	|	|	|	1.54
38.250	0.00	0.15	0.839	O	|	|	|	|	1.63	43.250	0.00	0.11	0.786	O	|	|	|	|	1.54
38.333	0.00	0.15	0.838	O	|	|	|	|	1.63	43.333	0.00	0.11	0.785	O	|	|	|	|	1.54
38.417	0.00	0.15	0.837	O	|	|	|	|	1.63	43.417	0.00	0.11	0.784	O	|	|	|	|	1.54
38.500	0.00	0.15	0.836	O	|	|	|	|	1.63	43.500	0.00	0.11	0.783	O	|	|	|	|	1.53
38.583	0.00	0.15	0.835	O	|	|	|	|	1.63	43.583	0.00	0.11	0.782	O	|	|	|	|	1.53
38.667	0.00	0.14	0.834	O	|	|	|	|	1.62	43.667	0.00	0.11	0.782	O	|	|	|	|	1.53
38.750	0.00	0.14	0.833	O	|	|	|	|	1.62	43.750	0.00	0.11	0.781	O	|	|	|	|	1.53
38.833	0.00	0.14	0.832	O	|	|	|	|	1.62	43.833	0.00	0.11	0.780	O	|	|	|	|	1.53

43.917	0.00	0.11	0.779	O	|	|	|	|	1.53	48.917	0.00	0.08	0.739	O	|	|	|	|	1.46
44.000	0.00	0.11	0.779	O	|	|	|	|	1.53	49.000	0.00	0.08	0.739	O	|	|	|	|	1.46
44.083	0.00	0.11	0.778	O	|	|	|	|	1.53	49.083	0.00	0.08	0.738	O	|	|	|	|	1.46
44.167	0.00	0.11	0.777	O	|	|	|	|	1.52	49.167	0.00	0.08	0.738	O	|	|	|	|	1.46
44.250	0.00	0.11	0.776	O	|	|	|	|	1.52	49.250	0.00	0.08	0.737	O	|	|	|	|	1.45
44.333	0.00	0.11	0.776	O	|	|	|	|	1.52	49.333	0.00	0.08	0.736	O	|	|	|	|	1.45
44.417	0.00	0.11	0.775	O	|	|	|	|	1.52	49.417	0.00	0.08	0.736	O	|	|	|	|	1.45
44.500	0.00	0.11	0.774	O	|	|	|	|	1.52	49.500	0.00	0.08	0.735	O	|	|	|	|	1.45
44.583	0.00	0.11	0.773	O	|	|	|	|	1.52	49.583	0.00	0.08	0.735	O	|	|	|	|	1.45
44.667	0.00	0.11	0.773	O	|	|	|	|	1.52	49.667	0.00	0.08	0.734	O	|	|	|	|	1.45
44.750	0.00	0.11	0.772	O	|	|	|	|	1.52	49.750	0.00	0.08	0.734	O	|	|	|	|	1.45
44.833	0.00	0.10	0.771	O	|	|	|	|	1.51	49.833	0.00	0.08	0.733	O	|	|	|	|	1.45
44.917	0.00	0.10	0.771	O	|	|	|	|	1.51	49.917	0.00	0.08	0.732	O	|	|	|	|	1.45
45.000	0.00	0.10	0.770	O	|	|	|	|	1.51	50.000	0.00	0.08	0.732	O	|	|	|	|	1.45
45.083	0.00	0.10	0.769	O	|	|	|	|	1.51	50.083	0.00	0.08	0.731	O	|	|	|	|	1.44
45.167	0.00	0.10	0.768	O	|	|	|	|	1.51	50.167	0.00	0.08	0.731	O	|	|	|	|	1.44
45.250	0.00	0.10	0.768	O	|	|	|	|	1.51	50.250	0.00	0.08	0.730	O	|	|	|	|	1.44
45.333	0.00	0.10	0.767	O	|	|	|	|	1.51	50.333	0.00	0.08	0.730	O	|	|	|	|	1.44
45.417	0.00	0.10	0.766	O	|	|	|	|	1.51	50.417	0.00	0.08	0.729	O	|	|	|	|	1.44
45.500	0.00	0.10	0.766	O	|	|	|	|	1.50	50.500	0.00	0.08	0.729	O	|	|	|	|	1.44
45.583	0.00	0.10	0.765	O	|	|	|	|	1.50	50.583	0.00	0.08	0.728	O	|	|	|	|	1.44
45.667	0.00	0.10	0.764	O	|	|	|	|	1.50	50.667	0.00	0.08	0.728	O	|	|	|	|	1.44
45.750	0.00	0.10	0.763	O	|	|	|	|	1.50	50.750	0.00	0.08	0.727	O	|	|	|	|	1.44
45.833	0.00	0.10	0.763	O	|	|	|	|	1.50	50.833	0.00	0.08	0.727	O	|	|	|	|	1.44
45.917	0.00	0.10	0.762	O	|	|	|	|	1.50	50.917	0.00	0.08	0.726	O	|	|	|	|	1.43
46.000	0.00	0.10	0.761	O	|	|	|	|	1.50	51.000	0.00	0.08	0.725	O	|	|	|	|	1.43
46.083	0.00	0.10	0.761	O	|	|	|	|	1.50	51.083	0.00	0.08	0.725	O	|	|	|	|	1.43
46.167	0.00	0.10	0.760	O	|	|	|	|	1.49	51.167	0.00	0.08	0.724	O	|	|	|	|	1.43
46.250	0.00	0.10	0.759	O	|	|	|	|	1.49	51.250	0.00	0.08	0.724	O	|	|	|	|	1.43
46.333	0.00	0.10	0.759	O	|	|	|	|	1.49	51.333	0.00	0.07	0.723	O	|	|	|	|	1.43
46.417	0.00	0.10	0.758	O	|	|	|	|	1.49	51.417	0.00	0.07	0.723	O	|	|	|	|	1.43
46.500	0.00	0.10	0.757	O	|	|	|	|	1.49	51.500	0.00	0.07	0.722	O	|	|	|	|	1.43
46.583	0.00	0.10	0.757	O	|	|	|	|	1.49	51.583	0.00	0.07	0.722	O	|	|	|	|	1.43
46.667	0.00	0.10	0.756	O	|	|	|	|	1.49	51.667	0.00	0.07	0.721	O	|	|	|	|	1.43
46.750	0.00	0.10	0.755	O	|	|	|	|	1.49	51.750	0.00	0.07	0.721	O	|	|	|	|	1.43
46.833	0.00	0.09	0.755	O	|	|	|	|	1.49	51.833	0.00	0.07	0.720	O	|	|	|	|	1.42
46.917	0.00	0.09	0.754	O	|	|	|	|	1.48	51.917	0.00	0.07	0.720	O	|	|	|	|	1.42
47.000	0.00	0.09	0.753	O	|	|	|	|	1.48	52.000	0.00	0.07	0.719	O	|	|	|	|	1.42
47.083	0.00	0.09	0.753	O	|	|	|	|	1.48	52.083	0.00	0.07	0.719	O	|	|	|	|	1.42
47.167	0.00	0.09	0.752	O	|	|	|	|	1.48	52.167	0.00	0.07	0.718	O	|	|	|	|	1.42
47.250	0.00	0.09	0.752	O	|	|	|	|	1.48	52.250	0.00	0.07	0.718	O	|	|	|	|	1.42
47.333	0.00	0.09	0.751	O	|	|	|	|	1.48	52.333	0.00	0.07	0.717	O	|	|	|	|	1.42
47.417	0.00	0.09	0.750	O	|	|	|	|	1.48	52.417	0.00	0.07	0.717	O	|	|	|	|	1.42
47.500	0.00	0.09	0.750	O	|	|	|	|	1.48	52.500	0.00	0.07	0.716	O	|	|	|	|	1.42
47.583	0.00	0.09	0.749	O	|	|	|	|	1.47	52.583	0.00	0.07	0.716	O	|	|	|	|	1.42
47.667	0.00	0.09	0.748	O	|	|	|	|	1.47	52.667	0.00	0.07	0.715	O	|	|	|	|	1.42
47.750	0.00	0.09	0.748	O	|	|	|	|	1.47	52.750	0.00	0.07	0.715	O	|	|	|	|	1.42
47.833	0.00	0.09	0.747	O	|	|	|	|	1.47	52.833	0.00	0.07	0.714	O	|	|	|	|	1.41
47.917	0.00	0.09	0.747	O	|	|	|	|	1.47	52.917	0.00	0.07	0.714	O	|	|	|	|	1.41
48.000	0.00	0.09	0.746	O	|	|	|	|	1.47	53.000	0.00	0.07	0.713	O	|	|	|	|	1.41
48.083	0.00	0.09	0.745	O	|	|	|	|	1.47	53.083	0.00	0.07	0.713	O	|	|	|	|	1.41
48.167	0.00	0.09	0.745	O	|	|	|	|	1.47	53.167	0.00	0.07	0.713	O	|	|	|	|	1.41
48.250	0.00	0.09	0.744	O	|	|	|	|	1.47	53.250	0.00	0.07	0.712	O	|	|	|	|	1.41
48.333	0.00	0.09	0.743	O	|	|	|	|	1.47	53.333	0.00	0.07	0.712	O	|	|	|	|	1.41
48.417	0.00	0.09	0.743	O	|	|	|	|	1.46	53.417	0.00	0.07	0.711	O	|	|	|	|	1.41
48.500	0.00	0.09	0.742	O	|	|	|	|	1.46	53.500	0.00	0.07	0.711	O	|	|	|	|	1.41
48.583	0.00	0.09	0.742	O	|	|	|	|	1.46	53.583	0.00	0.07	0.710	O	|	|	|	|	1.41
48.667	0.00	0.09	0.741	O	|	|	|	|	1.46	53.667	0.00	0.07	0.710	O	|	|	|	|	1.41
48.750	0.00	0.09	0.740	O	|	|	|	|	1.46	53.750	0.00	0.07	0.709	O	|	|	|	|	1.41
48.833	0.00	0.09	0.740	O	|	|	|	|	1.46	53.833	0.00	0.07	0.709	O	|	|	|	|	1.40

53.917	0.00	0.07	0.708	O	|	|	|	|	1.40	58.917	0.00	0.05	0.685	O	|	|	|	|	1.36
54.000	0.00	0.07	0.708	O	|	|	|	|	1.40	59.000	0.00	0.05	0.684	O	|	|	|	|	1.36
54.083	0.00	0.06	0.708	O	|	|	|	|	1.40	59.083	0.00	0.05	0.684	O	|	|	|	|	1.36
54.167	0.00	0.06	0.707	O	|	|	|	|	1.40	59.167	0.00	0.05	0.684	O	|	|	|	|	1.36
54.250	0.00	0.06	0.707	O	|	|	|	|	1.40	59.250	0.00	0.05	0.683	O	|	|	|	|	1.36
54.333	0.00	0.06	0.706	O	|	|	|	|	1.40	59.333	0.00	0.05	0.683	O	|	|	|	|	1.36
54.417	0.00	0.06	0.706	O	|	|	|	|	1.40	59.417	0.00	0.05	0.682	O	|	|	|	|	1.36
54.500	0.00	0.06	0.705	O	|	|	|	|	1.40	59.500	0.00	0.05	0.682	O	|	|	|	|	1.36
54.583	0.00	0.06	0.705	O	|	|	|	|	1.40	59.583	0.00	0.05	0.682	O	|	|	|	|	1.36
54.667	0.00	0.06	0.704	O	|	|	|	|	1.40	59.667	0.00	0.05	0.681	O	|	|	|	|	1.36
54.750	0.00	0.06	0.704	O	|	|	|	|	1.40	59.750	0.00	0.05	0.681	O	|	|	|	|	1.36
54.833	0.00	0.06	0.704	O	|	|	|	|	1.40	59.833	0.00	0.05	0.681	O	|	|	|	|	1.36
54.917	0.00	0.06	0.703	O	|	|	|	|	1.39	59.917	0.00	0.05	0.680	O	|	|	|	|	1.36
55.000	0.00	0.06	0.703	O	|	|	|	|	1.39	60.000	0.00	0.05	0.680	O	|	|	|	|	1.35
55.083	0.00	0.06	0.702	O	|	|	|	|	1.39	60.083	0.00	0.05	0.680	O	|	|	|	|	1.35
55.167	0.00	0.06	0.702	O	|	|	|	|	1.39	60.167	0.00	0.05	0.680	O	|	|	|	|	1.35
55.250	0.00	0.06	0.701	O	|	|	|	|	1.39	60.250	0.00	0.05	0.679	O	|	|	|	|	1.35
55.333	0.00	0.06	0.701	O	|	|	|	|	1.39	60.333	0.00	0.05	0.679	O	|	|	|	|	1.35
55.417	0.00	0.06	0.701	O	|	|	|	|	1.39	60.417	0.00	0.05	0.679	O	|	|	|	|	1.35
55.500	0.00	0.06	0.700	O	|	|	|	|	1.39	60.500	0.00	0.05	0.678	O	|	|	|	|	1.35
55.583	0.00	0.06	0.700	O	|	|	|	|	1.39	60.583	0.00	0.05	0.678	O	|	|	|	|	1.35
55.667	0.00	0.06	0.699	O	|	|	|	|	1.39	60.667	0.00	0.05	0.678	O	|	|	|	|	1.35
55.750	0.00	0.06	0.699	O	|	|	|	|	1.39	60.750	0.00	0.05	0.677	O	|	|	|	|	1.35
55.833	0.00	0.06	0.699	O	|	|	|	|	1.39	60.833	0.00	0.05	0.677	O	|	|	|	|	1.35
55.917	0.00	0.06	0.698	O	|	|	|	|	1.39	60.917	0.00	0.05	0.677	O	|	|	|	|	1.35
56.000	0.00	0.06	0.698	O	|	|	|	|	1.39	61.000	0.00	0.05	0.676	O	|	|	|	|	1.35
56.083	0.00	0.06	0.697	O	|	|	|	|	1.38	61.083	0.00	0.05	0.676	O	|	|	|	|	1.35
56.167	0.00	0.06	0.697	O	|	|	|	|	1.38	61.167	0.00	0.04	0.676	O	|	|	|	|	1.35
56.250	0.00	0.06	0.697	O	|	|	|	|	1.38	61.250	0.00	0.04	0.675	O	|	|	|	|	1.35
56.333	0.00	0.06	0.696	O	|	|	|	|	1.38	61.333	0.00	0.04	0.675	O	|	|	|	|	1.35
56.417	0.00	0.06	0.696	O	|	|	|	|	1.38	61.417	0.00	0.04	0.675	O	|	|	|	|	1.35
56.500	0.00	0.06	0.695	O	|	|	|	|	1.38	61.500	0.00	0.04	0.674	O	|	|	|	|	1.34
56.583	0.00	0.06	0.695	O	|	|	|	|	1.38	61.583	0.00	0.04	0.674	O	|	|	|	|	1.34
56.667	0.00	0.06	0.695	O	|	|	|	|	1.38	61.667	0.00	0.04	0.674	O	|	|	|	|	1.34
56.750	0.00	0.06	0.694	O	|	|	|	|	1.38	61.750	0.00	0.04	0.674	O	|	|	|	|	1.34
56.833	0.00	0.06	0.694	O	|	|	|	|	1.38	61.833	0.00	0.04	0.673	O	|	|	|	|	1.34
56.917	0.00	0.06	0.693	O	|	|	|	|	1.38	61.917	0.00	0.04	0.673	O	|	|	|	|	1.34
57.000	0.00	0.06	0.693	O	|	|	|	|	1.38	62.000	0.00	0.04	0.673	O	|	|	|	|	1.34
57.083	0.00	0.06	0.693	O	|	|	|	|	1.38	62.083	0.00	0.04	0.672	O	|	|	|	|	1.34
57.167	0.00	0.06	0.692	O	|	|	|	|	1.38	62.167	0.00	0.04	0.672	O	|	|	|	|	1.34
57.250	0.00	0.06	0.692	O	|	|	|	|	1.38	62.250	0.00	0.04	0.672	O	|	|	|	|	1.34
57.333	0.00	0.05	0.691	O	|	|	|	|	1.37	62.333	0.00	0.04	0.671	O	|	|	|	|	1.34
57.417	0.00	0.05	0.691	O	|	|	|	|	1.37	62.417	0.00	0.04	0.671	O	|	|	|	|	1.34
57.500	0.00	0.05	0.691	O	|	|	|	|	1.37	62.500	0.00	0.04	0.671	O	|	|	|	|	1.34
57.583	0.00	0.05	0.690	O	|	|	|	|	1.37	62.583	0.00	0.04	0.671	O	|	|	|	|	1.34
57.667	0.00	0.05	0.690	O	|	|	|	|	1.37	62.667	0.00	0.04	0.670	O	|	|	|	|	1.34
57.750	0.00	0.05	0.690	O	|	|	|	|	1.37	62.750	0.00	0.04	0.670	O	|	|	|	|	1.34
57.833	0.00	0.05	0.689	O	|	|	|	|	1.37	62.833	0.00	0.04	0.670	O	|	|	|	|	1.34
57.917	0.00	0.05	0.689	O	|	|	|	|	1.37	62.917	0.00	0.04	0.669	O	|	|	|	|	1.34
58.000	0.00	0.05	0.688	O	|	|	|	|	1.37	63.000	0.00	0.04	0.669	O	|	|	|	|	1.34
58.083	0.00	0.05	0.688	O	|	|	|	|	1.37	63.083	0.00	0.04	0.669	O	|	|	|	|	1.34
58.167	0.00	0.05	0.688	O	|	|	|	|	1.37	63.167	0.00	0.04	0.669	O	|	|	|	|	1.33
58.250	0.00	0.05	0.687	O	|	|	|	|	1.37	63.250	0.00	0.04	0.668	O	|	|	|	|	1.33
58.333	0.00	0.05	0.687	O	|	|	|	|	1.37	63.333	0.00	0.04	0.668	O	|	|	|	|	1.33
58.417	0.00	0.05	0.687	O	|	|	|	|	1.37	63.417	0.00	0.04	0.668	O	|	|	|	|	1.33
58.500	0.00	0.05	0.686	O	|	|	|	|	1.37	63.500	0.00	0.04	0.668	O	|	|	|	|	1.33
58.583	0.00	0.05	0.686	O	|	|	|	|	1.37	63.583	0.00	0.04	0.667	O	|	|	|	|	1.33
58.667	0.00	0.05	0.686	O	|	|	|	|	1.36	63.667	0.00	0.04	0.667	O	|	|	|	|	1.33
58.750	0.00	0.05	0.685	O	|	|	|	|	1.36	63.750	0.00	0.04	0.667	O	|	|	|	|	1.33
58.833	0.00	0.05	0.685	O	|	|	|	|	1.36	63.833	0.00	0.04	0.666	O	|	|	|	|	1.33

63.917	0.00	0.04	0.666	O	|	|	|	|	1.33	68.917	0.00	0.03	0.652	O	|	|	|	|	1.31
64.000	0.00	0.04	0.666	O	|	|	|	|	1.33	69.000	0.00	0.03	0.652	O	|	|	|	|	1.31
64.083	0.00	0.04	0.666	O	|	|	|	|	1.33	69.083	0.00	0.03	0.652	O	|	|	|	|	1.31
64.167	0.00	0.04	0.665	O	|	|	|	|	1.33	69.167	0.00	0.03	0.651	O	|	|	|	|	1.30
64.250	0.00	0.04	0.665	O	|	|	|	|	1.33	69.250	0.00	0.03	0.651	O	|	|	|	|	1.30
64.333	0.00	0.04	0.665	O	|	|	|	|	1.33	69.333	0.00	0.03	0.651	O	|	|	|	|	1.30
64.417	0.00	0.04	0.665	O	|	|	|	|	1.33	69.417	0.00	0.03	0.651	O	|	|	|	|	1.30
64.500	0.00	0.04	0.664	O	|	|	|	|	1.33	69.500	0.00	0.03	0.651	O	|	|	|	|	1.30
64.583	0.00	0.04	0.664	O	|	|	|	|	1.33	69.583	0.00	0.03	0.650	O	|	|	|	|	1.30
64.667	0.00	0.04	0.664	O	|	|	|	|	1.33	69.667	0.00	0.03	0.650	O	|	|	|	|	1.30
64.750	0.00	0.04	0.664	O	|	|	|	|	1.33	69.750	0.00	0.03	0.650	O	|	|	|	|	1.30
64.833	0.00	0.04	0.663	O	|	|	|	|	1.33	69.833	0.00	0.03	0.650	O	|	|	|	|	1.30
64.917	0.00	0.04	0.663	O	|	|	|	|	1.33	69.917	0.00	0.03	0.650	O	|	|	|	|	1.30
65.000	0.00	0.04	0.663	O	|	|	|	|	1.32	70.000	0.00	0.03	0.649	O	|	|	|	|	1.30
65.083	0.00	0.04	0.663	O	|	|	|	|	1.32	70.083	0.00	0.03	0.649	O	|	|	|	|	1.30
65.167	0.00	0.04	0.662	O	|	|	|	|	1.32	70.167	0.00	0.03	0.649	O	|	|	|	|	1.30
65.250	0.00	0.04	0.662	O	|	|	|	|	1.32	70.250	0.00	0.03	0.649	O	|	|	|	|	1.30
65.333	0.00	0.04	0.662	O	|	|	|	|	1.32	70.333	0.00	0.03	0.649	O	|	|	|	|	1.30
65.417	0.00	0.04	0.662	O	|	|	|	|	1.32	70.417	0.00	0.03	0.648	O	|	|	|	|	1.30
65.500	0.00	0.04	0.661	O	|	|	|	|	1.32	70.500	0.00	0.03	0.648	O	|	|	|	|	1.30
65.583	0.00	0.04	0.661	O	|	|	|	|	1.32	70.583	0.00	0.03	0.648	O	|	|	|	|	1.30
65.667	0.00	0.04	0.661	O	|	|	|	|	1.32	70.667	0.00	0.03	0.648	O	|	|	|	|	1.30
65.750	0.00	0.04	0.661	O	|	|	|	|	1.32	70.750	0.00	0.03	0.648	O	|	|	|	|	1.30
65.833	0.00	0.04	0.660	O	|	|	|	|	1.32	70.833	0.00	0.03	0.647	O	|	|	|	|	1.30
65.917	0.00	0.04	0.660	O	|	|	|	|	1.32	70.917	0.00	0.03	0.647	O	|	|	|	|	1.30
66.000	0.00	0.03	0.660	O	|	|	|	|	1.32	71.000	0.00	0.03	0.647	O	|	|	|	|	1.30
66.083	0.00	0.03	0.660	O	|	|	|	|	1.32	71.083	0.00	0.03	0.647	O	|	|	|	|	1.30
66.167	0.00	0.03	0.659	O	|	|	|	|	1.32	71.167	0.00	0.03	0.647	O	|	|	|	|	1.30
66.250	0.00	0.03	0.659	O	|	|	|	|	1.32	71.250	0.00	0.03	0.647	O	|	|	|	|	1.30
66.333	0.00	0.03	0.659	O	|	|	|	|	1.32	71.333	0.00	0.03	0.646	O	|	|	|	|	1.30
66.417	0.00	0.03	0.659	O	|	|	|	|	1.32	71.417	0.00	0.03	0.646	O	|	|	|	|	1.30
66.500	0.00	0.03	0.658	O	|	|	|	|	1.32	71.500	0.00	0.03	0.646	O	|	|	|	|	1.30
66.583	0.00	0.03	0.658	O	|	|	|	|	1.32	71.583	0.00	0.03	0.646	O	|	|	|	|	1.29
66.667	0.00	0.03	0.658	O	|	|	|	|	1.32	71.667	0.00	0.03	0.646	O	|	|	|	|	1.29
66.750	0.00	0.03	0.658	O	|	|	|	|	1.32	71.750	0.00	0.03	0.645	O	|	|	|	|	1.29
66.833	0.00	0.03	0.657	O	|	|	|	|	1.32	71.833	0.00	0.03	0.645	O	|	|	|	|	1.29
66.917	0.00	0.03	0.657	O	|	|	|	|	1.31	71.917	0.00	0.03	0.645	O	|	|	|	|	1.29
67.000	0.00	0.03	0.657	O	|	|	|	|	1.31	72.000	0.00	0.03	0.645	O	|	|	|	|	1.29
67.083	0.00	0.03	0.657	O	|	|	|	|	1.31	72.083	0.00	0.03	0.645	O	|	|	|	|	1.29
67.167	0.00	0.03	0.657	O	|	|	|	|	1.31	72.167	0.00	0.03	0.645	O	|	|	|	|	1.29
67.250	0.00	0.03	0.656	O	|	|	|	|	1.31	72.250	0.00	0.03	0.644	O	|	|	|	|	1.29
67.333	0.00	0.03	0.656	O	|	|	|	|	1.31	72.333	0.00	0.03	0.644	O	|	|	|	|	1.29
67.417	0.00	0.03	0.656	O	|	|	|	|	1.31	72.417	0.00	0.03	0.644	O	|	|	|	|	1.29
67.500	0.00	0.03	0.656	O	|	|	|	|	1.31	72.500	0.00	0.02	0.644	O	|	|	|	|	1.29
67.583	0.00	0.03	0.655	O	|	|	|	|	1.31	72.583	0.00	0.02	0.644	O	|	|	|	|	1.29
67.667	0.00	0.03	0.655	O	|	|	|	|	1.31	72.667	0.00	0.02	0.644	O	|	|	|	|	1.29
67.750	0.00	0.03	0.655	O	|	|	|	|	1.31	72.750	0.00	0.02	0.643	O	|	|	|	|	1.29
67.833	0.00	0.03	0.655	O	|	|	|	|	1.31	72.833	0.00	0.02	0.643	O	|	|	|	|	1.29
67.917	0.00	0.03	0.655	O	|	|	|	|	1.31	72.917	0.00	0.02	0.643	O	|	|	|	|	1.29
68.000	0.00	0.03	0.654	O	|	|	|	|	1.31	73.000	0.00	0.02	0.643	O	|	|	|	|	1.29
68.083	0.00	0.03	0.654	O	|	|	|	|	1.31	73.083	0.00	0.02	0.643	O	|	|	|	|	1.29
68.167	0.00	0.03	0.654	O	|	|	|	|	1.31	73.167	0.00	0.02	0.642	O	|	|	|	|	1.29
68.250	0.00	0.03	0.654	O	|	|	|	|	1.31	73.250	0.00	0.02	0.642	O	|	|	|	|	1.29
68.333	0.00	0.03	0.653	O	|	|	|	|	1.31	73.333	0.00	0.02	0.642	O	|	|	|	|	1.29
68.417	0.00	0.03	0.653	O	|	|	|	|	1.31	73.417	0.00	0.02	0.642	O	|	|	|	|	1.29
68.500	0.00	0.03	0.653	O	|	|	|	|	1.31	73.500	0.00	0.02	0.642	O	|	|	|	|	1.29
68.583	0.00	0.03	0.653	O	|	|	|	|	1.31	73.583	0.00	0.02	0.642	O	|	|	|	|	1.29
68.667	0.00	0.03	0.653	O	|	|	|	|	1.31	73.667	0.00	0.02	0.642	O	|	|	|	|	1.29
68.750	0.00	0.03	0.652	O	|	|	|	|	1.31	73.750	0.00	0.02	0.641	O	|	|	|	|	1.29
68.833	0.00	0.03	0.652	O	|	|	|	|	1.31	73.833	0.00	0.02	0.641	O	|	|	|	|	1.29

73.917	0.00	0.02	0.641	O	|	|	|	|	1.29	78.917	0.00	0.02	0.633	O	|	|	|	|	1.27
74.000	0.00	0.02	0.641	O	|	|	|	|	1.29	79.000	0.00	0.02	0.632	O	|	|	|	|	1.27
74.083	0.00	0.02	0.641	O	|	|	|	|	1.29	79.083	0.00	0.02	0.632	O	|	|	|	|	1.27
74.167	0.00	0.02	0.641	O	|	|	|	|	1.29	79.167	0.00	0.02	0.632	O	|	|	|	|	1.27
74.250	0.00	0.02	0.640	O	|	|	|	|	1.29	79.250	0.00	0.02	0.632	O	|	|	|	|	1.27
74.333	0.00	0.02	0.640	O	|	|	|	|	1.29	79.333	0.00	0.02	0.632	O	|	|	|	|	1.27
74.417	0.00	0.02	0.640	O	|	|	|	|	1.29	79.417	0.00	0.02	0.632	O	|	|	|	|	1.27
74.500	0.00	0.02	0.640	O	|	|	|	|	1.28	79.500	0.00	0.02	0.632	O	|	|	|	|	1.27
74.583	0.00	0.02	0.640	O	|	|	|	|	1.28	79.583	0.00	0.02	0.632	O	|	|	|	|	1.27
74.667	0.00	0.02	0.640	O	|	|	|	|	1.28	79.667	0.00	0.02	0.631	O	|	|	|	|	1.27
74.750	0.00	0.02	0.639	O	|	|	|	|	1.28	79.750	0.00	0.02	0.631	O	|	|	|	|	1.27
74.833	0.00	0.02	0.639	O	|	|	|	|	1.28	79.833	0.00	0.02	0.631	O	|	|	|	|	1.27
74.917	0.00	0.02	0.639	O	|	|	|	|	1.28	79.917	0.00	0.02	0.631	O	|	|	|	|	1.27
75.000	0.00	0.02	0.639	O	|	|	|	|	1.28	80.000	0.00	0.02	0.631	O	|	|	|	|	1.27
75.083	0.00	0.02	0.639	O	|	|	|	|	1.28	80.083	0.00	0.02	0.631	O	|	|	|	|	1.27
75.167	0.00	0.02	0.639	O	|	|	|	|	1.28	80.167	0.00	0.02	0.631	O	|	|	|	|	1.27
75.250	0.00	0.02	0.639	O	|	|	|	|	1.28	80.250	0.00	0.02	0.631	O	|	|	|	|	1.27
75.333	0.00	0.02	0.638	O	|	|	|	|	1.28	80.333	0.00	0.02	0.631	O	|	|	|	|	1.27
75.417	0.00	0.02	0.638	O	|	|	|	|	1.28	80.417	0.00	0.02	0.630	O	|	|	|	|	1.27
75.500	0.00	0.02	0.638	O	|	|	|	|	1.28	80.500	0.00	0.02	0.630	O	|	|	|	|	1.27
75.583	0.00	0.02	0.638	O	|	|	|	|	1.28	80.583	0.00	0.02	0.630	O	|	|	|	|	1.27
75.667	0.00	0.02	0.638	O	|	|	|	|	1.28	80.667	0.00	0.02	0.630	O	|	|	|	|	1.27
75.750	0.00	0.02	0.638	O	|	|	|	|	1.28	80.750	0.00	0.02	0.630	O	|	|	|	|	1.27
75.833	0.00	0.02	0.638	O	|	|	|	|	1.28	80.833	0.00	0.02	0.630	O	|	|	|	|	1.27
75.917	0.00	0.02	0.637	O	|	|	|	|	1.28	80.917	0.00	0.02	0.630	O	|	|	|	|	1.27
76.000	0.00	0.02	0.637	O	|	|	|	|	1.28	81.000	0.00	0.02	0.630	O	|	|	|	|	1.27
76.083	0.00	0.02	0.637	O	|	|	|	|	1.28	81.083	0.00	0.02	0.630	O	|	|	|	|	1.27
76.167	0.00	0.02	0.637	O	|	|	|	|	1.28	81.167	0.00	0.02	0.629	O	|	|	|	|	1.27
76.250	0.00	0.02	0.637	O	|	|	|	|	1.28	81.250	0.00	0.02	0.629	O	|	|	|	|	1.27
76.333	0.00	0.02	0.637	O	|	|	|	|	1.28	81.333	0.00	0.02	0.629	O	|	|	|	|	1.27
76.417	0.00	0.02	0.637	O	|	|	|	|	1.28	81.417	0.00	0.02	0.629	O	|	|	|	|	1.27
76.500	0.00	0.02	0.636	O	|	|	|	|	1.28	81.500	0.00	0.02	0.629	O	|	|	|	|	1.27
76.583	0.00	0.02	0.636	O	|	|	|	|	1.28	81.583	0.00	0.02	0.629	O	|	|	|	|	1.27
76.667	0.00	0.02	0.636	O	|	|	|	|	1.28	81.667	0.00	0.02	0.629	O	|	|	|	|	1.27
76.750	0.00	0.02	0.636	O	|	|	|	|	1.28	81.750	0.00	0.02	0.629	O	|	|	|	|	1.27
76.833	0.00	0.02	0.636	O	|	|	|	|	1.28	81.833	0.00	0.02	0.629	O	|	|	|	|	1.26
76.917	0.00	0.02	0.636	O	|	|	|	|	1.28	81.917	0.00	0.02	0.628	O	|	|	|	|	1.26
77.000	0.00	0.02	0.636	O	|	|	|	|	1.28	82.000	0.00	0.02	0.628	O	|	|	|	|	1.26
77.083	0.00	0.02	0.635	O	|	|	|	|	1.28	82.083	0.00	0.02	0.628	O	|	|	|	|	1.26
77.167	0.00	0.02	0.635	O	|	|	|	|	1.28	82.167	0.00	0.02	0.628	O	|	|	|	|	1.26
77.250	0.00	0.02	0.635	O	|	|	|	|	1.28	82.250	0.00	0.02	0.628	O	|	|	|	|	1.26
77.333	0.00	0.02	0.635	O	|	|	|	|	1.28	82.333	0.00	0.01	0.628	O	|	|	|	|	1.26
77.417	0.00	0.02	0.635	O	|	|	|	|	1.28	82.417	0.00	0.01	0.628	O	|	|	|	|	1.26
77.500	0.00	0.02	0.635	O	|	|	|	|	1.28	82.500	0.00	0.01	0.628	O	|	|	|	|	1.26
77.583	0.00	0.02	0.635	O	|	|	|	|	1.28	82.583	0.00	0.01	0.628	O	|	|	|	|	1.26
77.667	0.00	0.02	0.634	O	|	|	|	|	1.28	82.667	0.00	0.01	0.628	O	|	|	|	|	1.26
77.750	0.00	0.02	0.634	O	|	|	|	|	1.28	82.750	0.00	0.01	0.627	O	|	|	|	|	1.26
77.833	0.00	0.02	0.634	O	|	|	|	|	1.27	82.833	0.00	0.01	0.627	O	|	|	|	|	1.26
77.917	0.00	0.02	0.634	O	|	|	|	|	1.27	82.917	0.00	0.01	0.627	O	|	|	|	|	1.26
78.000	0.00	0.02	0.634	O	|	|	|	|	1.27	83.000	0.00	0.01	0.627	O	|	|	|	|	1.26
78.083	0.00	0.02	0.634	O	|	|	|	|	1.27	83.083	0.00	0.01	0.627	O	|	|	|	|	1.26
78.167	0.00	0.02	0.634	O	|	|	|	|	1.27	83.167	0.00	0.01	0.627	O	|	|	|	|	1.26
78.250	0.00	0.02	0.634	O	|	|	|	|	1.27	83.250	0.00	0.01	0.627	O	|	|	|	|	1.26
78.333	0.00	0.02	0.633	O	|	|	|	|	1.27	83.333	0.00	0.01	0.627	O	|	|	|	|	1.26
78.417	0.00	0.02	0.633	O	|	|	|	|	1.27	83.417	0.00	0.01	0.627	O	|	|	|	|	1.26
78.500	0.00	0.02	0.633	O	|	|	|	|	1.27	83.500	0.00	0.01	0.627	O	|	|	|	|	1.26
78.583	0.00	0.02	0.633	O	|	|	|	|	1.27	83.583	0.00	0.01	0.626	O	|	|	|	|	1.26
78.667	0.00	0.02	0.633	O	|	|	|	|	1.27	83.667	0.00	0.01	0.626	O	|	|	|	|	1.26
78.750	0.00	0.02	0.633	O	|	|	|	|	1.27	83.750	0.00	0.01	0.626	O	|	|	|	|	1.26
78.833	0.00	0.02	0.633	O	|	|	|	|	1.27	83.833	0.00	0.01	0.626	O	|	|	|	|	1.26

83.917	0.00	0.01	0.626	O	|	|	|	|	1.26	88.917	0.00	0.01	0.621	O	|	|	|	|	1.25
84.000	0.00	0.01	0.626	O	|	|	|	|	1.26	89.000	0.00	0.01	0.621	O	|	|	|	|	1.25
84.083	0.00	0.01	0.626	O	|	|	|	|	1.26	89.083	0.00	0.01	0.621	O	|	|	|	|	1.25
84.167	0.00	0.01	0.626	O	|	|	|	|	1.26	89.167	0.00	0.01	0.621	O	|	|	|	|	1.25
84.250	0.00	0.01	0.626	O	|	|	|	|	1.26	89.250	0.00	0.01	0.621	O	|	|	|	|	1.25
84.333	0.00	0.01	0.626	O	|	|	|	|	1.26	89.333	0.00	0.01	0.621	O	|	|	|	|	1.25
84.417	0.00	0.01	0.626	O	|	|	|	|	1.26	89.417	0.00	0.01	0.621	O	|	|	|	|	1.25
84.500	0.00	0.01	0.625	O	|	|	|	|	1.26	89.500	0.00	0.01	0.621	O	|	|	|	|	1.25
84.583	0.00	0.01	0.625	O	|	|	|	|	1.26	89.583	0.00	0.01	0.620	O	|	|	|	|	1.25
84.667	0.00	0.01	0.625	O	|	|	|	|	1.26	89.667	0.00	0.01	0.620	O	|	|	|	|	1.25
84.750	0.00	0.01	0.625	O	|	|	|	|	1.26	89.750	0.00	0.01	0.620	O	|	|	|	|	1.25
84.833	0.00	0.01	0.625	O	|	|	|	|	1.26	89.833	0.00	0.01	0.620	O	|	|	|	|	1.25
84.917	0.00	0.01	0.625	O	|	|	|	|	1.26	89.917	0.00	0.01	0.620	O	|	|	|	|	1.25
85.000	0.00	0.01	0.625	O	|	|	|	|	1.26	90.000	0.00	0.01	0.620	O	|	|	|	|	1.25
85.083	0.00	0.01	0.625	O	|	|	|	|	1.26	90.083	0.00	0.01	0.620	O	|	|	|	|	1.25
85.167	0.00	0.01	0.625	O	|	|	|	|	1.26	90.167	0.00	0.01	0.620	O	|	|	|	|	1.25
85.250	0.00	0.01	0.625	O	|	|	|	|	1.26	90.250	0.00	0.01	0.620	O	|	|	|	|	1.25
85.333	0.00	0.01	0.625	O	|	|	|	|	1.26	90.333	0.00	0.01	0.620	O	|	|	|	|	1.25
85.417	0.00	0.01	0.624	O	|	|	|	|	1.26	90.417	0.00	0.01	0.620	O	|	|	|	|	1.25
85.500	0.00	0.01	0.624	O	|	|	|	|	1.26	90.500	0.00	0.01	0.620	O	|	|	|	|	1.25
85.583	0.00	0.01	0.624	O	|	|	|	|	1.26	90.583	0.00	0.01	0.620	O	|	|	|	|	1.25
85.667	0.00	0.01	0.624	O	|	|	|	|	1.26	90.667	0.00	0.01	0.620	O	|	|	|	|	1.25
85.750	0.00	0.01	0.624	O	|	|	|	|	1.26	90.750	0.00	0.01	0.619	O	|	|	|	|	1.25
85.833	0.00	0.01	0.624	O	|	|	|	|	1.26	90.833	0.00	0.01	0.619	O	|	|	|	|	1.25
85.917	0.00	0.01	0.624	O	|	|	|	|	1.26	90.917	0.00	0.01	0.619	O	|	|	|	|	1.25
86.000	0.00	0.01	0.624	O	|	|	|	|	1.26	91.000	0.00	0.01	0.619	O	|	|	|	|	1.25
86.083	0.00	0.01	0.624	O	|	|	|	|	1.26	91.083	0.00	0.01	0.619	O	|	|	|	|	1.25
86.167	0.00	0.01	0.624	O	|	|	|	|	1.26	91.167	0.00	0.01	0.619	O	|	|	|	|	1.25
86.250	0.00	0.01	0.624	O	|	|	|	|	1.26	91.250	0.00	0.01	0.619	O	|	|	|	|	1.25
86.333	0.00	0.01	0.623	O	|	|	|	|	1.26	91.333	0.00	0.01	0.619	O	|	|	|	|	1.25
86.417	0.00	0.01	0.623	O	|	|	|	|	1.26	91.417	0.00	0.01	0.619	O	|	|	|	|	1.25
86.500	0.00	0.01	0.623	O	|	|	|	|	1.26	91.500	0.00	0.01	0.619	O	|	|	|	|	1.25
86.583	0.00	0.01	0.623	O	|	|	|	|	1.26	91.583	0.00	0.01	0.619	O	|	|	|	|	1.25
86.667	0.00	0.01	0.623	O	|	|	|	|	1.26	91.667	0.00	0.01	0.619	O	|	|	|	|	1.25
86.750	0.00	0.01	0.623	O	|	|	|	|	1.26	91.750	0.00	0.01	0.619	O	|	|	|	|	1.25
86.833	0.00	0.01	0.623	O	|	|	|	|	1.26	91.833	0.00	0.01	0.619	O	|	|	|	|	1.25
86.917	0.00	0.01	0.623	O	|	|	|	|	1.26	91.917	0.00	0.01	0.619	O	|	|	|	|	1.25
87.000	0.00	0.01	0.623	O	|	|	|	|	1.25	92.000	0.00	0.01	0.618	O	|	|	|	|	1.25
87.083	0.00	0.01	0.623	O	|	|	|	|	1.25	92.083	0.00	0.01	0.618	O	|	|	|	|	1.25
87.167	0.00	0.01	0.623	O	|	|	|	|	1.25	92.167	0.00	0.01	0.618	O	|	|	|	|	1.25
87.250	0.00	0.01	0.623	O	|	|	|	|	1.25	92.250	0.00	0.01	0.618	O	|	|	|	|	1.25
87.333	0.00	0.01	0.622	O	|	|	|	|	1.25	92.333	0.00	0.01	0.618	O	|	|	|	|	1.25
87.417	0.00	0.01	0.622	O	|	|	|	|	1.25	92.417	0.00	0.01	0.618	O	|	|	|	|	1.25
87.500	0.00	0.01	0.622	O	|	|	|	|	1.25	92.500	0.00	0.01	0.618	O	|	|	|	|	1.25
87.583	0.00	0.01	0.622	O	|	|	|	|	1.25	92.583	0.00	0.01	0.618	O	|	|	|	|	1.25
87.667	0.00	0.01	0.622	O	|	|	|	|	1.25	92.667	0.00	0.01	0.618	O	|	|	|	|	1.25
87.750	0.00	0.01	0.622	O	|	|	|	|	1.25	92.750	0.00	0.01	0.618	O	|	|	|	|	1.25
87.833	0.00	0.01	0.622	O	|	|	|	|	1.25	92.833	0.00	0.01	0.618	O	|	|	|	|	1.25
87.917	0.00	0.01	0.622	O	|	|	|	|	1.25	92.917	0.00	0.01	0.618	O	|	|	|	|	1.25
88.000	0.00	0.01	0.622	O	|	|	|	|	1.25	93.000	0.00	0.01	0.618	O	|	|	|	|	1.25
88.083	0.00	0.01	0.622	O	|	|	|	|	1.25	93.083	0.00	0.01	0.618	O	|	|	|	|	1.25
88.167	0.00	0.01	0.622	O	|	|	|	|	1.25	93.167	0.00	0.01	0.618	O	|	|	|	|	1.24
88.250	0.00	0.01	0.622	O	|	|	|	|	1.25	93.250	0.00	0.01	0.617	O	|	|	|	|	1.24
88.333	0.00	0.01	0.622	O	|	|	|	|	1.25	93.333	0.00	0.01	0.617	O	|	|	|	|	1.24
88.417	0.00	0.01	0.621	O	|	|	|	|	1.25	93.417	0.00	0.01	0.617	O	|	|	|	|	1.24
88.500	0.00	0.01	0.621	O	|	|	|	|	1.25	93.500	0.00	0.01	0.617	O	|	|	|	|	1.24
88.583	0.00	0.01	0.621	O	|	|	|	|	1.25	93.583	0.00	0.01	0.617	O	|	|	|	|	1.24
88.667	0.00	0.01	0.621	O	|	|	|	|	1.25	93.667	0.00	0.01	0.617	O	|	|	|	|	1.24
88.750	0.00	0.01	0.621	O	|	|	|	|	1.25	93.750	0.00	0.01	0.617	O	|	|	|	|	1.24
88.833	0.00	0.01	0.621	O	|	|	|	|	1.25	93.833	0.00	0.01	0.617	O	|	|	|	|	1.24

Left Blank Intentionally

413.917	0.00	0.01	0.403	O	|	|	|	0.81
414.000	0.00	0.01	0.403	O	|	|	|	0.81
414.083	0.00	0.01	0.403	O	|	|	|	0.81
414.167	0.00	0.01	0.403	O	|	|	|	0.81
414.250	0.00	0.01	0.402	O	|	|	|	0.81
414.333	0.00	0.01	0.402	O	|	|	|	0.81
414.417	0.00	0.01	0.402	O	|	|	|	0.81
414.500	0.00	0.01	0.402	O	|	|	|	0.81
414.583	0.00	0.01	0.402	O	|	|	|	0.81
414.667	0.00	0.01	0.402	O	|	|	|	0.81
414.750	0.00	0.01	0.402	O	|	|	|	0.81
414.833	0.00	0.01	0.402	O	|	|	|	0.81
414.917	0.00	0.01	0.402	O	|	|	|	0.81
415.000	0.00	0.01	0.402	O	|	|	|	0.81
415.083	0.00	0.01	0.402	O	|	|	|	0.81
415.167	0.00	0.01	0.402	O	|	|	|	0.81
415.250	0.00	0.01	0.402	O	|	|	|	0.81
415.333	0.00	0.01	0.402	O	|	|	|	0.81
415.417	0.00	0.01	0.402	O	|	|	|	0.81
415.500	0.00	0.01	0.402	O	|	|	|	0.81
415.583	0.00	0.01	0.402	O	|	|	|	0.81
415.667	0.00	0.01	0.402	O	|	|	|	0.81
415.750	0.00	0.01	0.402	O	|	|	|	0.81
415.833	0.00	0.01	0.402	O	|	|	|	0.81
415.917	0.00	0.01	0.402	O	|	|	|	0.81
416.000	0.00	0.01	0.402	O	|	|	|	0.81
416.083	0.00	0.01	0.402	O	|	|	|	0.81
416.167	0.00	0.01	0.401	O	|	|	|	0.81
416.250	0.00	0.01	0.401	O	|	|	|	0.81
416.333	0.00	0.01	0.401	O	|	|	|	0.81
416.417	0.00	0.01	0.401	O	|	|	|	0.81
416.500	0.00	0.01	0.401	O	|	|	|	0.81
416.583	0.00	0.01	0.401	O	|	|	|	0.81
416.667	0.00	0.01	0.401	O	|	|	|	0.81

Remaining water in basin = 0.40 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.532 (CFS)
Total volume = 1.442 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

-----------------------------------------------------------------------


TR 37036, PARCEL 1
BASIN M
100Y 3H STORM

-----------------------------------------------------------------------


Program License Serial Number 6406

-----------------------------------------------------------------------
******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR3100.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    40
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       39.057 (CFS)
                Total volume =       2.900 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
***********************************************************************



+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
_______________________________________________________________________

User entry of depth-outflow-storage data
-----------------------------------------------------------------------
Total number of inflow hydrograph intervals = 40
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
-----------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
-----------------------------------------------------------------------
                Hydrograph Detention Basin Routing
-----------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
-----------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                  Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       9.8    19.53   29.29   39.06 (Ft.)
 0.083    1.92    0.00      0.007  OI      |       |       |       |     0.01
 0.167    3.97    0.00      0.027  O  I    |       |       |       |     0.05
 0.250    4.11    0.00      0.055  O  I    |       |       |       |     0.11
 0.333    4.55    0.00      0.085  O  I    |       |       |       |     0.17
 0.417    5.19    0.00      0.118  O   I   |       |       |       |     0.24
 0.500    5.74    0.00      0.156  O   I   |       |       |       |     0.31
 0.583    5.81    0.00      0.195  O   I   |       |       |       |     0.39
 0.667    5.90    0.00      0.236  O   I   |       |       |       |     0.48
 0.750    6.31    0.00      0.278  O    I  |       |       |       |     0.56
 0.833    5.94    0.01      0.320  O   I   |       |       |       |     0.64
 0.917    5.64    0.01      0.360  O   I   |       |       |       |     0.73
 1.000    6.01    0.01      0.400  O   I   |       |       |       |     0.81
 1.083    6.91    0.01      0.444  O    I  |       |       |       |     0.90
 1.167    7.61    0.01      0.494  O     I |       |       |       |     1.00
 1.250    7.77    0.01      0.547  O     I |       |       |       |     1.10
 1.333    7.54    0.01      0.600  O     I |       |       |       |     1.21
 1.417    8.13    0.03      0.654  O     I |       |       |       |     1.31
 1.500    9.23    0.07      0.713  O      I|       |       |       |     1.41
 1.583    9.12    0.11      0.776  O      I|       |       |       |     1.52
 1.667    9.20    0.15      0.838  O      I|       |       |       |     1.63
 1.750   11.21    0.19      0.907  O       |I      |       |       |     1.75
 1.833   12.41    0.24      0.987  O       | I     |       |       |     1.89
 1.917   11.72    0.29      1.068  O       |I      |       |       |     2.03
 2.000   11.48    0.31      1.146  O       |I      |       |       |     2.16
 2.083   11.90    0.33      1.224  O       |I      |       |       |     2.29
 2.167   14.97    0.35      1.314  O       |   I   |       |       |     2.43
 2.250   20.06    0.39      1.432  O       |       I       |       |     2.63
 2.333   19.07    0.42      1.564  O       |      I|       |       |     2.84
 2.417   24.12    0.48      1.710  O       |       |  I    |       |     3.07
 2.500   33.79    0.57      1.906  O       |       |       |  I    |     3.37
 2.583   39.06    0.70      2.152  O       |       |       |      I|     3.73
 2.667   36.54    0.83      2.407  O       |       |       |    I  |     4.10
 2.750   21.95    0.92      2.603  O       |       |I      |       |     4.37
 2.833   10.72    0.96      2.709  O       |      I|       |       |     4.51
 2.917    7.89    0.99      2.766  O     I |       |       |       |     4.59
 3.000    5.02    1.01      2.804  O   I   |       |       |       |     4.64
 3.083    1.88    1.02      2.820  OI      |       |       |       |     4.66
 3.167    0.53    1.02      2.822  O       |       |       |       |     4.66
 3.250    0.17    1.01      2.817  O       |       |       |       |     4.66
 3.333    0.03    1.01      2.811  O       |       |       |       |     4.65
 3.417    0.00    1.01      2.804  O       |       |       |       |     4.64
 3.500    0.00    1.00      2.797  O       |       |       |       |     4.63
 3.583    0.00    1.00      2.790  O       |       |       |       |     4.62
 3.667    0.00    1.00      2.783  O       |       |       |       |     4.61
 3.750    0.00    1.00      2.777  O       |       |       |       |     4.60
 3.833    0.00    0.99      2.770  O       |       |       |       |     4.59
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3.917	0.00	0.99	2.763	O	|	|	|	|	4.58	8.917	0.00	0.82	2.391	O	|	|	|	|	4.08
4.000	0.00	0.99	2.756	O	|	|	|	|	4.58	9.000	0.00	0.82	2.385	O	|	|	|	|	4.07
4.083	0.00	0.98	2.749	O	|	|	|	|	4.57	9.083	0.00	0.81	2.379	O	|	|	|	|	4.07
4.167	0.00	0.98	2.743	O	|	|	|	|	4.56	9.167	0.00	0.81	2.374	O	|	|	|	|	4.06
4.250	0.00	0.98	2.736	O	|	|	|	|	4.55	9.250	0.00	0.81	2.368	O	|	|	|	|	4.05
4.333	0.00	0.97	2.729	O	|	|	|	|	4.54	9.333	0.00	0.81	2.363	O	|	|	|	|	4.04
4.417	0.00	0.97	2.722	O	|	|	|	|	4.53	9.417	0.00	0.80	2.357	O	|	|	|	|	4.04
4.500	0.00	0.97	2.716	O	|	|	|	|	4.52	9.500	0.00	0.80	2.352	O	|	|	|	|	4.03
4.583	0.00	0.96	2.709	O	|	|	|	|	4.51	9.583	0.00	0.80	2.346	O	|	|	|	|	4.02
4.667	0.00	0.96	2.702	O	|	|	|	|	4.50	9.667	0.00	0.79	2.341	O	|	|	|	|	4.01
4.750	0.00	0.96	2.696	O	|	|	|	|	4.49	9.750	0.00	0.79	2.335	O	|	|	|	|	4.01
4.833	0.00	0.96	2.689	O	|	|	|	|	4.49	9.833	0.00	0.79	2.330	O	|	|	|	|	4.00
4.917	0.00	0.95	2.683	O	|	|	|	|	4.48	9.917	0.00	0.79	2.324	O	|	|	|	|	3.99
5.000	0.00	0.95	2.676	O	|	|	|	|	4.47	10.000	0.00	0.78	2.319	O	|	|	|	|	3.98
5.083	0.00	0.95	2.670	O	|	|	|	|	4.46	10.083	0.00	0.78	2.314	O	|	|	|	|	3.98
5.167	0.00	0.94	2.663	O	|	|	|	|	4.45	10.167	0.00	0.78	2.308	O	|	|	|	|	3.97
5.250	0.00	0.94	2.657	O	|	|	|	|	4.44	10.250	0.00	0.78	2.303	O	|	|	|	|	3.96
5.333	0.00	0.94	2.650	O	|	|	|	|	4.43	10.333	0.00	0.77	2.297	O	|	|	|	|	3.95
5.417	0.00	0.93	2.644	O	|	|	|	|	4.42	10.417	0.00	0.77	2.292	O	|	|	|	|	3.94
5.500	0.00	0.93	2.637	O	|	|	|	|	4.42	10.500	0.00	0.77	2.287	O	|	|	|	|	3.94
5.583	0.00	0.93	2.631	O	|	|	|	|	4.41	10.583	0.00	0.77	2.282	O	|	|	|	|	3.93
5.667	0.00	0.93	2.624	O	|	|	|	|	4.40	10.667	0.00	0.76	2.276	O	|	|	|	|	3.92
5.750	0.00	0.92	2.618	O	|	|	|	|	4.39	10.750	0.00	0.76	2.271	O	|	|	|	|	3.91
5.833	0.00	0.92	2.612	O	|	|	|	|	4.38	10.833	0.00	0.76	2.266	O	|	|	|	|	3.90
5.917	0.00	0.92	2.605	O	|	|	|	|	4.37	10.917	0.00	0.75	2.261	O	|	|	|	|	3.90
6.000	0.00	0.91	2.599	O	|	|	|	|	4.36	11.000	0.00	0.75	2.255	O	|	|	|	|	3.89
6.083	0.00	0.91	2.593	O	|	|	|	|	4.36	11.083	0.00	0.75	2.250	O	|	|	|	|	3.88
6.167	0.00	0.91	2.587	O	|	|	|	|	4.35	11.167	0.00	0.75	2.245	O	|	|	|	|	3.87
6.250	0.00	0.91	2.580	O	|	|	|	|	4.34	11.250	0.00	0.74	2.240	O	|	|	|	|	3.87
6.333	0.00	0.90	2.574	O	|	|	|	|	4.33	11.333	0.00	0.74	2.235	O	|	|	|	|	3.86
6.417	0.00	0.90	2.568	O	|	|	|	|	4.32	11.417	0.00	0.74	2.230	O	|	|	|	|	3.85
6.500	0.00	0.90	2.562	O	|	|	|	|	4.31	11.500	0.00	0.74	2.225	O	|	|	|	|	3.84
6.583	0.00	0.89	2.556	O	|	|	|	|	4.30	11.583	0.00	0.73	2.220	O	|	|	|	|	3.84
6.667	0.00	0.89	2.549	O	|	|	|	|	4.30	11.667	0.00	0.73	2.215	O	|	|	|	|	3.83
6.750	0.00	0.89	2.543	O	|	|	|	|	4.29	11.750	0.00	0.73	2.210	O	|	|	|	|	3.82
6.833	0.00	0.89	2.537	O	|	|	|	|	4.28	11.833	0.00	0.73	2.205	O	|	|	|	|	3.81
6.917	0.00	0.88	2.531	O	|	|	|	|	4.27	11.917	0.00	0.72	2.200	O	|	|	|	|	3.81
7.000	0.00	0.88	2.525	O	|	|	|	|	4.26	12.000	0.00	0.72	2.195	O	|	|	|	|	3.80
7.083	0.00	0.88	2.519	O	|	|	|	|	4.26	12.083	0.00	0.72	2.190	O	|	|	|	|	3.79
7.167	0.00	0.87	2.513	O	|	|	|	|	4.25	12.167	0.00	0.72	2.185	O	|	|	|	|	3.78
7.250	0.00	0.87	2.507	O	|	|	|	|	4.24	12.250	0.00	0.71	2.180	O	|	|	|	|	3.78
7.333	0.00	0.87	2.501	O	|	|	|	|	4.23	12.333	0.00	0.71	2.175	O	|	|	|	|	3.77
7.417	0.00	0.87	2.495	O	|	|	|	|	4.22	12.417	0.00	0.71	2.170	O	|	|	|	|	3.76
7.500	0.00	0.86	2.489	O	|	|	|	|	4.21	12.500	0.00	0.71	2.165	O	|	|	|	|	3.75
7.583	0.00	0.86	2.483	O	|	|	|	|	4.21	12.583	0.00	0.70	2.160	O	|	|	|	|	3.75
7.667	0.00	0.86	2.477	O	|	|	|	|	4.20	12.667	0.00	0.70	2.155	O	|	|	|	|	3.74
7.750	0.00	0.85	2.471	O	|	|	|	|	4.19	12.750	0.00	0.70	2.151	O	|	|	|	|	3.73
7.833	0.00	0.85	2.465	O	|	|	|	|	4.18	12.833	0.00	0.70	2.146	O	|	|	|	|	3.73
7.917	0.00	0.85	2.460	O	|	|	|	|	4.18	12.917	0.00	0.69	2.141	O	|	|	|	|	3.72
8.000	0.00	0.85	2.454	O	|	|	|	|	4.17	13.000	0.00	0.69	2.136	O	|	|	|	|	3.71
8.083	0.00	0.84	2.448	O	|	|	|	|	4.16	13.083	0.00	0.69	2.131	O	|	|	|	|	3.70
8.167	0.00	0.84	2.442	O	|	|	|	|	4.15	13.167	0.00	0.69	2.127	O	|	|	|	|	3.70
8.250	0.00	0.84	2.436	O	|	|	|	|	4.14	13.250	0.00	0.68	2.122	O	|	|	|	|	3.69
8.333	0.00	0.84	2.431	O	|	|	|	|	4.14	13.333	0.00	0.68	2.117	O	|	|	|	|	3.68
8.417	0.00	0.83	2.425	O	|	|	|	|	4.13	13.417	0.00	0.68	2.113	O	|	|	|	|	3.68
8.500	0.00	0.83	2.419	O	|	|	|	|	4.12	13.500	0.00	0.68	2.108	O	|	|	|	|	3.67
8.583	0.00	0.83	2.413	O	|	|	|	|	4.11	13.583	0.00	0.67	2.103	O	|	|	|	|	3.66
8.667	0.00	0.83	2.408	O	|	|	|	|	4.10	13.667	0.00	0.67	2.099	O	|	|	|	|	3.65
8.750	0.00	0.82	2.402	O	|	|	|	|	4.10	13.750	0.00	0.67	2.094	O	|	|	|	|	3.65
8.833	0.00	0.82	2.396	O	|	|	|	|	4.09	13.833	0.00	0.67	2.089	O	|	|	|	|	3.64

13.917	0.00	0.67	2.085	O	|	|	|	|	3.63	18.917	0.00	0.54	1.837	O	|	|	|	|	3.26
14.000	0.00	0.66	2.080	O	|	|	|	|	3.63	19.000	0.00	0.54	1.833	O	|	|	|	|	3.26
14.083	0.00	0.66	2.076	O	|	|	|	|	3.62	19.083	0.00	0.54	1.829	O	|	|	|	|	3.25
14.167	0.00	0.66	2.071	O	|	|	|	|	3.61	19.167	0.00	0.53	1.826	O	|	|	|	|	3.25
14.250	0.00	0.66	2.067	O	|	|	|	|	3.61	19.250	0.00	0.53	1.822	O	|	|	|	|	3.24
14.333	0.00	0.65	2.062	O	|	|	|	|	3.60	19.333	0.00	0.53	1.818	O	|	|	|	|	3.24
14.417	0.00	0.65	2.058	O	|	|	|	|	3.59	19.417	0.00	0.53	1.815	O	|	|	|	|	3.23
14.500	0.00	0.65	2.053	O	|	|	|	|	3.59	19.500	0.00	0.53	1.811	O	|	|	|	|	3.23
14.583	0.00	0.65	2.049	O	|	|	|	|	3.58	19.583	0.00	0.52	1.807	O	|	|	|	|	3.22
14.667	0.00	0.64	2.044	O	|	|	|	|	3.57	19.667	0.00	0.52	1.804	O	|	|	|	|	3.21
14.750	0.00	0.64	2.040	O	|	|	|	|	3.57	19.750	0.00	0.52	1.800	O	|	|	|	|	3.21
14.833	0.00	0.64	2.035	O	|	|	|	|	3.56	19.833	0.00	0.52	1.797	O	|	|	|	|	3.20
14.917	0.00	0.64	2.031	O	|	|	|	|	3.55	19.917	0.00	0.52	1.793	O	|	|	|	|	3.20
15.000	0.00	0.64	2.027	O	|	|	|	|	3.55	20.000	0.00	0.52	1.789	O	|	|	|	|	3.19
15.083	0.00	0.63	2.022	O	|	|	|	|	3.54	20.083	0.00	0.51	1.786	O	|	|	|	|	3.19
15.167	0.00	0.63	2.018	O	|	|	|	|	3.53	20.167	0.00	0.51	1.782	O	|	|	|	|	3.18
15.250	0.00	0.63	2.013	O	|	|	|	|	3.53	20.250	0.00	0.51	1.779	O	|	|	|	|	3.18
15.333	0.00	0.63	2.009	O	|	|	|	|	3.52	20.333	0.00	0.51	1.775	O	|	|	|	|	3.17
15.417	0.00	0.62	2.005	O	|	|	|	|	3.51	20.417	0.00	0.51	1.772	O	|	|	|	|	3.17
15.500	0.00	0.62	2.001	O	|	|	|	|	3.51	20.500	0.00	0.50	1.768	O	|	|	|	|	3.16
15.583	0.00	0.62	1.996	O	|	|	|	|	3.50	20.583	0.00	0.50	1.765	O	|	|	|	|	3.16
15.667	0.00	0.62	1.992	O	|	|	|	|	3.50	20.667	0.00	0.50	1.761	O	|	|	|	|	3.15
15.750	0.00	0.62	1.988	O	|	|	|	|	3.49	20.750	0.00	0.50	1.758	O	|	|	|	|	3.15
15.833	0.00	0.61	1.984	O	|	|	|	|	3.48	20.833	0.00	0.50	1.755	O	|	|	|	|	3.14
15.917	0.00	0.61	1.979	O	|	|	|	|	3.48	20.917	0.00	0.50	1.751	O	|	|	|	|	3.14
16.000	0.00	0.61	1.975	O	|	|	|	|	3.47	21.000	0.00	0.49	1.748	O	|	|	|	|	3.13
16.083	0.00	0.61	1.971	O	|	|	|	|	3.46	21.083	0.00	0.49	1.744	O	|	|	|	|	3.13
16.167	0.00	0.61	1.967	O	|	|	|	|	3.46	21.167	0.00	0.49	1.741	O	|	|	|	|	3.12
16.250	0.00	0.60	1.963	O	|	|	|	|	3.45	21.250	0.00	0.49	1.738	O	|	|	|	|	3.12
16.333	0.00	0.60	1.958	O	|	|	|	|	3.45	21.333	0.00	0.49	1.734	O	|	|	|	|	3.11
16.417	0.00	0.60	1.954	O	|	|	|	|	3.44	21.417	0.00	0.49	1.731	O	|	|	|	|	3.11
16.500	0.00	0.60	1.950	O	|	|	|	|	3.43	21.500	0.00	0.48	1.728	O	|	|	|	|	3.10
16.583	0.00	0.60	1.946	O	|	|	|	|	3.43	21.583	0.00	0.48	1.724	O	|	|	|	|	3.10
16.667	0.00	0.59	1.942	O	|	|	|	|	3.42	21.667	0.00	0.48	1.721	O	|	|	|	|	3.09
16.750	0.00	0.59	1.938	O	|	|	|	|	3.41	21.750	0.00	0.48	1.718	O	|	|	|	|	3.09
16.833	0.00	0.59	1.934	O	|	|	|	|	3.41	21.833	0.00	0.48	1.714	O	|	|	|	|	3.08
16.917	0.00	0.59	1.930	O	|	|	|	|	3.40	21.917	0.00	0.48	1.711	O	|	|	|	|	3.08
17.000	0.00	0.58	1.926	O	|	|	|	|	3.40	22.000	0.00	0.47	1.708	O	|	|	|	|	3.07
17.083	0.00	0.58	1.922	O	|	|	|	|	3.39	22.083	0.00	0.47	1.704	O	|	|	|	|	3.07
17.167	0.00	0.58	1.918	O	|	|	|	|	3.38	22.167	0.00	0.47	1.701	O	|	|	|	|	3.06
17.250	0.00	0.58	1.914	O	|	|	|	|	3.38	22.250	0.00	0.47	1.698	O	|	|	|	|	3.06
17.333	0.00	0.58	1.910	O	|	|	|	|	3.37	22.333	0.00	0.47	1.695	O	|	|	|	|	3.05
17.417	0.00	0.57	1.906	O	|	|	|	|	3.37	22.417	0.00	0.47	1.692	O	|	|	|	|	3.05
17.500	0.00	0.57	1.902	O	|	|	|	|	3.36	22.500	0.00	0.46	1.688	O	|	|	|	|	3.04
17.583	0.00	0.57	1.898	O	|	|	|	|	3.36	22.583	0.00	0.46	1.685	O	|	|	|	|	3.04
17.667	0.00	0.57	1.894	O	|	|	|	|	3.35	22.667	0.00	0.46	1.682	O	|	|	|	|	3.03
17.750	0.00	0.57	1.890	O	|	|	|	|	3.34	22.750	0.00	0.46	1.679	O	|	|	|	|	3.03
17.833	0.00	0.56	1.886	O	|	|	|	|	3.34	22.833	0.00	0.46	1.676	O	|	|	|	|	3.02
17.917	0.00	0.56	1.882	O	|	|	|	|	3.33	22.917	0.00	0.46	1.672	O	|	|	|	|	3.02
18.000	0.00	0.56	1.878	O	|	|	|	|	3.33	23.000	0.00	0.45	1.669	O	|	|	|	|	3.01
18.083	0.00	0.56	1.875	O	|	|	|	|	3.32	23.083	0.00	0.45	1.666	O	|	|	|	|	3.01
18.167	0.00	0.56	1.871	O	|	|	|	|	3.31	23.167	0.00	0.45	1.663	O	|	|	|	|	3.00
18.250	0.00	0.55	1.867	O	|	|	|	|	3.31	23.250	0.00	0.45	1.660	O	|	|	|	|	3.00
18.333	0.00	0.55	1.863	O	|	|	|	|	3.30	23.333	0.00	0.45	1.657	O	|	|	|	|	2.99
18.417	0.00	0.55	1.859	O	|	|	|	|	3.30	23.417	0.00	0.45	1.654	O	|	|	|	|	2.99
18.500	0.00	0.55	1.855	O	|	|	|	|	3.29	23.500	0.00	0.45	1.651	O	|	|	|	|	2.98
18.583	0.00	0.55	1.852	O	|	|	|	|	3.29	23.583	0.00	0.45	1.648	O	|	|	|	|	2.98
18.667	0.00	0.55	1.848	O	|	|	|	|	3.28	23.667	0.00	0.45	1.645	O	|	|	|	|	2.97
18.750	0.00	0.54	1.844	O	|	|	|	|	3.27	23.750	0.00	0.44	1.641	O	|	|	|	|	2.97
18.833	0.00	0.54	1.840	O	|	|	|	|	3.27	23.833	0.00	0.44	1.638	O	|	|	|	|	2.96

23.917	0.00	0.44	1.635	O	|	|	|	|	2.96	28.917	0.00	0.39	1.462	O	|	|	|	|	2.68
24.000	0.00	0.44	1.632	O	|	|	|	|	2.95	29.000	0.00	0.39	1.460	O	|	|	|	|	2.67
24.083	0.00	0.44	1.629	O	|	|	|	|	2.95	29.083	0.00	0.39	1.457	O	|	|	|	|	2.67
24.167	0.00	0.44	1.626	O	|	|	|	|	2.94	29.167	0.00	0.39	1.454	O	|	|	|	|	2.66
24.250	0.00	0.44	1.623	O	|	|	|	|	2.94	29.250	0.00	0.39	1.452	O	|	|	|	|	2.66
24.333	0.00	0.44	1.620	O	|	|	|	|	2.93	29.333	0.00	0.39	1.449	O	|	|	|	|	2.65
24.417	0.00	0.44	1.617	O	|	|	|	|	2.93	29.417	0.00	0.39	1.446	O	|	|	|	|	2.65
24.500	0.00	0.44	1.614	O	|	|	|	|	2.92	29.500	0.00	0.39	1.443	O	|	|	|	|	2.65
24.583	0.00	0.44	1.611	O	|	|	|	|	2.92	29.583	0.00	0.39	1.441	O	|	|	|	|	2.64
24.667	0.00	0.44	1.608	O	|	|	|	|	2.91	29.667	0.00	0.39	1.438	O	|	|	|	|	2.64
24.750	0.00	0.43	1.605	O	|	|	|	|	2.91	29.750	0.00	0.39	1.435	O	|	|	|	|	2.63
24.833	0.00	0.43	1.602	O	|	|	|	|	2.91	29.833	0.00	0.39	1.433	O	|	|	|	|	2.63
24.917	0.00	0.43	1.599	O	|	|	|	|	2.90	29.917	0.00	0.39	1.430	O	|	|	|	|	2.62
25.000	0.00	0.43	1.596	O	|	|	|	|	2.90	30.000	0.00	0.39	1.427	O	|	|	|	|	2.62
25.083	0.00	0.43	1.593	O	|	|	|	|	2.89	30.083	0.00	0.38	1.425	O	|	|	|	|	2.61
25.167	0.00	0.43	1.590	O	|	|	|	|	2.89	30.167	0.00	0.38	1.422	O	|	|	|	|	2.61
25.250	0.00	0.43	1.587	O	|	|	|	|	2.88	30.250	0.00	0.38	1.420	O	|	|	|	|	2.61
25.333	0.00	0.43	1.584	O	|	|	|	|	2.88	30.333	0.00	0.38	1.417	O	|	|	|	|	2.60
25.417	0.00	0.43	1.581	O	|	|	|	|	2.87	30.417	0.00	0.38	1.414	O	|	|	|	|	2.60
25.500	0.00	0.43	1.578	O	|	|	|	|	2.87	30.500	0.00	0.38	1.412	O	|	|	|	|	2.59
25.583	0.00	0.43	1.575	O	|	|	|	|	2.86	30.583	0.00	0.38	1.409	O	|	|	|	|	2.59
25.667	0.00	0.43	1.573	O	|	|	|	|	2.86	30.667	0.00	0.38	1.406	O	|	|	|	|	2.58
25.750	0.00	0.42	1.570	O	|	|	|	|	2.85	30.750	0.00	0.38	1.404	O	|	|	|	|	2.58
25.833	0.00	0.42	1.567	O	|	|	|	|	2.85	30.833	0.00	0.38	1.401	O	|	|	|	|	2.58
25.917	0.00	0.42	1.564	O	|	|	|	|	2.84	30.917	0.00	0.38	1.399	O	|	|	|	|	2.57
26.000	0.00	0.42	1.561	O	|	|	|	|	2.84	31.000	0.00	0.38	1.396	O	|	|	|	|	2.57
26.083	0.00	0.42	1.558	O	|	|	|	|	2.83	31.083	0.00	0.38	1.393	O	|	|	|	|	2.56
26.167	0.00	0.42	1.555	O	|	|	|	|	2.83	31.167	0.00	0.37	1.391	O	|	|	|	|	2.56
26.250	0.00	0.42	1.552	O	|	|	|	|	2.82	31.250	0.00	0.37	1.388	O	|	|	|	|	2.55
26.333	0.00	0.42	1.549	O	|	|	|	|	2.82	31.333	0.00	0.37	1.386	O	|	|	|	|	2.55
26.417	0.00	0.42	1.546	O	|	|	|	|	2.81	31.417	0.00	0.37	1.383	O	|	|	|	|	2.55
26.500	0.00	0.42	1.544	O	|	|	|	|	2.81	31.500	0.00	0.37	1.381	O	|	|	|	|	2.54
26.583	0.00	0.42	1.541	O	|	|	|	|	2.80	31.583	0.00	0.37	1.378	O	|	|	|	|	2.54
26.667	0.00	0.42	1.538	O	|	|	|	|	2.80	31.667	0.00	0.37	1.375	O	|	|	|	|	2.53
26.750	0.00	0.42	1.535	O	|	|	|	|	2.79	31.750	0.00	0.37	1.373	O	|	|	|	|	2.53
26.833	0.00	0.41	1.532	O	|	|	|	|	2.79	31.833	0.00	0.37	1.370	O	|	|	|	|	2.53
26.917	0.00	0.41	1.529	O	|	|	|	|	2.79	31.917	0.00	0.37	1.368	O	|	|	|	|	2.52
27.000	0.00	0.41	1.526	O	|	|	|	|	2.78	32.000	0.00	0.37	1.365	O	|	|	|	|	2.52
27.083	0.00	0.41	1.524	O	|	|	|	|	2.78	32.083	0.00	0.37	1.363	O	|	|	|	|	2.51
27.167	0.00	0.41	1.521	O	|	|	|	|	2.77	32.167	0.00	0.37	1.360	O	|	|	|	|	2.51
27.250	0.00	0.41	1.518	O	|	|	|	|	2.77	32.250	0.00	0.37	1.358	O	|	|	|	|	2.50
27.333	0.00	0.41	1.515	O	|	|	|	|	2.76	32.333	0.00	0.37	1.355	O	|	|	|	|	2.50
27.417	0.00	0.41	1.512	O	|	|	|	|	2.76	32.417	0.00	0.36	1.353	O	|	|	|	|	2.50
27.500	0.00	0.41	1.509	O	|	|	|	|	2.75	32.500	0.00	0.36	1.350	O	|	|	|	|	2.49
27.583	0.00	0.41	1.507	O	|	|	|	|	2.75	32.583	0.00	0.36	1.348	O	|	|	|	|	2.49
27.667	0.00	0.41	1.504	O	|	|	|	|	2.74	32.667	0.00	0.36	1.345	O	|	|	|	|	2.48
27.750	0.00	0.41	1.501	O	|	|	|	|	2.74	32.750	0.00	0.36	1.343	O	|	|	|	|	2.48
27.833	0.00	0.40	1.498	O	|	|	|	|	2.73	32.833	0.00	0.36	1.340	O	|	|	|	|	2.48
27.917	0.00	0.40	1.495	O	|	|	|	|	2.73	32.917	0.00	0.36	1.338	O	|	|	|	|	2.47
28.000	0.00	0.40	1.493	O	|	|	|	|	2.73	33.000	0.00	0.36	1.335	O	|	|	|	|	2.47
28.083	0.00	0.40	1.490	O	|	|	|	|	2.72	33.083	0.00	0.36	1.333	O	|	|	|	|	2.46
28.167	0.00	0.40	1.487	O	|	|	|	|	2.72	33.167	0.00	0.36	1.330	O	|	|	|	|	2.46
28.250	0.00	0.40	1.484	O	|	|	|	|	2.71	33.250	0.00	0.36	1.328	O	|	|	|	|	2.46
28.333	0.00	0.40	1.482	O	|	|	|	|	2.71	33.333	0.00	0.36	1.325	O	|	|	|	|	2.45
28.417	0.00	0.40	1.479	O	|	|	|	|	2.70	33.417	0.00	0.36	1.323	O	|	|	|	|	2.45
28.500	0.00	0.40	1.476	O	|	|	|	|	2.70	33.500	0.00	0.36	1.320	O	|	|	|	|	2.44
28.583	0.00	0.40	1.473	O	|	|	|	|	2.69	33.583	0.00	0.35	1.318	O	|	|	|	|	2.44
28.667	0.00	0.40	1.471	O	|	|	|	|	2.69	33.667	0.00	0.35	1.316	O	|	|	|	|	2.44
28.750	0.00	0.40	1.468	O	|	|	|	|	2.69	33.750	0.00	0.35	1.313	O	|	|	|	|	2.43
28.833	0.00	0.40	1.465	O	|	|	|	|	2.68	33.833	0.00	0.35	1.311	O	|	|	|	|	2.43

33.917	0.00	0.35	1.308	O	|	|	|	|	2.42	38.917	0.00	0.31	1.171	O	|	|	|	|	2.20
34.000	0.00	0.35	1.306	O	|	|	|	|	2.42	39.000	0.00	0.31	1.169	O	|	|	|	|	2.19
34.083	0.00	0.35	1.303	O	|	|	|	|	2.42	39.083	0.00	0.31	1.167	O	|	|	|	|	2.19
34.167	0.00	0.35	1.301	O	|	|	|	|	2.41	39.167	0.00	0.31	1.164	O	|	|	|	|	2.19
34.250	0.00	0.35	1.299	O	|	|	|	|	2.41	39.250	0.00	0.31	1.162	O	|	|	|	|	2.18
34.333	0.00	0.35	1.296	O	|	|	|	|	2.40	39.333	0.00	0.31	1.160	O	|	|	|	|	2.18
34.417	0.00	0.35	1.294	O	|	|	|	|	2.40	39.417	0.00	0.31	1.158	O	|	|	|	|	2.18
34.500	0.00	0.35	1.291	O	|	|	|	|	2.40	39.500	0.00	0.31	1.156	O	|	|	|	|	2.17
34.583	0.00	0.35	1.289	O	|	|	|	|	2.39	39.583	0.00	0.31	1.154	O	|	|	|	|	2.17
34.667	0.00	0.35	1.287	O	|	|	|	|	2.39	39.667	0.00	0.31	1.152	O	|	|	|	|	2.17
34.750	0.00	0.35	1.284	O	|	|	|	|	2.38	39.750	0.00	0.31	1.149	O	|	|	|	|	2.16
34.833	0.00	0.34	1.282	O	|	|	|	|	2.38	39.833	0.00	0.31	1.147	O	|	|	|	|	2.16
34.917	0.00	0.34	1.280	O	|	|	|	|	2.38	39.917	0.00	0.31	1.145	O	|	|	|	|	2.16
35.000	0.00	0.34	1.277	O	|	|	|	|	2.37	40.000	0.00	0.31	1.143	O	|	|	|	|	2.15
35.083	0.00	0.34	1.275	O	|	|	|	|	2.37	40.083	0.00	0.31	1.141	O	|	|	|	|	2.15
35.167	0.00	0.34	1.272	O	|	|	|	|	2.36	40.167	0.00	0.30	1.139	O	|	|	|	|	2.15
35.250	0.00	0.34	1.270	O	|	|	|	|	2.36	40.250	0.00	0.30	1.137	O	|	|	|	|	2.14
35.333	0.00	0.34	1.268	O	|	|	|	|	2.36	40.333	0.00	0.30	1.135	O	|	|	|	|	2.14
35.417	0.00	0.34	1.265	O	|	|	|	|	2.35	40.417	0.00	0.30	1.133	O	|	|	|	|	2.14
35.500	0.00	0.34	1.263	O	|	|	|	|	2.35	40.500	0.00	0.30	1.131	O	|	|	|	|	2.13
35.583	0.00	0.34	1.261	O	|	|	|	|	2.35	40.583	0.00	0.30	1.128	O	|	|	|	|	2.13
35.667	0.00	0.34	1.258	O	|	|	|	|	2.34	40.667	0.00	0.30	1.126	O	|	|	|	|	2.13
35.750	0.00	0.34	1.256	O	|	|	|	|	2.34	40.750	0.00	0.30	1.124	O	|	|	|	|	2.12
35.833	0.00	0.34	1.254	O	|	|	|	|	2.33	40.833	0.00	0.30	1.122	O	|	|	|	|	2.12
35.917	0.00	0.34	1.251	O	|	|	|	|	2.33	40.917	0.00	0.30	1.120	O	|	|	|	|	2.12
36.000	0.00	0.34	1.249	O	|	|	|	|	2.33	41.000	0.00	0.30	1.118	O	|	|	|	|	2.11
36.083	0.00	0.33	1.247	O	|	|	|	|	2.32	41.083	0.00	0.30	1.116	O	|	|	|	|	2.11
36.167	0.00	0.33	1.244	O	|	|	|	|	2.32	41.167	0.00	0.30	1.114	O	|	|	|	|	2.10
36.250	0.00	0.33	1.242	O	|	|	|	|	2.32	41.250	0.00	0.30	1.112	O	|	|	|	|	2.10
36.333	0.00	0.33	1.240	O	|	|	|	|	2.31	41.333	0.00	0.30	1.110	O	|	|	|	|	2.10
36.417	0.00	0.33	1.238	O	|	|	|	|	2.31	41.417	0.00	0.30	1.108	O	|	|	|	|	2.09
36.500	0.00	0.33	1.235	O	|	|	|	|	2.30	41.500	0.00	0.30	1.106	O	|	|	|	|	2.09
36.583	0.00	0.33	1.233	O	|	|	|	|	2.30	41.583	0.00	0.29	1.104	O	|	|	|	|	2.09
36.667	0.00	0.33	1.231	O	|	|	|	|	2.30	41.667	0.00	0.29	1.102	O	|	|	|	|	2.08
36.750	0.00	0.33	1.228	O	|	|	|	|	2.29	41.750	0.00	0.29	1.100	O	|	|	|	|	2.08
36.833	0.00	0.33	1.226	O	|	|	|	|	2.29	41.833	0.00	0.29	1.098	O	|	|	|	|	2.08
36.917	0.00	0.33	1.224	O	|	|	|	|	2.29	41.917	0.00	0.29	1.096	O	|	|	|	|	2.07
37.000	0.00	0.33	1.222	O	|	|	|	|	2.28	42.000	0.00	0.29	1.094	O	|	|	|	|	2.07
37.083	0.00	0.33	1.219	O	|	|	|	|	2.28	42.083	0.00	0.29	1.092	O	|	|	|	|	2.07
37.167	0.00	0.33	1.217	O	|	|	|	|	2.27	42.167	0.00	0.29	1.090	O	|	|	|	|	2.07
37.250	0.00	0.33	1.215	O	|	|	|	|	2.27	42.250	0.00	0.29	1.088	O	|	|	|	|	2.06
37.333	0.00	0.33	1.213	O	|	|	|	|	2.27	42.333	0.00	0.29	1.086	O	|	|	|	|	2.06
37.417	0.00	0.32	1.210	O	|	|	|	|	2.26	42.417	0.00	0.29	1.084	O	|	|	|	|	2.06
37.500	0.00	0.32	1.208	O	|	|	|	|	2.26	42.500	0.00	0.29	1.082	O	|	|	|	|	2.05
37.583	0.00	0.32	1.206	O	|	|	|	|	2.26	42.583	0.00	0.29	1.080	O	|	|	|	|	2.05
37.667	0.00	0.32	1.204	O	|	|	|	|	2.25	42.667	0.00	0.29	1.078	O	|	|	|	|	2.05
37.750	0.00	0.32	1.202	O	|	|	|	|	2.25	42.750	0.00	0.29	1.076	O	|	|	|	|	2.04
37.833	0.00	0.32	1.199	O	|	|	|	|	2.24	42.833	0.00	0.29	1.074	O	|	|	|	|	2.04
37.917	0.00	0.32	1.197	O	|	|	|	|	2.24	42.917	0.00	0.29	1.072	O	|	|	|	|	2.04
38.000	0.00	0.32	1.195	O	|	|	|	|	2.24	43.000	0.00	0.29	1.070	O	|	|	|	|	2.03
38.083	0.00	0.32	1.193	O	|	|	|	|	2.23	43.083	0.00	0.28	1.068	O	|	|	|	|	2.03
38.167	0.00	0.32	1.190	O	|	|	|	|	2.23	43.167	0.00	0.28	1.066	O	|	|	|	|	2.03
38.250	0.00	0.32	1.188	O	|	|	|	|	2.23	43.250	0.00	0.28	1.064	O	|	|	|	|	2.02
38.333	0.00	0.32	1.186	O	|	|	|	|	2.22	43.333	0.00	0.28	1.062	O	|	|	|	|	2.02
38.417	0.00	0.32	1.184	O	|	|	|	|	2.22	43.417	0.00	0.28	1.060	O	|	|	|	|	2.02
38.500	0.00	0.32	1.182	O	|	|	|	|	2.22	43.500	0.00	0.28	1.058	O	|	|	|	|	2.01
38.583	0.00	0.32	1.180	O	|	|	|	|	2.21	43.583	0.00	0.28	1.056	O	|	|	|	|	2.01
38.667	0.00	0.32	1.177	O	|	|	|	|	2.21	43.667	0.00	0.28	1.054	O	|	|	|	|	2.01
38.750	0.00	0.31	1.175	O	|	|	|	|	2.21	43.750	0.00	0.28	1.052	O	|	|	|	|	2.00
38.833	0.00	0.31	1.173	O	|	|	|	|	2.20	43.833	0.00	0.28	1.050	O	|	|	|	|	2.00

43.917	0.00	0.28	1.048	O	|	|	|	|	2.00	48.917	0.00	0.22	0.947	O	|	|	|	|	1.82
44.000	0.00	0.28	1.047	O	|	|	|	|	1.99	49.000	0.00	0.21	0.945	O	|	|	|	|	1.82
44.083	0.00	0.28	1.045	O	|	|	|	|	1.99	49.083	0.00	0.21	0.944	O	|	|	|	|	1.82
44.167	0.00	0.28	1.043	O	|	|	|	|	1.99	49.167	0.00	0.21	0.942	O	|	|	|	|	1.81
44.250	0.00	0.27	1.041	O	|	|	|	|	1.98	49.250	0.00	0.21	0.941	O	|	|	|	|	1.81
44.333	0.00	0.27	1.039	O	|	|	|	|	1.98	49.333	0.00	0.21	0.940	O	|	|	|	|	1.81
44.417	0.00	0.27	1.037	O	|	|	|	|	1.98	49.417	0.00	0.21	0.938	O	|	|	|	|	1.80
44.500	0.00	0.27	1.035	O	|	|	|	|	1.97	49.500	0.00	0.21	0.937	O	|	|	|	|	1.80
44.583	0.00	0.27	1.033	O	|	|	|	|	1.97	49.583	0.00	0.21	0.935	O	|	|	|	|	1.80
44.667	0.00	0.27	1.031	O	|	|	|	|	1.97	49.667	0.00	0.21	0.934	O	|	|	|	|	1.80
44.750	0.00	0.27	1.030	O	|	|	|	|	1.96	49.750	0.00	0.21	0.932	O	|	|	|	|	1.79
44.833	0.00	0.27	1.028	O	|	|	|	|	1.96	49.833	0.00	0.21	0.931	O	|	|	|	|	1.79
44.917	0.00	0.26	1.026	O	|	|	|	|	1.96	49.917	0.00	0.20	0.930	O	|	|	|	|	1.79
45.000	0.00	0.26	1.024	O	|	|	|	|	1.95	50.000	0.00	0.20	0.928	O	|	|	|	|	1.79
45.083	0.00	0.26	1.022	O	|	|	|	|	1.95	50.083	0.00	0.20	0.927	O	|	|	|	|	1.79
45.167	0.00	0.26	1.021	O	|	|	|	|	1.95	50.167	0.00	0.20	0.925	O	|	|	|	|	1.78
45.250	0.00	0.26	1.019	O	|	|	|	|	1.95	50.250	0.00	0.20	0.924	O	|	|	|	|	1.78
45.333	0.00	0.26	1.017	O	|	|	|	|	1.94	50.333	0.00	0.20	0.923	O	|	|	|	|	1.78
45.417	0.00	0.26	1.015	O	|	|	|	|	1.94	50.417	0.00	0.20	0.921	O	|	|	|	|	1.78
45.500	0.00	0.26	1.013	O	|	|	|	|	1.94	50.500	0.00	0.20	0.920	O	|	|	|	|	1.77
45.583	0.00	0.26	1.012	O	|	|	|	|	1.93	50.583	0.00	0.20	0.918	O	|	|	|	|	1.77
45.667	0.00	0.25	1.010	O	|	|	|	|	1.93	50.667	0.00	0.20	0.917	O	|	|	|	|	1.77
45.750	0.00	0.25	1.008	O	|	|	|	|	1.93	50.750	0.00	0.20	0.916	O	|	|	|	|	1.77
45.833	0.00	0.25	1.006	O	|	|	|	|	1.92	50.833	0.00	0.19	0.914	O	|	|	|	|	1.76
45.917	0.00	0.25	1.005	O	|	|	|	|	1.92	50.917	0.00	0.19	0.913	O	|	|	|	|	1.76
46.000	0.00	0.25	1.003	O	|	|	|	|	1.92	51.000	0.00	0.19	0.912	O	|	|	|	|	1.76
46.083	0.00	0.25	1.001	O	|	|	|	|	1.91	51.083	0.00	0.19	0.910	O	|	|	|	|	1.76
46.167	0.00	0.25	0.999	O	|	|	|	|	1.91	51.167	0.00	0.19	0.909	O	|	|	|	|	1.75
46.250	0.00	0.25	0.998	O	|	|	|	|	1.91	51.250	0.00	0.19	0.908	O	|	|	|	|	1.75
46.333	0.00	0.25	0.996	O	|	|	|	|	1.91	51.333	0.00	0.19	0.906	O	|	|	|	|	1.75
46.417	0.00	0.25	0.994	O	|	|	|	|	1.90	51.417	0.00	0.19	0.905	O	|	|	|	|	1.75
46.500	0.00	0.24	0.993	O	|	|	|	|	1.90	51.500	0.00	0.19	0.904	O	|	|	|	|	1.75
46.583	0.00	0.24	0.991	O	|	|	|	|	1.90	51.583	0.00	0.19	0.903	O	|	|	|	|	1.74
46.667	0.00	0.24	0.989	O	|	|	|	|	1.89	51.667	0.00	0.19	0.901	O	|	|	|	|	1.74
46.750	0.00	0.24	0.988	O	|	|	|	|	1.89	51.750	0.00	0.19	0.900	O	|	|	|	|	1.74
46.833	0.00	0.24	0.986	O	|	|	|	|	1.89	51.833	0.00	0.19	0.899	O	|	|	|	|	1.74
46.917	0.00	0.24	0.984	O	|	|	|	|	1.89	51.917	0.00	0.18	0.897	O	|	|	|	|	1.73
47.000	0.00	0.24	0.983	O	|	|	|	|	1.88	52.000	0.00	0.18	0.896	O	|	|	|	|	1.73
47.083	0.00	0.24	0.981	O	|	|	|	|	1.88	52.083	0.00	0.18	0.895	O	|	|	|	|	1.73
47.167	0.00	0.24	0.979	O	|	|	|	|	1.88	52.167	0.00	0.18	0.894	O	|	|	|	|	1.73
47.250	0.00	0.23	0.978	O	|	|	|	|	1.87	52.250	0.00	0.18	0.892	O	|	|	|	|	1.73
47.333	0.00	0.23	0.976	O	|	|	|	|	1.87	52.333	0.00	0.18	0.891	O	|	|	|	|	1.72
47.417	0.00	0.23	0.975	O	|	|	|	|	1.87	52.417	0.00	0.18	0.890	O	|	|	|	|	1.72
47.500	0.00	0.23	0.973	O	|	|	|	|	1.87	52.500	0.00	0.18	0.889	O	|	|	|	|	1.72
47.583	0.00	0.23	0.971	O	|	|	|	|	1.86	52.583	0.00	0.18	0.887	O	|	|	|	|	1.72
47.667	0.00	0.23	0.970	O	|	|	|	|	1.86	52.667	0.00	0.18	0.886	O	|	|	|	|	1.71
47.750	0.00	0.23	0.968	O	|	|	|	|	1.86	52.750	0.00	0.18	0.885	O	|	|	|	|	1.71
47.833	0.00	0.23	0.967	O	|	|	|	|	1.85	52.833	0.00	0.18	0.884	O	|	|	|	|	1.71
47.917	0.00	0.23	0.965	O	|	|	|	|	1.85	52.917	0.00	0.17	0.883	O	|	|	|	|	1.71
48.000	0.00	0.23	0.964	O	|	|	|	|	1.85	53.000	0.00	0.17	0.881	O	|	|	|	|	1.71
48.083	0.00	0.22	0.962	O	|	|	|	|	1.85	53.083	0.00	0.17	0.880	O	|	|	|	|	1.70
48.167	0.00	0.22	0.960	O	|	|	|	|	1.84	53.167	0.00	0.17	0.879	O	|	|	|	|	1.70
48.250	0.00	0.22	0.959	O	|	|	|	|	1.84	53.250	0.00	0.17	0.878	O	|	|	|	|	1.70
48.333	0.00	0.22	0.957	O	|	|	|	|	1.84	53.333	0.00	0.17	0.877	O	|	|	|	|	1.70
48.417	0.00	0.22	0.956	O	|	|	|	|	1.84	53.417	0.00	0.17	0.875	O	|	|	|	|	1.70
48.500	0.00	0.22	0.954	O	|	|	|	|	1.83	53.500	0.00	0.17	0.874	O	|	|	|	|	1.69
48.583	0.00	0.22	0.953	O	|	|	|	|	1.83	53.583	0.00	0.17	0.873	O	|	|	|	|	1.69
48.667	0.00	0.22	0.951	O	|	|	|	|	1.83	53.667	0.00	0.17	0.872	O	|	|	|	|	1.69
48.750	0.00	0.22	0.950	O	|	|	|	|	1.83	53.750	0.00	0.17	0.871	O	|	|	|	|	1.69
48.833	0.00	0.22	0.948	O	|	|	|	|	1.82	53.833	0.00	0.17	0.870	O	|	|	|	|	1.69

53.917	0.00	0.17	0.869	O	|	|	|	|	1.68	58.917	0.00	0.13	0.808	O	|	|	|	|	1.58
54.000	0.00	0.17	0.867	O	|	|	|	|	1.68	59.000	0.00	0.13	0.807	O	|	|	|	|	1.58
54.083	0.00	0.16	0.866	O	|	|	|	|	1.68	59.083	0.00	0.13	0.806	O	|	|	|	|	1.58
54.167	0.00	0.16	0.865	O	|	|	|	|	1.68	59.167	0.00	0.13	0.805	O	|	|	|	|	1.57
54.250	0.00	0.16	0.864	O	|	|	|	|	1.68	59.250	0.00	0.13	0.805	O	|	|	|	|	1.57
54.333	0.00	0.16	0.863	O	|	|	|	|	1.67	59.333	0.00	0.13	0.804	O	|	|	|	|	1.57
54.417	0.00	0.16	0.862	O	|	|	|	|	1.67	59.417	0.00	0.12	0.803	O	|	|	|	|	1.57
54.500	0.00	0.16	0.861	O	|	|	|	|	1.67	59.500	0.00	0.12	0.802	O	|	|	|	|	1.57
54.583	0.00	0.16	0.860	O	|	|	|	|	1.67	59.583	0.00	0.12	0.801	O	|	|	|	|	1.57
54.667	0.00	0.16	0.858	O	|	|	|	|	1.67	59.667	0.00	0.12	0.800	O	|	|	|	|	1.56
54.750	0.00	0.16	0.857	O	|	|	|	|	1.66	59.750	0.00	0.12	0.799	O	|	|	|	|	1.56
54.833	0.00	0.16	0.856	O	|	|	|	|	1.66	59.833	0.00	0.12	0.799	O	|	|	|	|	1.56
54.917	0.00	0.16	0.855	O	|	|	|	|	1.66	59.917	0.00	0.12	0.798	O	|	|	|	|	1.56
55.000	0.00	0.16	0.854	O	|	|	|	|	1.66	60.000	0.00	0.12	0.797	O	|	|	|	|	1.56
55.083	0.00	0.16	0.853	O	|	|	|	|	1.66	60.083	0.00	0.12	0.796	O	|	|	|	|	1.56
55.167	0.00	0.16	0.852	O	|	|	|	|	1.65	60.167	0.00	0.12	0.795	O	|	|	|	|	1.56
55.250	0.00	0.15	0.851	O	|	|	|	|	1.65	60.250	0.00	0.12	0.794	O	|	|	|	|	1.55
55.333	0.00	0.15	0.850	O	|	|	|	|	1.65	60.333	0.00	0.12	0.794	O	|	|	|	|	1.55
55.417	0.00	0.15	0.849	O	|	|	|	|	1.65	60.417	0.00	0.12	0.793	O	|	|	|	|	1.55
55.500	0.00	0.15	0.848	O	|	|	|	|	1.65	60.500	0.00	0.12	0.792	O	|	|	|	|	1.55
55.583	0.00	0.15	0.847	O	|	|	|	|	1.65	60.583	0.00	0.12	0.791	O	|	|	|	|	1.55
55.667	0.00	0.15	0.846	O	|	|	|	|	1.64	60.667	0.00	0.12	0.790	O	|	|	|	|	1.55
55.750	0.00	0.15	0.845	O	|	|	|	|	1.64	60.750	0.00	0.12	0.790	O	|	|	|	|	1.55
55.833	0.00	0.15	0.844	O	|	|	|	|	1.64	60.833	0.00	0.12	0.789	O	|	|	|	|	1.54
55.917	0.00	0.15	0.842	O	|	|	|	|	1.64	60.917	0.00	0.12	0.788	O	|	|	|	|	1.54
56.000	0.00	0.15	0.841	O	|	|	|	|	1.64	61.000	0.00	0.11	0.787	O	|	|	|	|	1.54
56.083	0.00	0.15	0.840	O	|	|	|	|	1.63	61.083	0.00	0.11	0.786	O	|	|	|	|	1.54
56.167	0.00	0.15	0.839	O	|	|	|	|	1.63	61.167	0.00	0.11	0.786	O	|	|	|	|	1.54
56.250	0.00	0.15	0.838	O	|	|	|	|	1.63	61.250	0.00	0.11	0.785	O	|	|	|	|	1.54
56.333	0.00	0.15	0.837	O	|	|	|	|	1.63	61.333	0.00	0.11	0.784	O	|	|	|	|	1.54
56.417	0.00	0.15	0.836	O	|	|	|	|	1.63	61.417	0.00	0.11	0.783	O	|	|	|	|	1.53
56.500	0.00	0.15	0.835	O	|	|	|	|	1.63	61.500	0.00	0.11	0.783	O	|	|	|	|	1.53
56.583	0.00	0.14	0.834	O	|	|	|	|	1.62	61.583	0.00	0.11	0.782	O	|	|	|	|	1.53
56.667	0.00	0.14	0.833	O	|	|	|	|	1.62	61.667	0.00	0.11	0.781	O	|	|	|	|	1.53
56.750	0.00	0.14	0.832	O	|	|	|	|	1.62	61.750	0.00	0.11	0.780	O	|	|	|	|	1.53
56.833	0.00	0.14	0.831	O	|	|	|	|	1.62	61.833	0.00	0.11	0.779	O	|	|	|	|	1.53
56.917	0.00	0.14	0.830	O	|	|	|	|	1.62	61.917	0.00	0.11	0.779	O	|	|	|	|	1.53
57.000	0.00	0.14	0.829	O	|	|	|	|	1.62	62.000	0.00	0.11	0.778	O	|	|	|	|	1.53
57.083	0.00	0.14	0.828	O	|	|	|	|	1.61	62.083	0.00	0.11	0.777	O	|	|	|	|	1.52
57.167	0.00	0.14	0.827	O	|	|	|	|	1.61	62.167	0.00	0.11	0.776	O	|	|	|	|	1.52
57.250	0.00	0.14	0.827	O	|	|	|	|	1.61	62.250	0.00	0.11	0.776	O	|	|	|	|	1.52
57.333	0.00	0.14	0.826	O	|	|	|	|	1.61	62.333	0.00	0.11	0.775	O	|	|	|	|	1.52
57.417	0.00	0.14	0.825	O	|	|	|	|	1.61	62.417	0.00	0.11	0.774	O	|	|	|	|	1.52
57.500	0.00	0.14	0.824	O	|	|	|	|	1.61	62.500	0.00	0.11	0.773	O	|	|	|	|	1.52
57.583	0.00	0.14	0.823	O	|	|	|	|	1.60	62.583	0.00	0.11	0.773	O	|	|	|	|	1.52
57.667	0.00	0.14	0.822	O	|	|	|	|	1.60	62.667	0.00	0.11	0.772	O	|	|	|	|	1.52
57.750	0.00	0.14	0.821	O	|	|	|	|	1.60	62.750	0.00	0.11	0.771	O	|	|	|	|	1.51
57.833	0.00	0.14	0.820	O	|	|	|	|	1.60	62.833	0.00	0.10	0.771	O	|	|	|	|	1.51
57.917	0.00	0.13	0.819	O	|	|	|	|	1.60	62.917	0.00	0.10	0.770	O	|	|	|	|	1.51
58.000	0.00	0.13	0.818	O	|	|	|	|	1.60	63.000	0.00	0.10	0.769	O	|	|	|	|	1.51
58.083	0.00	0.13	0.817	O	|	|	|	|	1.59	63.083	0.00	0.10	0.768	O	|	|	|	|	1.51
58.167	0.00	0.13	0.816	O	|	|	|	|	1.59	63.167	0.00	0.10	0.768	O	|	|	|	|	1.51
58.250	0.00	0.13	0.815	O	|	|	|	|	1.59	63.250	0.00	0.10	0.767	O	|	|	|	|	1.51
58.333	0.00	0.13	0.814	O	|	|	|	|	1.59	63.333	0.00	0.10	0.766	O	|	|	|	|	1.51
58.417	0.00	0.13	0.813	O	|	|	|	|	1.59	63.417	0.00	0.10	0.766	O	|	|	|	|	1.50
58.500	0.00	0.13	0.813	O	|	|	|	|	1.59	63.500	0.00	0.10	0.765	O	|	|	|	|	1.50
58.583	0.00	0.13	0.812	O	|	|	|	|	1.58	63.583	0.00	0.10	0.764	O	|	|	|	|	1.50
58.667	0.00	0.13	0.811	O	|	|	|	|	1.58	63.667	0.00	0.10	0.764	O	|	|	|	|	1.50
58.750	0.00	0.13	0.810	O	|	|	|	|	1.58	63.750	0.00	0.10	0.763	O	|	|	|	|	1.50
58.833	0.00	0.13	0.809	O	|	|	|	|	1.58	63.833	0.00	0.10	0.762	O	|	|	|	|	1.50

63.917	0.00	0.10	0.761	O	|	|	|	|	1.50	68.917	0.00	0.08	0.726	O	|	|	|	|	1.43
64.000	0.00	0.10	0.761	O	|	|	|	|	1.50	69.000	0.00	0.08	0.725	O	|	|	|	|	1.43
64.083	0.00	0.10	0.760	O	|	|	|	|	1.49	69.083	0.00	0.08	0.724	O	|	|	|	|	1.43
64.167	0.00	0.10	0.759	O	|	|	|	|	1.49	69.167	0.00	0.08	0.724	O	|	|	|	|	1.43
64.250	0.00	0.10	0.759	O	|	|	|	|	1.49	69.250	0.00	0.07	0.723	O	|	|	|	|	1.43
64.333	0.00	0.10	0.758	O	|	|	|	|	1.49	69.333	0.00	0.07	0.723	O	|	|	|	|	1.43
64.417	0.00	0.10	0.757	O	|	|	|	|	1.49	69.417	0.00	0.07	0.722	O	|	|	|	|	1.43
64.500	0.00	0.10	0.757	O	|	|	|	|	1.49	69.500	0.00	0.07	0.722	O	|	|	|	|	1.43
64.583	0.00	0.10	0.756	O	|	|	|	|	1.49	69.583	0.00	0.07	0.721	O	|	|	|	|	1.43
64.667	0.00	0.10	0.755	O	|	|	|	|	1.49	69.667	0.00	0.07	0.721	O	|	|	|	|	1.43
64.750	0.00	0.09	0.755	O	|	|	|	|	1.49	69.750	0.00	0.07	0.720	O	|	|	|	|	1.43
64.833	0.00	0.09	0.754	O	|	|	|	|	1.48	69.833	0.00	0.07	0.720	O	|	|	|	|	1.42
64.917	0.00	0.09	0.754	O	|	|	|	|	1.48	69.917	0.00	0.07	0.719	O	|	|	|	|	1.42
65.000	0.00	0.09	0.753	O	|	|	|	|	1.48	70.000	0.00	0.07	0.719	O	|	|	|	|	1.42
65.083	0.00	0.09	0.752	O	|	|	|	|	1.48	70.083	0.00	0.07	0.718	O	|	|	|	|	1.42
65.167	0.00	0.09	0.752	O	|	|	|	|	1.48	70.167	0.00	0.07	0.718	O	|	|	|	|	1.42
65.250	0.00	0.09	0.751	O	|	|	|	|	1.48	70.250	0.00	0.07	0.717	O	|	|	|	|	1.42
65.333	0.00	0.09	0.750	O	|	|	|	|	1.48	70.333	0.00	0.07	0.717	O	|	|	|	|	1.42
65.417	0.00	0.09	0.750	O	|	|	|	|	1.48	70.417	0.00	0.07	0.716	O	|	|	|	|	1.42
65.500	0.00	0.09	0.749	O	|	|	|	|	1.48	70.500	0.00	0.07	0.716	O	|	|	|	|	1.42
65.583	0.00	0.09	0.748	O	|	|	|	|	1.47	70.583	0.00	0.07	0.715	O	|	|	|	|	1.42
65.667	0.00	0.09	0.748	O	|	|	|	|	1.47	70.667	0.00	0.07	0.715	O	|	|	|	|	1.42
65.750	0.00	0.09	0.747	O	|	|	|	|	1.47	70.750	0.00	0.07	0.714	O	|	|	|	|	1.41
65.833	0.00	0.09	0.747	O	|	|	|	|	1.47	70.833	0.00	0.07	0.714	O	|	|	|	|	1.41
65.917	0.00	0.09	0.746	O	|	|	|	|	1.47	70.917	0.00	0.07	0.714	O	|	|	|	|	1.41
66.000	0.00	0.09	0.745	O	|	|	|	|	1.47	71.000	0.00	0.07	0.713	O	|	|	|	|	1.41
66.083	0.00	0.09	0.745	O	|	|	|	|	1.47	71.083	0.00	0.07	0.713	O	|	|	|	|	1.41
66.167	0.00	0.09	0.744	O	|	|	|	|	1.47	71.167	0.00	0.07	0.712	O	|	|	|	|	1.41
66.250	0.00	0.09	0.744	O	|	|	|	|	1.47	71.250	0.00	0.07	0.712	O	|	|	|	|	1.41
66.333	0.00	0.09	0.743	O	|	|	|	|	1.46	71.333	0.00	0.07	0.711	O	|	|	|	|	1.41
66.417	0.00	0.09	0.742	O	|	|	|	|	1.46	71.417	0.00	0.07	0.711	O	|	|	|	|	1.41
66.500	0.00	0.09	0.742	O	|	|	|	|	1.46	71.500	0.00	0.07	0.710	O	|	|	|	|	1.41
66.583	0.00	0.09	0.741	O	|	|	|	|	1.46	71.583	0.00	0.07	0.710	O	|	|	|	|	1.41
66.667	0.00	0.09	0.741	O	|	|	|	|	1.46	71.667	0.00	0.07	0.709	O	|	|	|	|	1.41
66.750	0.00	0.09	0.740	O	|	|	|	|	1.46	71.750	0.00	0.07	0.709	O	|	|	|	|	1.41
66.833	0.00	0.08	0.739	O	|	|	|	|	1.46	71.833	0.00	0.07	0.708	O	|	|	|	|	1.40
66.917	0.00	0.08	0.739	O	|	|	|	|	1.46	71.917	0.00	0.07	0.708	O	|	|	|	|	1.40
67.000	0.00	0.08	0.738	O	|	|	|	|	1.46	72.000	0.00	0.06	0.708	O	|	|	|	|	1.40
67.083	0.00	0.08	0.738	O	|	|	|	|	1.46	72.083	0.00	0.06	0.707	O	|	|	|	|	1.40
67.167	0.00	0.08	0.737	O	|	|	|	|	1.45	72.167	0.00	0.06	0.707	O	|	|	|	|	1.40
67.250	0.00	0.08	0.736	O	|	|	|	|	1.45	72.250	0.00	0.06	0.706	O	|	|	|	|	1.40
67.333	0.00	0.08	0.736	O	|	|	|	|	1.45	72.333	0.00	0.06	0.706	O	|	|	|	|	1.40
67.417	0.00	0.08	0.735	O	|	|	|	|	1.45	72.417	0.00	0.06	0.705	O	|	|	|	|	1.40
67.500	0.00	0.08	0.735	O	|	|	|	|	1.45	72.500	0.00	0.06	0.705	O	|	|	|	|	1.40
67.583	0.00	0.08	0.734	O	|	|	|	|	1.45	72.583	0.00	0.06	0.704	O	|	|	|	|	1.40
67.667	0.00	0.08	0.734	O	|	|	|	|	1.45	72.667	0.00	0.06	0.704	O	|	|	|	|	1.40
67.750	0.00	0.08	0.733	O	|	|	|	|	1.45	72.750	0.00	0.06	0.704	O	|	|	|	|	1.40
67.833	0.00	0.08	0.733	O	|	|	|	|	1.45	72.833	0.00	0.06	0.703	O	|	|	|	|	1.40
67.917	0.00	0.08	0.732	O	|	|	|	|	1.45	72.917	0.00	0.06	0.703	O	|	|	|	|	1.39
68.000	0.00	0.08	0.731	O	|	|	|	|	1.44	73.000	0.00	0.06	0.702	O	|	|	|	|	1.39
68.083	0.00	0.08	0.731	O	|	|	|	|	1.44	73.083	0.00	0.06	0.702	O	|	|	|	|	1.39
68.167	0.00	0.08	0.730	O	|	|	|	|	1.44	73.167	0.00	0.06	0.701	O	|	|	|	|	1.39
68.250	0.00	0.08	0.730	O	|	|	|	|	1.44	73.250	0.00	0.06	0.701	O	|	|	|	|	1.39
68.333	0.00	0.08	0.729	O	|	|	|	|	1.44	73.333	0.00	0.06	0.701	O	|	|	|	|	1.39
68.417	0.00	0.08	0.729	O	|	|	|	|	1.44	73.417	0.00	0.06	0.700	O	|	|	|	|	1.39
68.500	0.00	0.08	0.728	O	|	|	|	|	1.44	73.500	0.00	0.06	0.700	O	|	|	|	|	1.39
68.583	0.00	0.08	0.728	O	|	|	|	|	1.44	73.583	0.00	0.06	0.699	O	|	|	|	|	1.39
68.667	0.00	0.08	0.727	O	|	|	|	|	1.44	73.667	0.00	0.06	0.699	O	|	|	|	|	1.39
68.750	0.00	0.08	0.727	O	|	|	|	|	1.44	73.750	0.00	0.06	0.699	O	|	|	|	|	1.39
68.833	0.00	0.08	0.726	O	|	|	|	|	1.43	73.833	0.00	0.06	0.698	O	|	|	|	|	1.39

73.917	0.00	0.06	0.698	O	|	|	|	|	1.39	78.917	0.00	0.05	0.676	O	|	|	|	|	1.35
74.000	0.00	0.06	0.697	O	|	|	|	|	1.38	79.000	0.00	0.05	0.676	O	|	|	|	|	1.35
74.083	0.00	0.06	0.697	O	|	|	|	|	1.38	79.083	0.00	0.04	0.676	O	|	|	|	|	1.35
74.167	0.00	0.06	0.697	O	|	|	|	|	1.38	79.167	0.00	0.04	0.675	O	|	|	|	|	1.35
74.250	0.00	0.06	0.696	O	|	|	|	|	1.38	79.250	0.00	0.04	0.675	O	|	|	|	|	1.35
74.333	0.00	0.06	0.696	O	|	|	|	|	1.38	79.333	0.00	0.04	0.675	O	|	|	|	|	1.35
74.417	0.00	0.06	0.695	O	|	|	|	|	1.38	79.417	0.00	0.04	0.674	O	|	|	|	|	1.35
74.500	0.00	0.06	0.695	O	|	|	|	|	1.38	79.500	0.00	0.04	0.674	O	|	|	|	|	1.34
74.583	0.00	0.06	0.695	O	|	|	|	|	1.38	79.583	0.00	0.04	0.674	O	|	|	|	|	1.34
74.667	0.00	0.06	0.694	O	|	|	|	|	1.38	79.667	0.00	0.04	0.674	O	|	|	|	|	1.34
74.750	0.00	0.06	0.694	O	|	|	|	|	1.38	79.750	0.00	0.04	0.673	O	|	|	|	|	1.34
74.833	0.00	0.06	0.693	O	|	|	|	|	1.38	79.833	0.00	0.04	0.673	O	|	|	|	|	1.34
74.917	0.00	0.06	0.693	O	|	|	|	|	1.38	79.917	0.00	0.04	0.673	O	|	|	|	|	1.34
75.000	0.00	0.06	0.693	O	|	|	|	|	1.38	80.000	0.00	0.04	0.672	O	|	|	|	|	1.34
75.083	0.00	0.06	0.692	O	|	|	|	|	1.38	80.083	0.00	0.04	0.672	O	|	|	|	|	1.34
75.167	0.00	0.06	0.692	O	|	|	|	|	1.38	80.167	0.00	0.04	0.672	O	|	|	|	|	1.34
75.250	0.00	0.05	0.691	O	|	|	|	|	1.37	80.250	0.00	0.04	0.672	O	|	|	|	|	1.34
75.333	0.00	0.05	0.691	O	|	|	|	|	1.37	80.333	0.00	0.04	0.671	O	|	|	|	|	1.34
75.417	0.00	0.05	0.691	O	|	|	|	|	1.37	80.417	0.00	0.04	0.671	O	|	|	|	|	1.34
75.500	0.00	0.05	0.690	O	|	|	|	|	1.37	80.500	0.00	0.04	0.671	O	|	|	|	|	1.34
75.583	0.00	0.05	0.690	O	|	|	|	|	1.37	80.583	0.00	0.04	0.670	O	|	|	|	|	1.34
75.667	0.00	0.05	0.690	O	|	|	|	|	1.37	80.667	0.00	0.04	0.670	O	|	|	|	|	1.34
75.750	0.00	0.05	0.689	O	|	|	|	|	1.37	80.750	0.00	0.04	0.670	O	|	|	|	|	1.34
75.833	0.00	0.05	0.689	O	|	|	|	|	1.37	80.833	0.00	0.04	0.670	O	|	|	|	|	1.34
75.917	0.00	0.05	0.689	O	|	|	|	|	1.37	80.917	0.00	0.04	0.669	O	|	|	|	|	1.34
76.000	0.00	0.05	0.688	O	|	|	|	|	1.37	81.000	0.00	0.04	0.669	O	|	|	|	|	1.34
76.083	0.00	0.05	0.688	O	|	|	|	|	1.37	81.083	0.00	0.04	0.669	O	|	|	|	|	1.33
76.167	0.00	0.05	0.687	O	|	|	|	|	1.37	81.167	0.00	0.04	0.668	O	|	|	|	|	1.33
76.250	0.00	0.05	0.687	O	|	|	|	|	1.37	81.250	0.00	0.04	0.668	O	|	|	|	|	1.33
76.333	0.00	0.05	0.687	O	|	|	|	|	1.37	81.333	0.00	0.04	0.668	O	|	|	|	|	1.33
76.417	0.00	0.05	0.686	O	|	|	|	|	1.37	81.417	0.00	0.04	0.668	O	|	|	|	|	1.33
76.500	0.00	0.05	0.686	O	|	|	|	|	1.37	81.500	0.00	0.04	0.667	O	|	|	|	|	1.33
76.583	0.00	0.05	0.686	O	|	|	|	|	1.36	81.583	0.00	0.04	0.667	O	|	|	|	|	1.33
76.667	0.00	0.05	0.685	O	|	|	|	|	1.36	81.667	0.00	0.04	0.667	O	|	|	|	|	1.33
76.750	0.00	0.05	0.685	O	|	|	|	|	1.36	81.750	0.00	0.04	0.666	O	|	|	|	|	1.33
76.833	0.00	0.05	0.685	O	|	|	|	|	1.36	81.833	0.00	0.04	0.666	O	|	|	|	|	1.33
76.917	0.00	0.05	0.684	O	|	|	|	|	1.36	81.917	0.00	0.04	0.666	O	|	|	|	|	1.33
77.000	0.00	0.05	0.684	O	|	|	|	|	1.36	82.000	0.00	0.04	0.666	O	|	|	|	|	1.33
77.083	0.00	0.05	0.684	O	|	|	|	|	1.36	82.083	0.00	0.04	0.665	O	|	|	|	|	1.33
77.167	0.00	0.05	0.683	O	|	|	|	|	1.36	82.167	0.00	0.04	0.665	O	|	|	|	|	1.33
77.250	0.00	0.05	0.683	O	|	|	|	|	1.36	82.250	0.00	0.04	0.665	O	|	|	|	|	1.33
77.333	0.00	0.05	0.683	O	|	|	|	|	1.36	82.333	0.00	0.04	0.665	O	|	|	|	|	1.33
77.417	0.00	0.05	0.682	O	|	|	|	|	1.36	82.417	0.00	0.04	0.664	O	|	|	|	|	1.33
77.500	0.00	0.05	0.682	O	|	|	|	|	1.36	82.500	0.00	0.04	0.664	O	|	|	|	|	1.33
77.583	0.00	0.05	0.682	O	|	|	|	|	1.36	82.583	0.00	0.04	0.664	O	|	|	|	|	1.33
77.667	0.00	0.05	0.681	O	|	|	|	|	1.36	82.667	0.00	0.04	0.664	O	|	|	|	|	1.33
77.750	0.00	0.05	0.681	O	|	|	|	|	1.36	82.750	0.00	0.04	0.663	O	|	|	|	|	1.33
77.833	0.00	0.05	0.681	O	|	|	|	|	1.36	82.833	0.00	0.04	0.663	O	|	|	|	|	1.33
77.917	0.00	0.05	0.680	O	|	|	|	|	1.35	82.917	0.00	0.04	0.663	O	|	|	|	|	1.32
78.000	0.00	0.05	0.680	O	|	|	|	|	1.35	83.000	0.00	0.04	0.663	O	|	|	|	|	1.32
78.083	0.00	0.05	0.680	O	|	|	|	|	1.35	83.083	0.00	0.04	0.662	O	|	|	|	|	1.32
78.167	0.00	0.05	0.679	O	|	|	|	|	1.35	83.167	0.00	0.04	0.662	O	|	|	|	|	1.32
78.250	0.00	0.05	0.679	O	|	|	|	|	1.35	83.250	0.00	0.04	0.662	O	|	|	|	|	1.32
78.333	0.00	0.05	0.679	O	|	|	|	|	1.35	83.333	0.00	0.04	0.662	O	|	|	|	|	1.32
78.417	0.00	0.05	0.678	O	|	|	|	|	1.35	83.417	0.00	0.04	0.661	O	|	|	|	|	1.32
78.500	0.00	0.05	0.678	O	|	|	|	|	1.35	83.500	0.00	0.04	0.661	O	|	|	|	|	1.32
78.583	0.00	0.05	0.678	O	|	|	|	|	1.35	83.583	0.00	0.04	0.661	O	|	|	|	|	1.32
78.667	0.00	0.05	0.677	O	|	|	|	|	1.35	83.667	0.00	0.04	0.661	O	|	|	|	|	1.32
78.750	0.00	0.05	0.677	O	|	|	|	|	1.35	83.750	0.00	0.04	0.660	O	|	|	|	|	1.32
78.833	0.00	0.05	0.677	O	|	|	|	|	1.35	83.833	0.00	0.04	0.660	O	|	|	|	|	1.32

83.917	0.00	0.04	0.660	O	|	|	|	|	1.32	88.917	0.00	0.03	0.647	O	|	|	|	|	1.30
84.000	0.00	0.03	0.660	O	|	|	|	|	1.32	89.000	0.00	0.03	0.647	O	|	|	|	|	1.30
84.083	0.00	0.03	0.659	O	|	|	|	|	1.32	89.083	0.00	0.03	0.647	O	|	|	|	|	1.30
84.167	0.00	0.03	0.659	O	|	|	|	|	1.32	89.167	0.00	0.03	0.647	O	|	|	|	|	1.30
84.250	0.00	0.03	0.659	O	|	|	|	|	1.32	89.250	0.00	0.03	0.646	O	|	|	|	|	1.30
84.333	0.00	0.03	0.659	O	|	|	|	|	1.32	89.333	0.00	0.03	0.646	O	|	|	|	|	1.30
84.417	0.00	0.03	0.658	O	|	|	|	|	1.32	89.417	0.00	0.03	0.646	O	|	|	|	|	1.30
84.500	0.00	0.03	0.658	O	|	|	|	|	1.32	89.500	0.00	0.03	0.646	O	|	|	|	|	1.30
84.583	0.00	0.03	0.658	O	|	|	|	|	1.32	89.583	0.00	0.03	0.646	O	|	|	|	|	1.29
84.667	0.00	0.03	0.658	O	|	|	|	|	1.32	89.667	0.00	0.03	0.645	O	|	|	|	|	1.29
84.750	0.00	0.03	0.657	O	|	|	|	|	1.32	89.750	0.00	0.03	0.645	O	|	|	|	|	1.29
84.833	0.00	0.03	0.657	O	|	|	|	|	1.31	89.833	0.00	0.03	0.645	O	|	|	|	|	1.29
84.917	0.00	0.03	0.657	O	|	|	|	|	1.31	89.917	0.00	0.03	0.645	O	|	|	|	|	1.29
85.000	0.00	0.03	0.657	O	|	|	|	|	1.31	90.000	0.00	0.03	0.645	O	|	|	|	|	1.29
85.083	0.00	0.03	0.657	O	|	|	|	|	1.31	90.083	0.00	0.03	0.645	O	|	|	|	|	1.29
85.167	0.00	0.03	0.656	O	|	|	|	|	1.31	90.167	0.00	0.03	0.644	O	|	|	|	|	1.29
85.250	0.00	0.03	0.656	O	|	|	|	|	1.31	90.250	0.00	0.03	0.644	O	|	|	|	|	1.29
85.333	0.00	0.03	0.656	O	|	|	|	|	1.31	90.333	0.00	0.03	0.644	O	|	|	|	|	1.29
85.417	0.00	0.03	0.656	O	|	|	|	|	1.31	90.417	0.00	0.02	0.644	O	|	|	|	|	1.29
85.500	0.00	0.03	0.655	O	|	|	|	|	1.31	90.500	0.00	0.02	0.644	O	|	|	|	|	1.29
85.583	0.00	0.03	0.655	O	|	|	|	|	1.31	90.583	0.00	0.02	0.644	O	|	|	|	|	1.29
85.667	0.00	0.03	0.655	O	|	|	|	|	1.31	90.667	0.00	0.02	0.643	O	|	|	|	|	1.29
85.750	0.00	0.03	0.655	O	|	|	|	|	1.31	90.750	0.00	0.02	0.643	O	|	|	|	|	1.29
85.833	0.00	0.03	0.655	O	|	|	|	|	1.31	90.833	0.00	0.02	0.643	O	|	|	|	|	1.29
85.917	0.00	0.03	0.654	O	|	|	|	|	1.31	90.917	0.00	0.02	0.643	O	|	|	|	|	1.29
86.000	0.00	0.03	0.654	O	|	|	|	|	1.31	91.000	0.00	0.02	0.643	O	|	|	|	|	1.29
86.083	0.00	0.03	0.654	O	|	|	|	|	1.31	91.083	0.00	0.02	0.643	O	|	|	|	|	1.29
86.167	0.00	0.03	0.654	O	|	|	|	|	1.31	91.167	0.00	0.02	0.642	O	|	|	|	|	1.29
86.250	0.00	0.03	0.653	O	|	|	|	|	1.31	91.250	0.00	0.02	0.642	O	|	|	|	|	1.29
86.333	0.00	0.03	0.653	O	|	|	|	|	1.31	91.333	0.00	0.02	0.642	O	|	|	|	|	1.29
86.417	0.00	0.03	0.653	O	|	|	|	|	1.31	91.417	0.00	0.02	0.642	O	|	|	|	|	1.29
86.500	0.00	0.03	0.653	O	|	|	|	|	1.31	91.500	0.00	0.02	0.642	O	|	|	|	|	1.29
86.583	0.00	0.03	0.653	O	|	|	|	|	1.31	91.583	0.00	0.02	0.642	O	|	|	|	|	1.29
86.667	0.00	0.03	0.652	O	|	|	|	|	1.31	91.667	0.00	0.02	0.641	O	|	|	|	|	1.29
86.750	0.00	0.03	0.652	O	|	|	|	|	1.31	91.750	0.00	0.02	0.641	O	|	|	|	|	1.29
86.833	0.00	0.03	0.652	O	|	|	|	|	1.31	91.833	0.00	0.02	0.641	O	|	|	|	|	1.29
86.917	0.00	0.03	0.652	O	|	|	|	|	1.31	91.917	0.00	0.02	0.641	O	|	|	|	|	1.29
87.000	0.00	0.03	0.652	O	|	|	|	|	1.31	92.000	0.00	0.02	0.641	O	|	|	|	|	1.29
87.083	0.00	0.03	0.651	O	|	|	|	|	1.30	92.083	0.00	0.02	0.641	O	|	|	|	|	1.29
87.167	0.00	0.03	0.651	O	|	|	|	|	1.30	92.167	0.00	0.02	0.640	O	|	|	|	|	1.29
87.250	0.00	0.03	0.651	O	|	|	|	|	1.30	92.250	0.00	0.02	0.640	O	|	|	|	|	1.29
87.333	0.00	0.03	0.651	O	|	|	|	|	1.30	92.333	0.00	0.02	0.640	O	|	|	|	|	1.29
87.417	0.00	0.03	0.651	O	|	|	|	|	1.30	92.417	0.00	0.02	0.640	O	|	|	|	|	1.28
87.500	0.00	0.03	0.650	O	|	|	|	|	1.30	92.500	0.00	0.02	0.640	O	|	|	|	|	1.28
87.583	0.00	0.03	0.650	O	|	|	|	|	1.30	92.583	0.00	0.02	0.640	O	|	|	|	|	1.28
87.667	0.00	0.03	0.650	O	|	|	|	|	1.30	92.667	0.00	0.02	0.639	O	|	|	|	|	1.28
87.750	0.00	0.03	0.650	O	|	|	|	|	1.30	92.750	0.00	0.02	0.639	O	|	|	|	|	1.28
87.833	0.00	0.03	0.650	O	|	|	|	|	1.30	92.833	0.00	0.02	0.639	O	|	|	|	|	1.28
87.917	0.00	0.03	0.649	O	|	|	|	|	1.30	92.917	0.00	0.02	0.639	O	|	|	|	|	1.28
88.000	0.00	0.03	0.649	O	|	|	|	|	1.30	93.000	0.00	0.02	0.639	O	|	|	|	|	1.28
88.083	0.00	0.03	0.649	O	|	|	|	|	1.30	93.083	0.00	0.02	0.639	O	|	|	|	|	1.28
88.167	0.00	0.03	0.649	O	|	|	|	|	1.30	93.167	0.00	0.02	0.639	O	|	|	|	|	1.28
88.250	0.00	0.03	0.649	O	|	|	|	|	1.30	93.250	0.00	0.02	0.638	O	|	|	|	|	1.28
88.333	0.00	0.03	0.648	O	|	|	|	|	1.30	93.333	0.00	0.02	0.638	O	|	|	|	|	1.28
88.417	0.00	0.03	0.648	O	|	|	|	|	1.30	93.417	0.00	0.02	0.638	O	|	|	|	|	1.28
88.500	0.00	0.03	0.648	O	|	|	|	|	1.30	93.500	0.00	0.02	0.638	O	|	|	|	|	1.28
88.583	0.00	0.03	0.648	O	|	|	|	|	1.30	93.583	0.00	0.02	0.638	O	|	|	|	|	1.28
88.667	0.00	0.03	0.648	O	|	|	|	|	1.30	93.667	0.00	0.02	0.638	O	|	|	|	|	1.28
88.750	0.00	0.03	0.647	O	|	|	|	|	1.30	93.750	0.00	0.02	0.638	O	|	|	|	|	1.28
88.833	0.00	0.03	0.647	O	|	|	|	|	1.30	93.833	0.00	0.02	0.637	O	|	|	|	|	1.28

Left Blank Intentionally

413.917	0.00	0.01	0.412	O	|	|	|	|	0.83
414.000	0.00	0.01	0.412	O	|	|	|	|	0.83
414.083	0.00	0.01	0.412	O	|	|	|	|	0.83
414.167	0.00	0.01	0.412	O	|	|	|	|	0.83
414.250	0.00	0.01	0.412	O	|	|	|	|	0.83
414.333	0.00	0.01	0.412	O	|	|	|	|	0.83
414.417	0.00	0.01	0.412	O	|	|	|	|	0.83
414.500	0.00	0.01	0.412	O	|	|	|	|	0.83
414.583	0.00	0.01	0.412	O	|	|	|	|	0.83
414.667	0.00	0.01	0.412	O	|	|	|	|	0.83
414.750	0.00	0.01	0.412	O	|	|	|	|	0.83
414.833	0.00	0.01	0.412	O	|	|	|	|	0.83
414.917	0.00	0.01	0.412	O	|	|	|	|	0.83
415.000	0.00	0.01	0.412	O	|	|	|	|	0.83
415.083	0.00	0.01	0.412	O	|	|	|	|	0.83
415.167	0.00	0.01	0.412	O	|	|	|	|	0.83
415.250	0.00	0.01	0.412	O	|	|	|	|	0.83
415.333	0.00	0.01	0.412	O	|	|	|	|	0.83
415.417	0.00	0.01	0.412	O	|	|	|	|	0.83
415.500	0.00	0.01	0.412	O	|	|	|	|	0.83
415.583	0.00	0.01	0.411	O	|	|	|	|	0.83
415.667	0.00	0.01	0.411	O	|	|	|	|	0.83
415.750	0.00	0.01	0.411	O	|	|	|	|	0.83
415.833	0.00	0.01	0.411	O	|	|	|	|	0.83
415.917	0.00	0.01	0.411	O	|	|	|	|	0.83
416.000	0.00	0.01	0.411	O	|	|	|	|	0.83
416.083	0.00	0.01	0.411	O	|	|	|	|	0.83
416.167	0.00	0.01	0.411	O	|	|	|	|	0.83
416.250	0.00	0.01	0.411	O	|	|	|	|	0.83
416.333	0.00	0.01	0.411	O	|	|	|	|	0.83
416.417	0.00	0.01	0.411	O	|	|	|	|	0.83
416.500	0.00	0.01	0.411	O	|	|	|	|	0.83
416.583	0.00	0.01	0.411	O	|	|	|	|	0.83
416.667	0.00	0.01	0.411	O	|	|	|	|	0.83

Remaining water in basin = 0.41 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.016 (CFS)
Total volume = 2.489 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

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TR 37036, PARCEL 1
BASIN M
100Y 6H STORM

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Program License Serial Number 6406

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******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR6100.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    76
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       31.509 (CFS)
                Total volume =       3.389 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 76
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
------------------------------------------------------------------------
------------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
------------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
------------------------------------------------------------------------
                  Hydrograph Detention Basin Routing
------------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
------------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       7.9   15.75   23.63  31.51 (Ft.)
 0.083   0.92    0.00      0.003  O        |      |       |      |     0.01
 0.167   2.09    0.00      0.014  O I      |      |       |      |     0.03
 0.250   2.50    0.00      0.029  O I      |      |       |      |     0.06
 0.333   2.62    0.00      0.047  O I      |      |       |      |     0.09
 0.417   2.67    0.00      0.065  O I      |      |       |      |     0.13
 0.500   2.86    0.00      0.084  O I      |      |       |      |     0.17
 0.583   3.06    0.00      0.105  O  I     |      |       |      |     0.21
 0.667   3.10    0.00      0.126  O  I     |      |       |      |     0.25
 0.750   3.12    0.00      0.147  O  I     |      |       |      |     0.30
 0.833   3.12    0.00      0.169  O  I     |      |       |      |     0.34
 0.917   3.12    0.00      0.190  O  I     |      |       |      |     0.38
 1.000   3.31    0.00      0.212  O  I     |      |       |      |     0.43
 1.083   3.51    0.00      0.236  O  I     |      |       |      |     0.48
 1.167   3.55    0.00      0.260  O  I     |      |       |      |     0.52
 1.250   3.56    0.00      0.285  O  I     |      |       |      |     0.57
 1.333   3.57    0.00      0.309  O  I     |      |       |      |     0.62
 1.417   3.57    0.01      0.334  O  I     |      |       |      |     0.67
 1.500   3.57    0.01      0.358  O  I     |      |       |      |     0.72
 1.583   3.57    0.01      0.383  O  I     |      |       |      |     0.77
 1.667   3.57    0.01      0.407  O  I     |      |       |      |     0.82
 1.750   3.57    0.01      0.432  O  I     |      |       |      |     0.87
 1.833   3.57    0.01      0.456  O  I     |      |       |      |     0.92
 1.917   3.57    0.01      0.481  O  I     |      |       |      |     0.97
 2.000   3.76    0.01      0.506  O  I     |      |       |      |     1.02
 2.083   3.77    0.01      0.532  O  I     |      |       |      |     1.07
 2.167   3.80    0.01      0.558  O  I     |      |       |      |     1.12
 2.250   3.97    0.01      0.585  O   I    |      |       |      |     1.18
 2.333   4.00    0.01      0.612  O   I    |      |       |      |     1.23
 2.417   4.01    0.02      0.639  O   I    |      |       |      |     1.28
 2.500   4.02    0.04      0.667  O   I    |      |       |      |     1.33
 2.583   4.02    0.06      0.694  O   I    |      |       |      |     1.38
 2.667   4.02    0.07      0.721  O   I    |      |       |      |     1.43
 2.750   4.20    0.09      0.749  O   I    |      |       |      |     1.48
 2.833   4.40    0.11      0.778  O   I    |      |       |      |     1.53
 2.917   4.44    0.13      0.808  O   I    |      |       |      |     1.58
 3.000   4.46    0.15      0.837  O   I    |      |       |      |     1.63
 3.083   4.46    0.17      0.867  O   I    |      |       |      |     1.68
 3.167   4.65    0.18      0.897  O   I    |      |       |      |     1.73
 3.250   4.85    0.20      0.929  O   I    |      |       |      |     1.79
 3.333   4.89    0.22      0.961  O   I    |      |       |      |     1.84
 3.417   5.09    0.24      0.993  O    I   |      |       |      |     1.90
 3.500   5.48    0.27      1.028  O    I   |      |       |      |     1.96
 3.583   5.90    0.28      1.065  O    I   |      |       |      |     2.02
 3.667   6.15    0.30      1.105  O     I  |      |       |      |     2.09
 3.750   6.40    0.31      1.146  O     I  |      |       |      |     2.16
 3.833   6.62    0.32      1.189  O     I  |      |       |      |     2.23
```

3.917	6.86	0.33	1.233	O	I	|	|	|	|	2.30	8.917	0.00	1.08	2.969	IO	|	|	|	|	4.86
4.000	7.07	0.34	1.278	O	I|	|	|	|	|	2.37	9.000	0.00	1.08	2.961	IO	|	|	|	|	4.85
4.083	7.30	0.36	1.326	O	I|	|	|	|	|	2.45	9.083	0.00	1.08	2.954	IO	|	|	|	|	4.84
4.167	7.70	0.37	1.375	O	I|	|	|	|	|	2.53	9.167	0.00	1.07	2.947	IO	|	|	|	|	4.83
4.250	8.13	0.38	1.427	O	I	|	|	|	|	2.62	9.250	0.00	1.07	2.939	IO	|	|	|	|	4.82
4.333	8.57	0.40	1.481	O	I	|	|	|	|	2.71	9.333	0.00	1.07	2.932	IO	|	|	|	|	4.81
4.417	9.02	0.42	1.539	O	|I	|	|	|	|	2.80	9.417	0.00	1.06	2.925	IO	|	|	|	|	4.80
4.500	9.28	0.43	1.599	O	|I	|	|	|	|	2.90	9.500	0.00	1.06	2.917	IO	|	|	|	|	4.79
4.583	9.65	0.45	1.661	O	|I	|	|	|	|	3.00	9.583	0.00	1.06	2.910	IO	|	|	|	|	4.78
4.667	10.32	0.48	1.727	O	| I	|	|	|	|	3.10	9.667	0.00	1.05	2.903	IO	|	|	|	|	4.77
4.750	11.05	0.52	1.797	O	| I	|	|	|	|	3.20	9.750	0.00	1.05	2.895	IO	|	|	|	|	4.76
4.833	11.49	0.56	1.871	O	| I	|	|	|	|	3.31	9.833	0.00	1.05	2.888	IO	|	|	|	|	4.75
4.917	11.92	0.60	1.948	O	| I	|	|	|	|	3.43	9.917	0.00	1.04	2.881	IO	|	|	|	|	4.74
5.000	12.62	0.64	2.028	O	| I	|	|	|	|	3.55	10.000	0.00	1.04	2.874	IO	|	|	|	|	4.73
5.083	14.63	0.68	2.117	O	| I	|	|	|	|	3.68	10.083	0.00	1.04	2.867	IO	|	|	|	|	4.73
5.167	18.02	0.74	2.225	O	|	| I	|	|	|	3.84	10.167	0.00	1.03	2.860	IO	|	|	|	|	4.72
5.250	21.07	0.80	2.354	O	|	| I	|	|	|	4.03	10.250	0.00	1.03	2.852	IO	|	|	|	|	4.71
5.333	23.56	0.87	2.502	O	|	| I	|	|	|	4.23	10.333	0.00	1.03	2.845	IO	|	|	|	|	4.70
5.417	26.59	0.95	2.668	O	|	| I	|	|	|	4.46	10.417	0.00	1.02	2.838	IO	|	|	|	|	4.69
5.500	31.51	1.03	2.862	|O	|	|	|	| I	|	4.72	10.500	0.00	1.02	2.831	IO	|	|	|	|	4.68
5.583	23.53	1.12	3.044	|O	|	|	| I	|	|	4.96	10.583	0.00	1.02	2.824	IO	|	|	|	|	4.67
5.667	10.23	1.16	3.152	|O	| I	|	|	|	|	5.10	10.667	0.00	1.01	2.817	IO	|	|	|	|	4.66
5.750	5.44	1.18	3.198	|O I	|	|	|	|	|	5.16	10.750	0.00	1.01	2.810	IO	|	|	|	|	4.65
5.833	3.33	1.19	3.220	|O I	|	|	|	|	|	5.19	10.833	0.00	1.01	2.803	IO	|	|	|	|	4.64
5.917	2.06	1.19	3.230	|OI	|	|	|	|	|	5.20	10.917	0.00	1.00	2.796	IO	|	|	|	|	4.63
6.000	1.33	1.20	3.234	|O	|	|	|	|	|	5.20	11.000	0.00	1.00	2.790	IO	|	|	|	|	4.62
6.083	0.64	1.19	3.232	IO	|	|	|	|	|	5.20	11.083	0.00	1.00	2.783	IO	|	|	|	|	4.61
6.167	0.16	1.19	3.227	IO	|	|	|	|	|	5.20	11.167	0.00	0.99	2.776	IO	|	|	|	|	4.60
6.250	0.05	1.19	3.219	IO	|	|	|	|	|	5.19	11.250	0.00	0.99	2.769	IO	|	|	|	|	4.59
6.333	0.01	1.19	3.211	IO	|	|	|	|	|	5.18	11.333	0.00	0.99	2.762	IO	|	|	|	|	4.58
6.417	0.00	1.18	3.203	IO	|	|	|	|	|	5.17	11.417	0.00	0.99	2.755	IO	|	|	|	|	4.57
6.500	0.00	1.18	3.195	IO	|	|	|	|	|	5.16	11.500	0.00	0.98	2.749	O	|	|	|	|	4.57
6.583	0.00	1.18	3.187	IO	|	|	|	|	|	5.15	11.583	0.00	0.98	2.742	O	|	|	|	|	4.56
6.667	0.00	1.17	3.179	IO	|	|	|	|	|	5.14	11.667	0.00	0.98	2.735	O	|	|	|	|	4.55
6.750	0.00	1.17	3.171	IO	|	|	|	|	|	5.13	11.750	0.00	0.97	2.728	O	|	|	|	|	4.54
6.833	0.00	1.17	3.163	IO	|	|	|	|	|	5.12	11.833	0.00	0.97	2.722	O	|	|	|	|	4.53
6.917	0.00	1.16	3.155	IO	|	|	|	|	|	5.11	11.917	0.00	0.97	2.715	O	|	|	|	|	4.52
7.000	0.00	1.16	3.147	IO	|	|	|	|	|	5.10	12.000	0.00	0.96	2.708	O	|	|	|	|	4.51
7.083	0.00	1.16	3.139	IO	|	|	|	|	|	5.09	12.083	0.00	0.96	2.702	O	|	|	|	|	4.50
7.167	0.00	1.15	3.131	IO	|	|	|	|	|	5.08	12.167	0.00	0.96	2.695	O	|	|	|	|	4.49
7.250	0.00	1.15	3.123	IO	|	|	|	|	|	5.07	12.250	0.00	0.95	2.689	O	|	|	|	|	4.48
7.333	0.00	1.15	3.115	IO	|	|	|	|	|	5.06	12.333	0.00	0.95	2.682	O	|	|	|	|	4.48
7.417	0.00	1.14	3.107	IO	|	|	|	|	|	5.05	12.417	0.00	0.95	2.675	O	|	|	|	|	4.47
7.500	0.00	1.14	3.099	IO	|	|	|	|	|	5.04	12.500	0.00	0.95	2.669	O	|	|	|	|	4.46
7.583	0.00	1.14	3.091	IO	|	|	|	|	|	5.03	12.583	0.00	0.94	2.662	O	|	|	|	|	4.45
7.667	0.00	1.14	3.084	IO	|	|	|	|	|	5.02	12.667	0.00	0.94	2.656	O	|	|	|	|	4.44
7.750	0.00	1.13	3.076	IO	|	|	|	|	|	5.01	12.750	0.00	0.94	2.649	O	|	|	|	|	4.43
7.833	0.00	1.13	3.068	IO	|	|	|	|	|	5.00	12.833	0.00	0.93	2.643	O	|	|	|	|	4.42
7.917	0.00	1.13	3.060	IO	|	|	|	|	|	4.99	12.917	0.00	0.93	2.637	O	|	|	|	|	4.41
8.000	0.00	1.12	3.052	IO	|	|	|	|	|	4.98	13.000	0.00	0.93	2.630	O	|	|	|	|	4.41
8.083	0.00	1.12	3.045	IO	|	|	|	|	|	4.97	13.083	0.00	0.92	2.624	O	|	|	|	|	4.40
8.167	0.00	1.11	3.037	IO	|	|	|	|	|	4.96	13.167	0.00	0.92	2.617	O	|	|	|	|	4.39
8.250	0.00	1.11	3.029	IO	|	|	|	|	|	4.95	13.250	0.00	0.92	2.611	O	|	|	|	|	4.38
8.333	0.00	1.11	3.022	IO	|	|	|	|	|	4.93	13.333	0.00	0.92	2.605	O	|	|	|	|	4.37
8.417	0.00	1.10	3.014	IO	|	|	|	|	|	4.92	13.417	0.00	0.91	2.598	O	|	|	|	|	4.36
8.500	0.00	1.10	3.007	IO	|	|	|	|	|	4.91	13.500	0.00	0.91	2.592	O	|	|	|	|	4.35
8.583	0.00	1.10	2.999	IO	|	|	|	|	|	4.90	13.583	0.00	0.91	2.586	O	|	|	|	|	4.35
8.667	0.00	1.09	2.991	IO	|	|	|	|	|	4.89	13.667	0.00	0.90	2.580	O	|	|	|	|	4.34
8.750	0.00	1.09	2.984	IO	|	|	|	|	|	4.88	13.750	0.00	0.90	2.573	O	|	|	|	|	4.33
8.833	0.00	1.09	2.976	IO	|	|	|	|	|	4.87	13.833	0.00	0.90	2.567	O	|	|	|	|	4.32

13.917	0.00	0.90	2.561	O	|	|	|	|	4.31	18.917	0.00	0.74	2.224	O	|	|	|	|	3.84
14.000	0.00	0.89	2.555	O	|	|	|	|	4.30	19.000	0.00	0.73	2.219	O	|	|	|	|	3.83
14.083	0.00	0.89	2.549	O	|	|	|	|	4.30	19.083	0.00	0.73	2.214	O	|	|	|	|	3.83
14.167	0.00	0.89	2.543	O	|	|	|	|	4.29	19.167	0.00	0.73	2.209	O	|	|	|	|	3.82
14.250	0.00	0.88	2.537	O	|	|	|	|	4.28	19.250	0.00	0.73	2.204	O	|	|	|	|	3.81
14.333	0.00	0.88	2.530	O	|	|	|	|	4.27	19.333	0.00	0.72	2.199	O	|	|	|	|	3.80
14.417	0.00	0.88	2.524	O	|	|	|	|	4.26	19.417	0.00	0.72	2.194	O	|	|	|	|	3.80
14.500	0.00	0.88	2.518	O	|	|	|	|	4.25	19.500	0.00	0.72	2.189	O	|	|	|	|	3.79
14.583	0.00	0.87	2.512	O	|	|	|	|	4.25	19.583	0.00	0.72	2.184	O	|	|	|	|	3.78
14.667	0.00	0.87	2.506	O	|	|	|	|	4.24	19.667	0.00	0.71	2.179	O	|	|	|	|	3.77
14.750	0.00	0.87	2.500	O	|	|	|	|	4.23	19.750	0.00	0.71	2.174	O	|	|	|	|	3.77
14.833	0.00	0.87	2.494	O	|	|	|	|	4.22	19.833	0.00	0.71	2.169	O	|	|	|	|	3.76
14.917	0.00	0.86	2.488	O	|	|	|	|	4.21	19.917	0.00	0.71	2.165	O	|	|	|	|	3.75
15.000	0.00	0.86	2.482	O	|	|	|	|	4.21	20.000	0.00	0.70	2.160	O	|	|	|	|	3.75
15.083	0.00	0.86	2.477	O	|	|	|	|	4.20	20.083	0.00	0.70	2.155	O	|	|	|	|	3.74
15.167	0.00	0.85	2.471	O	|	|	|	|	4.19	20.167	0.00	0.70	2.150	O	|	|	|	|	3.73
15.250	0.00	0.85	2.465	O	|	|	|	|	4.18	20.250	0.00	0.70	2.145	O	|	|	|	|	3.72
15.333	0.00	0.85	2.459	O	|	|	|	|	4.17	20.333	0.00	0.69	2.140	O	|	|	|	|	3.72
15.417	0.00	0.85	2.453	O	|	|	|	|	4.17	20.417	0.00	0.69	2.136	O	|	|	|	|	3.71
15.500	0.00	0.84	2.447	O	|	|	|	|	4.16	20.500	0.00	0.69	2.131	O	|	|	|	|	3.70
15.583	0.00	0.84	2.441	O	|	|	|	|	4.15	20.583	0.00	0.69	2.126	O	|	|	|	|	3.70
15.667	0.00	0.84	2.436	O	|	|	|	|	4.14	20.667	0.00	0.68	2.121	O	|	|	|	|	3.69
15.750	0.00	0.84	2.430	O	|	|	|	|	4.14	20.750	0.00	0.68	2.117	O	|	|	|	|	3.68
15.833	0.00	0.83	2.424	O	|	|	|	|	4.13	20.833	0.00	0.68	2.112	O	|	|	|	|	3.67
15.917	0.00	0.83	2.418	O	|	|	|	|	4.12	20.917	0.00	0.68	2.107	O	|	|	|	|	3.67
16.000	0.00	0.83	2.413	O	|	|	|	|	4.11	21.000	0.00	0.67	2.103	O	|	|	|	|	3.66
16.083	0.00	0.83	2.407	O	|	|	|	|	4.10	21.083	0.00	0.67	2.098	O	|	|	|	|	3.65
16.167	0.00	0.82	2.401	O	|	|	|	|	4.10	21.167	0.00	0.67	2.094	O	|	|	|	|	3.65
16.250	0.00	0.82	2.396	O	|	|	|	|	4.09	21.250	0.00	0.67	2.089	O	|	|	|	|	3.64
16.333	0.00	0.82	2.390	O	|	|	|	|	4.08	21.333	0.00	0.67	2.084	O	|	|	|	|	3.63
16.417	0.00	0.82	2.384	O	|	|	|	|	4.07	21.417	0.00	0.66	2.080	O	|	|	|	|	3.63
16.500	0.00	0.81	2.379	O	|	|	|	|	4.07	21.500	0.00	0.66	2.075	O	|	|	|	|	3.62
16.583	0.00	0.81	2.373	O	|	|	|	|	4.06	21.583	0.00	0.66	2.071	O	|	|	|	|	3.61
16.667	0.00	0.81	2.368	O	|	|	|	|	4.05	21.667	0.00	0.66	2.066	O	|	|	|	|	3.61
16.750	0.00	0.80	2.362	O	|	|	|	|	4.04	21.750	0.00	0.65	2.062	O	|	|	|	|	3.60
16.833	0.00	0.80	2.357	O	|	|	|	|	4.04	21.833	0.00	0.65	2.057	O	|	|	|	|	3.59
16.917	0.00	0.80	2.351	O	|	|	|	|	4.03	21.917	0.00	0.65	2.053	O	|	|	|	|	3.59
17.000	0.00	0.80	2.346	O	|	|	|	|	4.02	22.000	0.00	0.65	2.048	O	|	|	|	|	3.58
17.083	0.00	0.79	2.340	O	|	|	|	|	4.01	22.083	0.00	0.64	2.044	O	|	|	|	|	3.57
17.167	0.00	0.79	2.335	O	|	|	|	|	4.01	22.167	0.00	0.64	2.039	O	|	|	|	|	3.57
17.250	0.00	0.79	2.329	O	|	|	|	|	4.00	22.250	0.00	0.64	2.035	O	|	|	|	|	3.56
17.333	0.00	0.79	2.324	O	|	|	|	|	3.99	22.333	0.00	0.64	2.030	O	|	|	|	|	3.55
17.417	0.00	0.78	2.318	O	|	|	|	|	3.98	22.417	0.00	0.64	2.026	O	|	|	|	|	3.55
17.500	0.00	0.78	2.313	O	|	|	|	|	3.97	22.500	0.00	0.63	2.022	O	|	|	|	|	3.54
17.583	0.00	0.78	2.308	O	|	|	|	|	3.97	22.583	0.00	0.63	2.017	O	|	|	|	|	3.53
17.667	0.00	0.78	2.302	O	|	|	|	|	3.96	22.667	0.00	0.63	2.013	O	|	|	|	|	3.53
17.750	0.00	0.77	2.297	O	|	|	|	|	3.95	22.750	0.00	0.63	2.009	O	|	|	|	|	3.52
17.833	0.00	0.77	2.292	O	|	|	|	|	3.94	22.833	0.00	0.62	2.004	O	|	|	|	|	3.51
17.917	0.00	0.77	2.286	O	|	|	|	|	3.93	22.917	0.00	0.62	2.000	O	|	|	|	|	3.51
18.000	0.00	0.77	2.281	O	|	|	|	|	3.93	23.000	0.00	0.62	1.996	O	|	|	|	|	3.50
18.083	0.00	0.76	2.276	O	|	|	|	|	3.92	23.083	0.00	0.62	1.992	O	|	|	|	|	3.49
18.167	0.00	0.76	2.271	O	|	|	|	|	3.91	23.167	0.00	0.62	1.987	O	|	|	|	|	3.49
18.250	0.00	0.76	2.265	O	|	|	|	|	3.90	23.250	0.00	0.61	1.983	O	|	|	|	|	3.48
18.333	0.00	0.75	2.260	O	|	|	|	|	3.90	23.333	0.00	0.61	1.979	O	|	|	|	|	3.48
18.417	0.00	0.75	2.255	O	|	|	|	|	3.89	23.417	0.00	0.61	1.975	O	|	|	|	|	3.47
18.500	0.00	0.75	2.250	O	|	|	|	|	3.88	23.500	0.00	0.61	1.970	O	|	|	|	|	3.46
18.583	0.00	0.75	2.245	O	|	|	|	|	3.87	23.583	0.00	0.61	1.966	O	|	|	|	|	3.46
18.667	0.00	0.74	2.239	O	|	|	|	|	3.86	23.667	0.00	0.60	1.962	O	|	|	|	|	3.45
18.750	0.00	0.74	2.234	O	|	|	|	|	3.86	23.750	0.00	0.60	1.958	O	|	|	|	|	3.44
18.833	0.00	0.74	2.229	O	|	|	|	|	3.85	23.833	0.00	0.60	1.954	O	|	|	|	|	3.44

23.917	0.00	0.60	1.950	O	|	|	|	|	3.43	28.917	0.00	0.48	1.727	O	|	|	|	|	3.10
24.000	0.00	0.59	1.946	O	|	|	|	|	3.43	29.000	0.00	0.48	1.724	O	|	|	|	|	3.10
24.083	0.00	0.59	1.941	O	|	|	|	|	3.42	29.083	0.00	0.48	1.720	O	|	|	|	|	3.09
24.167	0.00	0.59	1.937	O	|	|	|	|	3.41	29.167	0.00	0.48	1.717	O	|	|	|	|	3.09
24.250	0.00	0.59	1.933	O	|	|	|	|	3.41	29.250	0.00	0.48	1.714	O	|	|	|	|	3.08
24.333	0.00	0.59	1.929	O	|	|	|	|	3.40	29.333	0.00	0.48	1.711	O	|	|	|	|	3.08
24.417	0.00	0.58	1.925	O	|	|	|	|	3.40	29.417	0.00	0.47	1.707	O	|	|	|	|	3.07
24.500	0.00	0.58	1.921	O	|	|	|	|	3.39	29.500	0.00	0.47	1.704	O	|	|	|	|	3.07
24.583	0.00	0.58	1.917	O	|	|	|	|	3.38	29.583	0.00	0.47	1.701	O	|	|	|	|	3.06
24.667	0.00	0.58	1.913	O	|	|	|	|	3.38	29.667	0.00	0.47	1.698	O	|	|	|	|	3.06
24.750	0.00	0.58	1.909	O	|	|	|	|	3.37	29.750	0.00	0.47	1.694	O	|	|	|	|	3.05
24.833	0.00	0.57	1.905	O	|	|	|	|	3.37	29.833	0.00	0.47	1.691	O	|	|	|	|	3.05
24.917	0.00	0.57	1.901	O	|	|	|	|	3.36	29.917	0.00	0.46	1.688	O	|	|	|	|	3.04
25.000	0.00	0.57	1.897	O	|	|	|	|	3.35	30.000	0.00	0.46	1.685	O	|	|	|	|	3.04
25.083	0.00	0.57	1.894	O	|	|	|	|	3.35	30.083	0.00	0.46	1.682	O	|	|	|	|	3.03
25.167	0.00	0.57	1.890	O	|	|	|	|	3.34	30.167	0.00	0.46	1.678	O	|	|	|	|	3.03
25.250	0.00	0.56	1.886	O	|	|	|	|	3.34	30.250	0.00	0.46	1.675	O	|	|	|	|	3.02
25.333	0.00	0.56	1.882	O	|	|	|	|	3.33	30.333	0.00	0.46	1.672	O	|	|	|	|	3.02
25.417	0.00	0.56	1.878	O	|	|	|	|	3.33	30.417	0.00	0.45	1.669	O	|	|	|	|	3.01
25.500	0.00	0.56	1.874	O	|	|	|	|	3.32	30.500	0.00	0.45	1.666	O	|	|	|	|	3.01
25.583	0.00	0.56	1.870	O	|	|	|	|	3.31	30.583	0.00	0.45	1.663	O	|	|	|	|	3.00
25.667	0.00	0.55	1.866	O	|	|	|	|	3.31	30.667	0.00	0.45	1.660	O	|	|	|	|	3.00
25.750	0.00	0.55	1.863	O	|	|	|	|	3.30	30.750	0.00	0.45	1.657	O	|	|	|	|	2.99
25.833	0.00	0.55	1.859	O	|	|	|	|	3.30	30.833	0.00	0.45	1.653	O	|	|	|	|	2.99
25.917	0.00	0.55	1.855	O	|	|	|	|	3.29	30.917	0.00	0.45	1.650	O	|	|	|	|	2.98
26.000	0.00	0.55	1.851	O	|	|	|	|	3.29	31.000	0.00	0.45	1.647	O	|	|	|	|	2.98
26.083	0.00	0.55	1.848	O	|	|	|	|	3.28	31.083	0.00	0.45	1.644	O	|	|	|	|	2.97
26.167	0.00	0.54	1.844	O	|	|	|	|	3.27	31.167	0.00	0.44	1.641	O	|	|	|	|	2.97
26.250	0.00	0.54	1.840	O	|	|	|	|	3.27	31.250	0.00	0.44	1.638	O	|	|	|	|	2.96
26.333	0.00	0.54	1.836	O	|	|	|	|	3.26	31.333	0.00	0.44	1.635	O	|	|	|	|	2.96
26.417	0.00	0.54	1.833	O	|	|	|	|	3.26	31.417	0.00	0.44	1.632	O	|	|	|	|	2.95
26.500	0.00	0.54	1.829	O	|	|	|	|	3.25	31.500	0.00	0.44	1.629	O	|	|	|	|	2.95
26.583	0.00	0.53	1.825	O	|	|	|	|	3.25	31.583	0.00	0.44	1.626	O	|	|	|	|	2.94
26.667	0.00	0.53	1.822	O	|	|	|	|	3.24	31.667	0.00	0.44	1.623	O	|	|	|	|	2.94
26.750	0.00	0.53	1.818	O	|	|	|	|	3.24	31.750	0.00	0.44	1.620	O	|	|	|	|	2.93
26.833	0.00	0.53	1.814	O	|	|	|	|	3.23	31.833	0.00	0.44	1.617	O	|	|	|	|	2.93
26.917	0.00	0.53	1.811	O	|	|	|	|	3.22	31.917	0.00	0.44	1.614	O	|	|	|	|	2.92
27.000	0.00	0.52	1.807	O	|	|	|	|	3.22	32.000	0.00	0.44	1.611	O	|	|	|	|	2.92
27.083	0.00	0.52	1.803	O	|	|	|	|	3.21	32.083	0.00	0.44	1.608	O	|	|	|	|	2.91
27.167	0.00	0.52	1.800	O	|	|	|	|	3.21	32.167	0.00	0.43	1.605	O	|	|	|	|	2.91
27.250	0.00	0.52	1.796	O	|	|	|	|	3.20	32.250	0.00	0.43	1.602	O	|	|	|	|	2.90
27.333	0.00	0.52	1.793	O	|	|	|	|	3.20	32.333	0.00	0.43	1.599	O	|	|	|	|	2.90
27.417	0.00	0.52	1.789	O	|	|	|	|	3.19	32.417	0.00	0.43	1.596	O	|	|	|	|	2.89
27.500	0.00	0.51	1.786	O	|	|	|	|	3.19	32.500	0.00	0.43	1.593	O	|	|	|	|	2.89
27.583	0.00	0.51	1.782	O	|	|	|	|	3.18	32.583	0.00	0.43	1.590	O	|	|	|	|	2.89
27.667	0.00	0.51	1.778	O	|	|	|	|	3.18	32.667	0.00	0.43	1.587	O	|	|	|	|	2.88
27.750	0.00	0.51	1.775	O	|	|	|	|	3.17	32.750	0.00	0.43	1.584	O	|	|	|	|	2.88
27.833	0.00	0.51	1.771	O	|	|	|	|	3.17	32.833	0.00	0.43	1.581	O	|	|	|	|	2.87
27.917	0.00	0.50	1.768	O	|	|	|	|	3.16	32.917	0.00	0.43	1.578	O	|	|	|	|	2.87
28.000	0.00	0.50	1.765	O	|	|	|	|	3.16	33.000	0.00	0.43	1.575	O	|	|	|	|	2.86
28.083	0.00	0.50	1.761	O	|	|	|	|	3.15	33.083	0.00	0.43	1.572	O	|	|	|	|	2.86
28.167	0.00	0.50	1.758	O	|	|	|	|	3.15	33.167	0.00	0.42	1.569	O	|	|	|	|	2.85
28.250	0.00	0.50	1.754	O	|	|	|	|	3.14	33.250	0.00	0.42	1.566	O	|	|	|	|	2.85
28.333	0.00	0.50	1.751	O	|	|	|	|	3.14	33.333	0.00	0.42	1.563	O	|	|	|	|	2.84
28.417	0.00	0.49	1.747	O	|	|	|	|	3.13	33.417	0.00	0.42	1.561	O	|	|	|	|	2.84
28.500	0.00	0.49	1.744	O	|	|	|	|	3.13	33.500	0.00	0.42	1.558	O	|	|	|	|	2.83
28.583	0.00	0.49	1.741	O	|	|	|	|	3.12	33.583	0.00	0.42	1.555	O	|	|	|	|	2.83
28.667	0.00	0.49	1.737	O	|	|	|	|	3.12	33.667	0.00	0.42	1.552	O	|	|	|	|	2.82
28.750	0.00	0.49	1.734	O	|	|	|	|	3.11	33.750	0.00	0.42	1.549	O	|	|	|	|	2.82
28.833	0.00	0.49	1.730	O	|	|	|	|	3.11	33.833	0.00	0.42	1.546	O	|	|	|	|	2.81

33.917	0.00	0.42	1.543	O	|	|	|	|	2.81	38.917	0.00	0.37	1.380	O	|	|	|	|	2.54
34.000	0.00	0.42	1.540	O	|	|	|	|	2.80	39.000	0.00	0.37	1.378	O	|	|	|	|	2.54
34.083	0.00	0.42	1.537	O	|	|	|	|	2.80	39.083	0.00	0.37	1.375	O	|	|	|	|	2.53
34.167	0.00	0.42	1.535	O	|	|	|	|	2.79	39.167	0.00	0.37	1.373	O	|	|	|	|	2.53
34.250	0.00	0.41	1.532	O	|	|	|	|	2.79	39.250	0.00	0.37	1.370	O	|	|	|	|	2.52
34.333	0.00	0.41	1.529	O	|	|	|	|	2.79	39.333	0.00	0.37	1.368	O	|	|	|	|	2.52
34.417	0.00	0.41	1.526	O	|	|	|	|	2.78	39.417	0.00	0.37	1.365	O	|	|	|	|	2.52
34.500	0.00	0.41	1.523	O	|	|	|	|	2.78	39.500	0.00	0.37	1.362	O	|	|	|	|	2.51
34.583	0.00	0.41	1.520	O	|	|	|	|	2.77	39.583	0.00	0.37	1.360	O	|	|	|	|	2.51
34.667	0.00	0.41	1.518	O	|	|	|	|	2.77	39.667	0.00	0.37	1.357	O	|	|	|	|	2.50
34.750	0.00	0.41	1.515	O	|	|	|	|	2.76	39.750	0.00	0.36	1.355	O	|	|	|	|	2.50
34.833	0.00	0.41	1.512	O	|	|	|	|	2.76	39.833	0.00	0.36	1.352	O	|	|	|	|	2.50
34.917	0.00	0.41	1.509	O	|	|	|	|	2.75	39.917	0.00	0.36	1.350	O	|	|	|	|	2.49
35.000	0.00	0.41	1.506	O	|	|	|	|	2.75	40.000	0.00	0.36	1.347	O	|	|	|	|	2.49
35.083	0.00	0.41	1.503	O	|	|	|	|	2.74	40.083	0.00	0.36	1.345	O	|	|	|	|	2.48
35.167	0.00	0.41	1.501	O	|	|	|	|	2.74	40.167	0.00	0.36	1.342	O	|	|	|	|	2.48
35.250	0.00	0.40	1.498	O	|	|	|	|	2.73	40.250	0.00	0.36	1.340	O	|	|	|	|	2.48
35.333	0.00	0.40	1.495	O	|	|	|	|	2.73	40.333	0.00	0.36	1.337	O	|	|	|	|	2.47
35.417	0.00	0.40	1.492	O	|	|	|	|	2.73	40.417	0.00	0.36	1.335	O	|	|	|	|	2.47
35.500	0.00	0.40	1.490	O	|	|	|	|	2.72	40.500	0.00	0.36	1.332	O	|	|	|	|	2.46
35.583	0.00	0.40	1.487	O	|	|	|	|	2.72	40.583	0.00	0.36	1.330	O	|	|	|	|	2.46
35.667	0.00	0.40	1.484	O	|	|	|	|	2.71	40.667	0.00	0.36	1.328	O	|	|	|	|	2.45
35.750	0.00	0.40	1.481	O	|	|	|	|	2.71	40.750	0.00	0.36	1.325	O	|	|	|	|	2.45
35.833	0.00	0.40	1.479	O	|	|	|	|	2.70	40.833	0.00	0.36	1.323	O	|	|	|	|	2.45
35.917	0.00	0.40	1.476	O	|	|	|	|	2.70	40.917	0.00	0.36	1.320	O	|	|	|	|	2.44
36.000	0.00	0.40	1.473	O	|	|	|	|	2.69	41.000	0.00	0.35	1.318	O	|	|	|	|	2.44
36.083	0.00	0.40	1.470	O	|	|	|	|	2.69	41.083	0.00	0.35	1.315	O	|	|	|	|	2.43
36.167	0.00	0.40	1.468	O	|	|	|	|	2.68	41.167	0.00	0.35	1.313	O	|	|	|	|	2.43
36.250	0.00	0.40	1.465	O	|	|	|	|	2.68	41.250	0.00	0.35	1.310	O	|	|	|	|	2.43
36.333	0.00	0.39	1.462	O	|	|	|	|	2.68	41.333	0.00	0.35	1.308	O	|	|	|	|	2.42
36.417	0.00	0.39	1.459	O	|	|	|	|	2.67	41.417	0.00	0.35	1.306	O	|	|	|	|	2.42
36.500	0.00	0.39	1.457	O	|	|	|	|	2.67	41.500	0.00	0.35	1.303	O	|	|	|	|	2.42
36.583	0.00	0.39	1.454	O	|	|	|	|	2.66	41.583	0.00	0.35	1.301	O	|	|	|	|	2.41
36.667	0.00	0.39	1.451	O	|	|	|	|	2.66	41.667	0.00	0.35	1.298	O	|	|	|	|	2.41
36.750	0.00	0.39	1.449	O	|	|	|	|	2.65	41.750	0.00	0.35	1.296	O	|	|	|	|	2.40
36.833	0.00	0.39	1.446	O	|	|	|	|	2.65	41.833	0.00	0.35	1.294	O	|	|	|	|	2.40
36.917	0.00	0.39	1.443	O	|	|	|	|	2.64	41.917	0.00	0.35	1.291	O	|	|	|	|	2.40
37.000	0.00	0.39	1.441	O	|	|	|	|	2.64	42.000	0.00	0.35	1.289	O	|	|	|	|	2.39
37.083	0.00	0.39	1.438	O	|	|	|	|	2.64	42.083	0.00	0.35	1.286	O	|	|	|	|	2.39
37.167	0.00	0.39	1.435	O	|	|	|	|	2.63	42.167	0.00	0.35	1.284	O	|	|	|	|	2.38
37.250	0.00	0.39	1.433	O	|	|	|	|	2.63	42.250	0.00	0.34	1.282	O	|	|	|	|	2.38
37.333	0.00	0.39	1.430	O	|	|	|	|	2.62	42.333	0.00	0.34	1.279	O	|	|	|	|	2.38
37.417	0.00	0.39	1.427	O	|	|	|	|	2.62	42.417	0.00	0.34	1.277	O	|	|	|	|	2.37
37.500	0.00	0.38	1.425	O	|	|	|	|	2.61	42.500	0.00	0.34	1.275	O	|	|	|	|	2.37
37.583	0.00	0.38	1.422	O	|	|	|	|	2.61	42.583	0.00	0.34	1.272	O	|	|	|	|	2.36
37.667	0.00	0.38	1.419	O	|	|	|	|	2.61	42.667	0.00	0.34	1.270	O	|	|	|	|	2.36
37.750	0.00	0.38	1.417	O	|	|	|	|	2.60	42.750	0.00	0.34	1.267	O	|	|	|	|	2.36
37.833	0.00	0.38	1.414	O	|	|	|	|	2.60	42.833	0.00	0.34	1.265	O	|	|	|	|	2.35
37.917	0.00	0.38	1.411	O	|	|	|	|	2.59	42.917	0.00	0.34	1.263	O	|	|	|	|	2.35
38.000	0.00	0.38	1.409	O	|	|	|	|	2.59	43.000	0.00	0.34	1.260	O	|	|	|	|	2.34
38.083	0.00	0.38	1.406	O	|	|	|	|	2.58	43.083	0.00	0.34	1.258	O	|	|	|	|	2.34
38.167	0.00	0.38	1.404	O	|	|	|	|	2.58	43.167	0.00	0.34	1.256	O	|	|	|	|	2.34
38.250	0.00	0.38	1.401	O	|	|	|	|	2.58	43.250	0.00	0.34	1.253	O	|	|	|	|	2.33
38.333	0.00	0.38	1.398	O	|	|	|	|	2.57	43.333	0.00	0.34	1.251	O	|	|	|	|	2.33
38.417	0.00	0.38	1.396	O	|	|	|	|	2.57	43.417	0.00	0.34	1.249	O	|	|	|	|	2.33
38.500	0.00	0.38	1.393	O	|	|	|	|	2.56	43.500	0.00	0.33	1.247	O	|	|	|	|	2.32
38.583	0.00	0.37	1.391	O	|	|	|	|	2.56	43.583	0.00	0.33	1.244	O	|	|	|	|	2.32
38.667	0.00	0.37	1.388	O	|	|	|	|	2.55	43.667	0.00	0.33	1.242	O	|	|	|	|	2.31
38.750	0.00	0.37	1.385	O	|	|	|	|	2.55	43.750	0.00	0.33	1.240	O	|	|	|	|	2.31
38.833	0.00	0.37	1.383	O	|	|	|	|	2.55	43.833	0.00	0.33	1.237	O	|	|	|	|	2.31

43.917	0.00	0.33	1.235	O	|	|	|	|	2.30	48.917	0.00	0.30	1.106	O	|	|	|	|	2.09
44.000	0.00	0.33	1.233	O	|	|	|	|	2.30	49.000	0.00	0.29	1.104	O	|	|	|	|	2.09
44.083	0.00	0.33	1.230	O	|	|	|	|	2.30	49.083	0.00	0.29	1.102	O	|	|	|	|	2.08
44.167	0.00	0.33	1.228	O	|	|	|	|	2.29	49.167	0.00	0.29	1.100	O	|	|	|	|	2.08
44.250	0.00	0.33	1.226	O	|	|	|	|	2.29	49.250	0.00	0.29	1.098	O	|	|	|	|	2.08
44.333	0.00	0.33	1.224	O	|	|	|	|	2.28	49.333	0.00	0.29	1.096	O	|	|	|	|	2.07
44.417	0.00	0.33	1.221	O	|	|	|	|	2.28	49.417	0.00	0.29	1.093	O	|	|	|	|	2.07
44.500	0.00	0.33	1.219	O	|	|	|	|	2.28	49.500	0.00	0.29	1.091	O	|	|	|	|	2.07
44.583	0.00	0.33	1.217	O	|	|	|	|	2.27	49.583	0.00	0.29	1.089	O	|	|	|	|	2.06
44.667	0.00	0.33	1.215	O	|	|	|	|	2.27	49.667	0.00	0.29	1.087	O	|	|	|	|	2.06
44.750	0.00	0.33	1.212	O	|	|	|	|	2.27	49.750	0.00	0.29	1.085	O	|	|	|	|	2.06
44.833	0.00	0.32	1.210	O	|	|	|	|	2.26	49.833	0.00	0.29	1.083	O	|	|	|	|	2.05
44.917	0.00	0.32	1.208	O	|	|	|	|	2.26	49.917	0.00	0.29	1.081	O	|	|	|	|	2.05
45.000	0.00	0.32	1.206	O	|	|	|	|	2.26	50.000	0.00	0.29	1.080	O	|	|	|	|	2.05
45.083	0.00	0.32	1.204	O	|	|	|	|	2.25	50.083	0.00	0.29	1.078	O	|	|	|	|	2.05
45.167	0.00	0.32	1.201	O	|	|	|	|	2.25	50.167	0.00	0.29	1.076	O	|	|	|	|	2.04
45.250	0.00	0.32	1.199	O	|	|	|	|	2.24	50.250	0.00	0.29	1.074	O	|	|	|	|	2.04
45.333	0.00	0.32	1.197	O	|	|	|	|	2.24	50.333	0.00	0.29	1.072	O	|	|	|	|	2.04
45.417	0.00	0.32	1.195	O	|	|	|	|	2.24	50.417	0.00	0.29	1.070	O	|	|	|	|	2.03
45.500	0.00	0.32	1.192	O	|	|	|	|	2.23	50.500	0.00	0.28	1.068	O	|	|	|	|	2.03
45.583	0.00	0.32	1.190	O	|	|	|	|	2.23	50.583	0.00	0.28	1.066	O	|	|	|	|	2.03
45.667	0.00	0.32	1.188	O	|	|	|	|	2.23	50.667	0.00	0.28	1.064	O	|	|	|	|	2.02
45.750	0.00	0.32	1.186	O	|	|	|	|	2.22	50.750	0.00	0.28	1.062	O	|	|	|	|	2.02
45.833	0.00	0.32	1.184	O	|	|	|	|	2.22	50.833	0.00	0.28	1.060	O	|	|	|	|	2.02
45.917	0.00	0.32	1.181	O	|	|	|	|	2.22	50.917	0.00	0.28	1.058	O	|	|	|	|	2.01
46.000	0.00	0.32	1.179	O	|	|	|	|	2.21	51.000	0.00	0.28	1.056	O	|	|	|	|	2.01
46.083	0.00	0.32	1.177	O	|	|	|	|	2.21	51.083	0.00	0.28	1.054	O	|	|	|	|	2.01
46.167	0.00	0.31	1.175	O	|	|	|	|	2.20	51.167	0.00	0.28	1.052	O	|	|	|	|	2.00
46.250	0.00	0.31	1.173	O	|	|	|	|	2.20	51.250	0.00	0.28	1.050	O	|	|	|	|	2.00
46.333	0.00	0.31	1.171	O	|	|	|	|	2.20	51.333	0.00	0.28	1.048	O	|	|	|	|	2.00
46.417	0.00	0.31	1.168	O	|	|	|	|	2.19	51.417	0.00	0.28	1.046	O	|	|	|	|	1.99
46.500	0.00	0.31	1.166	O	|	|	|	|	2.19	51.500	0.00	0.28	1.044	O	|	|	|	|	1.99
46.583	0.00	0.31	1.164	O	|	|	|	|	2.19	51.583	0.00	0.28	1.043	O	|	|	|	|	1.99
46.667	0.00	0.31	1.162	O	|	|	|	|	2.18	51.667	0.00	0.27	1.041	O	|	|	|	|	1.98
46.750	0.00	0.31	1.160	O	|	|	|	|	2.18	51.750	0.00	0.27	1.039	O	|	|	|	|	1.98
46.833	0.00	0.31	1.158	O	|	|	|	|	2.18	51.833	0.00	0.27	1.037	O	|	|	|	|	1.98
46.917	0.00	0.31	1.156	O	|	|	|	|	2.17	51.917	0.00	0.27	1.035	O	|	|	|	|	1.97
47.000	0.00	0.31	1.153	O	|	|	|	|	2.17	52.000	0.00	0.27	1.033	O	|	|	|	|	1.97
47.083	0.00	0.31	1.151	O	|	|	|	|	2.17	52.083	0.00	0.27	1.031	O	|	|	|	|	1.97
47.167	0.00	0.31	1.149	O	|	|	|	|	2.16	52.167	0.00	0.27	1.029	O	|	|	|	|	1.96
47.250	0.00	0.31	1.147	O	|	|	|	|	2.16	52.250	0.00	0.27	1.028	O	|	|	|	|	1.96
47.333	0.00	0.31	1.145	O	|	|	|	|	2.16	52.333	0.00	0.26	1.026	O	|	|	|	|	1.96
47.417	0.00	0.31	1.143	O	|	|	|	|	2.15	52.417	0.00	0.26	1.024	O	|	|	|	|	1.95
47.500	0.00	0.31	1.141	O	|	|	|	|	2.15	52.500	0.00	0.26	1.022	O	|	|	|	|	1.95
47.583	0.00	0.30	1.139	O	|	|	|	|	2.15	52.583	0.00	0.26	1.020	O	|	|	|	|	1.95
47.667	0.00	0.30	1.137	O	|	|	|	|	2.14	52.667	0.00	0.26	1.019	O	|	|	|	|	1.95
47.750	0.00	0.30	1.135	O	|	|	|	|	2.14	52.750	0.00	0.26	1.017	O	|	|	|	|	1.94
47.833	0.00	0.30	1.132	O	|	|	|	|	2.14	52.833	0.00	0.26	1.015	O	|	|	|	|	1.94
47.917	0.00	0.30	1.130	O	|	|	|	|	2.13	52.917	0.00	0.26	1.013	O	|	|	|	|	1.94
48.000	0.00	0.30	1.128	O	|	|	|	|	2.13	53.000	0.00	0.26	1.011	O	|	|	|	|	1.93
48.083	0.00	0.30	1.126	O	|	|	|	|	2.12	53.083	0.00	0.25	1.010	O	|	|	|	|	1.93
48.167	0.00	0.30	1.124	O	|	|	|	|	2.12	53.167	0.00	0.25	1.008	O	|	|	|	|	1.93
48.250	0.00	0.30	1.122	O	|	|	|	|	2.12	53.250	0.00	0.25	1.006	O	|	|	|	|	1.92
48.333	0.00	0.30	1.120	O	|	|	|	|	2.11	53.333	0.00	0.25	1.004	O	|	|	|	|	1.92
48.417	0.00	0.30	1.118	O	|	|	|	|	2.11	53.417	0.00	0.25	1.003	O	|	|	|	|	1.92
48.500	0.00	0.30	1.116	O	|	|	|	|	2.11	53.500	0.00	0.25	1.001	O	|	|	|	|	1.91
48.583	0.00	0.30	1.114	O	|	|	|	|	2.10	53.583	0.00	0.25	0.999	O	|	|	|	|	1.91
48.667	0.00	0.30	1.112	O	|	|	|	|	2.10	53.667	0.00	0.25	0.998	O	|	|	|	|	1.91
48.750	0.00	0.30	1.110	O	|	|	|	|	2.10	53.750	0.00	0.25	0.996	O	|	|	|	|	1.91
48.833	0.00	0.30	1.108	O	|	|	|	|	2.09	53.833	0.00	0.24	0.994	O	|	|	|	|	1.90

53.917	0.00	0.24	0.993	O	|	|	|	|	1.90	58.917	0.00	0.19	0.904	O	|	|	|	|	1.74
54.000	0.00	0.24	0.991	O	|	|	|	|	1.90	59.000	0.00	0.19	0.902	O	|	|	|	|	1.74
54.083	0.00	0.24	0.989	O	|	|	|	|	1.89	59.083	0.00	0.19	0.901	O	|	|	|	|	1.74
54.167	0.00	0.24	0.988	O	|	|	|	|	1.89	59.167	0.00	0.19	0.900	O	|	|	|	|	1.74
54.250	0.00	0.24	0.986	O	|	|	|	|	1.89	59.250	0.00	0.18	0.899	O	|	|	|	|	1.74
54.333	0.00	0.24	0.984	O	|	|	|	|	1.89	59.333	0.00	0.18	0.897	O	|	|	|	|	1.73
54.417	0.00	0.24	0.983	O	|	|	|	|	1.88	59.417	0.00	0.18	0.896	O	|	|	|	|	1.73
54.500	0.00	0.24	0.981	O	|	|	|	|	1.88	59.500	0.00	0.18	0.895	O	|	|	|	|	1.73
54.583	0.00	0.24	0.979	O	|	|	|	|	1.88	59.583	0.00	0.18	0.894	O	|	|	|	|	1.73
54.667	0.00	0.23	0.978	O	|	|	|	|	1.87	59.667	0.00	0.18	0.892	O	|	|	|	|	1.72
54.750	0.00	0.23	0.976	O	|	|	|	|	1.87	59.750	0.00	0.18	0.891	O	|	|	|	|	1.72
54.833	0.00	0.23	0.974	O	|	|	|	|	1.87	59.833	0.00	0.18	0.890	O	|	|	|	|	1.72
54.917	0.00	0.23	0.973	O	|	|	|	|	1.87	59.917	0.00	0.18	0.889	O	|	|	|	|	1.72
55.000	0.00	0.23	0.971	O	|	|	|	|	1.86	60.000	0.00	0.18	0.887	O	|	|	|	|	1.72
55.083	0.00	0.23	0.970	O	|	|	|	|	1.86	60.083	0.00	0.18	0.886	O	|	|	|	|	1.71
55.167	0.00	0.23	0.968	O	|	|	|	|	1.86	60.167	0.00	0.18	0.885	O	|	|	|	|	1.71
55.250	0.00	0.23	0.967	O	|	|	|	|	1.85	60.250	0.00	0.18	0.884	O	|	|	|	|	1.71
55.333	0.00	0.23	0.965	O	|	|	|	|	1.85	60.333	0.00	0.17	0.882	O	|	|	|	|	1.71
55.417	0.00	0.23	0.963	O	|	|	|	|	1.85	60.417	0.00	0.17	0.881	O	|	|	|	|	1.71
55.500	0.00	0.22	0.962	O	|	|	|	|	1.85	60.500	0.00	0.17	0.880	O	|	|	|	|	1.70
55.583	0.00	0.22	0.960	O	|	|	|	|	1.84	60.583	0.00	0.17	0.879	O	|	|	|	|	1.70
55.667	0.00	0.22	0.959	O	|	|	|	|	1.84	60.667	0.00	0.17	0.878	O	|	|	|	|	1.70
55.750	0.00	0.22	0.957	O	|	|	|	|	1.84	60.750	0.00	0.17	0.877	O	|	|	|	|	1.70
55.833	0.00	0.22	0.956	O	|	|	|	|	1.84	60.833	0.00	0.17	0.875	O	|	|	|	|	1.70
55.917	0.00	0.22	0.954	O	|	|	|	|	1.83	60.917	0.00	0.17	0.874	O	|	|	|	|	1.69
56.000	0.00	0.22	0.953	O	|	|	|	|	1.83	61.000	0.00	0.17	0.873	O	|	|	|	|	1.69
56.083	0.00	0.22	0.951	O	|	|	|	|	1.83	61.083	0.00	0.17	0.872	O	|	|	|	|	1.69
56.167	0.00	0.22	0.950	O	|	|	|	|	1.83	61.167	0.00	0.17	0.871	O	|	|	|	|	1.69
56.250	0.00	0.22	0.948	O	|	|	|	|	1.82	61.250	0.00	0.17	0.870	O	|	|	|	|	1.69
56.333	0.00	0.22	0.947	O	|	|	|	|	1.82	61.333	0.00	0.17	0.868	O	|	|	|	|	1.68
56.417	0.00	0.21	0.945	O	|	|	|	|	1.82	61.417	0.00	0.17	0.867	O	|	|	|	|	1.68
56.500	0.00	0.21	0.944	O	|	|	|	|	1.81	61.500	0.00	0.16	0.866	O	|	|	|	|	1.68
56.583	0.00	0.21	0.942	O	|	|	|	|	1.81	61.583	0.00	0.16	0.865	O	|	|	|	|	1.68
56.667	0.00	0.21	0.941	O	|	|	|	|	1.81	61.667	0.00	0.16	0.864	O	|	|	|	|	1.68
56.750	0.00	0.21	0.939	O	|	|	|	|	1.81	61.750	0.00	0.16	0.863	O	|	|	|	|	1.67
56.833	0.00	0.21	0.938	O	|	|	|	|	1.80	61.833	0.00	0.16	0.862	O	|	|	|	|	1.67
56.917	0.00	0.21	0.937	O	|	|	|	|	1.80	61.917	0.00	0.16	0.861	O	|	|	|	|	1.67
57.000	0.00	0.21	0.935	O	|	|	|	|	1.80	62.000	0.00	0.16	0.859	O	|	|	|	|	1.67
57.083	0.00	0.21	0.934	O	|	|	|	|	1.80	62.083	0.00	0.16	0.858	O	|	|	|	|	1.67
57.167	0.00	0.21	0.932	O	|	|	|	|	1.79	62.167	0.00	0.16	0.857	O	|	|	|	|	1.66
57.250	0.00	0.21	0.931	O	|	|	|	|	1.79	62.250	0.00	0.16	0.856	O	|	|	|	|	1.66
57.333	0.00	0.20	0.929	O	|	|	|	|	1.79	62.333	0.00	0.16	0.855	O	|	|	|	|	1.66
57.417	0.00	0.20	0.928	O	|	|	|	|	1.79	62.417	0.00	0.16	0.854	O	|	|	|	|	1.66
57.500	0.00	0.20	0.927	O	|	|	|	|	1.78	62.500	0.00	0.16	0.853	O	|	|	|	|	1.66
57.583	0.00	0.20	0.925	O	|	|	|	|	1.78	62.583	0.00	0.16	0.852	O	|	|	|	|	1.65
57.667	0.00	0.20	0.924	O	|	|	|	|	1.78	62.667	0.00	0.15	0.851	O	|	|	|	|	1.65
57.750	0.00	0.20	0.922	O	|	|	|	|	1.78	62.750	0.00	0.15	0.850	O	|	|	|	|	1.65
57.833	0.00	0.20	0.921	O	|	|	|	|	1.78	62.833	0.00	0.15	0.849	O	|	|	|	|	1.65
57.917	0.00	0.20	0.920	O	|	|	|	|	1.77	62.917	0.00	0.15	0.848	O	|	|	|	|	1.65
58.000	0.00	0.20	0.918	O	|	|	|	|	1.77	63.000	0.00	0.15	0.847	O	|	|	|	|	1.65
58.083	0.00	0.20	0.917	O	|	|	|	|	1.77	63.083	0.00	0.15	0.845	O	|	|	|	|	1.64
58.167	0.00	0.20	0.916	O	|	|	|	|	1.77	63.167	0.00	0.15	0.844	O	|	|	|	|	1.64
58.250	0.00	0.19	0.914	O	|	|	|	|	1.76	63.250	0.00	0.15	0.843	O	|	|	|	|	1.64
58.333	0.00	0.19	0.913	O	|	|	|	|	1.76	63.333	0.00	0.15	0.842	O	|	|	|	|	1.64
58.417	0.00	0.19	0.912	O	|	|	|	|	1.76	63.417	0.00	0.15	0.841	O	|	|	|	|	1.64
58.500	0.00	0.19	0.910	O	|	|	|	|	1.76	63.500	0.00	0.15	0.840	O	|	|	|	|	1.63
58.583	0.00	0.19	0.909	O	|	|	|	|	1.75	63.583	0.00	0.15	0.839	O	|	|	|	|	1.63
58.667	0.00	0.19	0.908	O	|	|	|	|	1.75	63.667	0.00	0.15	0.838	O	|	|	|	|	1.63
58.750	0.00	0.19	0.906	O	|	|	|	|	1.75	63.750	0.00	0.15	0.837	O	|	|	|	|	1.63
58.833	0.00	0.19	0.905	O	|	|	|	|	1.75	63.833	0.00	0.15	0.836	O	|	|	|	|	1.63

63.917	0.00	0.15	0.835	O	|	|	|	|	1.63	68.917	0.00	0.11	0.782	O	|	|	|	|	1.53
64.000	0.00	0.14	0.834	O	|	|	|	|	1.62	69.000	0.00	0.11	0.782	O	|	|	|	|	1.53
64.083	0.00	0.14	0.833	O	|	|	|	|	1.62	69.083	0.00	0.11	0.781	O	|	|	|	|	1.53
64.167	0.00	0.14	0.832	O	|	|	|	|	1.62	69.167	0.00	0.11	0.780	O	|	|	|	|	1.53
64.250	0.00	0.14	0.831	O	|	|	|	|	1.62	69.250	0.00	0.11	0.779	O	|	|	|	|	1.53
64.333	0.00	0.14	0.830	O	|	|	|	|	1.62	69.333	0.00	0.11	0.779	O	|	|	|	|	1.53
64.417	0.00	0.14	0.829	O	|	|	|	|	1.62	69.417	0.00	0.11	0.778	O	|	|	|	|	1.53
64.500	0.00	0.14	0.828	O	|	|	|	|	1.61	69.500	0.00	0.11	0.777	O	|	|	|	|	1.52
64.583	0.00	0.14	0.827	O	|	|	|	|	1.61	69.583	0.00	0.11	0.776	O	|	|	|	|	1.52
64.667	0.00	0.14	0.826	O	|	|	|	|	1.61	69.667	0.00	0.11	0.776	O	|	|	|	|	1.52
64.750	0.00	0.14	0.825	O	|	|	|	|	1.61	69.750	0.00	0.11	0.775	O	|	|	|	|	1.52
64.833	0.00	0.14	0.825	O	|	|	|	|	1.61	69.833	0.00	0.11	0.774	O	|	|	|	|	1.52
64.917	0.00	0.14	0.824	O	|	|	|	|	1.61	69.917	0.00	0.11	0.773	O	|	|	|	|	1.52
65.000	0.00	0.14	0.823	O	|	|	|	|	1.60	70.000	0.00	0.11	0.773	O	|	|	|	|	1.52
65.083	0.00	0.14	0.822	O	|	|	|	|	1.60	70.083	0.00	0.11	0.772	O	|	|	|	|	1.52
65.167	0.00	0.14	0.821	O	|	|	|	|	1.60	70.167	0.00	0.10	0.771	O	|	|	|	|	1.51
65.250	0.00	0.14	0.820	O	|	|	|	|	1.60	70.250	0.00	0.10	0.770	O	|	|	|	|	1.51
65.333	0.00	0.13	0.819	O	|	|	|	|	1.60	70.333	0.00	0.10	0.770	O	|	|	|	|	1.51
65.417	0.00	0.13	0.818	O	|	|	|	|	1.60	70.417	0.00	0.10	0.769	O	|	|	|	|	1.51
65.500	0.00	0.13	0.817	O	|	|	|	|	1.59	70.500	0.00	0.10	0.768	O	|	|	|	|	1.51
65.583	0.00	0.13	0.816	O	|	|	|	|	1.59	70.583	0.00	0.10	0.768	O	|	|	|	|	1.51
65.667	0.00	0.13	0.815	O	|	|	|	|	1.59	70.667	0.00	0.10	0.767	O	|	|	|	|	1.51
65.750	0.00	0.13	0.814	O	|	|	|	|	1.59	70.750	0.00	0.10	0.766	O	|	|	|	|	1.51
65.833	0.00	0.13	0.813	O	|	|	|	|	1.59	70.833	0.00	0.10	0.766	O	|	|	|	|	1.50
65.917	0.00	0.13	0.812	O	|	|	|	|	1.59	70.917	0.00	0.10	0.765	O	|	|	|	|	1.50
66.000	0.00	0.13	0.812	O	|	|	|	|	1.58	71.000	0.00	0.10	0.764	O	|	|	|	|	1.50
66.083	0.00	0.13	0.811	O	|	|	|	|	1.58	71.083	0.00	0.10	0.763	O	|	|	|	|	1.50
66.167	0.00	0.13	0.810	O	|	|	|	|	1.58	71.167	0.00	0.10	0.763	O	|	|	|	|	1.50
66.250	0.00	0.13	0.809	O	|	|	|	|	1.58	71.250	0.00	0.10	0.762	O	|	|	|	|	1.50
66.333	0.00	0.13	0.808	O	|	|	|	|	1.58	71.333	0.00	0.10	0.761	O	|	|	|	|	1.50
66.417	0.00	0.13	0.807	O	|	|	|	|	1.58	71.417	0.00	0.10	0.761	O	|	|	|	|	1.50
66.500	0.00	0.13	0.806	O	|	|	|	|	1.57	71.500	0.00	0.10	0.760	O	|	|	|	|	1.49
66.583	0.00	0.13	0.805	O	|	|	|	|	1.57	71.583	0.00	0.10	0.759	O	|	|	|	|	1.49
66.667	0.00	0.13	0.805	O	|	|	|	|	1.57	71.667	0.00	0.10	0.759	O	|	|	|	|	1.49
66.750	0.00	0.13	0.804	O	|	|	|	|	1.57	71.750	0.00	0.10	0.758	O	|	|	|	|	1.49
66.833	0.00	0.12	0.803	O	|	|	|	|	1.57	71.833	0.00	0.10	0.757	O	|	|	|	|	1.49
66.917	0.00	0.12	0.802	O	|	|	|	|	1.57	71.917	0.00	0.10	0.757	O	|	|	|	|	1.49
67.000	0.00	0.12	0.801	O	|	|	|	|	1.57	72.000	0.00	0.10	0.756	O	|	|	|	|	1.49
67.083	0.00	0.12	0.800	O	|	|	|	|	1.56	72.083	0.00	0.10	0.755	O	|	|	|	|	1.49
67.167	0.00	0.12	0.799	O	|	|	|	|	1.56	72.167	0.00	0.09	0.755	O	|	|	|	|	1.49
67.250	0.00	0.12	0.799	O	|	|	|	|	1.56	72.250	0.00	0.09	0.754	O	|	|	|	|	1.48
67.333	0.00	0.12	0.798	O	|	|	|	|	1.56	72.333	0.00	0.09	0.753	O	|	|	|	|	1.48
67.417	0.00	0.12	0.797	O	|	|	|	|	1.56	72.417	0.00	0.09	0.753	O	|	|	|	|	1.48
67.500	0.00	0.12	0.796	O	|	|	|	|	1.56	72.500	0.00	0.09	0.752	O	|	|	|	|	1.48
67.583	0.00	0.12	0.795	O	|	|	|	|	1.56	72.583	0.00	0.09	0.752	O	|	|	|	|	1.48
67.667	0.00	0.12	0.794	O	|	|	|	|	1.55	72.667	0.00	0.09	0.751	O	|	|	|	|	1.48
67.750	0.00	0.12	0.794	O	|	|	|	|	1.55	72.750	0.00	0.09	0.750	O	|	|	|	|	1.48
67.833	0.00	0.12	0.793	O	|	|	|	|	1.55	72.833	0.00	0.09	0.750	O	|	|	|	|	1.48
67.917	0.00	0.12	0.792	O	|	|	|	|	1.55	72.917	0.00	0.09	0.749	O	|	|	|	|	1.47
68.000	0.00	0.12	0.791	O	|	|	|	|	1.55	73.000	0.00	0.09	0.748	O	|	|	|	|	1.47
68.083	0.00	0.12	0.790	O	|	|	|	|	1.55	73.083	0.00	0.09	0.748	O	|	|	|	|	1.47
68.167	0.00	0.12	0.789	O	|	|	|	|	1.55	73.167	0.00	0.09	0.747	O	|	|	|	|	1.47
68.250	0.00	0.12	0.789	O	|	|	|	|	1.54	73.250	0.00	0.09	0.747	O	|	|	|	|	1.47
68.333	0.00	0.12	0.788	O	|	|	|	|	1.54	73.333	0.00	0.09	0.746	O	|	|	|	|	1.47
68.417	0.00	0.11	0.787	O	|	|	|	|	1.54	73.417	0.00	0.09	0.745	O	|	|	|	|	1.47
68.500	0.00	0.11	0.786	O	|	|	|	|	1.54	73.500	0.00	0.09	0.745	O	|	|	|	|	1.47
68.583	0.00	0.11	0.786	O	|	|	|	|	1.54	73.583	0.00	0.09	0.744	O	|	|	|	|	1.47
68.667	0.00	0.11	0.785	O	|	|	|	|	1.54	73.667	0.00	0.09	0.743	O	|	|	|	|	1.47
68.750	0.00	0.11	0.784	O	|	|	|	|	1.54	73.750	0.00	0.09	0.743	O	|	|	|	|	1.46
68.833	0.00	0.11	0.783	O	|	|	|	|	1.53	73.833	0.00	0.09	0.742	O	|	|	|	|	1.46

73.917	0.00	0.09	0.742	O	|	|	|	|	1.46	78.917	0.00	0.07	0.710	O	|	|	|	|	1.41
74.000	0.00	0.09	0.741	O	|	|	|	|	1.46	79.000	0.00	0.07	0.710	O	|	|	|	|	1.41
74.083	0.00	0.09	0.740	O	|	|	|	|	1.46	79.083	0.00	0.07	0.709	O	|	|	|	|	1.41
74.167	0.00	0.09	0.740	O	|	|	|	|	1.46	79.167	0.00	0.07	0.709	O	|	|	|	|	1.40
74.250	0.00	0.08	0.739	O	|	|	|	|	1.46	79.250	0.00	0.07	0.708	O	|	|	|	|	1.40
74.333	0.00	0.08	0.739	O	|	|	|	|	1.46	79.333	0.00	0.07	0.708	O	|	|	|	|	1.40
74.417	0.00	0.08	0.738	O	|	|	|	|	1.46	79.417	0.00	0.06	0.707	O	|	|	|	|	1.40
74.500	0.00	0.08	0.738	O	|	|	|	|	1.46	79.500	0.00	0.06	0.707	O	|	|	|	|	1.40
74.583	0.00	0.08	0.737	O	|	|	|	|	1.45	79.583	0.00	0.06	0.707	O	|	|	|	|	1.40
74.667	0.00	0.08	0.736	O	|	|	|	|	1.45	79.667	0.00	0.06	0.706	O	|	|	|	|	1.40
74.750	0.00	0.08	0.736	O	|	|	|	|	1.45	79.750	0.00	0.06	0.706	O	|	|	|	|	1.40
74.833	0.00	0.08	0.735	O	|	|	|	|	1.45	79.833	0.00	0.06	0.705	O	|	|	|	|	1.40
74.917	0.00	0.08	0.735	O	|	|	|	|	1.45	79.917	0.00	0.06	0.705	O	|	|	|	|	1.40
75.000	0.00	0.08	0.734	O	|	|	|	|	1.45	80.000	0.00	0.06	0.704	O	|	|	|	|	1.40
75.083	0.00	0.08	0.734	O	|	|	|	|	1.45	80.083	0.00	0.06	0.704	O	|	|	|	|	1.40
75.167	0.00	0.08	0.733	O	|	|	|	|	1.45	80.167	0.00	0.06	0.704	O	|	|	|	|	1.40
75.250	0.00	0.08	0.732	O	|	|	|	|	1.45	80.250	0.00	0.06	0.703	O	|	|	|	|	1.39
75.333	0.00	0.08	0.732	O	|	|	|	|	1.45	80.333	0.00	0.06	0.703	O	|	|	|	|	1.39
75.417	0.00	0.08	0.731	O	|	|	|	|	1.44	80.417	0.00	0.06	0.702	O	|	|	|	|	1.39
75.500	0.00	0.08	0.731	O	|	|	|	|	1.44	80.500	0.00	0.06	0.702	O	|	|	|	|	1.39
75.583	0.00	0.08	0.730	O	|	|	|	|	1.44	80.583	0.00	0.06	0.701	O	|	|	|	|	1.39
75.667	0.00	0.08	0.730	O	|	|	|	|	1.44	80.667	0.00	0.06	0.701	O	|	|	|	|	1.39
75.750	0.00	0.08	0.729	O	|	|	|	|	1.44	80.750	0.00	0.06	0.701	O	|	|	|	|	1.39
75.833	0.00	0.08	0.729	O	|	|	|	|	1.44	80.833	0.00	0.06	0.700	O	|	|	|	|	1.39
75.917	0.00	0.08	0.728	O	|	|	|	|	1.44	80.917	0.00	0.06	0.700	O	|	|	|	|	1.39
76.000	0.00	0.08	0.728	O	|	|	|	|	1.44	81.000	0.00	0.06	0.699	O	|	|	|	|	1.39
76.083	0.00	0.08	0.727	O	|	|	|	|	1.44	81.083	0.00	0.06	0.699	O	|	|	|	|	1.39
76.167	0.00	0.08	0.726	O	|	|	|	|	1.44	81.167	0.00	0.06	0.699	O	|	|	|	|	1.39
76.250	0.00	0.08	0.726	O	|	|	|	|	1.43	81.250	0.00	0.06	0.698	O	|	|	|	|	1.39
76.333	0.00	0.08	0.725	O	|	|	|	|	1.43	81.333	0.00	0.06	0.698	O	|	|	|	|	1.39
76.417	0.00	0.08	0.725	O	|	|	|	|	1.43	81.417	0.00	0.06	0.697	O	|	|	|	|	1.38
76.500	0.00	0.08	0.724	O	|	|	|	|	1.43	81.500	0.00	0.06	0.697	O	|	|	|	|	1.38
76.583	0.00	0.08	0.724	O	|	|	|	|	1.43	81.583	0.00	0.06	0.697	O	|	|	|	|	1.38
76.667	0.00	0.07	0.723	O	|	|	|	|	1.43	81.667	0.00	0.06	0.696	O	|	|	|	|	1.38
76.750	0.00	0.07	0.723	O	|	|	|	|	1.43	81.750	0.00	0.06	0.696	O	|	|	|	|	1.38
76.833	0.00	0.07	0.722	O	|	|	|	|	1.43	81.833	0.00	0.06	0.695	O	|	|	|	|	1.38
76.917	0.00	0.07	0.722	O	|	|	|	|	1.43	81.917	0.00	0.06	0.695	O	|	|	|	|	1.38
77.000	0.00	0.07	0.721	O	|	|	|	|	1.43	82.000	0.00	0.06	0.695	O	|	|	|	|	1.38
77.083	0.00	0.07	0.721	O	|	|	|	|	1.43	82.083	0.00	0.06	0.694	O	|	|	|	|	1.38
77.167	0.00	0.07	0.720	O	|	|	|	|	1.42	82.167	0.00	0.06	0.694	O	|	|	|	|	1.38
77.250	0.00	0.07	0.720	O	|	|	|	|	1.42	82.250	0.00	0.06	0.693	O	|	|	|	|	1.38
77.333	0.00	0.07	0.719	O	|	|	|	|	1.42	82.333	0.00	0.06	0.693	O	|	|	|	|	1.38
77.417	0.00	0.07	0.719	O	|	|	|	|	1.42	82.417	0.00	0.06	0.693	O	|	|	|	|	1.38
77.500	0.00	0.07	0.718	O	|	|	|	|	1.42	82.500	0.00	0.06	0.692	O	|	|	|	|	1.38
77.583	0.00	0.07	0.718	O	|	|	|	|	1.42	82.583	0.00	0.06	0.692	O	|	|	|	|	1.38
77.667	0.00	0.07	0.717	O	|	|	|	|	1.42	82.667	0.00	0.05	0.691	O	|	|	|	|	1.37
77.750	0.00	0.07	0.717	O	|	|	|	|	1.42	82.750	0.00	0.05	0.691	O	|	|	|	|	1.37
77.833	0.00	0.07	0.716	O	|	|	|	|	1.42	82.833	0.00	0.05	0.691	O	|	|	|	|	1.37
77.917	0.00	0.07	0.716	O	|	|	|	|	1.42	82.917	0.00	0.05	0.690	O	|	|	|	|	1.37
78.000	0.00	0.07	0.715	O	|	|	|	|	1.42	83.000	0.00	0.05	0.690	O	|	|	|	|	1.37
78.083	0.00	0.07	0.715	O	|	|	|	|	1.42	83.083	0.00	0.05	0.690	O	|	|	|	|	1.37
78.167	0.00	0.07	0.714	O	|	|	|	|	1.41	83.167	0.00	0.05	0.689	O	|	|	|	|	1.37
78.250	0.00	0.07	0.714	O	|	|	|	|	1.41	83.250	0.00	0.05	0.689	O	|	|	|	|	1.37
78.333	0.00	0.07	0.713	O	|	|	|	|	1.41	83.333	0.00	0.05	0.688	O	|	|	|	|	1.37
78.417	0.00	0.07	0.713	O	|	|	|	|	1.41	83.417	0.00	0.05	0.688	O	|	|	|	|	1.37
78.500	0.00	0.07	0.713	O	|	|	|	|	1.41	83.500	0.00	0.05	0.688	O	|	|	|	|	1.37
78.583	0.00	0.07	0.712	O	|	|	|	|	1.41	83.583	0.00	0.05	0.687	O	|	|	|	|	1.37
78.667	0.00	0.07	0.712	O	|	|	|	|	1.41	83.667	0.00	0.05	0.687	O	|	|	|	|	1.37
78.750	0.00	0.07	0.711	O	|	|	|	|	1.41	83.750	0.00	0.05	0.687	O	|	|	|	|	1.37
78.833	0.00	0.07	0.711	O	|	|	|	|	1.41	83.833	0.00	0.05	0.686	O	|	|	|	|	1.37

83.917	0.00	0.05	0.686	O	|	|	|	|	1.37	88.917	0.00	0.04	0.667	O	|	|	|	|	1.33
84.000	0.00	0.05	0.686	O	|	|	|	|	1.36	89.000	0.00	0.04	0.667	O	|	|	|	|	1.33
84.083	0.00	0.05	0.685	O	|	|	|	|	1.36	89.083	0.00	0.04	0.667	O	|	|	|	|	1.33
84.167	0.00	0.05	0.685	O	|	|	|	|	1.36	89.167	0.00	0.04	0.666	O	|	|	|	|	1.33
84.250	0.00	0.05	0.685	O	|	|	|	|	1.36	89.250	0.00	0.04	0.666	O	|	|	|	|	1.33
84.333	0.00	0.05	0.684	O	|	|	|	|	1.36	89.333	0.00	0.04	0.666	O	|	|	|	|	1.33
84.417	0.00	0.05	0.684	O	|	|	|	|	1.36	89.417	0.00	0.04	0.666	O	|	|	|	|	1.33
84.500	0.00	0.05	0.684	O	|	|	|	|	1.36	89.500	0.00	0.04	0.665	O	|	|	|	|	1.33
84.583	0.00	0.05	0.683	O	|	|	|	|	1.36	89.583	0.00	0.04	0.665	O	|	|	|	|	1.33
84.667	0.00	0.05	0.683	O	|	|	|	|	1.36	89.667	0.00	0.04	0.665	O	|	|	|	|	1.33
84.750	0.00	0.05	0.682	O	|	|	|	|	1.36	89.750	0.00	0.04	0.665	O	|	|	|	|	1.33
84.833	0.00	0.05	0.682	O	|	|	|	|	1.36	89.833	0.00	0.04	0.664	O	|	|	|	|	1.33
84.917	0.00	0.05	0.682	O	|	|	|	|	1.36	89.917	0.00	0.04	0.664	O	|	|	|	|	1.33
85.000	0.00	0.05	0.681	O	|	|	|	|	1.36	90.000	0.00	0.04	0.664	O	|	|	|	|	1.33
85.083	0.00	0.05	0.681	O	|	|	|	|	1.36	90.083	0.00	0.04	0.664	O	|	|	|	|	1.33
85.167	0.00	0.05	0.681	O	|	|	|	|	1.36	90.167	0.00	0.04	0.663	O	|	|	|	|	1.33
85.250	0.00	0.05	0.680	O	|	|	|	|	1.36	90.250	0.00	0.04	0.663	O	|	|	|	|	1.33
85.333	0.00	0.05	0.680	O	|	|	|	|	1.35	90.333	0.00	0.04	0.663	O	|	|	|	|	1.32
85.417	0.00	0.05	0.680	O	|	|	|	|	1.35	90.417	0.00	0.04	0.663	O	|	|	|	|	1.32
85.500	0.00	0.05	0.680	O	|	|	|	|	1.35	90.500	0.00	0.04	0.662	O	|	|	|	|	1.32
85.583	0.00	0.05	0.679	O	|	|	|	|	1.35	90.583	0.00	0.04	0.662	O	|	|	|	|	1.32
85.667	0.00	0.05	0.679	O	|	|	|	|	1.35	90.667	0.00	0.04	0.662	O	|	|	|	|	1.32
85.750	0.00	0.05	0.679	O	|	|	|	|	1.35	90.750	0.00	0.04	0.662	O	|	|	|	|	1.32
85.833	0.00	0.05	0.678	O	|	|	|	|	1.35	90.833	0.00	0.04	0.661	O	|	|	|	|	1.32
85.917	0.00	0.05	0.678	O	|	|	|	|	1.35	90.917	0.00	0.04	0.661	O	|	|	|	|	1.32
86.000	0.00	0.05	0.678	O	|	|	|	|	1.35	91.000	0.00	0.04	0.661	O	|	|	|	|	1.32
86.083	0.00	0.05	0.677	O	|	|	|	|	1.35	91.083	0.00	0.04	0.661	O	|	|	|	|	1.32
86.167	0.00	0.05	0.677	O	|	|	|	|	1.35	91.167	0.00	0.04	0.660	O	|	|	|	|	1.32
86.250	0.00	0.05	0.677	O	|	|	|	|	1.35	91.250	0.00	0.04	0.660	O	|	|	|	|	1.32
86.333	0.00	0.05	0.676	O	|	|	|	|	1.35	91.333	0.00	0.03	0.660	O	|	|	|	|	1.32
86.417	0.00	0.05	0.676	O	|	|	|	|	1.35	91.417	0.00	0.03	0.660	O	|	|	|	|	1.32
86.500	0.00	0.04	0.676	O	|	|	|	|	1.35	91.500	0.00	0.03	0.659	O	|	|	|	|	1.32
86.583	0.00	0.04	0.675	O	|	|	|	|	1.35	91.583	0.00	0.03	0.659	O	|	|	|	|	1.32
86.667	0.00	0.04	0.675	O	|	|	|	|	1.35	91.667	0.00	0.03	0.659	O	|	|	|	|	1.32
86.750	0.00	0.04	0.675	O	|	|	|	|	1.35	91.750	0.00	0.03	0.659	O	|	|	|	|	1.32
86.833	0.00	0.04	0.674	O	|	|	|	|	1.34	91.833	0.00	0.03	0.658	O	|	|	|	|	1.32
86.917	0.00	0.04	0.674	O	|	|	|	|	1.34	91.917	0.00	0.03	0.658	O	|	|	|	|	1.32
87.000	0.00	0.04	0.674	O	|	|	|	|	1.34	92.000	0.00	0.03	0.658	O	|	|	|	|	1.32
87.083	0.00	0.04	0.674	O	|	|	|	|	1.34	92.083	0.00	0.03	0.658	O	|	|	|	|	1.32
87.167	0.00	0.04	0.673	O	|	|	|	|	1.34	92.167	0.00	0.03	0.657	O	|	|	|	|	1.32
87.250	0.00	0.04	0.673	O	|	|	|	|	1.34	92.250	0.00	0.03	0.657	O	|	|	|	|	1.31
87.333	0.00	0.04	0.673	O	|	|	|	|	1.34	92.333	0.00	0.03	0.657	O	|	|	|	|	1.31
87.417	0.00	0.04	0.672	O	|	|	|	|	1.34	92.417	0.00	0.03	0.657	O	|	|	|	|	1.31
87.500	0.00	0.04	0.672	O	|	|	|	|	1.34	92.500	0.00	0.03	0.657	O	|	|	|	|	1.31
87.583	0.00	0.04	0.672	O	|	|	|	|	1.34	92.583	0.00	0.03	0.656	O	|	|	|	|	1.31
87.667	0.00	0.04	0.671	O	|	|	|	|	1.34	92.667	0.00	0.03	0.656	O	|	|	|	|	1.31
87.750	0.00	0.04	0.671	O	|	|	|	|	1.34	92.750	0.00	0.03	0.656	O	|	|	|	|	1.31
87.833	0.00	0.04	0.671	O	|	|	|	|	1.34	92.833	0.00	0.03	0.656	O	|	|	|	|	1.31
87.917	0.00	0.04	0.671	O	|	|	|	|	1.34	92.917	0.00	0.03	0.655	O	|	|	|	|	1.31
88.000	0.00	0.04	0.670	O	|	|	|	|	1.34	93.000	0.00	0.03	0.655	O	|	|	|	|	1.31
88.083	0.00	0.04	0.670	O	|	|	|	|	1.34	93.083	0.00	0.03	0.655	O	|	|	|	|	1.31
88.167	0.00	0.04	0.670	O	|	|	|	|	1.34	93.167	0.00	0.03	0.655	O	|	|	|	|	1.31
88.250	0.00	0.04	0.669	O	|	|	|	|	1.34	93.250	0.00	0.03	0.655	O	|	|	|	|	1.31
88.333	0.00	0.04	0.669	O	|	|	|	|	1.34	93.333	0.00	0.03	0.654	O	|	|	|	|	1.31
88.417	0.00	0.04	0.669	O	|	|	|	|	1.34	93.417	0.00	0.03	0.654	O	|	|	|	|	1.31
88.500	0.00	0.04	0.669	O	|	|	|	|	1.33	93.500	0.00	0.03	0.654	O	|	|	|	|	1.31
88.583	0.00	0.04	0.668	O	|	|	|	|	1.33	93.583	0.00	0.03	0.654	O	|	|	|	|	1.31
88.667	0.00	0.04	0.668	O	|	|	|	|	1.33	93.667	0.00	0.03	0.653	O	|	|	|	|	1.31
88.750	0.00	0.04	0.668	O	|	|	|	|	1.33	93.750	0.00	0.03	0.653	O	|	|	|	|	1.31
88.833	0.00	0.04	0.668	O	|	|	|	|	1.33	93.833	0.00	0.03	0.653	O	|	|	|	|	1.31

Left Blank Intentionally

413.917	0.00	0.01	0.417	O	|	|	|	|	0.84
414.000	0.00	0.01	0.416	O	|	|	|	|	0.84
414.083	0.00	0.01	0.416	O	|	|	|	|	0.84
414.167	0.00	0.01	0.416	O	|	|	|	|	0.84
414.250	0.00	0.01	0.416	O	|	|	|	|	0.84
414.333	0.00	0.01	0.416	O	|	|	|	|	0.84
414.417	0.00	0.01	0.416	O	|	|	|	|	0.84
414.500	0.00	0.01	0.416	O	|	|	|	|	0.84
414.583	0.00	0.01	0.416	O	|	|	|	|	0.84
414.667	0.00	0.01	0.416	O	|	|	|	|	0.84
414.750	0.00	0.01	0.416	O	|	|	|	|	0.84
414.833	0.00	0.01	0.416	O	|	|	|	|	0.84
414.917	0.00	0.01	0.416	O	|	|	|	|	0.84
415.000	0.00	0.01	0.416	O	|	|	|	|	0.84
415.083	0.00	0.01	0.416	O	|	|	|	|	0.84
415.167	0.00	0.01	0.416	O	|	|	|	|	0.84
415.250	0.00	0.01	0.416	O	|	|	|	|	0.84
415.333	0.00	0.01	0.416	O	|	|	|	|	0.84
415.417	0.00	0.01	0.416	O	|	|	|	|	0.84
415.500	0.00	0.01	0.416	O	|	|	|	|	0.84
415.583	0.00	0.01	0.416	O	|	|	|	|	0.84
415.667	0.00	0.01	0.416	O	|	|	|	|	0.84
415.750	0.00	0.01	0.415	O	|	|	|	|	0.84
415.833	0.00	0.01	0.415	O	|	|	|	|	0.84
415.917	0.00	0.01	0.415	O	|	|	|	|	0.84
416.000	0.00	0.01	0.415	O	|	|	|	|	0.84
416.083	0.00	0.01	0.415	O	|	|	|	|	0.84
416.167	0.00	0.01	0.415	O	|	|	|	|	0.84
416.250	0.00	0.01	0.415	O	|	|	|	|	0.84
416.333	0.00	0.01	0.415	O	|	|	|	|	0.84
416.417	0.00	0.01	0.415	O	|	|	|	|	0.84
416.500	0.00	0.01	0.415	O	|	|	|	|	0.84
416.583	0.00	0.01	0.415	O	|	|	|	|	0.84
416.667	0.00	0.01	0.415	O	|	|	|	|	0.84

Remaining water in basin = 0.41 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.195 (CFS)
Total volume = 2.975 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
                     Study date: 04/04/18

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TR 37036, PARCEL 1
BASIN M
100Y 24H STORM

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Program License Serial Number 6406

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******************** HYDROGRAPH INFORMATION **********************

                From study/file name: MCMHYDPR24100.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =   292
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       17.393 (CFS)
                Total volume =       8.765 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 292
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
------------------------------------------------------------------------
------------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
------------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  1.250      0.620      0.010      0.620        0.620
  2.000      1.050      0.280      1.049        1.051
  3.000      1.660      0.450      1.658        1.662
  4.000      2.330      0.790      2.327        2.333
  5.000      3.070      1.130      3.066        3.074
  5.250      3.270      1.210      3.266        3.274
  6.000      3.880     19.610      3.812        3.948
  7.000      4.760     66.460      4.531        4.989
  8.000      5.720    129.520      5.274        6.166
------------------------------------------------------------------------
                   Hydrograph Detention Basin Routing
------------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
------------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                    Depth
(Hours) (CFS)   (CFS)     (Ac.Ft) .0       4.3    8.70   13.04   17.39 (Ft.)
 0.083    0.33    0.00      0.001  O       |      |      |       |      0.00
 0.167    0.68    0.00      0.005  OI      |      |      |       |      0.01
 0.250    0.75    0.00      0.010  OI      |      |      |       |      0.02
 0.333    0.95    0.00      0.015  OI      |      |      |       |      0.03
 0.417    1.13    0.00      0.023  O I     |      |      |       |      0.05
 0.500    1.17    0.00      0.030  O I     |      |      |       |      0.06
 0.583    1.18    0.00      0.039  O I     |      |      |       |      0.08
 0.667    1.19    0.00      0.047  O I     |      |      |       |      0.09
 0.750    1.19    0.00      0.055  O I     |      |      |       |      0.11
 0.833    1.35    0.00      0.064  O I     |      |      |       |      0.13
 0.917    1.53    0.00      0.074  O I     |      |      |       |      0.15
 1.000    1.57    0.00      0.084  O I     |      |      |       |      0.17
 1.083    1.42    0.00      0.095  O I     |      |      |       |      0.19
 1.167    1.25    0.00      0.104  O I     |      |      |       |      0.21
 1.250    1.21    0.00      0.112  O I     |      |      |       |      0.23
 1.333    1.20    0.00      0.120  O I     |      |      |       |      0.24
 1.417    1.19    0.00      0.129  O I     |      |      |       |      0.26
 1.500    1.19    0.00      0.137  O I     |      |      |       |      0.28
 1.583    1.19    0.00      0.145  O I     |      |      |       |      0.29
 1.667    1.19    0.00      0.153  O I     |      |      |       |      0.31
 1.750    1.19    0.00      0.161  O I     |      |      |       |      0.33
 1.833    1.35    0.00      0.170  O I     |      |      |       |      0.34
 1.917    1.53    0.00      0.180  O I     |      |      |       |      0.36
 2.000    1.57    0.00      0.191  O I     |      |      |       |      0.38
 2.083    1.58    0.00      0.201  O I     |      |      |       |      0.41
 2.167    1.59    0.00      0.212  O I     |      |      |       |      0.43
 2.250    1.59    0.00      0.223  O I     |      |      |       |      0.45
 2.333    1.59    0.00      0.234  O I     |      |      |       |      0.47
 2.417    1.59    0.00      0.245  O I     |      |      |       |      0.49
 2.500    1.59    0.00      0.256  O I     |      |      |       |      0.52
 2.583    1.75    0.00      0.267  O  I    |      |      |       |      0.54
 2.667    1.93    0.00      0.280  O  I    |      |      |       |      0.56
 2.750    1.96    0.00      0.293  O  I    |      |      |       |      0.59
 2.833    1.98    0.00      0.307  O  I    |      |      |       |      0.62
 2.917    1.98    0.01      0.321  O  I    |      |      |       |      0.65
 3.000    1.98    0.01      0.334  O  I    |      |      |       |      0.67
 3.083    1.98    0.01      0.348  O  I    |      |      |       |      0.70
 3.167    1.98    0.01      0.361  O  I    |      |      |       |      0.73
 3.250    1.98    0.01      0.375  O  I    |      |      |       |      0.76
 3.333    1.98    0.01      0.389  O  I    |      |      |       |      0.78
 3.417    1.98    0.01      0.402  O  I    |      |      |       |      0.81
 3.500    1.98    0.01      0.416  O  I    |      |      |       |      0.84
 3.583    1.98    0.01      0.430  O  I    |      |      |       |      0.87
 3.667    1.98    0.01      0.443  O  I    |      |      |       |      0.89
 3.750    1.98    0.01      0.457  O  I    |      |      |       |      0.92
 3.833    2.15    0.01      0.471  O  I    |      |      |       |      0.95
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3.917	2.32	0.01	0.486	O	I	|	|	|	|	0.98	8.917	6.69	0.61	1.983	|O	|	I	|	|	|	3.48
4.000	2.36	0.01	0.502	O	I	|	|	|	|	1.01	9.000	6.72	0.64	2.025	|O	|	I	|	|	|	3.54
4.083	2.37	0.01	0.519	O	I	|	|	|	|	1.05	9.083	7.07	0.66	2.068	|O	|	I	|	|	|	3.61
4.167	2.38	0.01	0.535	O	I	|	|	|	|	1.08	9.167	7.42	0.68	2.113	|O	|	I	|	|	|	3.68
4.250	2.38	0.01	0.551	O	I	|	|	|	|	1.11	9.250	7.50	0.70	2.160	|O	|	I	|	|	|	3.75
4.333	2.54	0.01	0.568	O	I	|	|	|	|	1.15	9.333	7.69	0.73	2.207	|O	|	I	|	|	|	3.82
4.417	2.72	0.01	0.586	O	I	|	|	|	|	1.18	9.417	7.88	0.75	2.256	|O	|	I	|	|	|	3.89
4.500	2.76	0.01	0.605	O	I	|	|	|	|	1.22	9.500	7.91	0.78	2.305	|O	|	I	|	|	|	3.96
4.583	2.77	0.01	0.624	O	I	|	|	|	|	1.26	9.583	8.09	0.80	2.354	|O	|	I	|	|	|	4.03
4.667	2.78	0.02	0.643	O	I	|	|	|	|	1.29	9.667	8.27	0.82	2.405	|O	|	I|	|	|	4.10
4.750	2.78	0.04	0.662	O	I	|	|	|	|	1.32	9.750	8.31	0.85	2.456	|O	|	I|	|	|	4.17
4.833	2.94	0.05	0.681	O	I	|	|	|	|	1.36	9.833	8.49	0.87	2.508	|O	|	I|	|	|	4.24
4.917	3.12	0.06	0.702	O	I	|	|	|	|	1.39	9.917	8.67	0.90	2.561	|O	|	I|	|	|	4.31
5.000	3.15	0.07	0.723	O	I	|	|	|	|	1.43	10.000	8.71	0.92	2.615	|O	|	I	|	|	4.39
5.083	2.84	0.09	0.743	O	I	|	|	|	|	1.46	10.083	7.57	0.94	2.665	|O	|	I	|	|	4.45
5.167	2.49	0.10	0.761	O	I	|	|	|	|	1.50	10.167	6.35	0.96	2.706	|O	| I	|	|	|	4.51
5.250	2.42	0.11	0.777	O	I	|	|	|	|	1.52	10.250	6.09	0.98	2.742	|O	| I	|	|	|	4.56
5.333	2.56	0.12	0.793	O	I	|	|	|	|	1.55	10.333	5.99	1.00	2.777	|O	| I	|	|	|	4.60
5.417	2.72	0.13	0.811	O	I	|	|	|	|	1.58	10.417	5.95	1.01	2.811	|O	| I	|	|	|	4.65
5.500	2.76	0.14	0.828	O	I	|	|	|	|	1.61	10.500	5.95	1.03	2.845	|O	| I	|	|	|	4.70
5.583	2.94	0.15	0.847	O	I	|	|	|	|	1.65	10.583	6.77	1.04	2.882	|O	| I	|	|	|	4.75
5.667	3.12	0.16	0.867	O	I	|	|	|	|	1.68	10.667	7.65	1.06	2.924	|O	| I	|	|	|	4.80
5.750	3.15	0.18	0.887	O	I	|	|	|	|	1.72	10.750	7.83	1.08	2.970	|O	| I	|	|	|	4.87
5.833	3.17	0.19	0.908	O	I	|	|	|	|	1.75	10.833	7.91	1.11	3.017	| O	| I	|	|	|	4.93
5.917	3.17	0.20	0.928	O	I	|	|	|	|	1.79	10.917	7.93	1.13	3.064	| O	| I	|	|	|	4.99
6.000	3.17	0.22	0.949	O	I	|	|	|	|	1.82	11.000	7.93	1.15	3.111	| O	| I	|	|	|	5.05
6.083	3.34	0.23	0.970	O	I	|	|	|	|	1.86	11.083	7.77	1.16	3.157	| O	| I	|	|	|	5.11
6.167	3.51	0.24	0.991	O	I	|	|	|	|	1.90	11.167	7.60	1.18	3.201	| O	| I	|	|	|	5.16
6.250	3.55	0.26	1.014	O	I	|	|	|	|	1.94	11.250	7.56	1.20	3.245	| O	| I	|	|	|	5.22
6.333	3.56	0.27	1.037	O	I	|	|	|	|	1.98	11.333	7.54	1.73	3.287	| O	| I	|	|	|	5.27
6.417	3.57	0.28	1.059	O	I	|	|	|	|	2.02	11.417	7.54	2.83	3.324	| O	| I	|	|	|	5.32
6.500	3.57	0.29	1.082	O	I	|	|	|	|	2.05	11.500	7.54	3.71	3.353	| O	| I	|	|	|	5.35
6.583	3.73	0.30	1.105	O	I	|	|	|	|	2.09	11.583	7.21	4.40	3.376	| O	| I	|	|	|	5.38
6.667	3.91	0.30	1.129	O	I|	|	|	|	|	2.13	11.667	6.86	4.90	3.392	|	|O I	|	|	|	5.40
6.750	3.95	0.31	1.154	O	I|	|	|	|	|	2.17	11.750	6.79	5.26	3.404	|	|O I	|	|	|	5.42
6.833	3.96	0.32	1.179	O	I|	|	|	|	|	2.21	11.833	6.92	5.56	3.414	|	| O I	|	|	|	5.43
6.917	3.97	0.32	1.205	O	I|	|	|	|	|	2.25	11.917	7.08	5.83	3.423	|	| O I	|	|	|	5.44
7.000	3.97	0.33	1.230	O	I|	|	|	|	|	2.29	12.000	7.12	6.07	3.431	|	| O I	|	|	|	5.45
7.083	3.97	0.34	1.255	O	I|	|	|	|	|	2.34	12.083	8.62	6.41	3.442	|	| O I|	|	|	|	5.46
7.167	3.97	0.34	1.280	O	I|	|	|	|	|	2.38	12.167	10.23	6.98	3.461	|	| O | I	|	|	|	5.49
7.250	3.97	0.35	1.305	O	I|	|	|	|	|	2.42	12.250	10.59	7.62	3.483	|	| O | I	|	|	|	5.51
7.333	4.13	0.36	1.330	O	I|	|	|	|	|	2.46	12.333	11.04	8.22	3.503	|	| O| I	|	|	|	5.54
7.417	4.31	0.37	1.357	O	I|	|	|	|	|	2.50	12.417	11.42	8.79	3.521	|	| O I	|	|	|	5.56
7.500	4.34	0.37	1.384	O	I|	|	|	|	|	2.55	12.500	11.52	9.29	3.538	|	| |O I	|	|	|	5.58
7.583	4.52	0.38	1.412	O	I	|	|	|	|	2.59	12.583	12.14	9.77	3.554	|	| |O I	|	|	|	5.60
7.667	4.70	0.39	1.441	O	I	|	|	|	|	2.64	12.667	12.79	10.28	3.571	|	| | O I|	|	|	5.62
7.750	4.74	0.40	1.471	O	I	|	|	|	|	2.69	12.750	12.94	10.76	3.587	|	| | O I|	|	|	5.64
7.833	4.92	0.41	1.501	O	|I	|	|	|	|	2.74	12.833	13.31	11.21	3.601	|	| | O I	|	|	5.66
7.917	5.10	0.41	1.533	O	|I	|	|	|	|	2.79	12.917	13.66	11.64	3.616	|	| | O |I	|	|	5.68
8.000	5.14	0.42	1.565	O	|I	|	|	|	|	2.84	13.000	13.76	12.03	3.629	|	| | O |I	|	|	5.69
8.083	5.48	0.43	1.599	O	| I	|	|	|	|	2.90	13.083	15.23	12.49	3.644	|	| | O | I	|	|	5.71
8.167	5.84	0.44	1.635	O	| I	|	|	|	|	2.96	13.167	16.78	13.15	3.666	|	| | O I	|	|	5.74
8.250	5.91	0.46	1.672	O	| I	|	|	|	|	3.02	13.250	17.13	13.87	3.690	|	| | |O I|	|	5.77
8.333	5.94	0.48	1.710	O	| I	|	|	|	|	3.07	13.333	17.28	14.50	3.710	|	| | | O I|	|	5.79
8.417	5.95	0.49	1.747	O	| I	|	|	|	|	3.13	13.417	17.36	15.03	3.728	|	| | | O I|	|	5.81
8.500	5.95	0.51	1.785	O	| I	|	|	|	|	3.19	13.500	17.39	15.47	3.743	|	| | | O I	|	5.83
8.583	6.12	0.53	1.823	O	| I	|	|	|	|	3.24	13.583	14.31	15.54	3.745	|	| | | I O	|	5.83
8.667	6.29	0.55	1.862	|O	| I	|	|	|	|	3.30	13.667	11.01	15.00	3.727	|	| | I	| O	|	5.81
8.750	6.33	0.57	1.901	|O	| I	|	|	|	|	3.36	13.750	10.35	14.19	3.700	|	| | I	| O	|	5.78
8.833	6.51	0.59	1.942	|O	| I	|	|	|	|	3.42	13.833	10.10	13.44	3.675	|	| | I	O |	|	5.75

13.917	10.02	12.80	3.654	|	|	| I O|	|	5.72
14.000	10.05	12.28	3.637	|	|	| I O |	|	5.70
14.083	11.21	11.97	3.627	|	|	| I O |	|	5.69
14.167	12.44	11.94	3.626	|	|	| OI |	|	5.69
14.250	12.73	12.06	3.630	|	|	| OI|	|	5.69
14.333	12.57	12.17	3.633	|	|	| OI|	|	5.70
14.417	12.34	12.23	3.635	|	|	| O |	|	5.70
14.500	12.31	12.25	3.636	|	|	| O |	|	5.70
14.583	12.31	12.26	3.636	|	|	| O |	|	5.70
14.667	12.33	12.27	3.637	|	|	| O |	|	5.70
14.750	12.35	12.28	3.637	|	|	| O |	|	5.70
14.833	12.10	12.27	3.637	|	|	| O |	|	5.70
14.917	11.82	12.21	3.635	|	|	| IO |	|	5.70
15.000	11.79	12.14	3.632	|	|	| IO |	|	5.70
15.083	11.51	12.04	3.629	|	|	| IO |	|	5.69
15.167	11.22	11.92	3.625	|	|	| IO |	|	5.69
15.250	11.19	11.78	3.621	|	|	| IO |	|	5.68
15.333	10.90	11.64	3.616	|	|	| IO |	|	5.68
15.417	10.62	11.48	3.610	|	|	| I O |	|	5.67
15.500	10.58	11.31	3.605	|	|	| IO |	|	5.66
15.583	9.45	11.07	3.597	|	|	|I O |	|	5.65
15.667	8.26	10.65	3.583	|	|	I| O |	|	5.63
15.750	8.03	10.18	3.567	|	|	I | O |	|	5.62
15.833	7.96	9.77	3.554	|	|	I |O |	|	5.60
15.917	7.94	9.43	3.542	|	|	I |O |	|	5.58
16.000	7.97	9.15	3.533	|	|	I O |	|	5.57
16.083	5.33	8.68	3.518	|	|I	O|	|	5.55
16.167	2.51	7.78	3.488	| I |	|	O |	|	5.52
16.250	1.92	6.74	3.453	| I |	| O |	|	5.48
16.333	1.68	5.81	3.422	| I |	| O |	|	5.44
16.417	1.59	5.02	3.396	| I |	|O |	|	5.41
16.500	1.59	4.38	3.375	| I |	O |	|	5.38
16.583	1.42	3.83	3.357	| I |	O|	|	5.36
16.667	1.25	3.36	3.341	| I |	O |	|	5.34
16.750	1.21	2.96	3.328	| I |	O |	|	5.32
16.833	1.20	2.63	3.317	| I O |	|	|	5.31
16.917	1.19	2.36	3.308	| I O |	|	|	5.30
17.000	1.19	2.14	3.301	| IO |	|	|	5.29
17.083	1.52	1.99	3.296	| IO |	|	|	5.28
17.167	1.87	1.94	3.294	| O |	|	|	5.28
17.250	1.94	1.93	3.294	| O |	|	|	5.28
17.333	1.97	1.94	3.294	| O |	|	|	5.28
17.417	1.98	1.94	3.294	| O |	|	|	5.28
17.500	1.98	1.95	3.295	| O |	|	|	5.28
17.583	1.98	1.96	3.295	| O |	|	|	5.28
17.667	1.98	1.96	3.295	| O |	|	|	5.28
17.750	1.98	1.97	3.295	| O |	|	|	5.28
17.833	1.82	1.95	3.295	| O |	|	|	5.28
17.917	1.64	1.91	3.293	| O |	|	|	5.28
18.000	1.61	1.86	3.291	| IO |	|	|	5.28
18.083	1.59	1.81	3.290	| IO |	|	|	5.27
18.167	1.59	1.77	3.289	| IO |	|	|	5.27
18.250	1.59	1.73	3.287	| IO |	|	|	5.27
18.333	1.59	1.71	3.286	| IO |	|	|	5.27
18.417	1.59	1.68	3.286	| IO |	|	|	5.27
18.500	1.59	1.67	3.285	| IO |	|	|	5.27
18.583	1.42	1.64	3.284	| IO |	|	|	5.27
18.667	1.25	1.58	3.282	| O |	|	|	5.27
18.750	1.21	1.51	3.280	| O |	|	|	5.26
18.833	1.03	1.44	3.278	|IO |	|	|	5.26
18.917	0.85	1.35	3.274	|IO |	|	|	5.26
19.000	0.81	1.25	3.271	|IO |	|	|	5.25
19.083	0.96	1.21	3.269	|IO |	|	|	5.25
19.167	1.13	1.21	3.268	| O |	|	|	5.25
19.250	1.17	1.21	3.267	| O |	|	|	5.25
19.333	1.35	1.21	3.268	| O |	|	|	5.25
19.417	1.53	1.21	3.269	| O |	|	|	5.25
19.500	1.57	1.26	3.272	| O |	|	|	5.25
19.583	1.42	1.30	3.273	| O |	|	|	5.25
19.667	1.25	1.31	3.273	| O |	|	|	5.25
19.750	1.21	1.29	3.273	| O |	|	|	5.25
19.833	1.03	1.26	3.272	|IO |	|	|	5.25
19.917	0.85	1.21	3.270	|IO |	|	|	5.25
20.000	0.81	1.21	3.267	|IO |	|	|	5.25
20.083	0.96	1.21	3.265	|IO |	|	|	5.24
20.167	1.13	1.21	3.264	| O |	|	|	5.24
20.250	1.17	1.21	3.263	| O |	|	|	5.24
20.333	1.18	1.21	3.263	| O |	|	|	5.24
20.417	1.19	1.21	3.263	| O |	|	|	5.24
20.500	1.19	1.21	3.263	| O |	|	|	5.24
20.583	1.19	1.21	3.263	| O |	|	|	5.24
20.667	1.19	1.21	3.263	| O |	|	|	5.24
20.750	1.19	1.21	3.263	| O |	|	|	5.24
20.833	1.03	1.21	3.262	|IO |	|	|	5.24
20.917	0.85	1.21	3.260	|IO |	|	|	5.24
21.000	0.81	1.20	3.257	|IO |	|	|	5.23
21.083	0.96	1.20	3.255	|IO |	|	|	5.23
21.167	1.13	1.20	3.254	| O |	|	|	5.23
21.250	1.17	1.20	3.254	| O |	|	|	5.23
21.333	1.02	1.20	3.253	|IO |	|	|	5.23
21.417	0.85	1.20	3.251	|IO |	|	|	5.23
21.500	0.81	1.20	3.249	|IO |	|	|	5.22
21.583	0.96	1.20	3.247	|IO |	|	|	5.22
21.667	1.13	1.20	3.246	| O |	|	|	5.22
21.750	1.17	1.20	3.245	| O |	|	|	5.22
21.833	1.02	1.20	3.244	|IO |	|	|	5.22
21.917	0.85	1.20	3.243	|IO |	|	|	5.22
22.000	0.81	1.20	3.240	|IO |	|	|	5.21
22.083	0.96	1.20	3.238	|IO |	|	|	5.21
22.167	1.13	1.20	3.237	| O |	|	|	5.21
22.250	1.17	1.20	3.237	| O |	|	|	5.21
22.333	1.02	1.20	3.236	|IO |	|	|	5.21
22.417	0.85	1.20	3.234	|IO |	|	|	5.21
22.500	0.81	1.19	3.232	|IO |	|	|	5.20
22.583	0.80	1.19	3.229	|IO |	|	|	5.20
22.667	0.79	1.19	3.226	|IO |	|	|	5.20
22.750	0.79	1.19	3.223	|IO |	|	|	5.19
22.833	0.79	1.19	3.221	|IO |	|	|	5.19
22.917	0.79	1.19	3.218	|IO |	|	|	5.19
23.000	0.79	1.19	3.215	|IO |	|	|	5.18
23.083	0.79	1.19	3.213	|IO |	|	|	5.18
23.167	0.79	1.19	3.210	|IO |	|	|	5.17
23.250	0.79	1.18	3.207	|IO |	|	|	5.17
23.333	0.79	1.18	3.204	|IO |	|	|	5.17
23.417	0.79	1.18	3.202	|IO |	|	|	5.16
23.500	0.79	1.18	3.199	|IO |	|	|	5.16
23.583	0.79	1.18	3.196	|IO |	|	|	5.16
23.667	0.79	1.18	3.194	|IO |	|	|	5.15
23.750	0.79	1.18	3.191	|IO |	|	|	5.15
23.833	0.79	1.18	3.189	|IO |	|	|	5.15

23.917	0.79	1.18	3.186	|IO	|	|	|	|	5.14	28.917	0.00	0.98	2.751	IO	|	|	|	|	4.57
24.000	0.79	1.18	3.183	|IO	|	|	|	|	5.14	29.000	0.00	0.98	2.745	IO	|	|	|	|	4.56
24.083	0.46	1.17	3.179	I O	|	|	|	|	5.14	29.083	0.00	0.98	2.738	IO	|	|	|	|	4.55
24.167	0.11	1.17	3.173	I O	|	|	|	|	5.13	29.167	0.00	0.97	2.731	IO	|	|	|	|	4.54
24.250	0.04	1.17	3.166	I O	|	|	|	|	5.12	29.250	0.00	0.97	2.724	IO	|	|	|	|	4.53
24.333	0.01	1.17	3.158	I O	|	|	|	|	5.11	29.333	0.00	0.97	2.718	IO	|	|	|	|	4.52
24.417	0.00	1.16	3.150	I O	|	|	|	|	5.10	29.417	0.00	0.97	2.711	IO	|	|	|	|	4.51
24.500	0.00	1.16	3.142	I O	|	|	|	|	5.09	29.500	0.00	0.96	2.704	IO	|	|	|	|	4.51
24.583	0.00	1.16	3.134	I O	|	|	|	|	5.08	29.583	0.00	0.96	2.698	IO	|	|	|	|	4.50
24.667	0.00	1.15	3.126	I O	|	|	|	|	5.07	29.667	0.00	0.96	2.691	IO	|	|	|	|	4.49
24.750	0.00	1.15	3.118	I O	|	|	|	|	5.06	29.750	0.00	0.95	2.685	IO	|	|	|	|	4.48
24.833	0.00	1.15	3.110	I O	|	|	|	|	5.05	29.833	0.00	0.95	2.678	IO	|	|	|	|	4.47
24.917	0.00	1.14	3.102	I O	|	|	|	|	5.04	29.917	0.00	0.95	2.672	IO	|	|	|	|	4.46
25.000	0.00	1.14	3.095	I O	|	|	|	|	5.03	30.000	0.00	0.94	2.665	IO	|	|	|	|	4.45
25.083	0.00	1.14	3.087	I O	|	|	|	|	5.02	30.083	0.00	0.94	2.659	IO	|	|	|	|	4.44
25.167	0.00	1.13	3.079	I O	|	|	|	|	5.01	30.167	0.00	0.94	2.652	IO	|	|	|	|	4.44
25.250	0.00	1.13	3.071	I O	|	|	|	|	5.00	30.250	0.00	0.94	2.646	IO	|	|	|	|	4.43
25.333	0.00	1.13	3.063	I O	|	|	|	|	4.99	30.333	0.00	0.93	2.639	IO	|	|	|	|	4.42
25.417	0.00	1.12	3.056	I O	|	|	|	|	4.98	30.417	0.00	0.93	2.633	IO	|	|	|	|	4.41
25.500	0.00	1.12	3.048	I O	|	|	|	|	4.97	30.500	0.00	0.93	2.626	IO	|	|	|	|	4.40
25.583	0.00	1.12	3.040	I O	|	|	|	|	4.96	30.583	0.00	0.92	2.620	IO	|	|	|	|	4.39
25.667	0.00	1.11	3.032	I O	|	|	|	|	4.95	30.667	0.00	0.92	2.614	IO	|	|	|	|	4.38
25.750	0.00	1.11	3.025	I O	|	|	|	|	4.94	30.750	0.00	0.92	2.607	IO	|	|	|	|	4.37
25.833	0.00	1.11	3.017	I O	|	|	|	|	4.93	30.833	0.00	0.91	2.601	IO	|	|	|	|	4.37
25.917	0.00	1.10	3.010	I O	|	|	|	|	4.92	30.917	0.00	0.91	2.595	IO	|	|	|	|	4.36
26.000	0.00	1.10	3.002	I O	|	|	|	|	4.91	31.000	0.00	0.91	2.588	IO	|	|	|	|	4.35
26.083	0.00	1.10	2.994	I O	|	|	|	|	4.90	31.083	0.00	0.91	2.582	IO	|	|	|	|	4.34
26.167	0.00	1.09	2.987	I O	|	|	|	|	4.89	31.167	0.00	0.90	2.576	IO	|	|	|	|	4.33
26.250	0.00	1.09	2.979	I O	|	|	|	|	4.88	31.250	0.00	0.90	2.570	IO	|	|	|	|	4.32
26.333	0.00	1.08	2.972	IO	|	|	|	|	4.87	31.333	0.00	0.90	2.564	IO	|	|	|	|	4.32
26.417	0.00	1.08	2.964	IO	|	|	|	|	4.86	31.417	0.00	0.89	2.557	IO	|	|	|	|	4.31
26.500	0.00	1.08	2.957	IO	|	|	|	|	4.85	31.500	0.00	0.89	2.551	IO	|	|	|	|	4.30
26.583	0.00	1.07	2.950	IO	|	|	|	|	4.84	31.583	0.00	0.89	2.545	IO	|	|	|	|	4.29
26.667	0.00	1.07	2.942	IO	|	|	|	|	4.83	31.667	0.00	0.89	2.539	IO	|	|	|	|	4.28
26.750	0.00	1.07	2.935	IO	|	|	|	|	4.82	31.750	0.00	0.88	2.533	IO	|	|	|	|	4.27
26.833	0.00	1.06	2.928	IO	|	|	|	|	4.81	31.833	0.00	0.88	2.527	IO	|	|	|	|	4.27
26.917	0.00	1.06	2.920	IO	|	|	|	|	4.80	31.917	0.00	0.88	2.521	IO	|	|	|	|	4.26
27.000	0.00	1.06	2.913	IO	|	|	|	|	4.79	32.000	0.00	0.87	2.515	IO	|	|	|	|	4.25
27.083	0.00	1.05	2.906	IO	|	|	|	|	4.78	32.083	0.00	0.87	2.509	IO	|	|	|	|	4.24
27.167	0.00	1.05	2.898	IO	|	|	|	|	4.77	32.167	0.00	0.87	2.503	IO	|	|	|	|	4.23
27.250	0.00	1.05	2.891	IO	|	|	|	|	4.76	32.250	0.00	0.87	2.497	IO	|	|	|	|	4.23
27.333	0.00	1.04	2.884	IO	|	|	|	|	4.75	32.333	0.00	0.86	2.491	IO	|	|	|	|	4.22
27.417	0.00	1.04	2.877	IO	|	|	|	|	4.74	32.417	0.00	0.86	2.485	IO	|	|	|	|	4.21
27.500	0.00	1.04	2.870	IO	|	|	|	|	4.73	32.500	0.00	0.86	2.479	IO	|	|	|	|	4.20
27.583	0.00	1.03	2.862	IO	|	|	|	|	4.72	32.583	0.00	0.86	2.473	IO	|	|	|	|	4.19
27.667	0.00	1.03	2.855	IO	|	|	|	|	4.71	32.667	0.00	0.85	2.467	IO	|	|	|	|	4.19
27.750	0.00	1.03	2.848	IO	|	|	|	|	4.70	32.750	0.00	0.85	2.461	IO	|	|	|	|	4.18
27.833	0.00	1.02	2.841	IO	|	|	|	|	4.69	32.833	0.00	0.85	2.455	IO	|	|	|	|	4.17
27.917	0.00	1.02	2.834	IO	|	|	|	|	4.68	32.917	0.00	0.84	2.450	IO	|	|	|	|	4.16
28.000	0.00	1.02	2.827	IO	|	|	|	|	4.67	33.000	0.00	0.84	2.444	IO	|	|	|	|	4.15
28.083	0.00	1.02	2.820	IO	|	|	|	|	4.66	33.083	0.00	0.84	2.438	IO	|	|	|	|	4.15
28.167	0.00	1.01	2.813	IO	|	|	|	|	4.65	33.167	0.00	0.84	2.432	IO	|	|	|	|	4.14
28.250	0.00	1.01	2.806	IO	|	|	|	|	4.64	33.250	0.00	0.83	2.427	IO	|	|	|	|	4.13
28.333	0.00	1.01	2.799	IO	|	|	|	|	4.63	33.333	0.00	0.83	2.421	IO	|	|	|	|	4.12
28.417	0.00	1.00	2.792	IO	|	|	|	|	4.62	33.417	0.00	0.83	2.415	IO	|	|	|	|	4.11
28.500	0.00	1.00	2.785	IO	|	|	|	|	4.62	33.500	0.00	0.83	2.409	IO	|	|	|	|	4.11
28.583	0.00	1.00	2.779	IO	|	|	|	|	4.61	33.583	0.00	0.82	2.404	IO	|	|	|	|	4.10
28.667	0.00	0.99	2.772	IO	|	|	|	|	4.60	33.667	0.00	0.82	2.398	IO	|	|	|	|	4.09
28.750	0.00	0.99	2.765	IO	|	|	|	|	4.59	33.750	0.00	0.82	2.392	IO	|	|	|	|	4.08
28.833	0.00	0.99	2.758	IO	|	|	|	|	4.58	33.833	0.00	0.82	2.387	IO	|	|	|	|	4.08

33.917	0.00	0.81	2.381	IO	|	|	|	|	4.07	38.917	0.00	0.66	2.077	IO	|	|	|	|	3.62
34.000	0.00	0.81	2.376	IO	|	|	|	|	4.06	39.000	0.00	0.66	2.072	IO	|	|	|	|	3.62
34.083	0.00	0.81	2.370	IO	|	|	|	|	4.05	39.083	0.00	0.66	2.068	IO	|	|	|	|	3.61
34.167	0.00	0.81	2.364	IO	|	|	|	|	4.05	39.167	0.00	0.65	2.063	IO	|	|	|	|	3.60
34.250	0.00	0.80	2.359	IO	|	|	|	|	4.04	39.250	0.00	0.65	2.059	IO	|	|	|	|	3.60
34.333	0.00	0.80	2.353	IO	|	|	|	|	4.03	39.333	0.00	0.65	2.054	IO	|	|	|	|	3.59
34.417	0.00	0.80	2.348	IO	|	|	|	|	4.02	39.417	0.00	0.65	2.050	IO	|	|	|	|	3.58
34.500	0.00	0.80	2.342	IO	|	|	|	|	4.02	39.500	0.00	0.65	2.046	IO	|	|	|	|	3.58
34.583	0.00	0.79	2.337	IO	|	|	|	|	4.01	39.583	0.00	0.64	2.041	IO	|	|	|	|	3.57
34.667	0.00	0.79	2.331	IO	|	|	|	|	4.00	39.667	0.00	0.64	2.037	IO	|	|	|	|	3.56
34.750	0.00	0.79	2.326	IO	|	|	|	|	3.99	39.750	0.00	0.64	2.032	IO	|	|	|	|	3.56
34.833	0.00	0.79	2.321	IO	|	|	|	|	3.99	39.833	0.00	0.64	2.028	IO	|	|	|	|	3.55
34.917	0.00	0.78	2.315	IO	|	|	|	|	3.98	39.917	0.00	0.63	2.023	IO	|	|	|	|	3.54
35.000	0.00	0.78	2.310	IO	|	|	|	|	3.97	40.000	0.00	0.63	2.019	IO	|	|	|	|	3.54
35.083	0.00	0.78	2.304	IO	|	|	|	|	3.96	40.083	0.00	0.63	2.015	IO	|	|	|	|	3.53
35.167	0.00	0.77	2.299	IO	|	|	|	|	3.95	40.167	0.00	0.63	2.010	IO	|	|	|	|	3.52
35.250	0.00	0.77	2.294	IO	|	|	|	|	3.95	40.250	0.00	0.63	2.006	IO	|	|	|	|	3.52
35.333	0.00	0.77	2.288	IO	|	|	|	|	3.94	40.333	0.00	0.62	2.002	IO	|	|	|	|	3.51
35.417	0.00	0.77	2.283	IO	|	|	|	|	3.93	40.417	0.00	0.62	1.998	IO	|	|	|	|	3.50
35.500	0.00	0.76	2.278	IO	|	|	|	|	3.92	40.500	0.00	0.62	1.993	IO	|	|	|	|	3.50
35.583	0.00	0.76	2.273	IO	|	|	|	|	3.91	40.583	0.00	0.62	1.989	IO	|	|	|	|	3.49
35.667	0.00	0.76	2.267	IO	|	|	|	|	3.91	40.667	0.00	0.61	1.985	IO	|	|	|	|	3.48
35.750	0.00	0.76	2.262	IO	|	|	|	|	3.90	40.750	0.00	0.61	1.981	IO	|	|	|	|	3.48
35.833	0.00	0.75	2.257	IO	|	|	|	|	3.89	40.833	0.00	0.61	1.976	IO	|	|	|	|	3.47
35.917	0.00	0.75	2.252	IO	|	|	|	|	3.88	40.917	0.00	0.61	1.972	IO	|	|	|	|	3.47
36.000	0.00	0.75	2.247	IO	|	|	|	|	3.88	41.000	0.00	0.61	1.968	IO	|	|	|	|	3.46
36.083	0.00	0.75	2.242	IO	|	|	|	|	3.87	41.083	0.00	0.60	1.964	IO	|	|	|	|	3.45
36.167	0.00	0.74	2.236	IO	|	|	|	|	3.86	41.167	0.00	0.60	1.960	IO	|	|	|	|	3.45
36.250	0.00	0.74	2.231	IO	|	|	|	|	3.85	41.250	0.00	0.60	1.955	IO	|	|	|	|	3.44
36.333	0.00	0.74	2.226	IO	|	|	|	|	3.85	41.333	0.00	0.60	1.951	IO	|	|	|	|	3.43
36.417	0.00	0.73	2.221	IO	|	|	|	|	3.84	41.417	0.00	0.60	1.947	IO	|	|	|	|	3.43
36.500	0.00	0.73	2.216	IO	|	|	|	|	3.83	41.500	0.00	0.59	1.943	IO	|	|	|	|	3.42
36.583	0.00	0.73	2.211	IO	|	|	|	|	3.82	41.583	0.00	0.59	1.939	IO	|	|	|	|	3.42
36.667	0.00	0.73	2.206	IO	|	|	|	|	3.81	41.667	0.00	0.59	1.935	IO	|	|	|	|	3.41
36.750	0.00	0.72	2.201	IO	|	|	|	|	3.81	41.750	0.00	0.59	1.931	IO	|	|	|	|	3.40
36.833	0.00	0.72	2.196	IO	|	|	|	|	3.80	41.833	0.00	0.59	1.927	IO	|	|	|	|	3.40
36.917	0.00	0.72	2.191	IO	|	|	|	|	3.79	41.917	0.00	0.58	1.923	IO	|	|	|	|	3.39
37.000	0.00	0.72	2.186	IO	|	|	|	|	3.79	42.000	0.00	0.58	1.919	IO	|	|	|	|	3.39
37.083	0.00	0.71	2.181	IO	|	|	|	|	3.78	42.083	0.00	0.58	1.915	IO	|	|	|	|	3.38
37.167	0.00	0.71	2.176	IO	|	|	|	|	3.77	42.167	0.00	0.58	1.911	IO	|	|	|	|	3.37
37.250	0.00	0.71	2.171	IO	|	|	|	|	3.76	42.250	0.00	0.58	1.907	IO	|	|	|	|	3.37
37.333	0.00	0.71	2.167	IO	|	|	|	|	3.76	42.333	0.00	0.57	1.903	IO	|	|	|	|	3.36
37.417	0.00	0.70	2.162	IO	|	|	|	|	3.75	42.417	0.00	0.57	1.899	IO	|	|	|	|	3.36
37.500	0.00	0.70	2.157	IO	|	|	|	|	3.74	42.500	0.00	0.57	1.895	IO	|	|	|	|	3.35
37.583	0.00	0.70	2.152	IO	|	|	|	|	3.73	42.583	0.00	0.57	1.891	IO	|	|	|	|	3.35
37.667	0.00	0.70	2.147	IO	|	|	|	|	3.73	42.667	0.00	0.57	1.887	IO	|	|	|	|	3.34
37.750	0.00	0.69	2.142	IO	|	|	|	|	3.72	42.750	0.00	0.56	1.883	IO	|	|	|	|	3.33
37.833	0.00	0.69	2.138	IO	|	|	|	|	3.71	42.833	0.00	0.56	1.880	IO	|	|	|	|	3.33
37.917	0.00	0.69	2.133	IO	|	|	|	|	3.71	42.917	0.00	0.56	1.876	IO	|	|	|	|	3.32
38.000	0.00	0.69	2.128	IO	|	|	|	|	3.70	43.000	0.00	0.56	1.872	IO	|	|	|	|	3.32
38.083	0.00	0.69	2.123	IO	|	|	|	|	3.69	43.083	0.00	0.56	1.868	IO	|	|	|	|	3.31
38.167	0.00	0.68	2.119	IO	|	|	|	|	3.68	43.167	0.00	0.55	1.864	IO	|	|	|	|	3.30
38.250	0.00	0.68	2.114	IO	|	|	|	|	3.68	43.250	0.00	0.55	1.860	IO	|	|	|	|	3.30
38.333	0.00	0.68	2.109	IO	|	|	|	|	3.67	43.333	0.00	0.55	1.857	IO	|	|	|	|	3.29
38.417	0.00	0.68	2.105	IO	|	|	|	|	3.66	43.417	0.00	0.55	1.853	IO	|	|	|	|	3.29
38.500	0.00	0.67	2.100	IO	|	|	|	|	3.66	43.500	0.00	0.55	1.849	IO	|	|	|	|	3.28
38.583	0.00	0.67	2.095	IO	|	|	|	|	3.65	43.583	0.00	0.54	1.845	IO	|	|	|	|	3.28
38.667	0.00	0.67	2.091	IO	|	|	|	|	3.64	43.667	0.00	0.54	1.842	O	|	|	|	|	3.27
38.750	0.00	0.67	2.086	IO	|	|	|	|	3.64	43.750	0.00	0.54	1.838	O	|	|	|	|	3.27
38.833	0.00	0.66	2.082	IO	|	|	|	|	3.63	43.833	0.00	0.54	1.834	O	|	|	|	|	3.26

43.917	0.00	0.54	1.830	O	|	|	|	|	3.25	48.917	0.00	0.44	1.630	O	|	|	|	|	2.95
44.000	0.00	0.53	1.827	O	|	|	|	|	3.25	49.000	0.00	0.44	1.627	O	|	|	|	|	2.95
44.083	0.00	0.53	1.823	O	|	|	|	|	3.24	49.083	0.00	0.44	1.624	O	|	|	|	|	2.94
44.167	0.00	0.53	1.819	O	|	|	|	|	3.24	49.167	0.00	0.44	1.621	O	|	|	|	|	2.94
44.250	0.00	0.53	1.816	O	|	|	|	|	3.23	49.250	0.00	0.44	1.618	O	|	|	|	|	2.93
44.333	0.00	0.53	1.812	O	|	|	|	|	3.23	49.333	0.00	0.44	1.615	O	|	|	|	|	2.93
44.417	0.00	0.53	1.808	O	|	|	|	|	3.22	49.417	0.00	0.44	1.612	O	|	|	|	|	2.92
44.500	0.00	0.52	1.805	O	|	|	|	|	3.22	49.500	0.00	0.44	1.609	O	|	|	|	|	2.92
44.583	0.00	0.52	1.801	O	|	|	|	|	3.21	49.583	0.00	0.43	1.606	O	|	|	|	|	2.91
44.667	0.00	0.52	1.798	O	|	|	|	|	3.21	49.667	0.00	0.43	1.603	O	|	|	|	|	2.91
44.750	0.00	0.52	1.794	O	|	|	|	|	3.20	49.750	0.00	0.43	1.600	O	|	|	|	|	2.90
44.833	0.00	0.52	1.791	O	|	|	|	|	3.19	49.833	0.00	0.43	1.597	O	|	|	|	|	2.90
44.917	0.00	0.51	1.787	O	|	|	|	|	3.19	49.917	0.00	0.43	1.594	O	|	|	|	|	2.89
45.000	0.00	0.51	1.783	O	|	|	|	|	3.18	50.000	0.00	0.43	1.591	O	|	|	|	|	2.89
45.083	0.00	0.51	1.780	O	|	|	|	|	3.18	50.083	0.00	0.43	1.588	O	|	|	|	|	2.88
45.167	0.00	0.51	1.776	O	|	|	|	|	3.17	50.167	0.00	0.43	1.585	O	|	|	|	|	2.88
45.250	0.00	0.51	1.773	O	|	|	|	|	3.17	50.250	0.00	0.43	1.582	O	|	|	|	|	2.87
45.333	0.00	0.51	1.769	O	|	|	|	|	3.16	50.333	0.00	0.43	1.579	O	|	|	|	|	2.87
45.417	0.00	0.50	1.766	O	|	|	|	|	3.16	50.417	0.00	0.43	1.576	O	|	|	|	|	2.86
45.500	0.00	0.50	1.762	O	|	|	|	|	3.15	50.500	0.00	0.43	1.573	O	|	|	|	|	2.86
45.583	0.00	0.50	1.759	O	|	|	|	|	3.15	50.583	0.00	0.43	1.570	O	|	|	|	|	2.85
45.667	0.00	0.50	1.756	O	|	|	|	|	3.14	50.667	0.00	0.42	1.568	O	|	|	|	|	2.85
45.750	0.00	0.50	1.752	O	|	|	|	|	3.14	50.750	0.00	0.42	1.565	O	|	|	|	|	2.84
45.833	0.00	0.50	1.749	O	|	|	|	|	3.13	50.833	0.00	0.42	1.562	O	|	|	|	|	2.84
45.917	0.00	0.49	1.745	O	|	|	|	|	3.13	50.917	0.00	0.42	1.559	O	|	|	|	|	2.83
46.000	0.00	0.49	1.742	O	|	|	|	|	3.12	51.000	0.00	0.42	1.556	O	|	|	|	|	2.83
46.083	0.00	0.49	1.739	O	|	|	|	|	3.12	51.083	0.00	0.42	1.553	O	|	|	|	|	2.82
46.167	0.00	0.49	1.735	O	|	|	|	|	3.11	51.167	0.00	0.42	1.550	O	|	|	|	|	2.82
46.250	0.00	0.49	1.732	O	|	|	|	|	3.11	51.250	0.00	0.42	1.547	O	|	|	|	|	2.82
46.333	0.00	0.48	1.728	O	|	|	|	|	3.10	51.333	0.00	0.42	1.544	O	|	|	|	|	2.81
46.417	0.00	0.48	1.725	O	|	|	|	|	3.10	51.417	0.00	0.42	1.542	O	|	|	|	|	2.81
46.500	0.00	0.48	1.722	O	|	|	|	|	3.09	51.500	0.00	0.42	1.539	O	|	|	|	|	2.80
46.583	0.00	0.48	1.719	O	|	|	|	|	3.09	51.583	0.00	0.42	1.536	O	|	|	|	|	2.80
46.667	0.00	0.48	1.715	O	|	|	|	|	3.08	51.667	0.00	0.41	1.533	O	|	|	|	|	2.79
46.750	0.00	0.48	1.712	O	|	|	|	|	3.08	51.750	0.00	0.41	1.530	O	|	|	|	|	2.79
46.833	0.00	0.47	1.709	O	|	|	|	|	3.07	51.833	0.00	0.41	1.527	O	|	|	|	|	2.78
46.917	0.00	0.47	1.705	O	|	|	|	|	3.07	51.917	0.00	0.41	1.524	O	|	|	|	|	2.78
47.000	0.00	0.47	1.702	O	|	|	|	|	3.06	52.000	0.00	0.41	1.522	O	|	|	|	|	2.77
47.083	0.00	0.47	1.699	O	|	|	|	|	3.06	52.083	0.00	0.41	1.519	O	|	|	|	|	2.77
47.167	0.00	0.47	1.696	O	|	|	|	|	3.05	52.167	0.00	0.41	1.516	O	|	|	|	|	2.76
47.250	0.00	0.47	1.692	O	|	|	|	|	3.05	52.250	0.00	0.41	1.513	O	|	|	|	|	2.76
47.333	0.00	0.46	1.689	O	|	|	|	|	3.04	52.333	0.00	0.41	1.510	O	|	|	|	|	2.75
47.417	0.00	0.46	1.686	O	|	|	|	|	3.04	52.417	0.00	0.41	1.507	O	|	|	|	|	2.75
47.500	0.00	0.46	1.683	O	|	|	|	|	3.03	52.500	0.00	0.41	1.505	O	|	|	|	|	2.75
47.583	0.00	0.46	1.680	O	|	|	|	|	3.03	52.583	0.00	0.41	1.502	O	|	|	|	|	2.74
47.667	0.00	0.46	1.677	O	|	|	|	|	3.02	52.667	0.00	0.41	1.499	O	|	|	|	|	2.74
47.750	0.00	0.46	1.673	O	|	|	|	|	3.02	52.750	0.00	0.40	1.496	O	|	|	|	|	2.73
47.833	0.00	0.46	1.670	O	|	|	|	|	3.02	52.833	0.00	0.40	1.493	O	|	|	|	|	2.73
47.917	0.00	0.45	1.667	O	|	|	|	|	3.01	52.917	0.00	0.40	1.491	O	|	|	|	|	2.72
48.000	0.00	0.45	1.664	O	|	|	|	|	3.01	53.000	0.00	0.40	1.488	O	|	|	|	|	2.72
48.083	0.00	0.45	1.661	O	|	|	|	|	3.00	53.083	0.00	0.40	1.485	O	|	|	|	|	2.71
48.167	0.00	0.45	1.658	O	|	|	|	|	3.00	53.167	0.00	0.40	1.482	O	|	|	|	|	2.71
48.250	0.00	0.45	1.655	O	|	|	|	|	2.99	53.250	0.00	0.40	1.480	O	|	|	|	|	2.70
48.333	0.00	0.45	1.652	O	|	|	|	|	2.99	53.333	0.00	0.40	1.477	O	|	|	|	|	2.70
48.417	0.00	0.45	1.649	O	|	|	|	|	2.98	53.417	0.00	0.40	1.474	O	|	|	|	|	2.70
48.500	0.00	0.45	1.645	O	|	|	|	|	2.98	53.500	0.00	0.40	1.471	O	|	|	|	|	2.69
48.583	0.00	0.45	1.642	O	|	|	|	|	2.97	53.583	0.00	0.40	1.469	O	|	|	|	|	2.69
48.667	0.00	0.44	1.639	O	|	|	|	|	2.97	53.667	0.00	0.40	1.466	O	|	|	|	|	2.68
48.750	0.00	0.44	1.636	O	|	|	|	|	2.96	53.750	0.00	0.40	1.463	O	|	|	|	|	2.68
48.833	0.00	0.44	1.633	O	|	|	|	|	2.96	53.833	0.00	0.39	1.460	O	|	|	|	|	2.67

53.917	0.00	0.39	1.458	O	|	|	|	|	2.67	58.917	0.00	0.35	1.304	O	|	|	|	|	2.42
54.000	0.00	0.39	1.455	O	|	|	|	|	2.66	59.000	0.00	0.35	1.302	O	|	|	|	|	2.41
54.083	0.00	0.39	1.452	O	|	|	|	|	2.66	59.083	0.00	0.35	1.299	O	|	|	|	|	2.41
54.167	0.00	0.39	1.450	O	|	|	|	|	2.66	59.167	0.00	0.35	1.297	O	|	|	|	|	2.40
54.250	0.00	0.39	1.447	O	|	|	|	|	2.65	59.250	0.00	0.35	1.295	O	|	|	|	|	2.40
54.333	0.00	0.39	1.444	O	|	|	|	|	2.65	59.333	0.00	0.35	1.292	O	|	|	|	|	2.40
54.417	0.00	0.39	1.442	O	|	|	|	|	2.64	59.417	0.00	0.35	1.290	O	|	|	|	|	2.39
54.500	0.00	0.39	1.439	O	|	|	|	|	2.64	59.500	0.00	0.35	1.287	O	|	|	|	|	2.39
54.583	0.00	0.39	1.436	O	|	|	|	|	2.63	59.583	0.00	0.35	1.285	O	|	|	|	|	2.39
54.667	0.00	0.39	1.434	O	|	|	|	|	2.63	59.667	0.00	0.34	1.283	O	|	|	|	|	2.38
54.750	0.00	0.39	1.431	O	|	|	|	|	2.62	59.750	0.00	0.34	1.280	O	|	|	|	|	2.38
54.833	0.00	0.39	1.428	O	|	|	|	|	2.62	59.833	0.00	0.34	1.278	O	|	|	|	|	2.37
54.917	0.00	0.38	1.426	O	|	|	|	|	2.62	59.917	0.00	0.34	1.275	O	|	|	|	|	2.37
55.000	0.00	0.38	1.423	O	|	|	|	|	2.61	60.000	0.00	0.34	1.273	O	|	|	|	|	2.37
55.083	0.00	0.38	1.420	O	|	|	|	|	2.61	60.083	0.00	0.34	1.271	O	|	|	|	|	2.36
55.167	0.00	0.38	1.418	O	|	|	|	|	2.60	60.167	0.00	0.34	1.268	O	|	|	|	|	2.36
55.250	0.00	0.38	1.415	O	|	|	|	|	2.60	60.250	0.00	0.34	1.266	O	|	|	|	|	2.35
55.333	0.00	0.38	1.412	O	|	|	|	|	2.59	60.333	0.00	0.34	1.264	O	|	|	|	|	2.35
55.417	0.00	0.38	1.410	O	|	|	|	|	2.59	60.417	0.00	0.34	1.261	O	|	|	|	|	2.35
55.500	0.00	0.38	1.407	O	|	|	|	|	2.59	60.500	0.00	0.34	1.259	O	|	|	|	|	2.34
55.583	0.00	0.38	1.405	O	|	|	|	|	2.58	60.583	0.00	0.34	1.257	O	|	|	|	|	2.34
55.667	0.00	0.38	1.402	O	|	|	|	|	2.58	60.667	0.00	0.34	1.254	O	|	|	|	|	2.34
55.750	0.00	0.38	1.399	O	|	|	|	|	2.57	60.750	0.00	0.34	1.252	O	|	|	|	|	2.33
55.833	0.00	0.38	1.397	O	|	|	|	|	2.57	60.833	0.00	0.34	1.250	O	|	|	|	|	2.33
55.917	0.00	0.38	1.394	O	|	|	|	|	2.56	60.917	0.00	0.34	1.247	O	|	|	|	|	2.32
56.000	0.00	0.38	1.392	O	|	|	|	|	2.56	61.000	0.00	0.33	1.245	O	|	|	|	|	2.32
56.083	0.00	0.37	1.389	O	|	|	|	|	2.56	61.083	0.00	0.33	1.243	O	|	|	|	|	2.32
56.167	0.00	0.37	1.386	O	|	|	|	|	2.55	61.167	0.00	0.33	1.241	O	|	|	|	|	2.31
56.250	0.00	0.37	1.384	O	|	|	|	|	2.55	61.250	0.00	0.33	1.238	O	|	|	|	|	2.31
56.333	0.00	0.37	1.381	O	|	|	|	|	2.54	61.333	0.00	0.33	1.236	O	|	|	|	|	2.30
56.417	0.00	0.37	1.379	O	|	|	|	|	2.54	61.417	0.00	0.33	1.234	O	|	|	|	|	2.30
56.500	0.00	0.37	1.376	O	|	|	|	|	2.53	61.500	0.00	0.33	1.231	O	|	|	|	|	2.30
56.583	0.00	0.37	1.374	O	|	|	|	|	2.53	61.583	0.00	0.33	1.229	O	|	|	|	|	2.29
56.667	0.00	0.37	1.371	O	|	|	|	|	2.53	61.667	0.00	0.33	1.227	O	|	|	|	|	2.29
56.750	0.00	0.37	1.369	O	|	|	|	|	2.52	61.750	0.00	0.33	1.225	O	|	|	|	|	2.29
56.833	0.00	0.37	1.366	O	|	|	|	|	2.52	61.833	0.00	0.33	1.222	O	|	|	|	|	2.28
56.917	0.00	0.37	1.363	O	|	|	|	|	2.51	61.917	0.00	0.33	1.220	O	|	|	|	|	2.28
57.000	0.00	0.37	1.361	O	|	|	|	|	2.51	62.000	0.00	0.33	1.218	O	|	|	|	|	2.28
57.083	0.00	0.37	1.358	O	|	|	|	|	2.51	62.083	0.00	0.33	1.216	O	|	|	|	|	2.27
57.167	0.00	0.37	1.356	O	|	|	|	|	2.50	62.167	0.00	0.33	1.213	O	|	|	|	|	2.27
57.250	0.00	0.36	1.353	O	|	|	|	|	2.50	62.250	0.00	0.32	1.211	O	|	|	|	|	2.26
57.333	0.00	0.36	1.351	O	|	|	|	|	2.49	62.333	0.00	0.32	1.209	O	|	|	|	|	2.26
57.417	0.00	0.36	1.348	O	|	|	|	|	2.49	62.417	0.00	0.32	1.207	O	|	|	|	|	2.26
57.500	0.00	0.36	1.346	O	|	|	|	|	2.49	62.500	0.00	0.32	1.204	O	|	|	|	|	2.25
57.583	0.00	0.36	1.343	O	|	|	|	|	2.48	62.583	0.00	0.32	1.202	O	|	|	|	|	2.25
57.667	0.00	0.36	1.341	O	|	|	|	|	2.48	62.667	0.00	0.32	1.200	O	|	|	|	|	2.25
57.750	0.00	0.36	1.338	O	|	|	|	|	2.47	62.750	0.00	0.32	1.198	O	|	|	|	|	2.24
57.833	0.00	0.36	1.336	O	|	|	|	|	2.47	62.833	0.00	0.32	1.196	O	|	|	|	|	2.24
57.917	0.00	0.36	1.333	O	|	|	|	|	2.46	62.917	0.00	0.32	1.193	O	|	|	|	|	2.23
58.000	0.00	0.36	1.331	O	|	|	|	|	2.46	63.000	0.00	0.32	1.191	O	|	|	|	|	2.23
58.083	0.00	0.36	1.329	O	|	|	|	|	2.46	63.083	0.00	0.32	1.189	O	|	|	|	|	2.23
58.167	0.00	0.36	1.326	O	|	|	|	|	2.45	63.167	0.00	0.32	1.187	O	|	|	|	|	2.22
58.250	0.00	0.36	1.324	O	|	|	|	|	2.45	63.250	0.00	0.32	1.185	O	|	|	|	|	2.22
58.333	0.00	0.36	1.321	O	|	|	|	|	2.44	63.333	0.00	0.32	1.182	O	|	|	|	|	2.22
58.417	0.00	0.35	1.319	O	|	|	|	|	2.44	63.417	0.00	0.32	1.180	O	|	|	|	|	2.21
58.500	0.00	0.35	1.316	O	|	|	|	|	2.44	63.500	0.00	0.32	1.178	O	|	|	|	|	2.21
58.583	0.00	0.35	1.314	O	|	|	|	|	2.43	63.583	0.00	0.32	1.176	O	|	|	|	|	2.21
58.667	0.00	0.35	1.311	O	|	|	|	|	2.43	63.667	0.00	0.31	1.174	O	|	|	|	|	2.20
58.750	0.00	0.35	1.309	O	|	|	|	|	2.42	63.750	0.00	0.31	1.172	O	|	|	|	|	2.20
58.833	0.00	0.35	1.307	O	|	|	|	|	2.42	63.833	0.00	0.31	1.169	O	|	|	|	|	2.20

63.917	0.00	0.31	1.167	O	|	|	|	|	2.19	68.917	0.00	0.28	1.045	O	|	|	|	|	1.99
64.000	0.00	0.31	1.165	O	|	|	|	|	2.19	69.000	0.00	0.28	1.043	O	|	|	|	|	1.99
64.083	0.00	0.31	1.163	O	|	|	|	|	2.19	69.083	0.00	0.27	1.041	O	|	|	|	|	1.98
64.167	0.00	0.31	1.161	O	|	|	|	|	2.18	69.167	0.00	0.27	1.039	O	|	|	|	|	1.98
64.250	0.00	0.31	1.159	O	|	|	|	|	2.18	69.250	0.00	0.27	1.038	O	|	|	|	|	1.98
64.333	0.00	0.31	1.156	O	|	|	|	|	2.17	69.333	0.00	0.27	1.036	O	|	|	|	|	1.98
64.417	0.00	0.31	1.154	O	|	|	|	|	2.17	69.417	0.00	0.27	1.034	O	|	|	|	|	1.97
64.500	0.00	0.31	1.152	O	|	|	|	|	2.17	69.500	0.00	0.27	1.032	O	|	|	|	|	1.97
64.583	0.00	0.31	1.150	O	|	|	|	|	2.16	69.583	0.00	0.27	1.030	O	|	|	|	|	1.97
64.667	0.00	0.31	1.148	O	|	|	|	|	2.16	69.667	0.00	0.27	1.028	O	|	|	|	|	1.96
64.750	0.00	0.31	1.146	O	|	|	|	|	2.16	69.750	0.00	0.27	1.027	O	|	|	|	|	1.96
64.833	0.00	0.31	1.144	O	|	|	|	|	2.15	69.833	0.00	0.26	1.025	O	|	|	|	|	1.96
64.917	0.00	0.31	1.142	O	|	|	|	|	2.15	69.917	0.00	0.26	1.023	O	|	|	|	|	1.95
65.000	0.00	0.30	1.140	O	|	|	|	|	2.15	70.000	0.00	0.26	1.021	O	|	|	|	|	1.95
65.083	0.00	0.30	1.137	O	|	|	|	|	2.14	70.083	0.00	0.26	1.019	O	|	|	|	|	1.95
65.167	0.00	0.30	1.135	O	|	|	|	|	2.14	70.167	0.00	0.26	1.017	O	|	|	|	|	1.94
65.250	0.00	0.30	1.133	O	|	|	|	|	2.14	70.250	0.00	0.26	1.016	O	|	|	|	|	1.94
65.333	0.00	0.30	1.131	O	|	|	|	|	2.13	70.333	0.00	0.26	1.014	O	|	|	|	|	1.94
65.417	0.00	0.30	1.129	O	|	|	|	|	2.13	70.417	0.00	0.26	1.012	O	|	|	|	|	1.93
65.500	0.00	0.30	1.127	O	|	|	|	|	2.13	70.500	0.00	0.26	1.010	O	|	|	|	|	1.93
65.583	0.00	0.30	1.125	O	|	|	|	|	2.12	70.583	0.00	0.25	1.009	O	|	|	|	|	1.93
65.667	0.00	0.30	1.123	O	|	|	|	|	2.12	70.667	0.00	0.25	1.007	O	|	|	|	|	1.92
65.750	0.00	0.30	1.121	O	|	|	|	|	2.12	70.750	0.00	0.25	1.005	O	|	|	|	|	1.92
65.833	0.00	0.30	1.119	O	|	|	|	|	2.11	70.833	0.00	0.25	1.003	O	|	|	|	|	1.92
65.917	0.00	0.30	1.117	O	|	|	|	|	2.11	70.917	0.00	0.25	1.002	O	|	|	|	|	1.92
66.000	0.00	0.30	1.115	O	|	|	|	|	2.11	71.000	0.00	0.25	1.000	O	|	|	|	|	1.91
66.083	0.00	0.30	1.113	O	|	|	|	|	2.10	71.083	0.00	0.25	0.998	O	|	|	|	|	1.91
66.167	0.00	0.30	1.111	O	|	|	|	|	2.10	71.167	0.00	0.25	0.997	O	|	|	|	|	1.91
66.250	0.00	0.30	1.109	O	|	|	|	|	2.10	71.250	0.00	0.25	0.995	O	|	|	|	|	1.90
66.333	0.00	0.30	1.106	O	|	|	|	|	2.09	71.333	0.00	0.24	0.993	O	|	|	|	|	1.90
66.417	0.00	0.30	1.104	O	|	|	|	|	2.09	71.417	0.00	0.24	0.992	O	|	|	|	|	1.90
66.500	0.00	0.29	1.102	O	|	|	|	|	2.09	71.500	0.00	0.24	0.990	O	|	|	|	|	1.90
66.583	0.00	0.29	1.100	O	|	|	|	|	2.08	71.583	0.00	0.24	0.988	O	|	|	|	|	1.89
66.667	0.00	0.29	1.098	O	|	|	|	|	2.08	71.667	0.00	0.24	0.987	O	|	|	|	|	1.89
66.750	0.00	0.29	1.096	O	|	|	|	|	2.08	71.750	0.00	0.24	0.985	O	|	|	|	|	1.89
66.833	0.00	0.29	1.094	O	|	|	|	|	2.07	71.833	0.00	0.24	0.983	O	|	|	|	|	1.88
66.917	0.00	0.29	1.092	O	|	|	|	|	2.07	71.917	0.00	0.24	0.982	O	|	|	|	|	1.88
67.000	0.00	0.29	1.090	O	|	|	|	|	2.07	72.000	0.00	0.24	0.980	O	|	|	|	|	1.88
67.083	0.00	0.29	1.088	O	|	|	|	|	2.06	72.083	0.00	0.24	0.978	O	|	|	|	|	1.88
67.167	0.00	0.29	1.086	O	|	|	|	|	2.06	72.167	0.00	0.23	0.977	O	|	|	|	|	1.87
67.250	0.00	0.29	1.084	O	|	|	|	|	2.06	72.250	0.00	0.23	0.975	O	|	|	|	|	1.87
67.333	0.00	0.29	1.082	O	|	|	|	|	2.05	72.333	0.00	0.23	0.974	O	|	|	|	|	1.87
67.417	0.00	0.29	1.080	O	|	|	|	|	2.05	72.417	0.00	0.23	0.972	O	|	|	|	|	1.86
67.500	0.00	0.29	1.078	O	|	|	|	|	2.05	72.500	0.00	0.23	0.970	O	|	|	|	|	1.86
67.583	0.00	0.29	1.076	O	|	|	|	|	2.04	72.583	0.00	0.23	0.969	O	|	|	|	|	1.86
67.667	0.00	0.29	1.074	O	|	|	|	|	2.04	72.667	0.00	0.23	0.967	O	|	|	|	|	1.86
67.750	0.00	0.29	1.072	O	|	|	|	|	2.04	72.750	0.00	0.23	0.966	O	|	|	|	|	1.85
67.833	0.00	0.29	1.070	O	|	|	|	|	2.03	72.833	0.00	0.23	0.964	O	|	|	|	|	1.85
67.917	0.00	0.29	1.068	O	|	|	|	|	2.03	72.917	0.00	0.23	0.962	O	|	|	|	|	1.85
68.000	0.00	0.28	1.066	O	|	|	|	|	2.03	73.000	0.00	0.22	0.961	O	|	|	|	|	1.84
68.083	0.00	0.28	1.065	O	|	|	|	|	2.02	73.083	0.00	0.22	0.959	O	|	|	|	|	1.84
68.167	0.00	0.28	1.063	O	|	|	|	|	2.02	73.167	0.00	0.22	0.958	O	|	|	|	|	1.84
68.250	0.00	0.28	1.061	O	|	|	|	|	2.02	73.250	0.00	0.22	0.956	O	|	|	|	|	1.84
68.333	0.00	0.28	1.059	O	|	|	|	|	2.01	73.333	0.00	0.22	0.955	O	|	|	|	|	1.83
68.417	0.00	0.28	1.057	O	|	|	|	|	2.01	73.417	0.00	0.22	0.953	O	|	|	|	|	1.83
68.500	0.00	0.28	1.055	O	|	|	|	|	2.01	73.500	0.00	0.22	0.952	O	|	|	|	|	1.83
68.583	0.00	0.28	1.053	O	|	|	|	|	2.00	73.583	0.00	0.22	0.950	O	|	|	|	|	1.83
68.667	0.00	0.28	1.051	O	|	|	|	|	2.00	73.667	0.00	0.22	0.949	O	|	|	|	|	1.82
68.750	0.00	0.28	1.049	O	|	|	|	|	2.00	73.750	0.00	0.22	0.947	O	|	|	|	|	1.82
68.833	0.00	0.28	1.047	O	|	|	|	|	1.99	73.833	0.00	0.21	0.946	O	|	|	|	|	1.82

73.917	0.00	0.21	0.944	O	|	|	|	|	1.82	78.917	0.00	0.16	0.867	O	|	|	|	|	1.68
74.000	0.00	0.21	0.943	O	|	|	|	|	1.81	79.000	0.00	0.16	0.865	O	|	|	|	|	1.68
74.083	0.00	0.21	0.941	O	|	|	|	|	1.81	79.083	0.00	0.16	0.864	O	|	|	|	|	1.68
74.167	0.00	0.21	0.940	O	|	|	|	|	1.81	79.167	0.00	0.16	0.863	O	|	|	|	|	1.67
74.250	0.00	0.21	0.939	O	|	|	|	|	1.81	79.250	0.00	0.16	0.862	O	|	|	|	|	1.67
74.333	0.00	0.21	0.937	O	|	|	|	|	1.80	79.333	0.00	0.16	0.861	O	|	|	|	|	1.67
74.417	0.00	0.21	0.936	O	|	|	|	|	1.80	79.417	0.00	0.16	0.860	O	|	|	|	|	1.67
74.500	0.00	0.21	0.934	O	|	|	|	|	1.80	79.500	0.00	0.16	0.859	O	|	|	|	|	1.67
74.583	0.00	0.21	0.933	O	|	|	|	|	1.80	79.583	0.00	0.16	0.858	O	|	|	|	|	1.66
74.667	0.00	0.21	0.931	O	|	|	|	|	1.79	79.667	0.00	0.16	0.857	O	|	|	|	|	1.66
74.750	0.00	0.20	0.930	O	|	|	|	|	1.79	79.750	0.00	0.16	0.855	O	|	|	|	|	1.66
74.833	0.00	0.20	0.929	O	|	|	|	|	1.79	79.833	0.00	0.16	0.854	O	|	|	|	|	1.66
74.917	0.00	0.20	0.927	O	|	|	|	|	1.79	79.917	0.00	0.16	0.853	O	|	|	|	|	1.66
75.000	0.00	0.20	0.926	O	|	|	|	|	1.78	80.000	0.00	0.16	0.852	O	|	|	|	|	1.66
75.083	0.00	0.20	0.924	O	|	|	|	|	1.78	80.083	0.00	0.16	0.851	O	|	|	|	|	1.65
75.167	0.00	0.20	0.923	O	|	|	|	|	1.78	80.167	0.00	0.15	0.850	O	|	|	|	|	1.65
75.250	0.00	0.20	0.922	O	|	|	|	|	1.78	80.250	0.00	0.15	0.849	O	|	|	|	|	1.65
75.333	0.00	0.20	0.920	O	|	|	|	|	1.77	80.333	0.00	0.15	0.848	O	|	|	|	|	1.65
75.417	0.00	0.20	0.919	O	|	|	|	|	1.77	80.417	0.00	0.15	0.847	O	|	|	|	|	1.65
75.500	0.00	0.20	0.918	O	|	|	|	|	1.77	80.500	0.00	0.15	0.846	O	|	|	|	|	1.64
75.583	0.00	0.20	0.916	O	|	|	|	|	1.77	80.583	0.00	0.15	0.845	O	|	|	|	|	1.64
75.667	0.00	0.20	0.915	O	|	|	|	|	1.76	80.667	0.00	0.15	0.844	O	|	|	|	|	1.64
75.750	0.00	0.19	0.913	O	|	|	|	|	1.76	80.750	0.00	0.15	0.843	O	|	|	|	|	1.64
75.833	0.00	0.19	0.912	O	|	|	|	|	1.76	80.833	0.00	0.15	0.842	O	|	|	|	|	1.64
75.917	0.00	0.19	0.911	O	|	|	|	|	1.76	80.917	0.00	0.15	0.841	O	|	|	|	|	1.63
76.000	0.00	0.19	0.910	O	|	|	|	|	1.75	81.000	0.00	0.15	0.840	O	|	|	|	|	1.63
76.083	0.00	0.19	0.908	O	|	|	|	|	1.75	81.083	0.00	0.15	0.839	O	|	|	|	|	1.63
76.167	0.00	0.19	0.907	O	|	|	|	|	1.75	81.167	0.00	0.15	0.838	O	|	|	|	|	1.63
76.250	0.00	0.19	0.906	O	|	|	|	|	1.75	81.250	0.00	0.15	0.837	O	|	|	|	|	1.63
76.333	0.00	0.19	0.904	O	|	|	|	|	1.75	81.333	0.00	0.15	0.836	O	|	|	|	|	1.63
76.417	0.00	0.19	0.903	O	|	|	|	|	1.74	81.417	0.00	0.14	0.835	O	|	|	|	|	1.62
76.500	0.00	0.19	0.902	O	|	|	|	|	1.74	81.500	0.00	0.14	0.834	O	|	|	|	|	1.62
76.583	0.00	0.19	0.900	O	|	|	|	|	1.74	81.583	0.00	0.14	0.833	O	|	|	|	|	1.62
76.667	0.00	0.19	0.899	O	|	|	|	|	1.74	81.667	0.00	0.14	0.832	O	|	|	|	|	1.62
76.750	0.00	0.18	0.898	O	|	|	|	|	1.73	81.750	0.00	0.14	0.831	O	|	|	|	|	1.62
76.833	0.00	0.18	0.897	O	|	|	|	|	1.73	81.833	0.00	0.14	0.830	O	|	|	|	|	1.62
76.917	0.00	0.18	0.895	O	|	|	|	|	1.73	81.917	0.00	0.14	0.829	O	|	|	|	|	1.61
77.000	0.00	0.18	0.894	O	|	|	|	|	1.73	82.000	0.00	0.14	0.828	O	|	|	|	|	1.61
77.083	0.00	0.18	0.893	O	|	|	|	|	1.73	82.083	0.00	0.14	0.827	O	|	|	|	|	1.61
77.167	0.00	0.18	0.892	O	|	|	|	|	1.72	82.167	0.00	0.14	0.826	O	|	|	|	|	1.61
77.250	0.00	0.18	0.890	O	|	|	|	|	1.72	82.250	0.00	0.14	0.825	O	|	|	|	|	1.61
77.333	0.00	0.18	0.889	O	|	|	|	|	1.72	82.333	0.00	0.14	0.824	O	|	|	|	|	1.61
77.417	0.00	0.18	0.888	O	|	|	|	|	1.72	82.417	0.00	0.14	0.823	O	|	|	|	|	1.60
77.500	0.00	0.18	0.887	O	|	|	|	|	1.72	82.500	0.00	0.14	0.822	O	|	|	|	|	1.60
77.583	0.00	0.18	0.885	O	|	|	|	|	1.71	82.583	0.00	0.14	0.821	O	|	|	|	|	1.60
77.667	0.00	0.18	0.884	O	|	|	|	|	1.71	82.667	0.00	0.14	0.820	O	|	|	|	|	1.60
77.750	0.00	0.18	0.883	O	|	|	|	|	1.71	82.750	0.00	0.14	0.819	O	|	|	|	|	1.60
77.833	0.00	0.17	0.882	O	|	|	|	|	1.71	82.833	0.00	0.13	0.818	O	|	|	|	|	1.60
77.917	0.00	0.17	0.881	O	|	|	|	|	1.70	82.917	0.00	0.13	0.817	O	|	|	|	|	1.59
78.000	0.00	0.17	0.879	O	|	|	|	|	1.70	83.000	0.00	0.13	0.816	O	|	|	|	|	1.59
78.083	0.00	0.17	0.878	O	|	|	|	|	1.70	83.083	0.00	0.13	0.816	O	|	|	|	|	1.59
78.167	0.00	0.17	0.877	O	|	|	|	|	1.70	83.167	0.00	0.13	0.815	O	|	|	|	|	1.59
78.250	0.00	0.17	0.876	O	|	|	|	|	1.70	83.250	0.00	0.13	0.814	O	|	|	|	|	1.59
78.333	0.00	0.17	0.875	O	|	|	|	|	1.69	83.333	0.00	0.13	0.813	O	|	|	|	|	1.59
78.417	0.00	0.17	0.874	O	|	|	|	|	1.69	83.417	0.00	0.13	0.812	O	|	|	|	|	1.58
78.500	0.00	0.17	0.872	O	|	|	|	|	1.69	83.500	0.00	0.13	0.811	O	|	|	|	|	1.58
78.583	0.00	0.17	0.871	O	|	|	|	|	1.69	83.583	0.00	0.13	0.810	O	|	|	|	|	1.58
78.667	0.00	0.17	0.870	O	|	|	|	|	1.69	83.667	0.00	0.13	0.809	O	|	|	|	|	1.58
78.750	0.00	0.17	0.869	O	|	|	|	|	1.68	83.750	0.00	0.13	0.808	O	|	|	|	|	1.58
78.833	0.00	0.17	0.868	O	|	|	|	|	1.68	83.833	0.00	0.13	0.807	O	|	|	|	|	1.58

83.917	0.00	0.13	0.807	O	|	|	|	|	1.58	88.917	0.00	0.10	0.760	O	|	|	|	|	1.49
84.000	0.00	0.13	0.806	O	|	|	|	|	1.57	89.000	0.00	0.10	0.760	O	|	|	|	|	1.49
84.083	0.00	0.13	0.805	O	|	|	|	|	1.57	89.083	0.00	0.10	0.759	O	|	|	|	|	1.49
84.167	0.00	0.13	0.804	O	|	|	|	|	1.57	89.167	0.00	0.10	0.758	O	|	|	|	|	1.49
84.250	0.00	0.12	0.803	O	|	|	|	|	1.57	89.250	0.00	0.10	0.758	O	|	|	|	|	1.49
84.333	0.00	0.12	0.802	O	|	|	|	|	1.57	89.333	0.00	0.10	0.757	O	|	|	|	|	1.49
84.417	0.00	0.12	0.801	O	|	|	|	|	1.57	89.417	0.00	0.10	0.756	O	|	|	|	|	1.49
84.500	0.00	0.12	0.801	O	|	|	|	|	1.56	89.500	0.00	0.10	0.756	O	|	|	|	|	1.49
84.583	0.00	0.12	0.800	O	|	|	|	|	1.56	89.583	0.00	0.09	0.755	O	|	|	|	|	1.49
84.667	0.00	0.12	0.799	O	|	|	|	|	1.56	89.667	0.00	0.09	0.754	O	|	|	|	|	1.48
84.750	0.00	0.12	0.798	O	|	|	|	|	1.56	89.750	0.00	0.09	0.754	O	|	|	|	|	1.48
84.833	0.00	0.12	0.797	O	|	|	|	|	1.56	89.833	0.00	0.09	0.753	O	|	|	|	|	1.48
84.917	0.00	0.12	0.796	O	|	|	|	|	1.56	89.917	0.00	0.09	0.752	O	|	|	|	|	1.48
85.000	0.00	0.12	0.796	O	|	|	|	|	1.56	90.000	0.00	0.09	0.752	O	|	|	|	|	1.48
85.083	0.00	0.12	0.795	O	|	|	|	|	1.55	90.083	0.00	0.09	0.751	O	|	|	|	|	1.48
85.167	0.00	0.12	0.794	O	|	|	|	|	1.55	90.167	0.00	0.09	0.751	O	|	|	|	|	1.48
85.250	0.00	0.12	0.793	O	|	|	|	|	1.55	90.250	0.00	0.09	0.750	O	|	|	|	|	1.48
85.333	0.00	0.12	0.792	O	|	|	|	|	1.55	90.333	0.00	0.09	0.749	O	|	|	|	|	1.48
85.417	0.00	0.12	0.791	O	|	|	|	|	1.55	90.417	0.00	0.09	0.749	O	|	|	|	|	1.47
85.500	0.00	0.12	0.791	O	|	|	|	|	1.55	90.500	0.00	0.09	0.748	O	|	|	|	|	1.47
85.583	0.00	0.12	0.790	O	|	|	|	|	1.55	90.583	0.00	0.09	0.747	O	|	|	|	|	1.47
85.667	0.00	0.12	0.789	O	|	|	|	|	1.54	90.667	0.00	0.09	0.747	O	|	|	|	|	1.47
85.750	0.00	0.12	0.788	O	|	|	|	|	1.54	90.750	0.00	0.09	0.746	O	|	|	|	|	1.47
85.833	0.00	0.12	0.787	O	|	|	|	|	1.54	90.833	0.00	0.09	0.746	O	|	|	|	|	1.47
85.917	0.00	0.11	0.787	O	|	|	|	|	1.54	90.917	0.00	0.09	0.745	O	|	|	|	|	1.47
86.000	0.00	0.11	0.786	O	|	|	|	|	1.54	91.000	0.00	0.09	0.744	O	|	|	|	|	1.47
86.083	0.00	0.11	0.785	O	|	|	|	|	1.54	91.083	0.00	0.09	0.744	O	|	|	|	|	1.47
86.167	0.00	0.11	0.784	O	|	|	|	|	1.54	91.167	0.00	0.09	0.743	O	|	|	|	|	1.46
86.250	0.00	0.11	0.784	O	|	|	|	|	1.54	91.250	0.00	0.09	0.743	O	|	|	|	|	1.46
86.333	0.00	0.11	0.783	O	|	|	|	|	1.53	91.333	0.00	0.09	0.742	O	|	|	|	|	1.46
86.417	0.00	0.11	0.782	O	|	|	|	|	1.53	91.417	0.00	0.09	0.741	O	|	|	|	|	1.46
86.500	0.00	0.11	0.781	O	|	|	|	|	1.53	91.500	0.00	0.09	0.741	O	|	|	|	|	1.46
86.583	0.00	0.11	0.780	O	|	|	|	|	1.53	91.583	0.00	0.09	0.740	O	|	|	|	|	1.46
86.667	0.00	0.11	0.780	O	|	|	|	|	1.53	91.667	0.00	0.09	0.740	O	|	|	|	|	1.46
86.750	0.00	0.11	0.779	O	|	|	|	|	1.53	91.750	0.00	0.08	0.739	O	|	|	|	|	1.46
86.833	0.00	0.11	0.778	O	|	|	|	|	1.53	91.833	0.00	0.08	0.738	O	|	|	|	|	1.46
86.917	0.00	0.11	0.777	O	|	|	|	|	1.52	91.917	0.00	0.08	0.738	O	|	|	|	|	1.46
87.000	0.00	0.11	0.777	O	|	|	|	|	1.52	92.000	0.00	0.08	0.737	O	|	|	|	|	1.45
87.083	0.00	0.11	0.776	O	|	|	|	|	1.52	92.083	0.00	0.08	0.737	O	|	|	|	|	1.45
87.167	0.00	0.11	0.775	O	|	|	|	|	1.52	92.167	0.00	0.08	0.736	O	|	|	|	|	1.45
87.250	0.00	0.11	0.774	O	|	|	|	|	1.52	92.250	0.00	0.08	0.735	O	|	|	|	|	1.45
87.333	0.00	0.11	0.774	O	|	|	|	|	1.52	92.333	0.00	0.08	0.735	O	|	|	|	|	1.45
87.417	0.00	0.11	0.773	O	|	|	|	|	1.52	92.417	0.00	0.08	0.734	O	|	|	|	|	1.45
87.500	0.00	0.11	0.772	O	|	|	|	|	1.52	92.500	0.00	0.08	0.734	O	|	|	|	|	1.45
87.583	0.00	0.11	0.772	O	|	|	|	|	1.51	92.583	0.00	0.08	0.733	O	|	|	|	|	1.45
87.667	0.00	0.10	0.771	O	|	|	|	|	1.51	92.667	0.00	0.08	0.733	O	|	|	|	|	1.45
87.750	0.00	0.10	0.770	O	|	|	|	|	1.51	92.750	0.00	0.08	0.732	O	|	|	|	|	1.45
87.833	0.00	0.10	0.769	O	|	|	|	|	1.51	92.833	0.00	0.08	0.732	O	|	|	|	|	1.44
87.917	0.00	0.10	0.769	O	|	|	|	|	1.51	92.917	0.00	0.08	0.731	O	|	|	|	|	1.44
88.000	0.00	0.10	0.768	O	|	|	|	|	1.51	93.000	0.00	0.08	0.730	O	|	|	|	|	1.44
88.083	0.00	0.10	0.767	O	|	|	|	|	1.51	93.083	0.00	0.08	0.730	O	|	|	|	|	1.44
88.167	0.00	0.10	0.767	O	|	|	|	|	1.51	93.167	0.00	0.08	0.729	O	|	|	|	|	1.44
88.250	0.00	0.10	0.766	O	|	|	|	|	1.50	93.250	0.00	0.08	0.729	O	|	|	|	|	1.44
88.333	0.00	0.10	0.765	O	|	|	|	|	1.50	93.333	0.00	0.08	0.728	O	|	|	|	|	1.44
88.417	0.00	0.10	0.764	O	|	|	|	|	1.50	93.417	0.00	0.08	0.728	O	|	|	|	|	1.44
88.500	0.00	0.10	0.764	O	|	|	|	|	1.50	93.500	0.00	0.08	0.727	O	|	|	|	|	1.44
88.583	0.00	0.10	0.763	O	|	|	|	|	1.50	93.583	0.00	0.08	0.727	O	|	|	|	|	1.44
88.667	0.00	0.10	0.762	O	|	|	|	|	1.50	93.667	0.00	0.08	0.726	O	|	|	|	|	1.44
88.750	0.00	0.10	0.762	O	|	|	|	|	1.50	93.750	0.00	0.08	0.726	O	|	|	|	|	1.43
88.833	0.00	0.10	0.761	O	|	|	|	|	1.50	93.833	0.00	0.08	0.725	O	|	|	|	|	1.43

Left Blank Intentionally

413.917	0.00	0.01	0.426	O	|	|	|	|	0.86
414.000	0.00	0.01	0.426	O	|	|	|	|	0.86
414.083	0.00	0.01	0.426	O	|	|	|	|	0.86
414.167	0.00	0.01	0.426	O	|	|	|	|	0.86
414.250	0.00	0.01	0.426	O	|	|	|	|	0.86
414.333	0.00	0.01	0.426	O	|	|	|	|	0.86
414.417	0.00	0.01	0.426	O	|	|	|	|	0.86
414.500	0.00	0.01	0.426	O	|	|	|	|	0.86
414.583	0.00	0.01	0.426	O	|	|	|	|	0.86
414.667	0.00	0.01	0.426	O	|	|	|	|	0.86
414.750	0.00	0.01	0.426	O	|	|	|	|	0.86
414.833	0.00	0.01	0.426	O	|	|	|	|	0.86
414.917	0.00	0.01	0.426	O	|	|	|	|	0.86
415.000	0.00	0.01	0.426	O	|	|	|	|	0.86
415.083	0.00	0.01	0.426	O	|	|	|	|	0.86
415.167	0.00	0.01	0.426	O	|	|	|	|	0.86
415.250	0.00	0.01	0.426	O	|	|	|	|	0.86
415.333	0.00	0.01	0.426	O	|	|	|	|	0.86
415.417	0.00	0.01	0.425	O	|	|	|	|	0.86
415.500	0.00	0.01	0.425	O	|	|	|	|	0.86
415.583	0.00	0.01	0.425	O	|	|	|	|	0.86
415.667	0.00	0.01	0.425	O	|	|	|	|	0.86
415.750	0.00	0.01	0.425	O	|	|	|	|	0.86
415.833	0.00	0.01	0.425	O	|	|	|	|	0.86
415.917	0.00	0.01	0.425	O	|	|	|	|	0.86
416.000	0.00	0.01	0.425	O	|	|	|	|	0.86
416.083	0.00	0.01	0.425	O	|	|	|	|	0.86
416.167	0.00	0.01	0.425	O	|	|	|	|	0.86
416.250	0.00	0.01	0.425	O	|	|	|	|	0.86
416.333	0.00	0.01	0.425	O	|	|	|	|	0.86
416.417	0.00	0.01	0.425	O	|	|	|	|	0.86
416.500	0.00	0.01	0.425	O	|	|	|	|	0.86
416.583	0.00	0.01	0.425	O	|	|	|	|	0.86
416.667	0.00	0.01	0.425	O	|	|	|	|	0.86

Remaining water in basin = 0.42 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 5001
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 15.541 (CFS)
Total volume = 8.340 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

SECTION 5

REFERENCES

TENTATIVE TRACT MAP

TR 36294
LOT 1

HUDSON HOUSE DR.
PER TR 36294
UTILITIES TO CONNECT TO
UTILITIES IN TRACT 36294

TR 36294
LOT "M"

LAND USE: VACANT
ZONING: SP-09-01

TEMPORARY DEBRIS BASIN/
FUTURE INFILTRATION &
DETENTION BASIN

TOP: 1105
BOTTOM: 1095

TRACT NO. 22416
M.B. 470/92-102

PARCEL 1
17.44 ACRES

50' FUEL MOD

100' FUEL MOD

HUDSON HOUSE DRIVE

PARCEL 2
12.25 ACRES

75' INGRESS/EGRESS ESMT.
FUTURE IMPROVEMENTS
FOR PARCEL 3 ACCESS

PARCEL 3
126.85 ACRES

LAND USE: GOLF COURSE
ZONING: OPEN SPACE

LAND USE: VACANT
ZONING: R-A-5 (COUNTY OF RIVERSIDE)

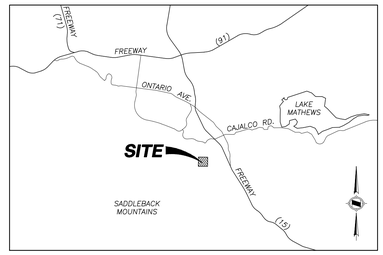
LAND USE: RESIDENTIAL
ZONING: MDR (COUNTY OF RIVERSIDE)

56' INGRESS/EGRESS ESMT.
FUTURE IMPROVEMENTS

BEDFORD MOTOR WAY

FOUNTAIN GRASS DR.

VICINITY MAP



NOTES

1. EXISTING LAND USE: AGRICULTURE
2. EXISTING ZONING: AGRICULTURE
3. ASSESSOR PARCEL NUMBER: 282-040-003
4. TOTAL GROSS AREA: 159.16 ACRES
5. WATER SERVICE PROVIDED BY: CORONA DEPARTMENT OF WATER AND POWER, 755 CORPORATION YARD WAY, CORONA, CA 92880, (951) 736-2234
6. SEWER SERVICE PROVIDED BY: CORONA DEPARTMENT OF WATER AND POWER, 755 CORPORATION YARD WAY, CORONA, CA 92880, (951) 736-2234
7. GAS SERVICE PROVIDED BY: SOUTHERN CALIFORNIA GAS COMPANY, P.O. BOX 3150, SAN DIMAS, CA 91773, (800) 427-2200
8. ELECTRIC SERVICE PROVIDED BY: SOUTHERN CALIFORNIA EDISON, P.O. BOX 6400, RANCHO CUCAMONGA, CA 91729, (800) 990-7788
9. TELEPHONE SERVICE PROVIDED BY: AT&T, 1265 N. VAN BUREN STREET, SUITE 180, ANAHEIM, CA 92807, (800) 750-2355
10. CABLE PROVIDED BY: AT&T, 1265 N. VAN BUREN STREET, SUITE 180, ANAHEIM, CA 92807, (800) 750-2355
11. REFUSE PROVIDED BY: WASTE MANAGEMENT OF THE INLAND EMPIRE, 800 SOUTH TEMESCAL STREET, CORONA, CA 92876, (951) 280-4500
12. THE PROJECT IS LOCATED WITHIN THE CORONA-NORCO UNIFIED SCHOOL DISTRICT, 2820 CLARK AVENUE, NORCO CA, 92860, (951) 736-5000
13. THE PROJECT SITE IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN PER FLOOD INSURANCE RATE MAP NUMBER 06065C1360G, EFFECTIVE DATE AUGUST 28, 2008.

EXISTING EASEMENTS

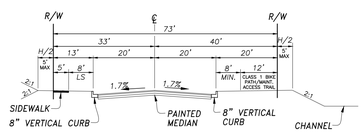
1. AN EASEMENT FOR OVERHEAD AND UNDERGROUND ELECTRICAL SUPPLY SYSTEMS AND COMMUNICAITON SYSTEMS AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 26, 1992 AS INSTRUMENT NO. 1992-64680 OF OFFICIAL RECORDS IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, AFFECTS AS DESCRIBED THEREIN.

LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF CORONA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS: THE EAST HALF OF THE SOUTHWEST QUARTER AND THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 20, TOWNSHIP 4 SOUTH, RNAGE 6 WEST, SAN BERNARDINO BASE AND MERIDIAN.

OWNER

GARY L. MCMILLAN AND PATRICIA A. MCMILLAN, AS TRUSTEES OF THE MCMILLAN TRUST, AS TO AN UNDIVIDED 50% INTEREST, AND GARY L. MCMILLAN AND PATRICIA MCMILLAN, AS TRUSTEES OF THE MCMILLAN TRUST, AS TO AN UNDIVIDED 50% INTEREST



73' PRIVATE COLLECTOR STREET
(HUDSON HOUSE DRIVE)
(NO ON-STREET PARKING)
N.T.S.

STATEMENT OF OWNERSHIP

I HEREBY STATE THAT THIS MAP WAS PREPARED UNDER MY SUPERVISION AND THAT THE OWNER OF RECORD HAS KNOWLEDGE OF AND CONSENTS TO THE FILING OF THIS MAP.

REGISTERED PROFESSIONAL ENGINEER
DOUGLAS L. TRAVIS
NO. 38796
CIVIL
STATE OF CALIFORNIA

DATE _____

AREA SUMMARY

PARCEL 1=	17.44 AC
PARCEL 2=	12.25 AC
PARCEL 3=	126.85 AC
HUDSON HOUSE DRIVE=	2.62 AC
TOTAL=	159.16 AC

FEET
0 50 100 200
INCHES
0 1/2 1 2

DATE	04-04-2018
W.O.	2749-18
GROSS AREA	159.2±
CONTOUR INTERVAL	5'
TOTAL LOTS	3

DATE	REVISION	BY
--	--	--

PREPARED FOR:

APPLICANT:
ARANTINE HILLS HOLDINGS, LP
85 ENTERPRISE, SUITE 450
ALISO VIEJO, CA 92656
(949) 382-2766

PREPARED BY:

HUNSAKER & ASSOCIATES
IRVINE, INC.
PLANNING • ENGINEERING • SURVEYING
Three Hughes • Irvine, CA 92618
FX: (949) 583-0759 • PH: (949) 583-1010

TENTATIVE PARCEL MAP NO. 37036

W.O.: 2749-18 (McMillan)

PLOTTED BY: Jake Smith DATE: Apr. 04, 2018 03:03:23 PM FILE: F:\0853\Planning\SA_McMillan\Exh_TPM\TPM.dwg

WATER QUALITY CALCULATION

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name: Hunsaker & Associates Irvine, Inc. Date: 4/2/2018

Designed by: Case No:

Company Project Number/Name: Lower McMillan

BMP Identification

BMP NAME / ID: Infiltration Basin

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.80 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
1	*923,422*	*Mixed Surface Types*	*0.6*	*0.41*	*377613.1*			
	923422	*Total*			377613.1	0.80	*25174.2*	*27,118*

Notes:

INFILTRATION REPORT

April 3, 2018

Project No. 13208-02

Mr. John Sherwood
The New Home Company
95 Enterprise, Suite 325
Aliso Viejo, CA 92656

Subject: ***Preliminary Geotechnical Evaluation for Proposed Lower McMillan Parcel, Arantine Hills Residential Development, Parcels 1 and 2 of Parcel Map No. 37036, City of Corona, California***

In accordance with your request, LGC Geotechnical, Inc. has prepared a preliminary geotechnical evaluation for the Lower McMillan parcel in Arantine Hills residential development, Parcels 1 and 2 of Parcel Map No. 37036, in the City of Corona, California. This report presents a summary of our conclusions and preliminary recommendations relative to our understanding of the proposed development of the site.

If you should have any questions regarding this report, please do not hesitate to contact our office. We appreciate this opportunity to be of service.

Respectfully submitted,

LGC Geotechnical, Inc.

Tim Lawson, CEG 1821, GE 2626
Geotechnical Engineer/Geologist

Kevin Dyekman, CEG 2595
Project Geologist

CNJ/KAD/TJL/aca

Distribution: (1) Addressee (electronic copy)
(4) Recupero & Associates (3 wet signed copies & 1 electronic copy)
Attn: Mr. Tom Dellner

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1.0 INTRODUCTION

1.1 Purpose and Scope of Services

This report presents our preliminary geotechnical evaluation for the proposed Lower McMillan parcel as part of the Arantine Hills residential development, Parcels 1 and 2 of Parcel Map No. 37036, located in the City of Corona, California. The purpose of our review was to provide preliminary geotechnical recommendations relative to the proposed development of the site. As part of this preliminary geotechnical evaluation, we have: 1) reviewed the available previously prepared geotechnical reports pertinent to the site (Appendix A); 2) performed a geotechnical field evaluation; 3) performed field infiltration testing of the native soils onsite; 4) performed geotechnical analysis utilizing the data obtained; and 5) prepared this summary report presenting our preliminary findings, conclusions, and preliminary geotechnical recommendations. The findings, conclusions, and recommendations presented herein should be considered preliminary and must be confirmed by LGC Geotechnical during site grading.

1.2 Project Description

The McMillan Parcel, Parcel Map No. 37036, consists of approximately 160 acres of undeveloped land located at the foothills of the Santa Ana Mountains near the southern boundary of the City of Corona, Riverside County, California (Figure 1 – Site Location Map). The site is bound by the Eagle Glen Specific Plan development to the north and west, by the Cleveland National Forest to the southwest, and by the Retreat Specific Plan development to the south.

The site is primarily comprised of grasses and shrubs, with several scattered trees throughout. Native descending canyon slopes up to approximately 60 feet in height with varying slope ratios, ranging from approximately 1.25:1 to 3:1 (horizontal to vertical), are located in the central to southeastern portion of the site. Bluffs associated with Bedford Canyon are located in the central portion of the site and serve as the southern boundary of the Bedford Canyon Wash. The bluffs are up to approximately 100 feet in height with varying slope ratios ranging from approximately 1:1 (horizontal to vertical) to near vertical. The site can generally be divided into two basic regions based on topography: the lower-lying Bedford Canyon Wash area in the northern portion of the site; and the higher, elevated bluff regions above and southeast of Bedford Canyon Wash. This report is specific to the lower-lying Bedford Canyon Wash area in the northern portion of the McMillan Parcel which is represented by Parcels 1 and 2 on the Parcel Map No. 37036 prepared by Hunsaker & Associates (2018).

It is our understanding that the proposed development will consist of mass/rough grading to construct building pads for future residential dwellings and construction of an improved earthen channel associated with Bedford Canyon that will be located adjacent to the existing bluffs. The recommendations provided in this report are preliminary and are based upon current geotechnical conditions. We understand that the project grading plans are currently being developed at this time. LGC Geotechnical should be provided with updated project grading plans and structural loads as they become available in order to confirm or modify the recommendations provided herein.

1.3 Background

Previous geotechnical subsurface evaluations for the Arantine Hills residential development have been

performed and the information pertinent to the subject "Lower" McMillan Parcel site have been included in this report. Previous geotechnical evaluations are briefly summarized below. For further details regarding previous geotechnical evaluations see the referenced reports (Appendix A).

In 2002, LOR Geotechnical Group (LOR) performed a geotechnical field evaluation consisting of 31 exploratory trenches and 23 hollow-stem borings. The trenches were excavated to depths ranging from approximately 4.5 feet to 15 feet below existing ground surface and the borings ranged in depth from approximately 24.0 feet to 51.5 feet below existing ground surface. LOR also performed a review of aerial photographs and surface mapping of potential site faults identified as "A" through "I". At that time, the proposed development was larger in scale and the southern portion was located in an Alquist-Priolo Earthquake Fault Zone (AP Zone) based on the presence of the Elsinore Fault. LOR concluded that near-surface soils and undocumented fill soils were not suitable for the proposed improvements. LOR recommended a specific fault study be performed to evaluate the potential for fault rupture at the site.

LOR performed a fault investigation study (LOR, 2004) which consisted of five trenches ranging in length from approximately 200 to more than 800 feet and up to approximately 22 feet deep. Three of the trenches were performed in the current subject area known as Arantine Hills, along the southeastern base of the bluff, and two were located outside of the current subject area on top of the bluff at the southwestern corner of the previous, larger site in order to cross the entire portion of the Earthquake Fault Zone in that area. LOR concluded from their trenching that none of the features noted would classify the faults as "active" as defined by the State of California Alquist-Priolo Earthquake Fault Zone Act, thereby no structural setbacks would be required for the proposed development.

In 2014 and 2015, LGC Geotechnical Inc. (LGC Geotechnical), performed a supplemental field investigation including the excavation of five backhoe test pits and four fault trenches (LGC Geotechnical, 2014b & 2015a). The test pits were excavated to depths ranging from approximately five to seven feet below the ground surface utilizing a standard backhoe in order to evaluate the near-surface soil conditions. The fault trenches were excavated in order to evaluate the possible presence of active faults that were previously mapped to transect the site (LOR, 2004). The fault trenches were oriented approximately perpendicular to the previously mapped fault trends. Once excavated, the walls of the trenches were scraped clean and detailed logging of the exposed lithology, geologic structure, and stratigraphy was performed (LGC Geotechnical, 2014b & 2015a). No evidence of faulting was observed in the trenches and thereby no setback zones were recommended.

1.4 Subsurface Geotechnical Evaluation

LGC Geotechnical has conducted a recent subsurface geotechnical evaluation consisting of the excavation of six small-diameter hollow-stem auger borings and performed infiltration testing to evaluate onsite geotechnical conditions.

Six hollow-stem auger borings (HS-1 through HS-3 and I-1 through I-3) were excavated by 2R Drilling, Inc., under subcontract to LGC Geotechnical. The depth of the hollow-stem borings ranged from approximately 4 to 31.5 feet below existing grades. A LGC Geotechnical representative observed the drilling operations, logged the borings, and collected soil samples for laboratory testing. The borings were performed using a truck-mounted drill rig equipped with 6-inch diameter hollow-stem augers. Driven soil samples were collected by means of the Standard Penetration Test (SPT) and Modified California Drive (MCD) samplers, generally at 2.5 and 5-foot vertical increments. The MCD is a

split-barrel sampler with a tapered cutting tip and lined with a series of 1-inch tall brass rings. The SPT sampler (1.4-inch ID) and MCD sampler (2.4-inch ID, 3.0-inch OD) were driven using a 140-pound automatic hammer falling 30 inches to advance the sampler a total depth of 18 inches or until refusal. The raw blow counts for each 6-inch increment of penetration were recorded on the boring logs. Bulk samples of the near-surface soils were logged and collected for laboratory testing from select borings. At the completion of drilling, the borings were backfilled with native soils and tamped. Some settlement of the backfill should be expected.

Borings I-1 and I-3 were excavated and logged to 5 feet and I-2 was excavated and logged to 10 feet below the existing ground surface. Subsequent to excavation and logging, the borings were converted into infiltration test wells. Test well installation consisted of placing a 3-inch diameter perforated PVC pipe in each excavated borehole and backfilling the annulus with crushed rock including the placement of approximately 2 inches of crushed rock at the bottom of each borehole. Infiltration testing was performed in accordance with County of Riverside Guidelines (2011) using relatively clean water, free of particulates, silt, etc.

The approximate locations of our geotechnical borings and infiltration testing are shown on the Geotechnical Map (Figure 2) and the logs are provided in Appendix B. Boring and trench logs from previous site investigations pertinent to the subject site are also shown on the Geotechnical Map (Figure 2) and the logs are presented in Appendix B.

1.5 Preliminary Infiltration Testing

Preliminary field infiltration testing was performed in borings I-1, I-2, and I-3. Field infiltration rate testing was performed in general accordance with guidelines set forth by the County of Riverside (2011). Test well installation consisted of placing a 3-inch diameter perforated PVC pipe in each excavated borehole and backfilling the annulus with crushed rock and included the placement of approximately 2 inches of crushed rock at the bottom of each borehole. The infiltration test wells were presoaked the day of installation and testing took place within 24 hours of presoaking. During the pre-test of each well the water level was observed to drop more than 6 inches in 25 minutes for two consecutive readings. Therefore, the test procedure for coarse-grained soils was followed. The procedure for coarse-grained soils requires performing the test for at least 60 minutes and taking one reading every 10 minutes from a fixed reference point. Test well installation and the estimation of infiltration rates were accomplished in general accordance with the guidelines set forth by the County of Riverside (2011). In general, three-dimensional flow out of the test well (percolation), as observed in the field, is mathematically reduced to one-dimensional flow out of the bottom of the test well (infiltration). Infiltration tests are performed using relatively clean water, free of particulates, silt, etc. The results of our recent field infiltration testing is summarized on the next page.

TABLE 1

Summary of Preliminary Infiltration Testing

Infiltration Test Location	Measured Infiltration Rate* (Inch/Hr)	Calculated Infiltration Rate** (Inch/Hr)
I-1	2.5	1.25
I-2	2.1	1.05
I-3	6.5	3.25

*Does Not Include Any Factors of Safety

**Includes factor of safety of 2 from Measured Rate in order to Evaluate Feasibility (County of Riverside, 2012).

It should be emphasized that infiltration test results are only representative of the location and depth where they are performed. Varying subsurface conditions may exist outside of the test locations which could alter the calculated infiltration rates indicated above. Infiltration tests are performed using relatively clean water free of particulates, silt, etc.

Please note, the testing of infiltration rates is highly dependent upon the materials encountered at the point of testing (i.e. location and depth of testing). Variations from our test results must be expected.

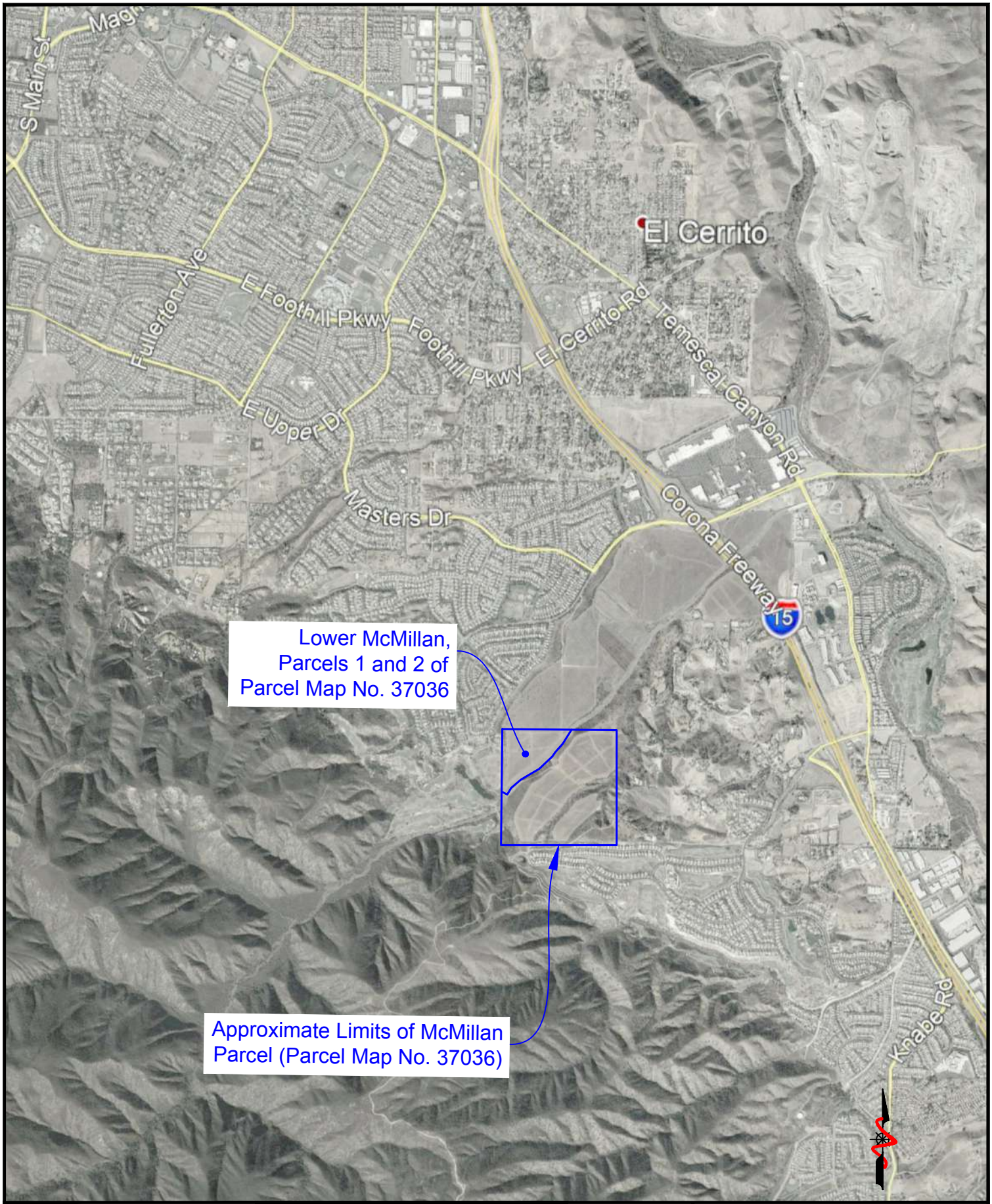
1.6 Laboratory Testing

Representative samples were retained for laboratory testing during our recent field evaluation. Laboratory testing included moisture content, dry density, expansion index, collapse, and corrosion (sulfate, chloride, pH and minimum resistivity).

The following is a summary of the laboratory test results.

- Dry density of the samples collected ranged from approximately 114 pounds per cubic foot (pcf) to 129 pcf, with an average of 121 pcf. Field moisture contents ranged from approximately 3 to 7 percent, with an average of 5 percent.
- Four gradation tests were performed and indicated a fines content (percent passing No. 200 sieve) ranging from approximately 10 to 15 percent. According to the Unified Soils Classification System (USCS), the tested samples would be classified as “coarse-grained” soil.
- One Expansion Index (EI) test was performed. Result was an EI value of 0, corresponding to “Very Low” expansion potential.
- Corrosion testing indicated soluble sulfate content of approximately 0.013 percent, chloride content of 32 parts per million (ppm), pH value of 7.4 and minimum resistivity value of 3,900 ohm-cm.
- Four collapse tests were performed. The load versus deformation plots are provided in Appendix C.

A summary of the recent laboratory results along with previous laboratory testing results are presented in Appendix C.



LGC Geotechnical, Inc.

FIGURE 1
Site Location Map

PROJECT NAME	Arantine Hills - Lower McMillan Parcel
PROJECT NO.	13208-02
ENG. / GEOL.	TJL / KAD
SCALE	Not to Scale
DATE	April 2018

2.0 GEOTECHNICAL CONDITIONS

2.1 Regional Geology

The subject site is located along the northeastern flank of the Santa Ana Mountains, just north of the Elsinore-Temecula basin, within the Peninsular Ranges Geomorphic Province. In this area, the Santa Ana Mountains are composed of a core of metamorphic rocks of the Bedford Canyon Formation with lesser amounts of volcanic rock. Erosion of the mountains has lead to a series of sub-parallel canyons out of the mountains. The material eroded from the mountains has formed a series of coalescing alluvial fans, also referred to as older alluvial deposits. Subsequently these fan deposits have been eroded by a series of drainage courses. The subject site is located in one of these drainages known as "Bedford Canyon". Located adjacent to the southeast corner of the site is the Elsinore Fault Zone. The Elsinore Fault Zone is a major active fault in Southern California and is regionally part of the San Andreas Fault system that distributes the right lateral movement across the North American and Pacific Plates.

2.2 Site-Specific Geology

The site is located on alluvial deposits of Bedford Canyon Wash. The alluvial deposits encountered during our subsurface exploration generally consisted of interbedded layers of variable materials including sand with varying amounts of silt, gravel, cobbles and minor amounts of clay. Moisture ranged from slightly moist to moist, with an increase with depth. Apparent density generally ranged from medium dense to very dense with an increase with depth.

2.3 Groundwater

Groundwater and seepage was not encountered to the maximum explored depth of approximately 30 feet below existing grade during our recent subsurface evaluation. Groundwater was not encountered in the previous geotechnical evaluations to maximum explored depth of approximately 50 feet below existing grade (LGC Geotechnical, 2014 & LOR, 2002).

Seasonal fluctuations of groundwater elevations should be expected over time. In general, groundwater levels fluctuate with the seasons and local zones of perched groundwater may be present due to local seepage caused by irrigation and/or recent precipitation. Local perched groundwater conditions or surface seepage may develop once site development is completed.

2.4 Seismicity

The site seismic characteristics were evaluated per the guidelines set forth in Chapter 16, Section 1613 of the 2016 California Building Code (CBC). Representative site coordinates of latitude 33.8063 degrees north and longitude -117.5311 degrees west were utilized in our analyses. The maximum considered earthquake (MCE) spectral response accelerations (S_{MS} and S_{M1}) and adjusted design spectral response acceleration parameters (S_{DS} and S_{D1}) for Site Class D are provided in Table 2 on the following page.

TABLE 2

2016 Seismic Design Parameters

Selected Parameters from 2016 CBC, Section 1613 - Earthquake Loads	Seismic Design Values
Site Class per Chapter 20 of ASCE 7	D
Risk-Targeted Spectral Acceleration for Short Periods (S_S)*	2.461g
Risk-Targeted Spectral Accelerations for 1-Second Periods (S_1)*	0.971g
Site Coefficient F_a per Table 1613.3.3(1)	1.0
Site Coefficient F_v per Table 1613.3.3(2)	1.5
Site Modified Spectral Acceleration for Short Periods (S_{MS}) for Site Class D [Note: $S_{MS} = F_aS_S$]	2.461g
Site Modified Spectral Acceleration for 1-Second Periods (S_{M1}) for Site Class D [Note: $S_{M1} = F_vS_1$]	1.456g
Design Spectral Acceleration for Short Periods (S_{DS}) for Site Class D [Note: $S_{DS} = (^2/_3)S_{MS}$]	1.641g
Design Spectral Acceleration for 1-Second Periods (S_{D1}) for Site Class D [Note: $S_{D1} = (^2/_3)S_{M1}$]	0.971g
Mapped Risk Coefficient at 0.2 sec Spectral Response Period, C_{RS} (per ASCE 7)	0.933
Mapped Risk Coefficient at 1 sec Spectral Response Period, C_{R1} (per ASCE 7)	0.918

* From USGS, 2014

Section 1803.5.12 of the 2016 CBC (per Section 11.8.3 of ASCE 7) states that the maximum considered earthquake geometric mean (MCE_G) Peak Ground Acceleration (PGA) should be used for geotechnical evaluations such as liquefaction potential. The PGA_M for the site is equal to 0.95g (USGS, 2018).

2.5 Faulting

California is located on the boundary between the Pacific and North American Lithospheric Plates. The average motion along this boundary is on the order of 50-mm/yr in a right-lateral sense. The majority of the motion is expressed at the surface along the northwest trending San Andreas Fault Zone with lesser amounts of motion accommodated by sub-parallel faults located predominantly west of the San Andreas Fault including the Elsinore, Newport-Inglewood, and Coronado Bank Faults.

Prompted by damaging earthquakes in California, State legislation and policies concerning the classification and land-use criteria associated with faults have been developed. The Alquist-Priolo (AP)

Earthquake Fault Zoning Act was established to prevent the construction of urban developments across the trace of active faults. An "active" fault is defined as a fault that has ruptured through materials that are younger than approximately 11,000 years old. Specific Earthquake Fault Zones (AP Zones) have been delineated along the traces of active faults within California, where this potential must be evaluated prior to construction of urban developments.

The subject site is not located within a State of California Earthquake Fault-Rupture Zone. However, the Glen Ivy Section of the Elsinore Fault Zone is located approximately 1,500 feet to the southwest of the site.

Previous studies have been performed on the general area of the Arantine Hills development with regards to active faulting. In general, the older studies recognized a series of faults crossing the Arantine Hills site including the McMillan Parcel. LOR recognized eight fault splays in the general vicinity and specifically noted that some of these faults appear to offset material that is less than 11,000 years old, which would therefore classify them as "active" (LOR, 2002). LOR conducted a further investigation of the site (LOR, 2004) and excavated five trenches across the suspected faults at the site. The conclusion of this investigation was that none of the faults at the site are considered to be "active" and therefore no structural setback zones were recommended.

LGC Geotechnical performed a supplemental fault trench evaluation and four fault trenches up to approximately 1100 feet in length were excavated. The lithology, geologic structure, and stratigraphy exposed in the fault trenches were documented presented in the referenced reports (LGC Geotechnical, 2014b &2015a). No evidence of active faulting was observed in the trenches and therefore no setback zones were recommended. For additional details regarding faulting the vicinity of the subject site please refer to the referenced reports (LGC Geotechnical, 2014b & 2015a).

Secondary effects of seismic shaking resulting from large earthquakes on the major faults in the Southern California region, which may affect the site, include ground lurching and shallow ground rupture, soil liquefaction, dynamic settlement. These secondary effects of seismic shaking are a possibility throughout the Southern California region and are dependant on the distance between the site and causative fault and the onsite geology. The closest major active faults that could produce these secondary effects include the Elsinore, Chino, Whittier and Puente Hills Faults among others (USGS, 2008b). A discussion of these secondary effects is provided in the following sections.

2.5.1 Liquefaction and Dynamic Settlement

Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking. Liquefaction occurs when three general conditions coexist: 1) shallow groundwater; 2) low density non-cohesive (granular) soils; and 3) high-intensity ground motion. Studies indicate that saturated, loose to medium dense, near-surface cohesionless soils exhibit the highest liquefaction potential, while dry, dense, cohesionless soils and cohesive soils exhibit low to negligible liquefaction potential. In general, cohesive soils are not considered susceptible to liquefaction, depending on their plasticity and moisture content (Bray & Sancio, 2006). Effects of liquefaction on level ground include settlement, sand boils, and bearing capacity failures below structures. Dynamic settlement of dry loose sands can occur as the sand particles tend to settle and densify as a result of a seismic event.

The site is mapped by the County of Riverside as having "Very Low" to "Low" potential for liquefaction (RCTLMA, 2014). Based on the proposed development and remedial grading, the site will primarily consist of compacted fill over dense native soils and groundwater is not present. Therefore, the potential for post construction liquefaction and liquefaction-induced dynamic settlement is considered very low.

2.5.2 Lateral Spreading

Lateral spreading is a type of liquefaction induced ground failure associated with the lateral displacement of surficial blocks of sediment resulting from liquefaction in a subsurface layer. Once liquefaction transforms the subsurface layer into a fluid mass, gravity plus the earthquake inertial forces may cause the mass to move downslope towards a free face (such as a river channel or an embankment). Lateral spreading may cause large horizontal displacements and such movement typically damages pipelines, utilities, bridges, and structures.

Due to the very low potential for liquefaction, the potential for lateral spreading is also considered very low.

2.6 Rippability

In general, moderate ripping utilizing heavy-duty excavation equipment should be anticipated for site soils. Localized difficult excavation due to very dense cemented zones should be anticipated. The use of blasting is not anticipated.

2.7 Oversized Material

Oversized material (material larger than 8 inches in maximum dimension) will likely be generated during site grading. Recommendations are provided for appropriate handling of oversized material, refer Appendix D.

2.8 Expansive Soil Characteristics

Previous and recent site laboratory testing of the onsite soils indicated "Very Low" to "Low" expansion potential. Final expansion potential must be determined at the completion of grading.

2.9 Corrosion Potential

Although not corrosion engineers (LGC Geotechnical is not a corrosion consultant), several governing agencies in Southern California require the geotechnical consultant to determine the corrosion potential of soils on buried concrete and metal facilities. We therefore present the results of our and previous testing results with regard to corrosion for the use of the client and other consultants, as they determine necessary.

Previous and recent corrosion test (pH, resistivity, soluble sulfate, and chloride content) results indicated soluble sulfate content of approximately 0.008 to 0.013 percent, chloride content of approximately 32 to 64 parts per million (ppm), pH values of approximately 7.4 to 8.1, and minimum resistivity values of approximately 3,495 to 3,900 ohm-centimeters.

Based on Caltrans Corrosion Guidelines (2012), soils are considered corrosive to structural elements if the pH is 5.5 or less, or the chloride concentration is 500 ppm or greater, or the sulfate concentration is 2,000 ppm (0.2 percent) or greater.

Based on laboratory test results of representative site soil samples, onsite soils have a designated sulfate exposure class of “S0” per ACI 318-14, Table 19.3.1.1.

3.0 CONCLUSIONS

Based on the results of our geotechnical field evaluation and our understanding of the proposed development, it is our opinion that the proposed development is feasible from a geotechnical standpoint, provided that the recommendations contained in the following sections are incorporated during site grading and construction. A summary of our geotechnical conclusions is as follows:

- The site is primarily underlain by alluvial soils. Near-surface soils are not considered suitable for support of the proposed improvements and will require removal and recompaction (See Section 4.1).
- Groundwater was not encountered during previous or recent subsurface evaluations to the maximum explored depths of approximately 50 feet and 30 feet below existing grade, respectively.
- Field infiltration test results indicated "measured" infiltration rates ranging from approximately 2.1 inches per hour to 6.5 inches per hour. Field infiltration rate testing was performed in general accordance with guidelines set forth by the County of Riverside (2011).
- The subject site is not located within a State of California Earthquake Fault-Rupture Zone. Potential damage to site improvements due to ground rupture are considered low since no active faults are known to transect the site.
- The main seismic hazard that may affect the site is ground shaking from one of the active regional faults. The subject site will likely experience strong seismic ground shaking during its design life. The PGA_M for the site is equal to 0.95g (USGS, 2018).
- Based on our understanding of the proposed development, the site will primarily consist of compacted fill over dense native soils and an absence of shallow groundwater. Therefore, the potential for post construction liquefaction and liquefaction-induced dynamic settlement is considered very low.
- Based on preliminary laboratory test results, the majority of onsite soils are anticipated to have "Very Low" to "Low" expansion potential. Final design expansion potential must be determined at the completion of grading.
- The generation of oversized material (rock greater than 8 inches in maximum dimension) during grading should be anticipated by the contractor. Oversized materials are to be properly handled during grading in accordance with Appendix D.

4.0 PRELIMINARY RECOMMENDATIONS

The following recommendations are to be considered preliminary and should be confirmed upon completion of grading and earthwork operations. In addition, they should be considered minimal from a geotechnical viewpoint, as there may be more restrictive requirements from the architect, structural engineer, building codes, governing agencies, or the owner.

It should be noted that the following geotechnical recommendations are intended to provide sufficient information to develop the site in general accordance with the 2016 CBC requirements. With regard to the potential occurrence of potentially catastrophic geotechnical hazards such as fault rupture, earthquake-induced landslides, liquefaction, etc. the following geotechnical recommendations should provide adequate protection for the proposed development to the extent required to reduce seismic risk to an "acceptable level." The "acceptable level" of risk is defined by the California Code of Regulations as "that level that provides reasonable protection of the public safety, though it does not necessarily ensure continued structural integrity and functionality of the project" [Section 3721(a)]. Therefore, repair and remedial work of the proposed improvement may be required after a significant seismic event. With regards to the potential for less significant geologic hazards to the proposed development, the recommendations contained herein are intended as a reasonable protection against the potential damaging effects of geotechnical phenomena such as expansive soils, fill settlement, groundwater seepage, etc. It should be understood, however, that although our recommendations are intended to maintain the structural integrity of the proposed development given the site geotechnical conditions, they cannot preclude the potential for some cosmetic distress or nuisance issues to develop as a result of the site geotechnical conditions.

The geotechnical recommendations contained herein must be confirmed to be suitable or modified based on the actual as-graded conditions.

4.1 Site Earthwork

We recommend that earthwork onsite be performed in accordance with the following recommendations, the City of Corona/2016 CBC requirements, and the General Earthwork and Grading Specifications for Rough Grading included in Appendix D. In case of conflict, the following recommendations shall supersede all previous recommendations and those included as part of Appendix D. The following recommendations should be considered preliminary and may be revised by the geotechnical consultant based on the actual conditions encountered during site grading.

4.1.1 Site Preparation

Prior to grading of areas to receive structural fill or engineered structures, the areas should be cleared of surface obstructions and potentially compressible material (such as undocumented fill, topsoil, colluvium, alluvium, and vegetation). Vegetation and debris should be removed and properly disposed of offsite. Holes resulting from the removal of buried obstructions, which extend below proposed removal bottoms, should be replaced with properly compacted fill material. Any encountered oil or water wells should be properly abandoned in accordance with regulatory requirements.

4.1.2 Removal Depths

In general, existing undocumented artificial fill and loose, upper alluvium soils should be removed to competent alluvium. In general, removal depths are estimated to be approximately 3 feet below existing grade or 2 feet below proposed footings, whichever is greater.

Local conditions may be encountered which could require additional removals beyond the estimated depths indicated above, deeper removals should be anticipated in isolated areas. The actual depth and lateral extents of removals should be determined by the geotechnical consultant, based on subsurface conditions encountered during grading.

4.1.3 Over-excavation of Design Cut and Cut/Fill Transition Pads and Streets

Due to the low moisture conditions of the site soils, we recommend design cut and cut/fill transition pads to be over-excavated to a minimum of 3 feet below ultimate finish pad grade based on the future rough grade design elevations. A maximum 3:1 differential fill thickness underneath individual lots should be maintained in order to reduce the potential for future differential settlement. Over-excavation should extend laterally a minimum of 5 feet beyond proposed building footprints.

It is our opinion, that utility excavations may be completed utilizing typical heavy machinery. As previously mentioned, the native soils at the site are generally uncemented alluvial sands and gravels which correlate to a Class "C" soil per Cal OSHA guidelines. These soils are anticipated to be unstable when excavated vertically. At the owners' discretion, the streets may be over-excavated, such that utility trenches will later be excavated through compacted fill soils which is considered more stable. If desired, it is recommended that the street over-excavation extend approximately 1-foot below the lowest utility.

The actual depth and lateral extends of over-excavation should be determined by the geotechnical consultant, based on subsurface conditions encountered during grading.

4.1.4 Temporary Excavations

We anticipate temporary slopes to be grossly stable at 1.5:1 (horizontal to vertical) or flatter; however, excavations must be made in accordance with Cal OSHA and OSHA requirements. Vehicular traffic, stockpiles, and equipment storage should be set back from the perimeter of excavations a minimum distance equivalent to a 1:1 projection from the bottom of the excavation or 5 feet, whichever is greater.

Soil conditions should be frequently observed by a representative of LGC Geotechnical, not only to confirm the geotechnical conditions, but to also help provide early warnings of potential failures. Based on observed conditions, flatter inclinations may be required. The majority of site soils are anticipated to be OSHA Type "C" soils. The contractor will be responsible for providing the "competent person" required by Cal/OSHA standards to evaluate soil conditions. Close coordination with the geotechnical consultant should be maintained to facilitate construction while providing safe excavations. Excavation safety is the sole responsibility of the contractor.

Once an excavation has been initiated, it should be backfilled as soon as practical. Prolonged exposure of temporary excavations may result in some localized instability. Excavations should be planned so that they are not initiated without sufficient time to shore/fill them prior to weekends, holidays, or forecasted rain.

4.1.5 Removal Bottoms and Subgrade Preparation

In general, removal bottom areas and areas to receive compacted fill should be scarified to a minimum depth of 6 inches, brought to a near-optimum moisture condition, and re-compacted per project recommendations. Removal bottoms and areas to receive fill should be observed and accepted by the geotechnical consultant prior to subsequent fill placement.

4.1.6 Material for Fill

From a geotechnical perspective, the onsite soils are generally considered suitable for use as general compacted fill, provided they are screened of organic materials and construction debris. Any encountered oversized material (material larger than 8 inches in maximum dimension) must be appropriately handled as outlined in Appendix D.

From a geotechnical viewpoint, any required import soils should consist of clean, relatively granular soils with a Very Low expansion potential (expansion index 20 or less based on ASTM D4829) and no particles larger than 3 inches in greatest dimension. Source samples of planned importation should be provided to the geotechnical consultant for laboratory testing a minimum of 3 working days prior to any planned importation.

4.1.7 Fill Placement and Compaction

Material to be placed as fill should be brought to near-optimum moisture content (generally within optimum to 2 percent above optimum moisture content) and recompacted to at least 90 percent relative compaction (per ASTM D1557). Moisture conditioning of site soils will be required in order to achieve adequate compaction. The optimum lift thickness to produce a uniformly compacted fill will depend on the type and size of compaction equipment used. In general, fill should be placed in uniform lifts not exceeding 8 inches in compacted thickness. Each lift should be thoroughly compacted and accepted prior to subsequent lifts. Generally, placement and compaction of fill should be performed in accordance with local grading ordinances and under the observation and testing performed by the geotechnical consultant.

Fill placed on any slopes greater than 5:1 (horizontal to vertical) should be properly keyed and benched into firm and competent soils as it is placed in lifts. During backfill of excavations, the fill should be properly benched into firm and competent soils of temporary backcut slopes as it is placed in lifts. All benching must be performed behind the design backcuts. Every bench must be a minimum of 4 feet high.

Slope face compaction must be achieved by the contractor by overfilling the slope face a minimum of 2 feet and cutting back to design finish grades or by other acceptable methods. Compaction of the slopes at grade is not considered an acceptable method of slope finishing.

4.1.8 Shrinkage

Volumetric changes in earth quantities will occur when excavated onsite earth materials are replaced as properly compacted fill. We estimate a shrinkage factor of 5 to 15 percent for the native soils onsite. It should be stressed that this is only an estimate and that an actual shrinkage factor is extremely difficult to predetermine. These values are estimates only and exclude losses due to removal of vegetation or debris. The effective shrinkage of onsite soils will depend primarily on the type of compaction equipment and method of compaction used onsite by the contractor and accuracy of the topographic survey. Contingencies should be made for balancing earthwork quantities based on actual shrinkage that occurs during grading. Shrinkage is also expected to vary with variations in survey accuracy during mass/rough grading.

4.2 Soil Corrosivity to Concrete and Metal

Although not corrosion engineers (LGC Geotechnical is not a corrosion consultant), several governing agencies in Southern California require the geotechnical consultant to determine the corrosion potential of soils to buried concrete and metal facilities. We therefore present the results of our testing with regard to corrosion for the use of the client and other consultants, as they determine necessary.

Previous and recent corrosion test (pH, resistivity, soluble sulfate, and chloride content) results indicated soluble sulfate content of approximately 0.008 to 0.013 percent, chloride content of approximately 32 to 64 parts per million (ppm), pH values of approximately 7.4 to 8.1, and minimum resistivity values of approximately 3,495 to 3,900 ohm-centimeters.

Based on Caltrans Corrosion Guidelines (2012), soils are considered corrosive to structural elements if the pH is 5.5 or less, or the chloride concentration is 500 ppm or greater, or the sulfate concentration is 2,000 ppm (0.2 percent) or greater.

Based on laboratory test results of representative site soil samples, onsite soils have a designated sulfate exposure class of “S0” per ACI 318-14, Table 19.3.1.1.

4.3 Subsurface Infiltration

Recent regulatory changes have occurred that make the infiltration of storm water into subsurface site soils, rather than having it collected in a conventional storm drain system, a priority. Typically, a combination of methods are implemented to reduce surface water runoff and increase infiltration including, but not limited to, permeable pavements/pavers for roadways, water quality/infiltration basins, directing surface water runoff to grass-lined swales, retention areas, and/or drywells.

It should be noted that collecting and concentrating surface water for the purpose of intentionally infiltrating it below grade into site soils conflicts with the geotechnical engineering objective of directing surface water away from slopes, structures, and other improvements. The geotechnical stability and integrity of a site is reliant upon appropriately handling surface water. In general, we do not recommend that surface water be intentionally infiltrated into the subsurface soils. However, if it is determined that water must be infiltrated due to regulatory requirements, we recommend the absolute minimum amount of water be infiltrated and that the infiltration areas not be located near slopes or near settlement sensitive existing/proposed improvements. We recommend the design of any infiltration

system include at least one redundancy or overflow system. It may be prudent to provide an overflow system, connected directly to a storm drain system, in order to prevent failure of the infiltration system, either as a result of lower than anticipated infiltration rates and/or very high flow volumes.

Preliminary field infiltration testing was performed in borings I-1, I-2, and I-3. Field infiltration rate testing was performed in general accordance with guidelines set forth by the County of Riverside (2011). In general, three-dimensional flow out of the test well (percolation), as observed in the field, is mathematically reduced to one-dimensional flow out of the bottom of the test well (infiltration) which results in the "measured" infiltration rate. The "calculated" infiltration rate was determined by applying a minimum factor of safety of 2 to the "measured" rate in order to evaluate feasibility. The "measured" and "design" infiltration rates provided in Section 1.4 are considered a general representation of the infiltration rates of the native soils near the location of the proposed water quality basin.

Based on Chapter 2, Section 2.4.5 of the Water Quality Management Plan for the Santa Ana Region of Riverside County (County of Riverside, 2012), the minimum infiltration rate for Low Impact Development (LID) infiltration Best Management Practices (BMP) is an average of 1.6 inches per hour which utilizes a minimum factor of safety of 2 in order to evaluate feasibility (County of Riverside, 2012). Adjusting the "measured" infiltration rates with a factor of safety of 2 results in "calculated" infiltration rates of 1.05. 1.25, and 3.25 inches per hour with an average of approximately 1.85 inches per hour. Therefore, LID infiltration BMPs may be utilized and designed for the proposed project in accordance with the County of Riverside.

It should be emphasized that infiltration test results are only representative of the location and depth where they are performed. Varying subsurface conditions may exist outside of the test locations which could alter the calculated infiltration rates indicated above. Once locations and elevations of proposed water quality basins or other LID infiltration BMPs are determined additional infiltration testing will be needed in order to confirm design infiltration rates.

4.4 Rough Grading Plan Review

LGC Geotechnical should perform a geotechnical review of the proposed rough grading plans. Updated recommendations and/or additional field work may be necessary. Preliminary geotechnical recommendations for foundation design will be provided at that time.

4.5 Geotechnical Observation and Testing During Construction

The recommendations provided in this report are based on limited subsurface observations and geotechnical analysis. The interpolated subsurface conditions should be checked in the field during construction by a representative of LGC Geotechnical. Geotechnical observation and testing is required per Section 1705 of the 2016 CBC.

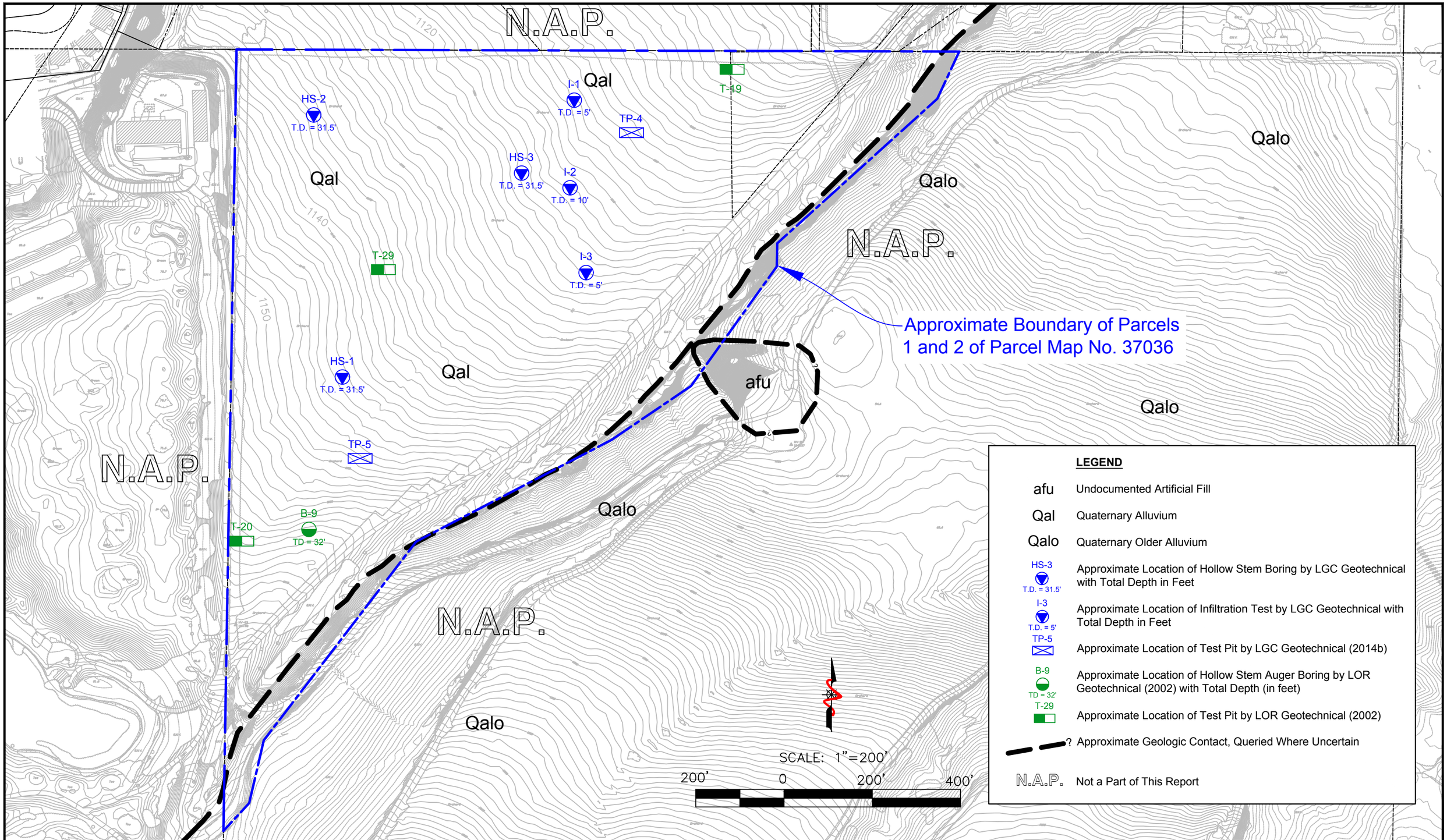
5.0 LIMITATIONS

Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable engineers and geologists practicing in this or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report. The samples taken and submitted for laboratory testing, the observations made and the in-situ field testing performed are believed representative of the entire project; however, soil and geologic conditions revealed by excavation may be different than our preliminary findings. If this occurs, the changed conditions must be evaluated by the project soils engineer and geologist and design(s) adjusted as required or alternate design(s) recommended.

This report is issued with the understanding that it is the responsibility of the owner, or of his/her representative, to ensure that the information and recommendations contained herein are brought to the attention of the designer and/or project engineer and incorporated into the plans, and the necessary steps are taken to see that the contractor and/or subcontractor properly implements the recommendations in the field. The contractor and/or subcontractor should notify the owner if they consider any of the recommendations presented herein to be unsafe.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can and do occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. Therefore, the findings, conclusions, and recommendations presented in this report can be relied upon only if LGC Geotechnical has the opportunity to observe the subsurface conditions during grading and construction of the project, in order to confirm that our preliminary findings are representative for the site.

In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and modification, and should not be relied upon after a period of 3 years.



LGC Geotechnical, Inc.

LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. 200
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

FIGURE 2
Geotechnical Map

PROJECT NAME	*Arantine Hills - Lower McMillan Parcel*
PROJECT NO.	*13208-02*
ENG. / GEOL.	*TJL / KAD*
SCALE	*1" = 200'*
DATE	*April 2018*

Appendix A
References

APPENDIX A

References

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Appendix B
Field Exploration Logs & Infiltration Test Data

Geotechnical Boring Log Borehole HS-1

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1143' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - Quaternary Alluvial Deposits (Qal):** @0' - Silty SAND with Gravel: brown, moist	
1140			R-1	16 17 20	119.5	6.0	SW-SM	@2.5' - SAND with Gravel and Silt: dark brown, slightly moist, dense; angular gravel up to 2" in diameter; scattered rootlets	
	5		SPT-1	12 12 12		4.2	GW-GM	@5' - GRAVEL with Sand and Silt: brown, slightly moist, medium dense; angular gravel	SA
1135			R-2	10 14 16	122.8	5.0	SW-SM	@7.5' - SAND with Gravel and Silt: brown, slightly moist, dense; angular gravel	CO
	10		SPT-2	5 12 13		6.2		@10' - SAND with Gravel and Silt: brown, slightly moist, medium dense	
1130									
	15		R-3	10 11 21	122.8	7.3		@15' - SAND with Gravel and Silt: brown, moist, dense	CO
1125									
	20		SPT-3	19 19 10		4.9	SM	@20' - Silty SAND with Gravel: brown, slightly moist, medium dense	
1120									
	25		R-4	26 33 35	122.5	5.7	SW-SM	@25' - SAND with Gravel and Silt: brown, slightly moist, very dense	
1115									
	30								

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THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole HS-1

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1143' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-4	12 17 14		5.4	SM	@30' - Silty SAND with Gravel: brown, slightly moist, dense	
1110								Total Depth = 31.5' Groundwater Not Encountered Backfilled with Cuttings on 3/1/2018	
	35								
1105									
	40								
1100									
	45								
1095									
	50								
1090									
	55								
1085									
	60								

LGC Geotechnical, Inc.

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B	BULK SAMPLE
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SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

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MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
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EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-2

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1135' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - Quaternary Alluvial Deposits (Qal):** @0' - Sandy SILT with Gravel: brown, moist	
			SPT-1	11 15 15		2.9	SM	@2.5' - Silty SAND with Gravel: brown, slightly moist, medium dense; angular gravel up to 1" in diameter; rootlets	SA
1130	5		R-1	13 13 13	117.6	4.8		@5' - SAND with Gravel and Silt: brown, slightly moist, medium dense	CO
			SPT-2	6 9 11		5.0	SM	@7.5' - Silty SAND with Gravel: brown, slightly moist, medium dense	
1125	10		R-2	12 12 11	114.8	3.7	SW-SM	@10' - SAND with Gravel and Silt: brown, slightly moist, medium dense	
1120	15		SPT-3	13 15 13		4.0	GW-GM	@15' - GRAVEL with Sand and Silt: brown, slightly moist, medium dense	SA
1115	20		R-3	14 25 22	119.6	3.6	SW-SM	@ 20' - SAND with Gravel and Silt: brown, slightly moist, dense	
1110	25		SPT-4	9 12 12		4.3	SM	@ 25' - Silty SAND with Gravel: brown, slightly moist, medium dense	
	30								

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▽	GROUNDWATER TABLE

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MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole HS-2

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1135' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		R-4	27 30 42	125.4	2.7	SW-SM	@30' - SAND with Gravel and Silty: brown, slightly moist, very dense	
								Total Depth = 31.5' Groundwater Not Encountered Backfilled with Cuttings on 3/1/2018	
1105	35								
1100	40								
1095	45								
1090	50								
1085	55								
	60								

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SA	SIEVE ANALYSIS
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EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-3

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1120' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - Quaternary Alluvial Deposits (Qal):**	
			R-1	12 15 15	119.6	3.8	SW-SM	@2.5' - SAND with Gravel and Silt: brown, slightly moist, dense	CO
1115	5	B-1	SPT-1	6 6 6		4.4	SM	@5' - Silty SAND with Gravel: brown, slightly moist, medium dense	EI, CR
			R-2	4 9 13	117.4	5.7	SW-SM	@7.5' - SAND with Gravel and Silt: brown, slightly, medium dense	CO
1110	10		SPT-2	10 11 10		5.5		@10' - SAND with Gravel and Silt: brown, slightly moist, medium dense	SA
1105	15		R-3	19 23 22	119.0	7.1		@15' - SAND with Gravel and Silt: brown, moist, dense	
1100	20		SPT-3	10 13 18		3.9	SM	@20' - Silty SAND with Gravel: brown, slightly moist, dense	
1095	25		R-4	20 20 22	128.8	5.4		@25' - Silty SAND with Gravel: brown, slightly moist, dense	
	30								

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AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole HS-3

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1120' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-4	14 17 21		5.2	SM	@30' - Silty SAND with Gravel: brown, slightly moist, dense	
1090	35							Total Depth = 31.5' Groundwater Not Encountered Backfilled with Cuttings on 3/1/2018	
1085	40								
1080	45								
1075	50								
1070	55								
	60								

LGC Geotechnical, Inc.

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S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole I-1

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1112' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map |

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
1110	0						SW-SM	**@0' to T.D. - Quaternary Alluvial Deposits (Qal):** @0' to T.D. - SAND with Gravel and Silt: brown, slightly moist	
1105	5							Total Depth = 5' Groundwater Not Encountered 3" Perforated Pipe Installed, Surrounded with Gravel, and Presoaked on 3/1/2018. Pipe Removed and Boring Backfilled with Cuttings on 3/2/2018	
1100	10								
1095	15								
1090	20								
1085	25								
	30								

LGC Geotechnical, Inc.

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SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

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MD	MAXIMUM DENSITY
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S&H	SIEVE AND HYDROMETER
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CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole I-2

Date: 3/1/2018	**Drilling Company:** 2R Drilling
Project Name: Arantine Hills - McMillan	**Type of Rig:** Hollow Stem Auger
Project Number: 13208-02	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~1117' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
1115	0						SW-SM	**@0' to T.D. - Quaternary Alluvial Deposit (Qal):** @0' to T.D. - SAND with Gravel and Silt: brown, moist	
1110	5								
1105	10							Total Depth = 10' Groundwater Not Encountered 3" Perforated Pipe Installed, Surrounded with Gravel, and Presoaked on 3/1/2018. Pipe Removed and Boring Backfilled with Cuttings on 3/2/2018	
1100	15								
1095	20								
1090	25								
	30								

LGC Geotechnical, Inc.

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S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole I-3

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1121' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
1120	0						SW-SM	**@0' to T.D. - Quaternary Alluvial Deposit (Qal):** @0' to T.D. - SAND with Gravel and Silt: brown, moist	
1115	5							Total Depth = 5' Groundwater Not Encountered 3" Perforated Pipe Installed, Surrounded with Gravel, and Presoaked on 3/1/2018. Pipe Removed and Boring Backfilled with Cuttings on 3/2/2018	
1110	10								
1105	15								
1100	20								
1095	25								
	30								

LGC Geotechnical, Inc.

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AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Infiltration Test Data Sheet

LGC Geotechnical, Inc

131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Arantine - McMillan
Project Number: 13208-02
Date: 3/2/2018
Boring Number: I-1

Test hole dimensions (if circular)	
Boring Depth (feet)*:	4.85
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:32	7:57	25.0	3.00	4.85	1.85	Yes
2	7:57	8:22	25.0	3.12	4.85	1.73	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Measured Infiltration Rate(in/hr)
1	10:45	10:55	10.0	3.11	3.52	0.41	2.9
2	10:55	11:05	10.0	3.02	3.47	0.45	3.0
3	11:05	11:15	10.0	3.04	3.41	0.37	2.5
4	11:15	11:25	10.0	2.97	3.42	0.45	3.0
5	11:25	11:35	10.0	3	3.43	0.43	2.9
6	11:35	11:45	10.0	3.01	3.39	0.38	2.5
					Calculated Infiltration Rate (No factors of safety)		**2.5**

Sketch:

Notes:

Based on Guidelines from: Riverside County

LGC Geotechnical, Inc.

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Arantine - McMillan
Project Number: 13208-02
Date: 3/2/2018
Boring Number: I-2

Test hole dimensions (if circular)	
Boring Depth (feet)*:	9.95
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:37	8:02	25.0	8.10	9.82	1.72	Yes
2	8:02	8:27	25.0	8.17	9.65	1.48	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Measured Infiltration Rate(in/hr)
1	9:40	9:50	10.0	7.65	7.98	0.33	1.7
2	9:50	10:00	10.0	7.64	8.04	0.40	2.1
3	10:00	10:10	10.0	7.68	7.89	0.21	1.1
4	10:10	10:20	10.0	7.55	7.97	0.42	2.1
5	10:20	10:30	10.0	7.62	7.86	0.24	1.2
6	10:30	10:40	10.0	7.59	7.99	0.40	2.1

Calculated Infiltration Rate (No factors of safety) **2.1**

Sketch:

Notes:

Based on Guidelines from: Riverside County

LGC Geotechnical, Inc.

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Arantine - McMillan
Project Number: 13208-02
Date: 3/2/2018
Boring Number: I-3

Test hole dimensions (if circular)	
Boring Depth (feet)*:	5
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:42	8:07	25.0	3.12	5	1.88	Yes
2	8:07	8:32	25.0	3.01	5	1.99	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Measured Infiltration Rate(in/hr)
1	8:35	8:45	10.0	3.21	4.02	0.81	6.3
2	8:45	8:55	10.0	3.27	4.00	0.73	5.7
3	8:55	9:05	10.0	3.07	3.98	0.91	6.7
4	9:05	9:15	10.0	3.11	3.95	0.84	6.2
5	9:15	9:25	10.0	3.16	3.99	0.83	6.3
6	9:25	9:35	10.0	3.02	3.94	0.92	6.5
					Calculated Infiltration Rate (No factors of safety)		**6.5**

Sketch:

Notes:

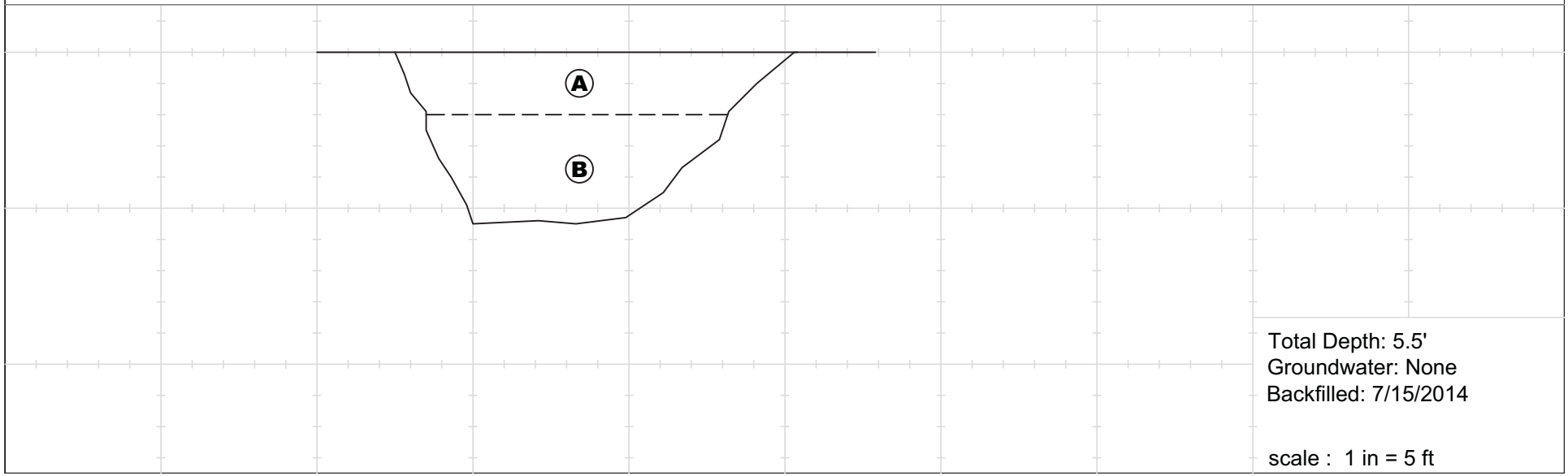
Based on Guidelines from: Riverside County

LGC Geotechnical, Inc.

Project Name: Arantine Hills	**Logged By: ASR**	**Trench No: TP-4**	
Project Number : 13208-01	**Date : 7/15/2014**	**Engineering Properties:**	
Equipment: CASE 580 Super M Backhoe	**Location: See Geotechnical Map**		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	Topsoil - light brownish grey gravelly sand with silt, dry, very loose, abundant grass roots	Qal	SM-SP			
	B	Dark grey sandy gravel with silt and occasional cobbles, slightly moist		GM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 1030 ' MSL** **Surface Slope: 0 deg.** **Trend: 321N**

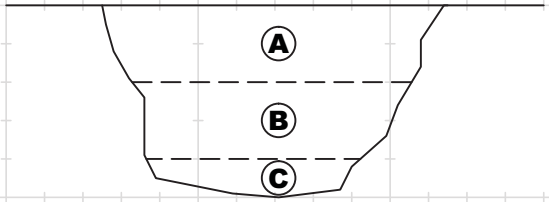


Last Edited: 7/31/2014

Project Name: Arantine Hills	**Logged By: ASR**	**Trench No: TP-5**	
Project Number : 13208-01	**Date : 7/15/2014**	**Engineering Properties:**	
Equipment: CASE 580 Super M Backhoe	**Location: See Geotechnical Map**		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	Topsoil - light grey gravelly sand with silt, dry to slightly moist, loose, abundant roots	Qal	SM-SP			
	B	Dark grey silty sand with gravel, slightly moist to moist, cohesive, marginal roots		SM	B-1		
	C	Dark grey silty sand with gravel, slightly moist to moist					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 1000 ' MSL** **Surface Slope: 0 deg.** **Trend: 13N**



Total Depth: 5'
Groundwater: None
Backfilled: 7/15/2014

scale : 1 in = 5 ft

Last Edited: 7/31/2014

LOG OF BORING B-9

DEPTH IN FEET	EQUIVALENT SPT BLOW COUNTS	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S	DESCRIPTION
0		2.2		T		SM	FILL: SILTY SAND with gravel, approximately 10% angular cobbles to 4", 20% gravel, 10% coarse grained sand, 15% medium grained sand, 30% fine grained sand, 15% silty fines.
	38-6"	4.2	117.3	■			
5	38-6"	5.3	106.7	■			
10	36	3.9	117.6	■		SM	@ 10 feet ALLUVIUM: SILTY SAND, approximately 10% fine gravel, 20% coarse grained sand, 15% medium grained sand, 30% fine grained sand, 25% silty fines, grayish brown, damp. @ 11 feet near refusal on cobbles.
15	22	5.1	113.2	■			@ 16 feet difficult drilling on cobbles.
20	36	4.4	126.2	■			@ 20 feet approximately 5% gravel, 15% coarse grained sand, 20% medium grained sand, 30% fines with trace of brown clay in pores, damp to slightly moist.
25	59	4.8	119.8	■			
30	48			■			END OF BORING
							Fill 0-10'
35							No caving No groundwater No bedrock

TEST DATA

PROJECT: **500+ Acres in Bedford Canyon, Corona, CA**	PROJECT NUMBER:	**31558.1**	
CLIENT: **Bluestone Communities**	ELEVATION:	**1156**	
	DATE DRILLED:	**February 4, 2002**	
LOR GEOTECHNICAL GROUP INC.	EQUIPMENT:	**CME 55**	
	HOLE DIA.: **8"**	ENCLOSURE:	**B-9**

LOG OF TRENCH T-19

DEPTH IN FEET	ESTIMATED COMPACTION (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S	DESCRIPTION
0		4.1				SM	FILL: **SILTY SAND with gravel, approximately 40% gravel to 2", 15% coarse grained sand, 15% medium grained sand, 15% fine grained sand, 15% silty fines, brown, moist, loose.**
	86	6.4	112.9			GW	**@ 2 feet ALLUVIUM: WELL GRADED GRAVEL with silt, approximately 5% cobbles to 6", 40% gravel to 3", 30% coarse grained sand, 10% medium grained sand, 10% fine grained sand, 5% silty fines, moist, brown.**
5	85	5.6	111.7				
10							
15							**END OF TRENCH** **Fill 0-2'** **No caving** **No groundwater** **No bedrock**

PROJECT: **500+ Acres in Bedford Canyon, Corona, CA**		PROJECT NUMBER:	**31558.1**
CLIENT:	**Bluestone Communities**	ELEVATION:	**1096**
		DATE EXCAVATED:	**February 6, 2002**
LOR GEOTECHNICAL GROUP INC.		EQUIPMENT:	**Ford 555E**
		BUCKET W.: **24"**	ENCLOSURE: **B-42**

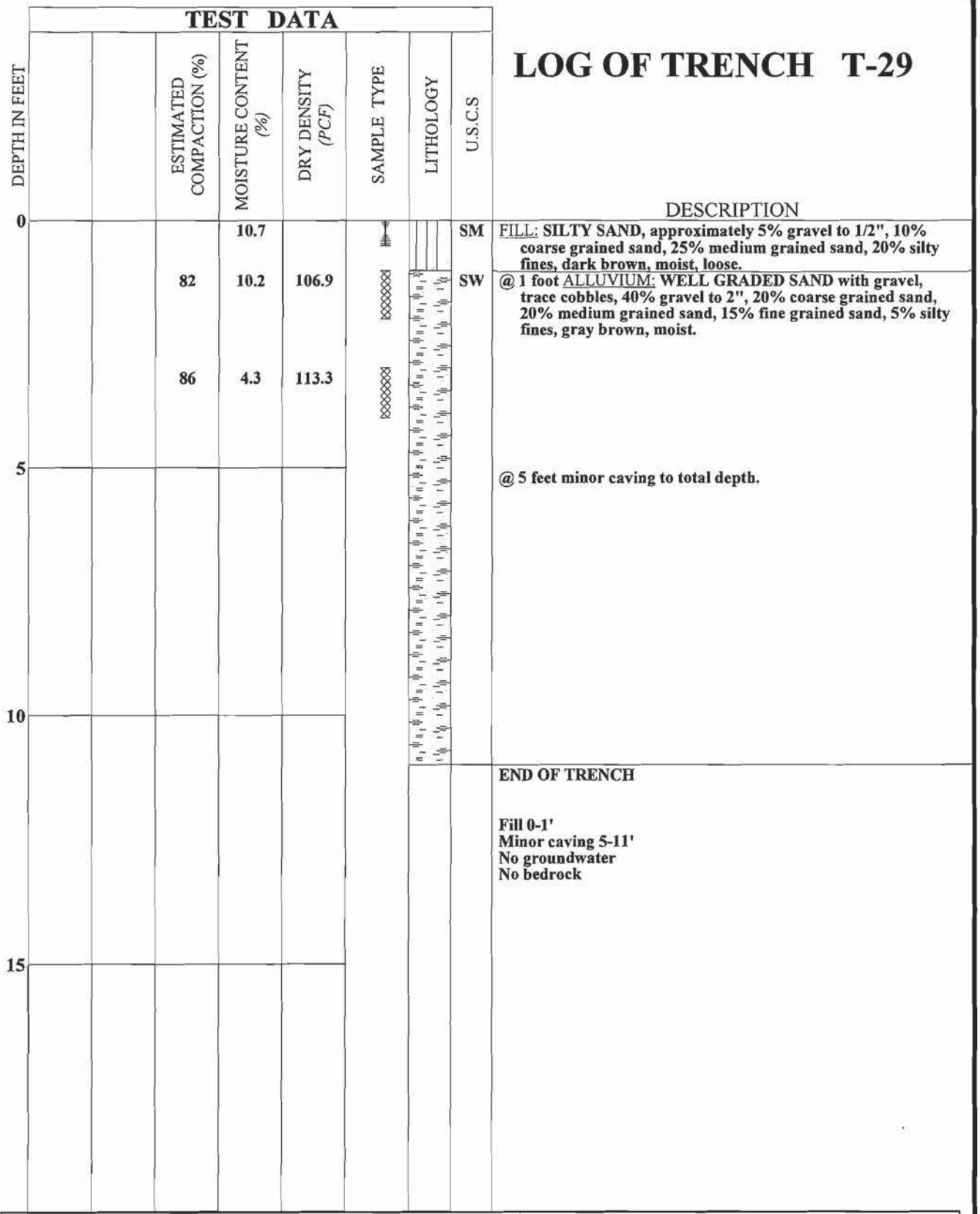
LOG OF TRENCH T-20

DEPTH IN FEET	ESTIMATED COMPACTION (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S	DESCRIPTION
0		3.8				GW	FILL: **WELL GRADED GRAVEL with silt, approximately 5% cobbles to 6", 55% gravel to 3", 15% coarse grained sand, 15% medium grained sand, 10% fine grained sand, brown, moist, loose.**
	78	11.0	101.9			GW	@ 1 foot ALLUVIUM: **WELL GRADED GRAVEL with sand and silt, approximately 5% cobbles to 8", 55% gravel to 3", 15% coarse grained sand, 10% medium grained sand, 10% fine grained sand, 5% silty fines, brown gray, moist.**
5	92	5.2	120.1				
10							**END OF TRENCH**
15							**Fill 0-1'** **No caving** **No groundwater** **No bedrock**

TEST DATA

PROJECT: **500+ Acres in Bedford Canyon, Corona, CA**		PROJECT NUMBER:	**31558.1**
CLIENT:	**Bluestone Communities**	ELEVATION:	**1160**
		DATE EXCAVATED:	**February 6, 2002**
LOR GEOTECHNICAL GROUP INC.		EQUIPMENT:	**Ford 555E**
		BUCKET W.: **24"**	ENCLOSURE: **B-43**

LOG OF TRENCH T-29



PROJECT: **500+ Acres in Bedford Canyon, Corona, CA**		PROJECT NUMBER:	**31558.1**
CLIENT:	**Bluestone Communities**	ELEVATION:	**1132**
		DATE EXCAVATED:	**February 7, 2002**
LOR GEOTECHNICAL GROUP INC.		EQUIPMENT:	**Ford 555E**
		BUCKET W.: **24"**	ENCLOSURE: **B-52**

Appendix C
Laboratory Test Results

APPENDIX C

Laboratory Test Results

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on driven samples obtained from the test borings. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution/Fines Content: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve (ASTM D1140). Where applicable, the portion retained on the No. 200 sieve was dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D6913 (sieve) or ASTM D422 (sieve and hydrometer).

Sample Location	Description	% Passing # 200 Sieve
HS-1 @ 5 ft	Well-Graded Gravel with Sand and Silt	11
HS-2 @ 2.5 ft	Well-Graded Silty Sand with Gravel	15
HS-2 @ 15 ft	Well-Graded Gravel with Sand and Silt	10
HS-3 @ 10 ft	Well-Graded Sand with Gravel and Silt	12
T-20 @ 1-3 ft	Well-Graded Gravel with Silt and Sand	5

Direct Shear: Direct shear tests were performed on selected driven and remolded samples, which were soaked for a minimum of 24 hours prior to testing. The samples were tested under various normal loads using a motor-driven, strain-controlled, direct-shear testing apparatus (ASTM D3080). The plot is provided in this Appendix.

Collapse/Swell Potential: Four collapse tests were performed per ASTM D4546. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and loaded to their approximate in-situ effective stress. The curves are presented in this Appendix.

Laboratory Test Results

Expansion Index: The expansion potential of selected representative samples was evaluated by the Expansion Index Test per ASTM D4829. The results are presented in the table below.

Sample Location	Expansion Index	Expansion Potential*
TP-5 @ 2-3 ft	3	Very Low
HS-3 @5-10 ft	0	Very Low

* Per ASTM D4829

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by standard geochemical methods (CTM 417). The test results are presented in the table below.

Sample Location	Sulfate Content
HS-3 @5-10 ft	0.013%
TP-5 @2-3 ft	0.008%

Chloride Content: Chloride content was tested per CTM 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-3 @5-10 ft	32
TP-5 @2-3 ft	64

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-3 @5-10 ft	7.4	3,900
TP-5 @2-3 ft	8.1	3,495

Laboratory Test Results

Laboratory Compaction: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results are presented in the table below.

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
TP-5 @ 2-3 ft	Silty Sand with Gravel	133.5	8.0

Boring No.		HS-1	HS-1	HS-1	HS-1	HS-1	HS-1	HS-2	HS-2	HS-2	HS-2	HS-2	HS-2
Sample No.		R-1	R-4	SPT-1	SPT-2	SPT-3	SPT-4	R-2	R-3	R-4	SPT-1	SPT-2	SPT-3
Depth (ft.)		2.5	25.0	5.0	10.0	20.0	30.0	10.0	20.0	30.0	2.5	7.5	15.0
Sample Type		Ring	Ring	SPT	SPT	SPT	SPT	Ring	Ring	Ring	SPT	SPT	SPT
Soil Identification		Dark Brown Sand w/ Gravel and Silt (SW-SM)	Brown Sand with Gravel and Silt (SC)	Brown Gravel with Sand and Silt (GW-GM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Silty Sand with Gravel (SM)	Brown Silty Sand w/ Gravel (SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Silty Sand with Gravel (SM)	Brown Gravel w/ Sand and Silt (GW-GM)
Pocket Penetrometer	($tons/ft^2$)												
Weight Soil + Rings / Tube	(g)	1185.0	1205.0	N/A	N/A	N/A	N/A	1130.0	1165.0	1200.0	N/A	N/A	N/A
Weight of Rings / Tube	(g)	270.0	270.0	N/A	N/A	N/A	N/A	270.0	270.0	270.0	N/A	N/A	N/A
Average Length	(in.)	6.0	6.0	N/A	N/A	N/A	N/A	6.0	6.0	6.0	N/A	N/A	N/A
Average Diameter	(in.)	2.416	2.416	N/A	N/A	N/A	N/A	2.416	2.416	2.416	N/A	N/A	N/A
Wet Wt. of Soil + Cont.	(g)	107.1	159.1	127.2	119.6	86.8	119.8	158.2	140.1	158.6	155.2	119.0	131.2
Dry Wt. Of Soil + Cont.	(g)	101.2	150.7	122.2	112.8	82.9	113.8	152.6	135.3	154.5	150.9	113.5	126.3
Weight of Container	(g)	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Container No.													
Wet Density	**(pcf)**	126.7	129.5	N/A	N/A	N/A	N/A	119.1	124.0	128.8	N/A	N/A	N/A
Moisture Content	**(%)**	**6.0**	**5.7**	**4.2**	**6.2**	**4.9**	**5.4**	**3.7**	**3.6**	**2.7**	**2.9**	**5.0**	**4.0**
Dry Density	**(pcf)**	**119.5**	**122.5**	**N/A**	**N/A**	**N/A**	**N/A**	**114.8**	**119.6**	**125.4**	**N/A**	**N/A**	**N/A**
Degree of Saturation	**(%)**	39.6	40.9	N/A	N/A	N/A	N/A	21.6	24.0	21.3	N/A	N/A	N/A

LGC Geotechnical, Inc.

MOISTURE & DENSITY of SOILS

ASTM D 2216 & ASTM D 2937

Specific Gravity Assumed 2.70

Project Name:	Arantine - McMillan		
Project No.:	13208-02		
Client Name:	The New Home Company		
Tested By:	CB	Date:	3/1/2018

Boring No.		HS-2	HS-3	HS-3	HS-3	HS-3	HS-3	HS-3					
Sample No.		SPT-4	R-3	R-4	SPT-1	SPT-2	SPT-3	SPT-4					
Depth (ft.)		25.0	15.0	25.0	5.0	10.0	20.0	30.0					
Sample Type		SPT	Ring	Ring	SPT	SPT	SPT	SPT					
Soil Identification		Brown Silty Sand with Gravel (SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Silty Sand w/ Gravel (SM)	Brown Silty Sand w/ Gravel (SM)	Brown Sand with Gravel and Siltl (SM)	Brown Sand w/ Gravel and Silt (SW-SM)	Brown Silty Sand w/ Gravel (SM)					
Pocket Penetrometer	(tons/ft^2)												
Weight Soil + Rings / Tube	(g)	N/A	1190.0	1250.0	N/A	N/A	N/A	N/A					
Weight of Rings / Tube	(g)	N/A	270.0	270.0	N/A	N/A	N/A	N/A					
Average Length	(in.)	N/A	6.0	6.0	N/A	N/A	N/A	N/A					
Average Diameter	(in.)	N/A	2.416	2.416	N/A	N/A	N/A	N/A					
Wet Wt. of Soil + Cont.	(g)	132.0	118.0	159.6	117.1	118.0	125.2	118.4					
Dry Wt. Of Soil + Cont.	(g)	126.7	110.4	151.6	112.3	112.0	120.6	112.7					
Weight of Container	(g)	3.1	3.1	3.1	3.1	3.1	3.1	3.1					
Container No.													
Wet Density	**(pcf)**	N/A	127.4	135.7	N/A	N/A	N/A	N/A					
Moisture Content	**(%)**	**4.3**	**7.1**	**5.4**	**4.4**	**5.5**	**3.9**	**5.2**					
Dry Density	**(pcf)**	**N/A**	**119.0**	**128.8**	**N/A**	**N/A**	**N/A**	**N/A**					
Degree of Saturation	**(%)**	N/A	45.9	47.1	N/A	N/A	N/A	N/A					

LGC Geotechnical, Inc.

MOISTURE & DENSITY of SOILS

ASTM D 2216 & ASTM D 2937

Specific Gravity Assumed 2.70

Project Name:	Arantine - McMillan		
Project No.:	13208-02		
Client Name:	The New Home Company		
Tested By:	CB	Date:	3/1/2018

Boring No.	HS-1	HS-1	HS-2	HS-3	HS-3			
Sample No.	R-2	R-3	R-1	R-1	R-2			
Depth (ft.)	7.5	15.0	5.0	2.5	7.5			
Sample Type	Ring	Ring	Ring	Ring	Ring			
Soil Identification	Dark olive gray well-graded sand with silt and gravel (SW-SM)g	Dark olive gray well-graded sand with silt and gravel (SW-SM)g	Dark olive gray well-graded sand with silt and gravel (SW-SM)g	Dark olive gray well-graded sand with silt and gravel (SW-SM)g	Dark olive gray well-graded sand with silt and gravel (SW-SM)g			
Pocket Penetrometer (tons/ft^2)	>4.50	>4.50	>4.50	>4.50	3.50/>4.50			
Weight Soil + Rings / Tube (g)	997.39	811.44	1155.60	968.22	967.71			
Weight of Rings / Tube (g)	222.0	177.6	266.4	222.0	222.0			
Average Length (in.)	5.0	4.0	6.0	5.0	5.0			
Average Diameter (in.)	2.415	2.415	2.415	2.415	2.415			
Wet. Wt. of Soil + Cont. (g)	199.52	188.57	223.41	199.03	222.53			
Dry Wt. of Soil + Cont. (g)	191.82	179.47	216.14	193.76	214.10			
Weight of Container (g)	37.94	55.53	65.33	55.51	65.33			
Container No.								
Wet Density	129.0	131.8	123.3	124.1	124.0			
Moisture Content (%)	**5.0**	**7.3**	**4.8**	**3.8**	**5.7**			
Dry Density (pcf)	**122.8**	**122.8**	**117.6**	**119.6**	**117.4**			
Degree of Saturation (%)	36.3	53.2	30.0	25.1	35.1			

MOISTURE & DENSITY of SOILS

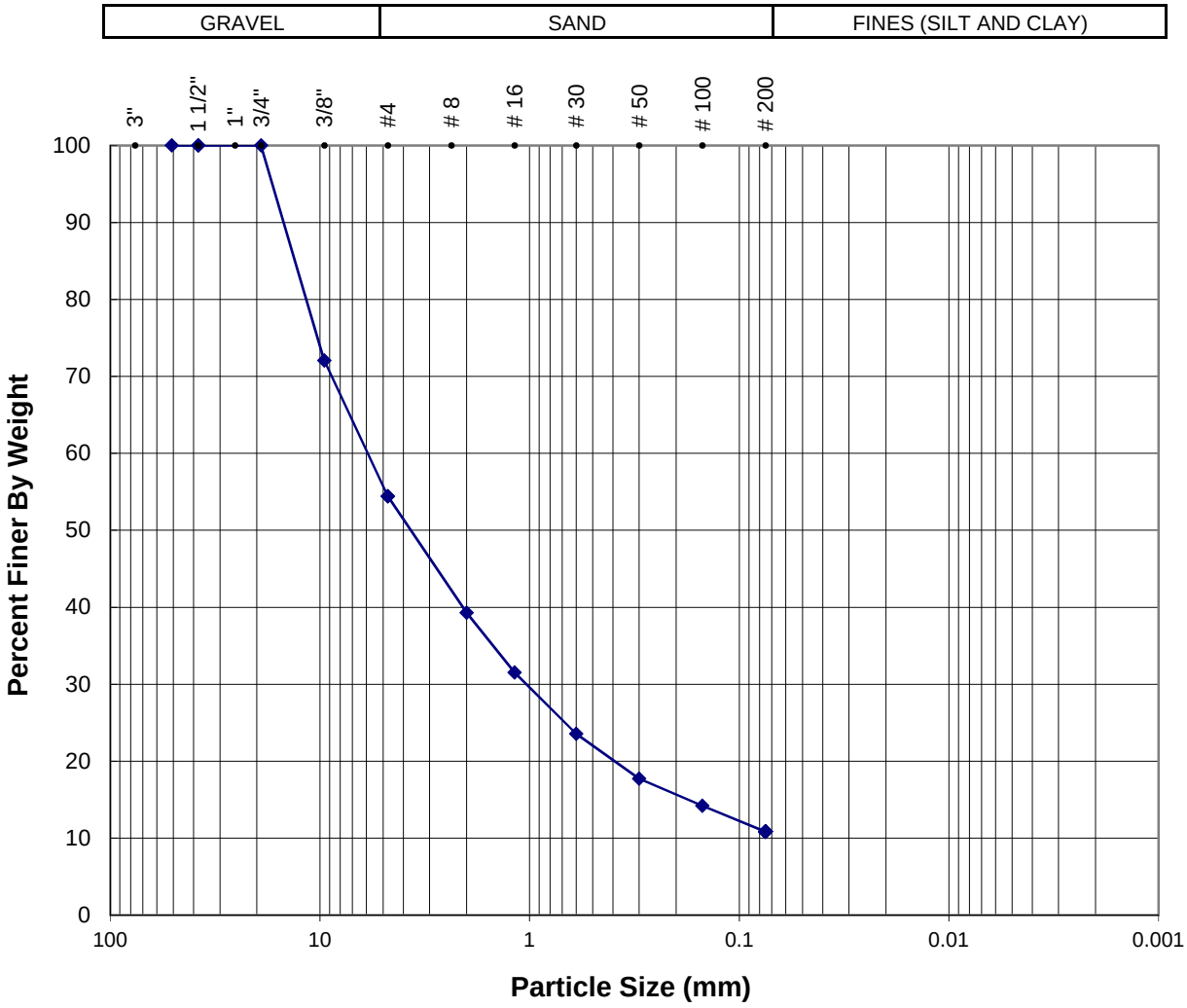
ASTM D 2216 & ASTM D 2937

Project Name: Arantine

Project No.: 13208-02

Client Name: LGC Geotechnical, Inc.

Tested By: G. Bathala Date: 03/15/18



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-1	**SPT-1**	**5'**	**GW-GM**	**46**	**44**	**11**

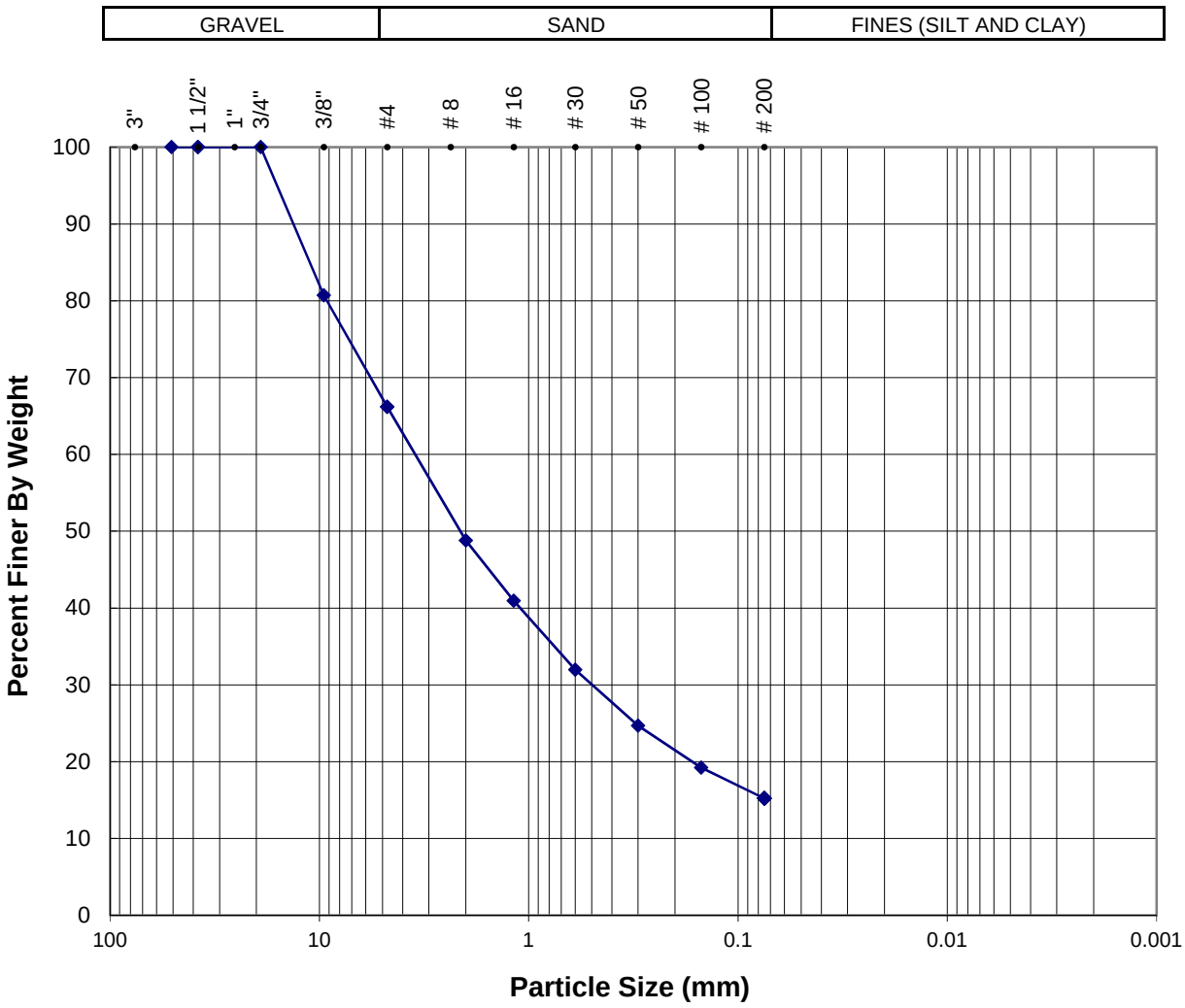
Sample Description: Well-graded gravel with sand and silt

LGC Geotechnical, Inc.

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 13208-02
Date: Mar-18

Arantine - McMillan



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-2	**SPT-1**	**2.5'**	**SW-SM**	**34**	**51**	**15**

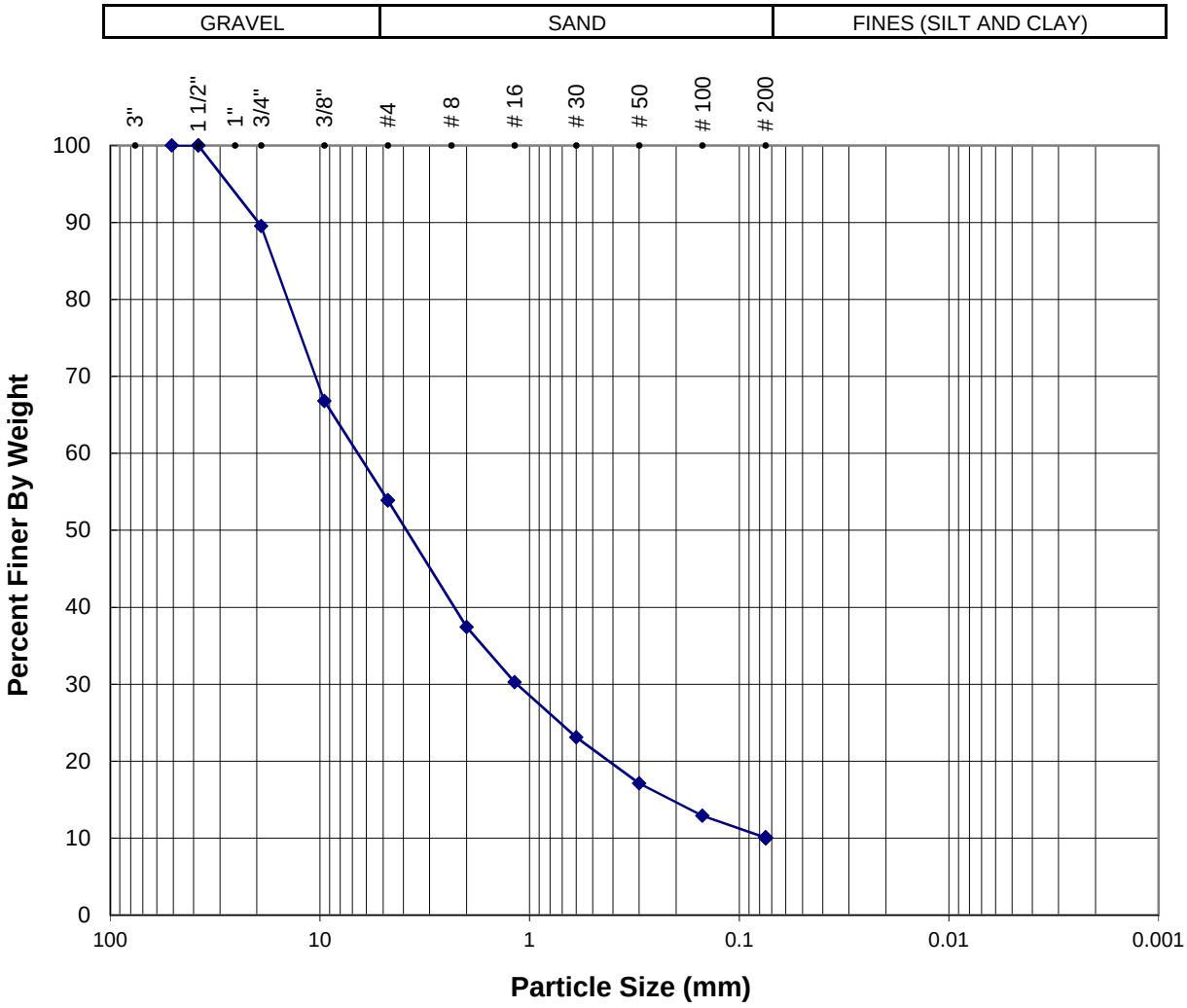
Sample Description: Well-graded silty sand with gravel

LGC Geotechnical, Inc.

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 13208-02
Date: Mar-18

Arantine - McMillan



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-2	**SPT-3**	**15'**	**GW-GM**	**46**	**44**	**10**

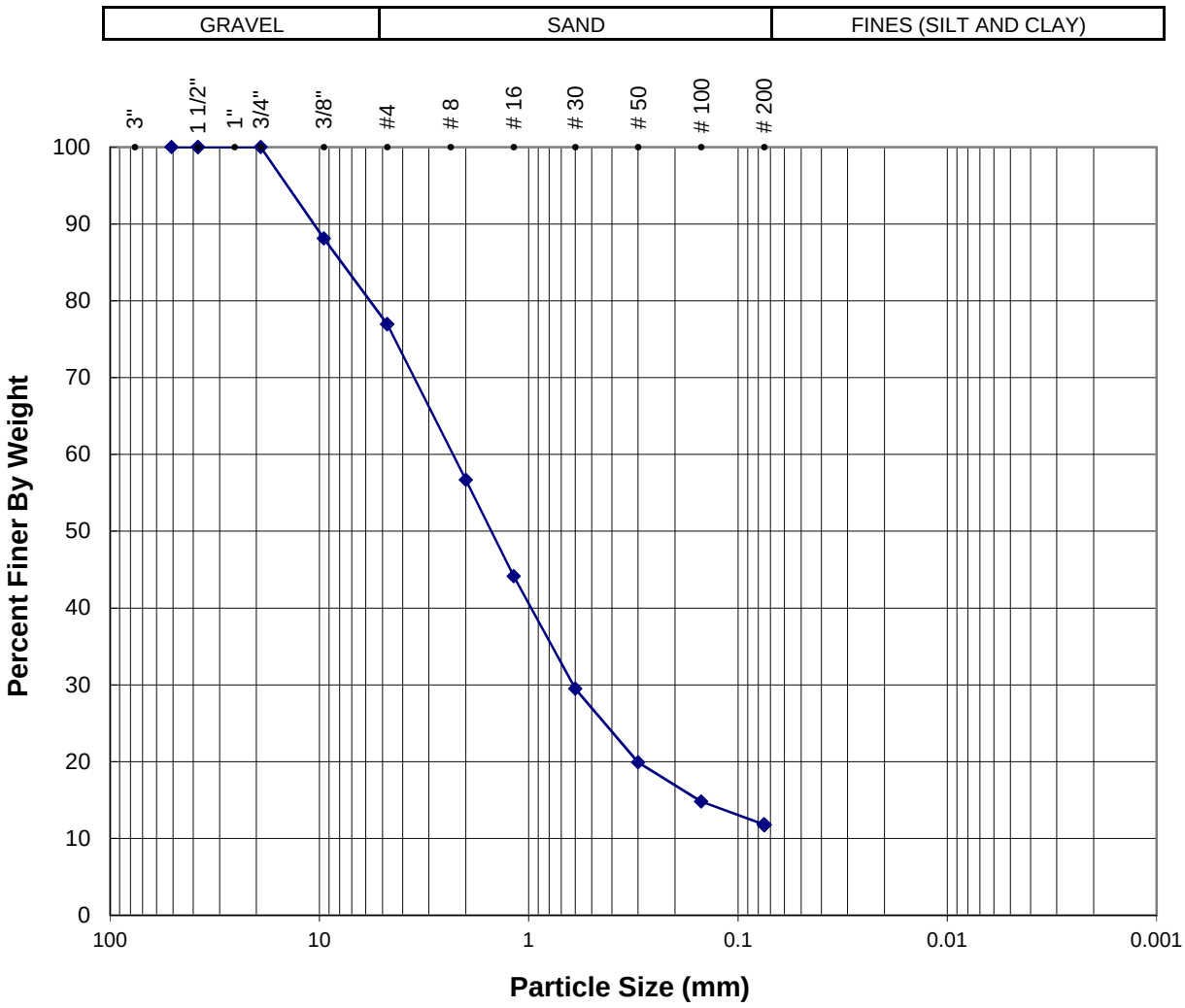
Sample Description: Well-graded gravel with sand and silt

LGC Geotechnical, Inc.

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 13208-02
Date: Mar-18

Arantine - McMillan



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-3	**SPT-2**	**10'**	**SW-SM**	**23**	**65**	**12**

Sample Description: Well-graded sand with gravel and silt

LGC Geotechnical, Inc.

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 13208-02
Date: Mar-18

Arantine - McMillan

One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

Project Name:	Arantine	Tested By:	G. Bathala	Date:	03/15/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-1	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	15.0		

Sample Description: Dark olive gray well-graded sand with silt and gravel (SW-SM)g

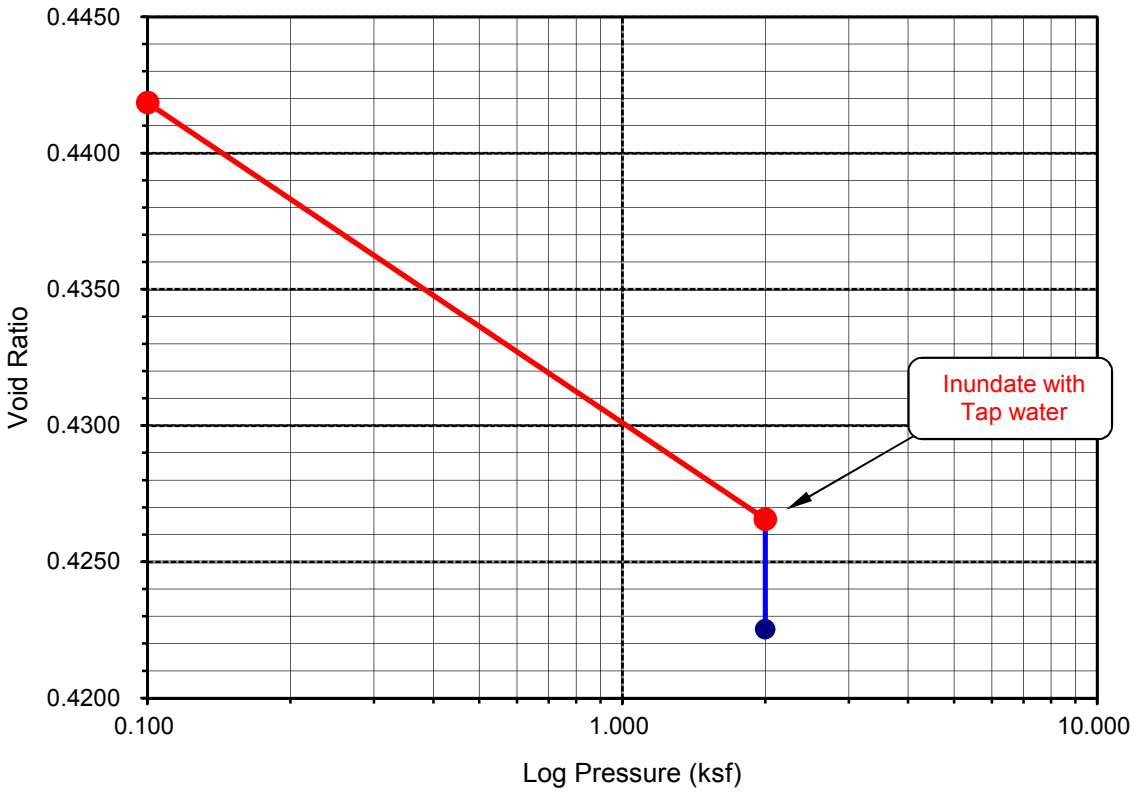
Initial Dry Density (pcf):	116.9
Initial Moisture (%):	7.34
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1099
Diameter(in):	2.415

Final Dry Density (pcf):	118.6
Final Moisture (%) :	13.1
Initial Void ratio:	0.4419
Specific Gravity(assumed):	2.70
Initial Saturation (%)	44.9

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1099	1.0000	0.00	0.00	0.4419	0.00
2.000	0.1211	0.9888	0.06	-1.12	0.4266	-1.06
H2O	0.1239	0.9860	0.06	-1.40	0.4225	-1.34

Percent Swell (+) / Settlement (-) After Inundation = -0.28

Void Ratio - Log Pressure Curve



One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

Project Name:	Arantine	Tested By:	G. Bathala	Date:	03/15/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-2	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	5.0		

Sample Description: Dark olive gray well-graded sand with silt and gravel (SW-SM)g

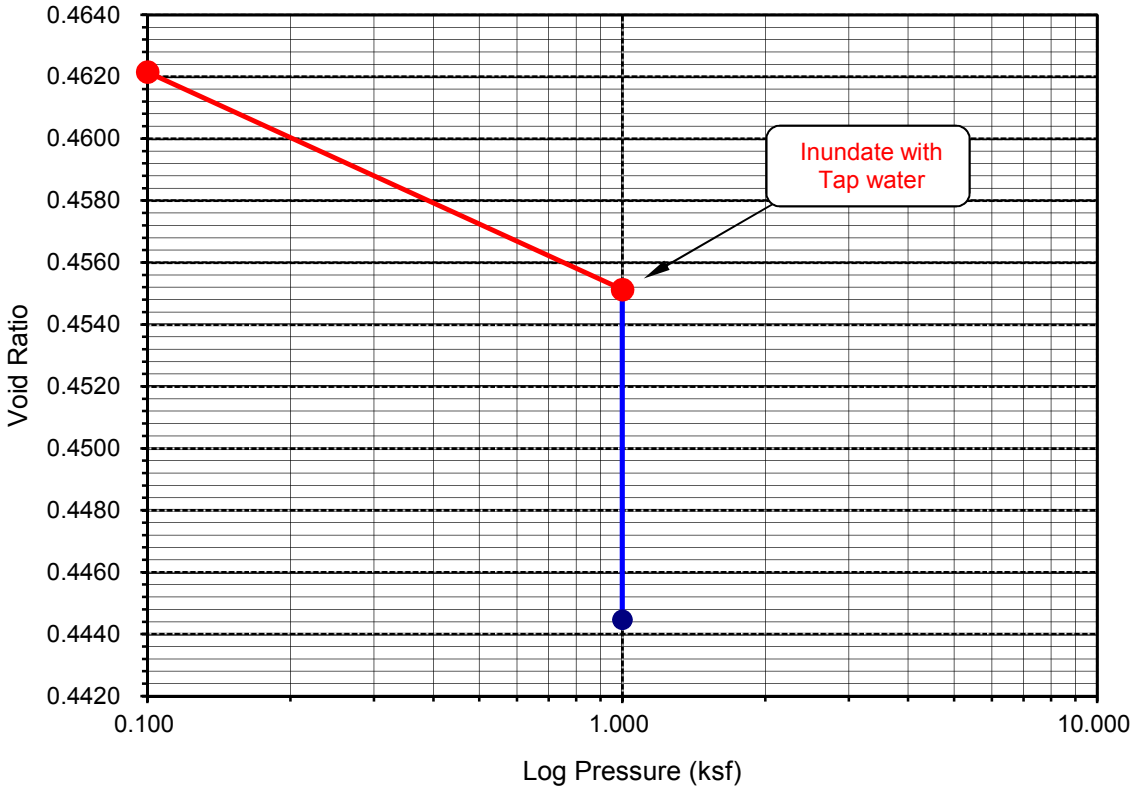
Initial Dry Density (pcf):	115.3
Initial Moisture (%):	4.82
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0926
Diameter(in):	2.415

Final Dry Density (pcf):	116.9
Final Moisture (%) :	12.0
Initial Void ratio:	0.4621
Specific Gravity(assumed):	2.70
Initial Saturation (%)	28.2

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0926	1.0000	0.00	0.00	0.4621	0.00
1.000	0.0982	0.9944	0.08	-0.56	0.4551	-0.48
H2O	0.1055	0.9871	0.08	-1.29	0.4445	-1.21

Percent Swell (+) / Settlement (-) After Inundation = -0.73

Void Ratio - Log Pressure Curve



One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

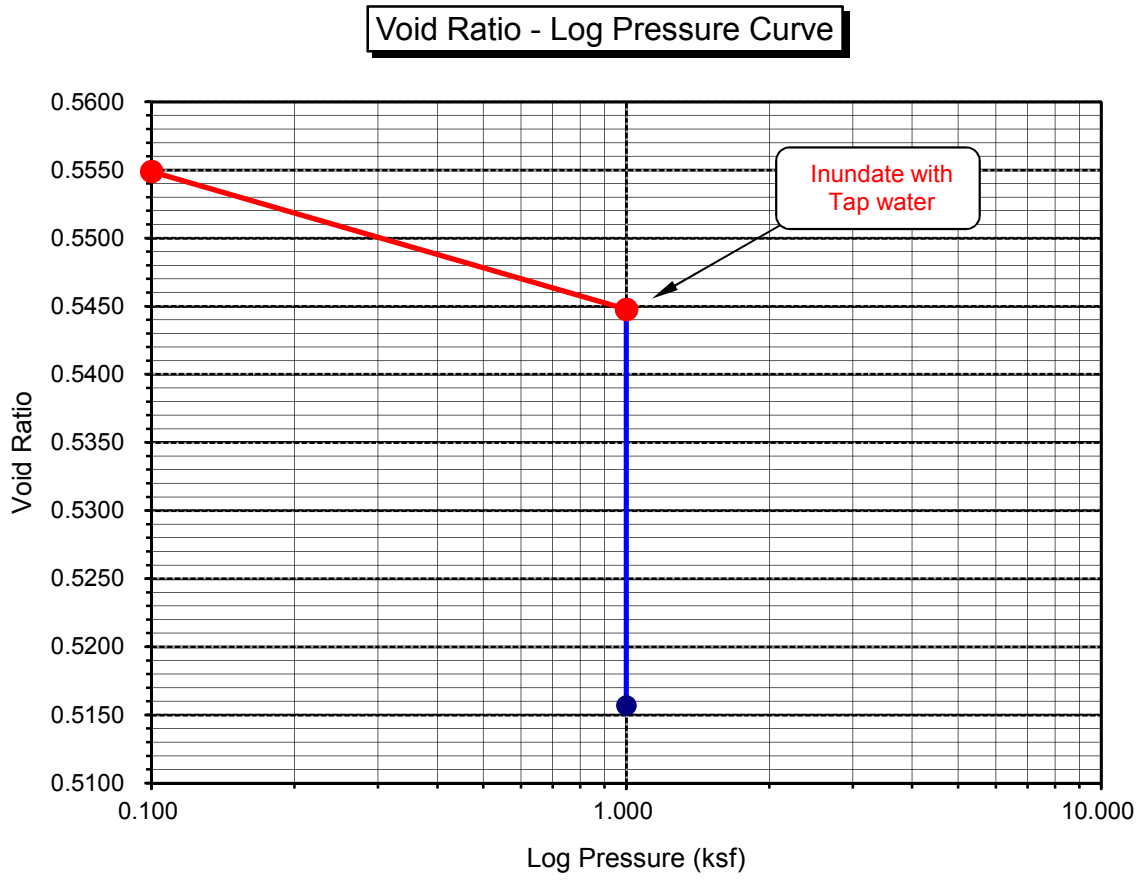
Project Name:	Arantine	Tested By:	G. Bathala	Date:	03/19/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-3	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	2.5		
Sample Description:	Dark olive gray well-graded sand with silt and gravel (SW-SM)g				

Initial Dry Density (pcf):	108.4
Initial Moisture (%):	3.81
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1065
Diameter(in):	2.415

Final Dry Density (pcf):	111.3
Final Moisture (%) :	12.3
Initial Void ratio:	0.5549
Specific Gravity(assumed):	2.70
Initial Saturation (%)	18.5

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1065	1.0000	0.00	0.00	0.5549	0.00
1.000	0.1133	0.9932	0.03	-0.68	0.5448	-0.65
H2O	0.1320	0.9745	0.03	-2.55	0.5157	-2.52

Percent Swell (+) / Settlement (-) After Inundation = -1.88



One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

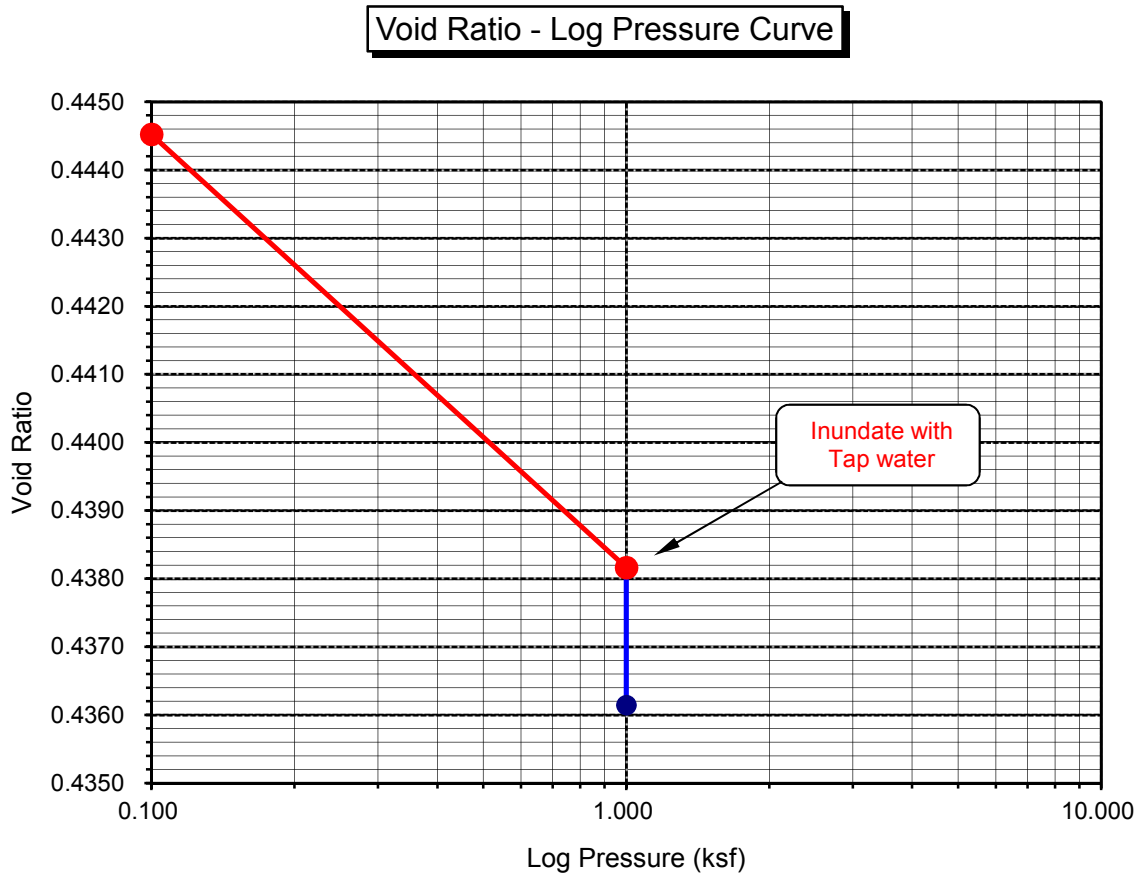
Project Name:	Arantine	Tested By:	G. Bathala	Date:	03/19/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-3	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	7.5		
Sample Description:	Dark olive gray well-graded sand with silt and gravel (SW-SM)g				

Initial Dry Density (pcf):	116.7
Initial Moisture (%):	5.67
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0986
Diameter(in):	2.415

Final Dry Density (pcf):	117.6
Final Moisture (%) :	12.1
Initial Void ratio:	0.4445
Specific Gravity(assumed):	2.70
Initial Saturation (%)	34.4

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0986	1.0000	0.00	0.00	0.4445	0.00
1.000	0.1038	0.9948	0.08	-0.52	0.4382	-0.44
H2O	0.1052	0.9934	0.08	-0.66	0.4361	-0.58

Percent Swell (+) / Settlement (-) After Inundation = -0.14



EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Arantine	Tested By:	G. Berdy	Date:	03/16/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-3	Depth (ft.):	5-10		
Sample No.:	B-1				
Soil Identification:	Dark olive gray well-graded sand with silt and gravel (SW-SM)g				

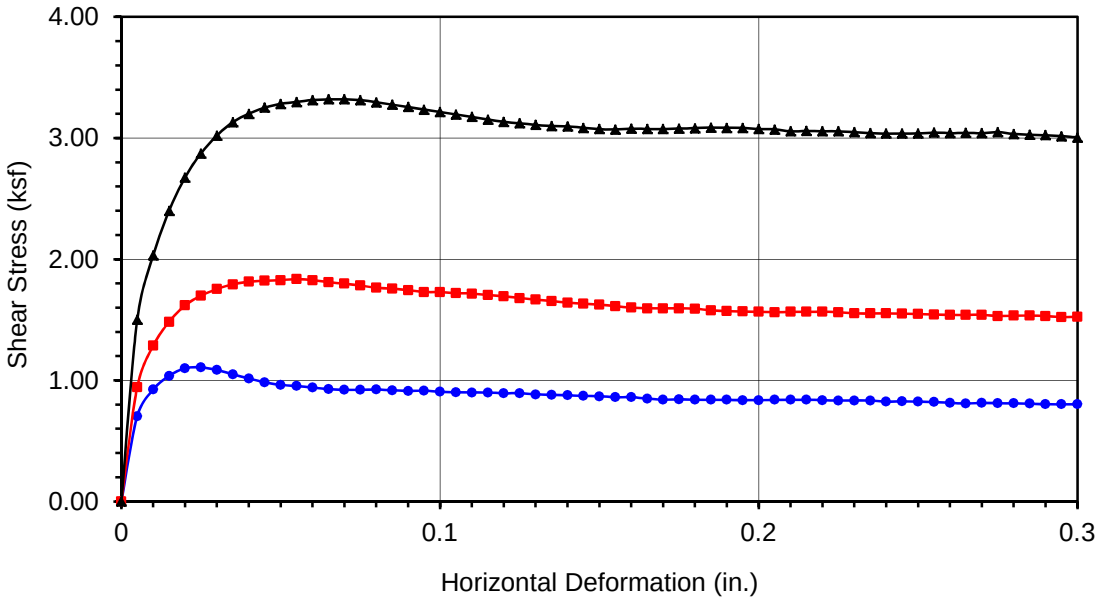
Dry Wt. of Soil + Cont.	(g)	1000.00
Wt. of Container No.	(g)	0.00
Dry Wt. of Soil	(g)	1000.00
Weight Soil Retained on #4 Sieve		0.00
Percent Passing # 4		100.00

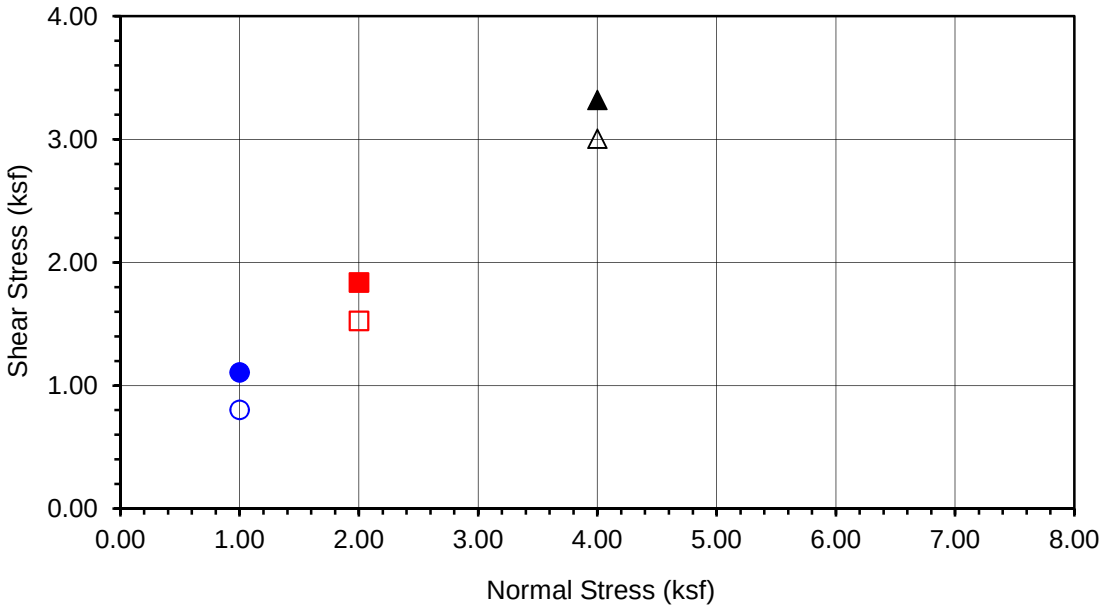
MOLDED SPECIMEN		Before Test	After Test
Specimen Diameter	(in.)	4.01	4.01
Specimen Height	(in.)	1.0000	0.9940
Wt. Comp. Soil + Mold	(g)	619.90	452.97
Wt. of Mold	(g)	190.20	0.00
Specific Gravity (Assumed)		2.70	2.70
Container No.		O	O
Wet Wt. of Soil + Cont.	(g)	852.50	643.17
Dry Wt. of Soil + Cont.	(g)	792.30	589.56
Wt. of Container	(g)	0.00	190.20
Moisture Content	(%)	7.60	13.42
Wet Density	(pcf)	129.6	137.5
Dry Density	(pcf)	120.5	121.2
Void Ratio		0.399	0.391
Total Porosity		0.285	0.281
Pore Volume	(cc)	59.1	57.8
Degree of Saturation (%) [S_{meas}]		**51.4**	92.7

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
03/16/18	14:27	1.0	0	0.1915
03/16/18	14:37	1.0	10	0.1900
Add Distilled Water to the Specimen				
03/16/18	14:58	1.0	21	0.1860
03/17/18	14:30	1.0	1433	0.1855
03/19/18	8:03	1.0	3926	0.1855

Expansion Index (EI_{meas}) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	**0**





Boring No.	**TP-5**
Sample No.	**B-1**
Depth (ft)	**2-3**
Sample Type: 90% Remold	
Soil Identification: Brown silty sand with gravel (SM)g	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 1.107	■ 1.836	▲ 3.320
Shear Stress @ End of Test (ksf)	○ 0.802	□ 1.525	△ 3.005
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	9.36	9.36	9.36
Dry Density (pcf)	114.6	114.6	114.6
Saturation (%)	53.6	53.6	53.6
Soil Height Before Shearing (in.)	0.9957	0.9902	0.9851
Final Moisture Content (%)	14.8	14.4	14.1

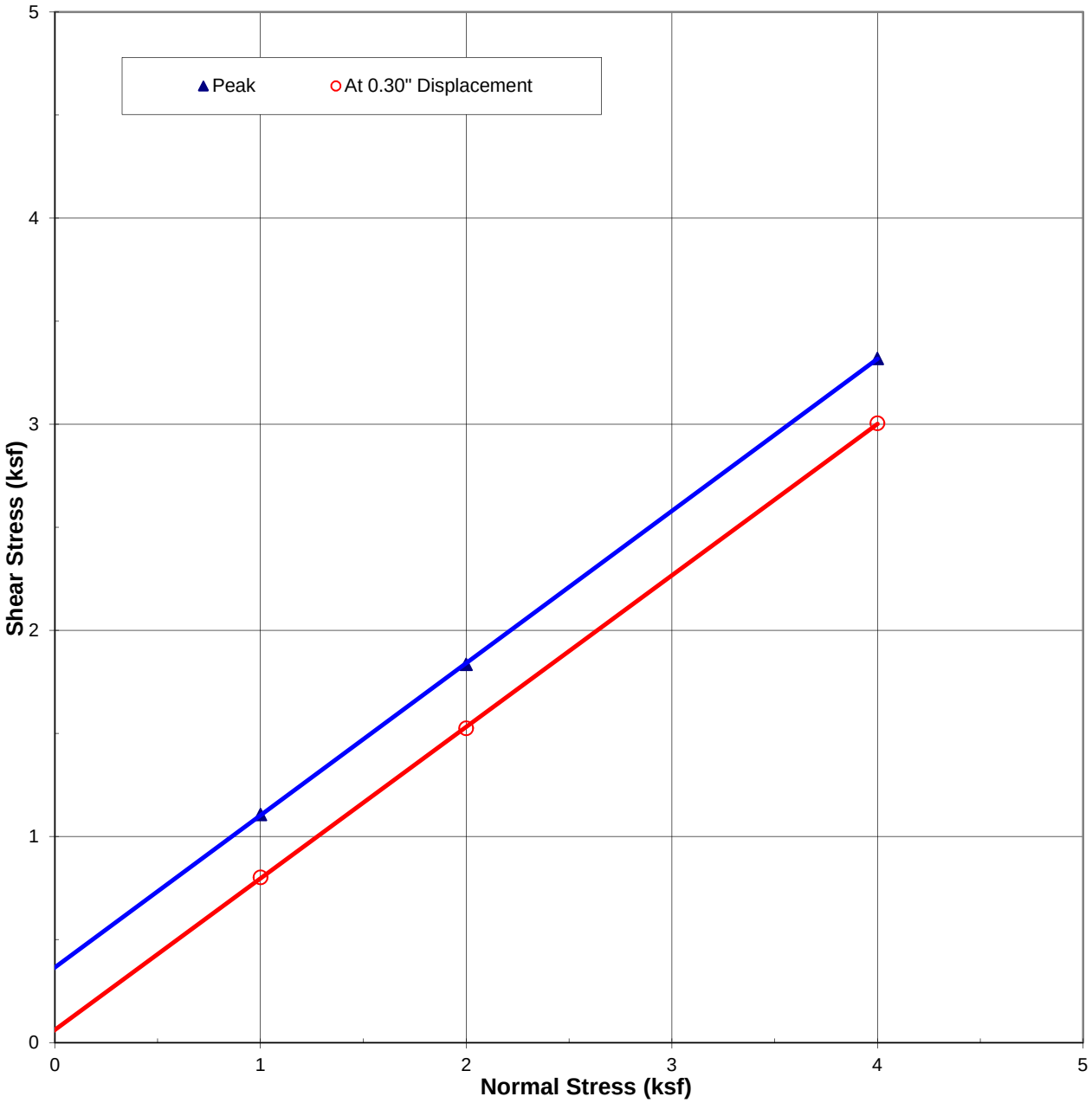
DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: 13208-01

Arantine Hills

07-14



Tested Sample:
TP-5 at 2-3 ft

	Peak:	At 0.30" Displacement:
	36.4 Degrees	36.3 Degrees
	0.37 ksf	0.06 ksf

Samples Remolded to 90% Relative Compaction

LGC Geotechnical, Inc.	**COMPOSITE DIRECT SHEAR PLOT**	**Project Number:** 13208-01 **Date:** Jul-14
		Arantine Hills Corona

EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Arantine Hills		Tested By:	S. Felter	Date: 07/22/14
Project No.:	13208-01		Checked By:	J. Ward	Date: 07/25/14
Boring No.:	TP-5		Depth (ft.):	2-3	
Sample No.:	B-1				
Soil Identification:	Brown silty sand with gravel (SM)g				

Dry Wt. of Soil + Cont. (g)	1000.00
Wt. of Container No. (g)	0.00
Dry Wt. of Soil (g)	1000.00
Weight Soil Retained on #4 Sieve	0.00
Percent Passing # 4	100.00

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0025
Wt. Comp. Soil + Mold (g)	607.20	427.23
Wt. of Mold (g)	201.50	0.00
Specific Gravity (Assumed)	2.70	2.70
Container No.	O	O
Wet Wt. of Soil + Cont. (g)	808.60	628.73
Dry Wt. of Soil + Cont. (g)	738.50	571.98
Wt. of Container (g)	0.00	201.50
Moisture Content (%)	9.49	15.32
Wet Density (pcf)	122.4	128.5
Dry Density (pcf)	111.8	111.5
Void Ratio	0.508	0.512
Total Porosity	0.337	0.339
Pore Volume (cc)	69.8	70.3
Degree of Saturation (%) [S_{meas}]	**50.4**	80.7

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
07/22/14	14:00	1.0	0	0.1180
07/22/14	14:10	1.0	10	0.1180
Add Distilled Water to the Specimen				
07/22/14	14:22	1.0	12	0.1195
07/23/14	6:10	1.0	960	0.1205
07/23/14	7:35	1.0	1045	0.1205

Expansion Index (EI_{meas}) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	**3**

MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	Arantine Hills	Tested By:	A. Santos	Date:	07/20/14
Project No.:	13208-01	Input By:	J. Ward	Date:	07/22/14
Boring No.:	TP-5	Depth (ft.):	2-3		
Sample No.:	B-1				
Soil Identification:	Brown silty sand with gravel (SM)g				

Preparation Method:	X	Moist	Scalp Fraction (%)		Rammer Weight (lb.) = 10.0
		Dry	#3/4		Height of Drop (in.) = 18.0
Compaction Method	X	Mechanical Ram	#3/8		
		Manual Ram	#4	20.1	Mold Volume (ft³) 0.03320

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3800.0	3937.0	3899.0	3828.0		
Weight of Mold (g)	1843.0	1843.0	1843.0	1843.0		
Net Weight of Soil (g)	1957.0	2094.0	2056.0	1985.0		
Wet Weight of Soil + Cont. (g)	594.40	605.90	576.50	607.00		
Dry Weight of Soil + Cont. (g)	560.60	558.80	522.20	539.80		
Weight of Container (g)	76.40	75.20	77.70	82.80		
Moisture Content (%)	6.98	9.74	12.22	14.70		
Wet Density (pcf)	130.0	139.0	136.5	131.8		
Dry Density (pcf)	121.5	126.7	121.7	114.9		

Maximum Dry Density (pcf)	**127.0**	**Optimum Moisture Content (%)**	**9.5**
Corrected Dry Density (pcf)	**133.5**	**Corrected Moisture Content (%)**	**8.0**

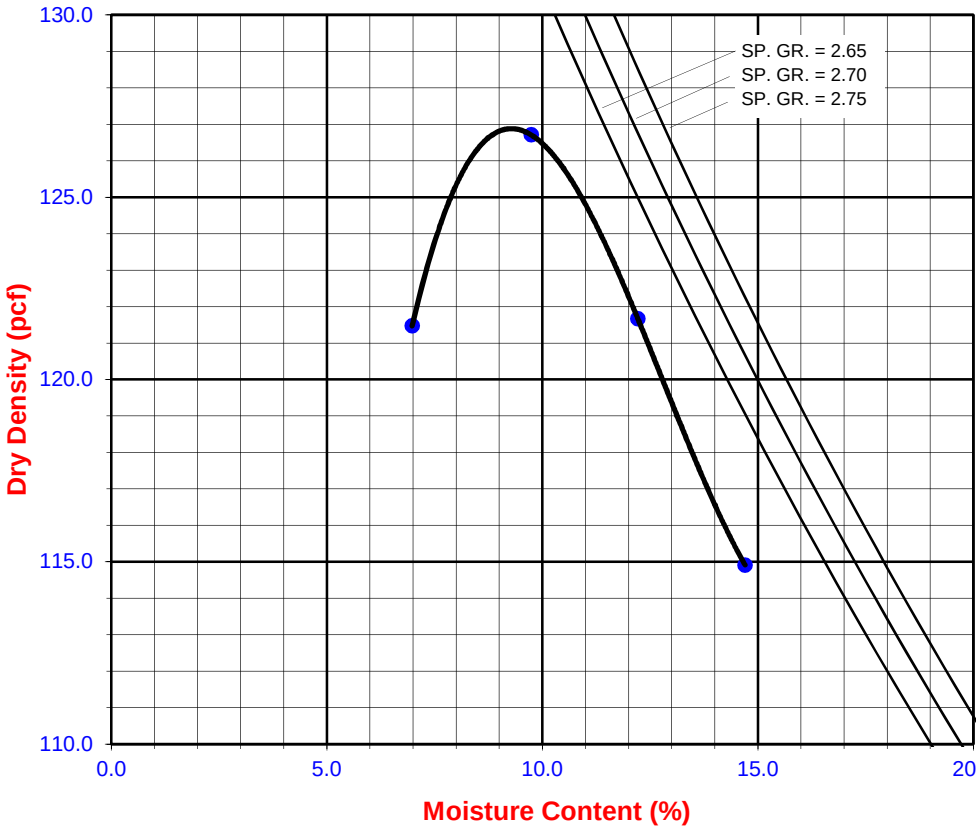
X Procedure A
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

☐ Procedure B
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

☐ Procedure C
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:
GR:SA:FI

Atterberg Limits:
LL,PL,PI



TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: Arantine Hills Tested By : G. Berdy Date: 07/21/14

Project No. : 13208-01 Data Input By: J. Ward Date: 07/25/14

Boring No.	TP-5			
Sample No.	B-1			
Sample Depth (ft)	2-3			
Soil Identification:	Brown (SM)g			
Wet Weight of Soil + Container (g)	202.99			
Dry Weight of Soil + Container (g)	193.94			
Weight of Container (g)	58.54			
Moisture Content (%)	6.68			
Weight of Soaked Soil (g)	100.91			

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	16			
Crucible No.	23			
Furnace Temperature (°C)	840			
Time In / Time Out	11:10/11:55			
Duration of Combustion (min)	45			
Wt. of Crucible + Residue (g)	18.4244			
Wt. of Crucible (g)	18.4225			
Wt. of Residue (g) (A)	0.0019			
PPM of Sulfate (A) x 41150	78.18			
PPM of Sulfate, Dry Weight Basis	**84**			

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	15			
ml of AgNO3 Soln. Used in Titration (C)	0.5			
PPM of Chloride (C -0.2) * 100 * 30 / B	60			
PPM of Chloride, Dry Wt. Basis	**64**			

pH TEST, DOT California Test 532/643

pH Value	**8.17**			
Temperature °C	22.2			

SOIL RESISTIVITY TEST

DOT CA TEST 532 / 643

Project Name:	Arantine Hills		Tested By :	G. Berdy	Date: 07/23/14
Project No. :	13208-01		Data Input By:	J. Ward	Date: 07/25/14
Boring No.:	TP-5		Depth (ft.) :	2-3	
Sample No. :	B-1				

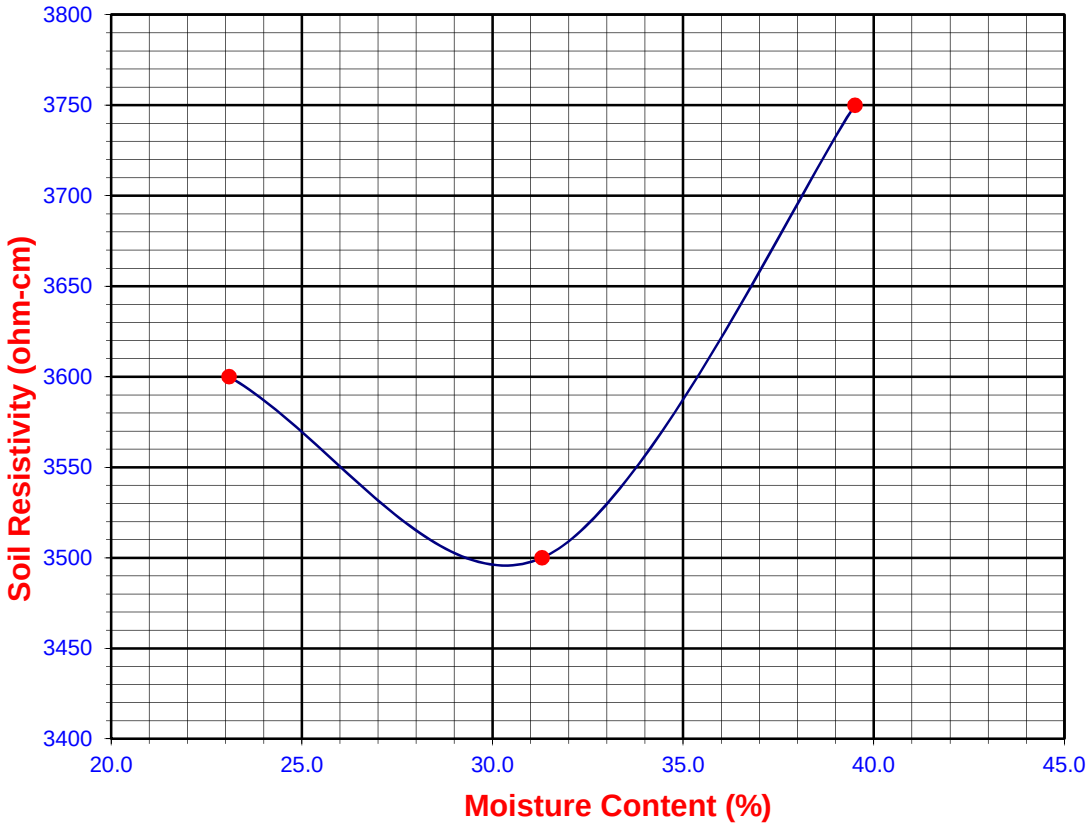
Soil Identification:* Brown (SM)g

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	20	23.10	3600	3600
2	30	31.30	3500	3500
3	40	39.51	3750	3750
4				
5				

Moisture Content (%) (MCi)	6.68
Wet Wt. of Soil + Cont. (g)	202.99
Dry Wt. of Soil + Cont. (g)	193.94
Wt. of Container (g)	58.54
Container No.	
Initial Soil Wt. (g) (Wt)	130.00
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 532 / 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 532 / 643	
3495	**30.3**	**84**	**64**	**8.17**	**22.2**



From LOR, 2002

APPENDIX C
LABORATORY TESTING

General

Selected soil samples obtained from the trenches and borings were tested in our laboratory to evaluate the physical properties of the soils affecting foundation design and construction procedures. The laboratory testing program performed in conjunction with our investigation included moisture content, dry density, laboratory compaction, direct shear, sieve analysis, sand equivalent, R-value, percent passing No. 200 sieve, expansion index, and chemical analysis. The chemical analysis testing was performed by E.S. Babock & Sons, Inc. and are attached as Enclosures C-3 through C-27. Descriptions of the laboratory tests are presented in the following paragraphs.

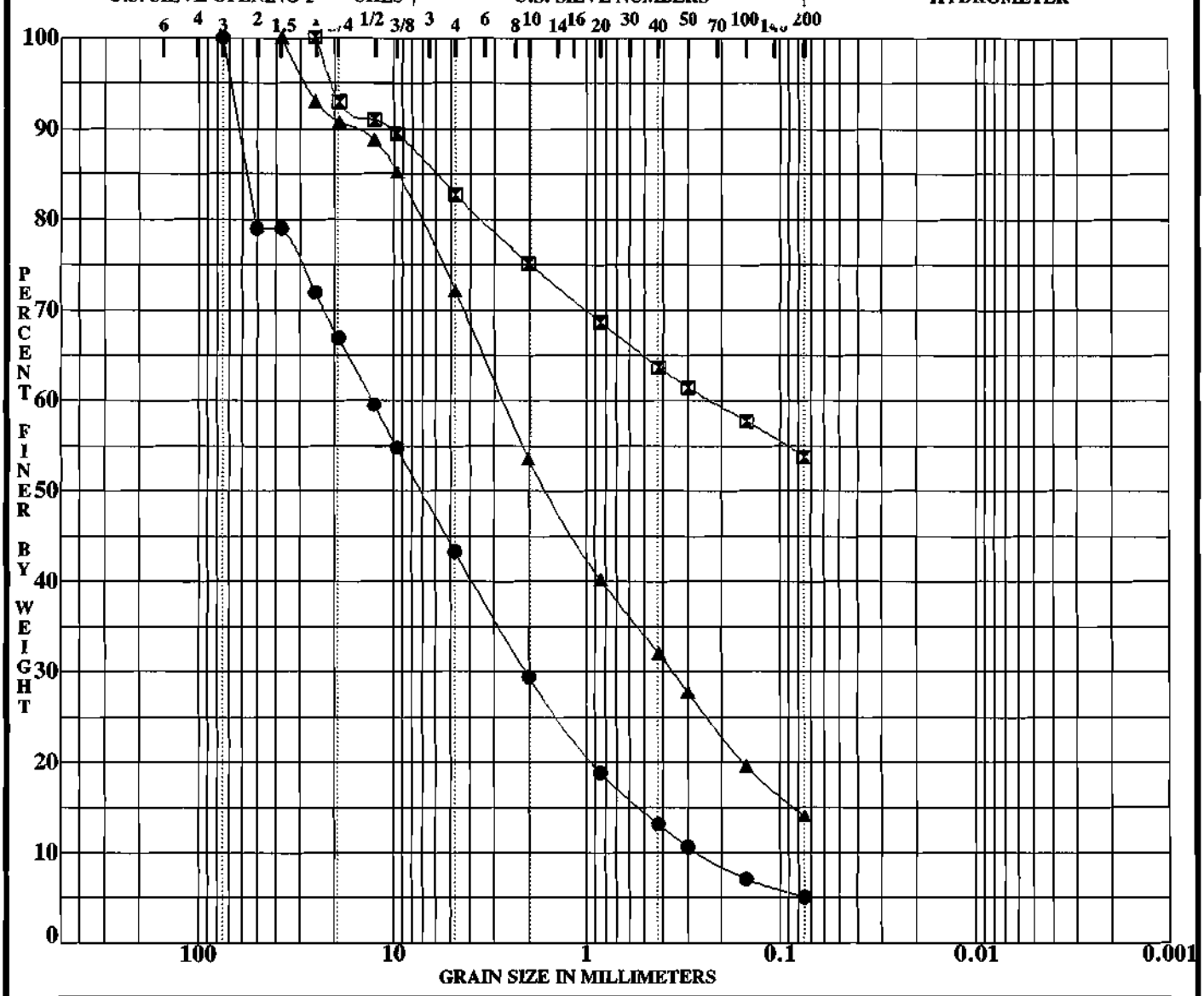
Moisture-Density Tests

The moisture content and dry density information provides an indirect measure of soil consistency for each stratum, and can also provide a correlation between soils on this site. The dry unit weight and field moisture content were determined for selected undisturbed samples, and the results are shown on the boring logs, Enclosures B-1 through B-54, for convenient correlation with the soil profile.

Direct Shear Tests

Shear tests are performed with a direct shear machine at a constant rate-of-strain (usually 0.05 inches/minute). The machine is designed to test a sample partially extruded from a sample ring in single shear. Samples are tested at varying normal loads in order to evaluate the shear strength parameters, angle of internal friction and cohesion. Samples are tested in a remolded condition (90% relative compaction per ASTM 1557) at field moisture content and soaked, according to conditions existing or expected in the field.

The results of the shear tests are presented in the following table:



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	SE	RV			Cc	Cu
● T-20	@ 1-3 ft	(GW) Well Graded Gravel w/ silt and sand	33	--			1.27	48.0
⊠ T-23	@ 1-3 ft	(ML) Sandy Silt w/ gravel	8	21				
▲ T-30	@ 1-3 ft	(SM) Silty Sand w/ gravel	25	65				

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● T-20	@ 1-3 ft	75.00	12.79	2.076	0.2664	56.7	38.2	5.1	
⊠ T-23	@ 1-3 ft	25.00	0.23			17.3	28.9	53.8	
▲ T-30	@ 1-3 ft	37.50	2.70	0.361		27.9	58.1	14.0	

PROJECT 580 ACRES, BEDFORD CANYON - CORONA AREA, CALIFORNIA

PROJECT NO. 31558.1

DATE 3/26/02

GRADATION CURVES

LOR Geotechnical Group, Inc.

Riverside, California

Enclosure C-2

Appendix D
General Earthwork and Grading Specifications for Rough Grading

General Earthwork and Grading Specifications for Rough Grading

1.0 General

1.1 Intent

These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 The Geotechnical Consultant of Record

Prior to commencement of work, the owner shall employ a qualified Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultant shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to confirm that the attained level of compaction is being accomplished as specified. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor

The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the project plans and specifications. The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of “equipment” of work and the estimated quantities of daily earthwork

contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the
Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate personnel will be available for observation and testing. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified. It is the contractor's sole responsibility to provide proper fill compaction.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing

Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed. The contractor is responsible for all hazardous waste relating to his work. The Geotechnical Consultant does not have expertise in this area. If hazardous waste is a concern, then the Client should acquire the services of a qualified environmental assessor.

2.2 Processing

Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be over-excavated as specified in the following section. Scarification shall continue until soils are broken down and free of oversize material and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

2.3 Over-excavation

In addition to removals and over-excavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be over-excavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 Benching

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise over-excavated to provide a flat subgrade for the fill.

2.5 Evaluation/Acceptance of Fill Areas

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 General

Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 Oversize

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 Import

If importing of fill material is required for grading, proposed import material shall meet the requirements of the geotechnical consultant. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers

Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning

Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557).

4.3 Compaction of Fill

After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes

In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557.

4.5 Compaction Testing

Field tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing

Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations

The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than
5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

7.1 The Contractor shall follow all OHSA and Cal/OSHA requirements for safety of trench excavations.

7.2 All bedding and backfill of utility trenches shall be done in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over

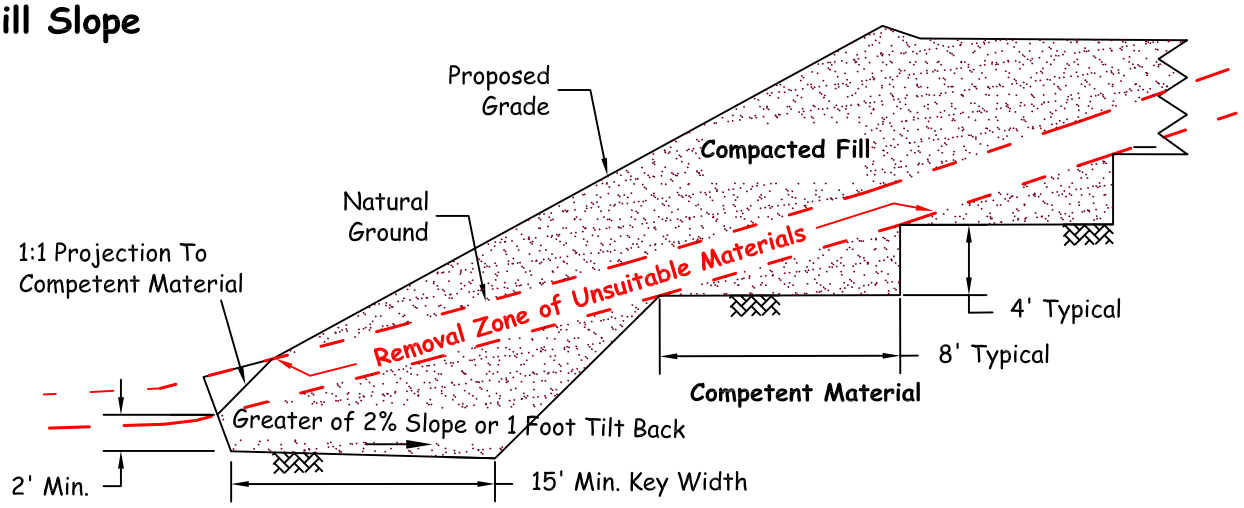
the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90 percent of maximum from 1 foot above the top of the conduit to the surface.

7.3 The jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.

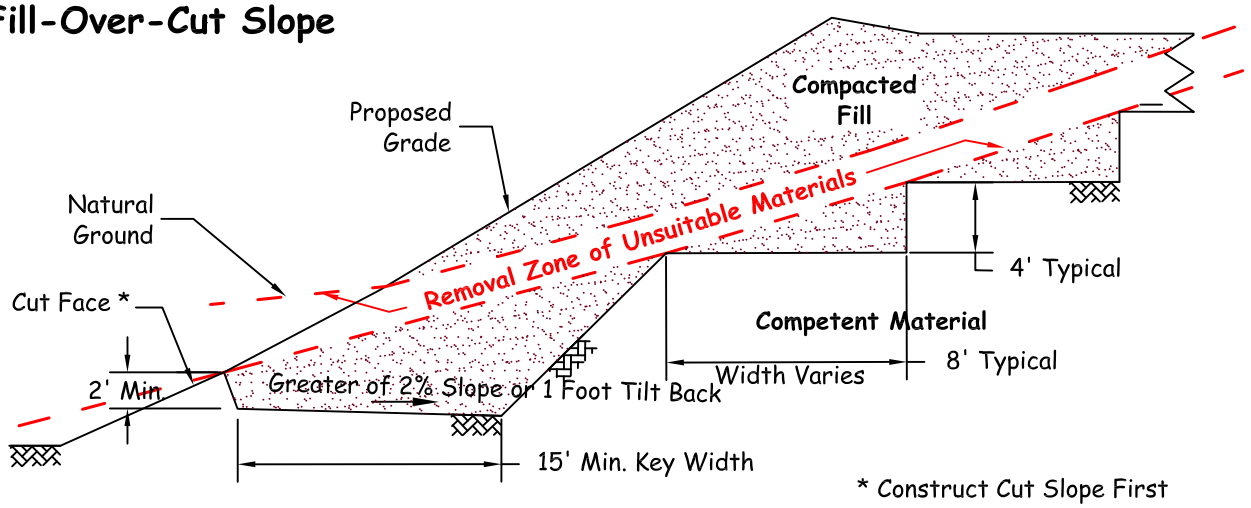
7.4 The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

7.5 Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

Fill Slope

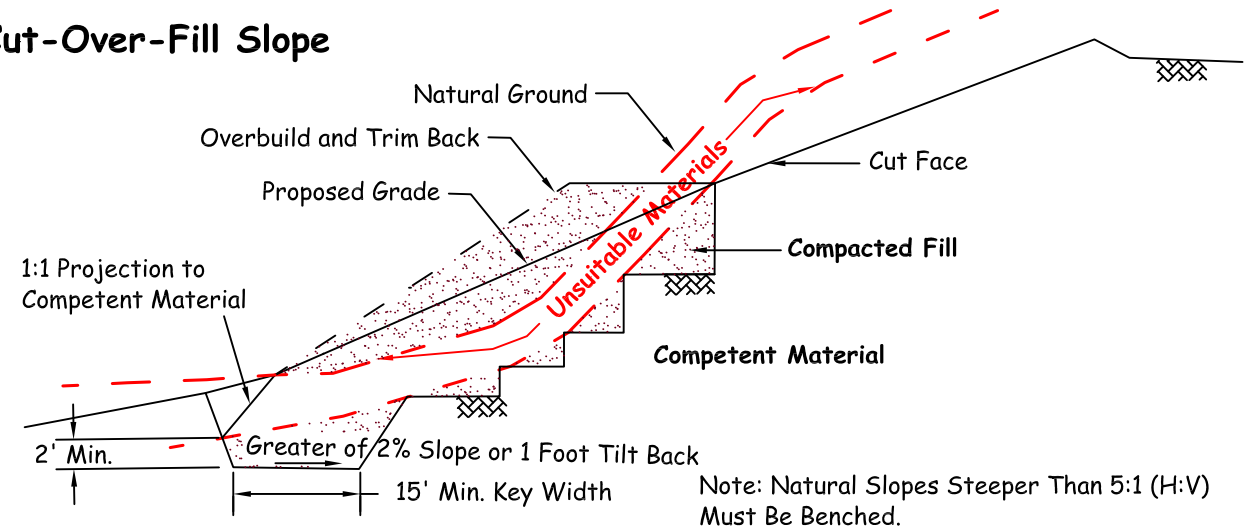


Fill-Over-Cut Slope



* Construct Cut Slope First

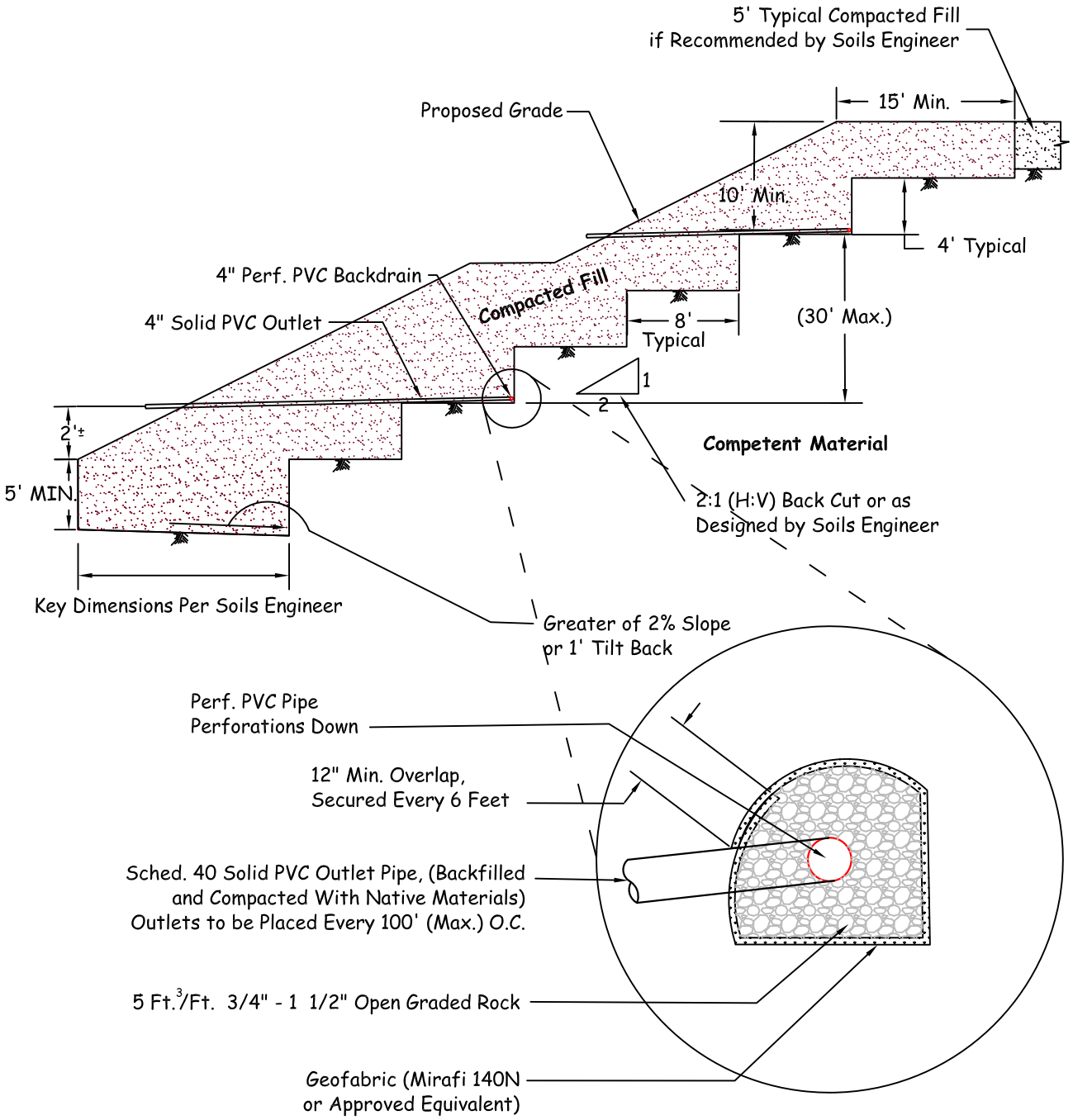
Cut-Over-Fill Slope



Note: Natural Slopes Steeper Than 5:1 (H:V) Must Be Benched.

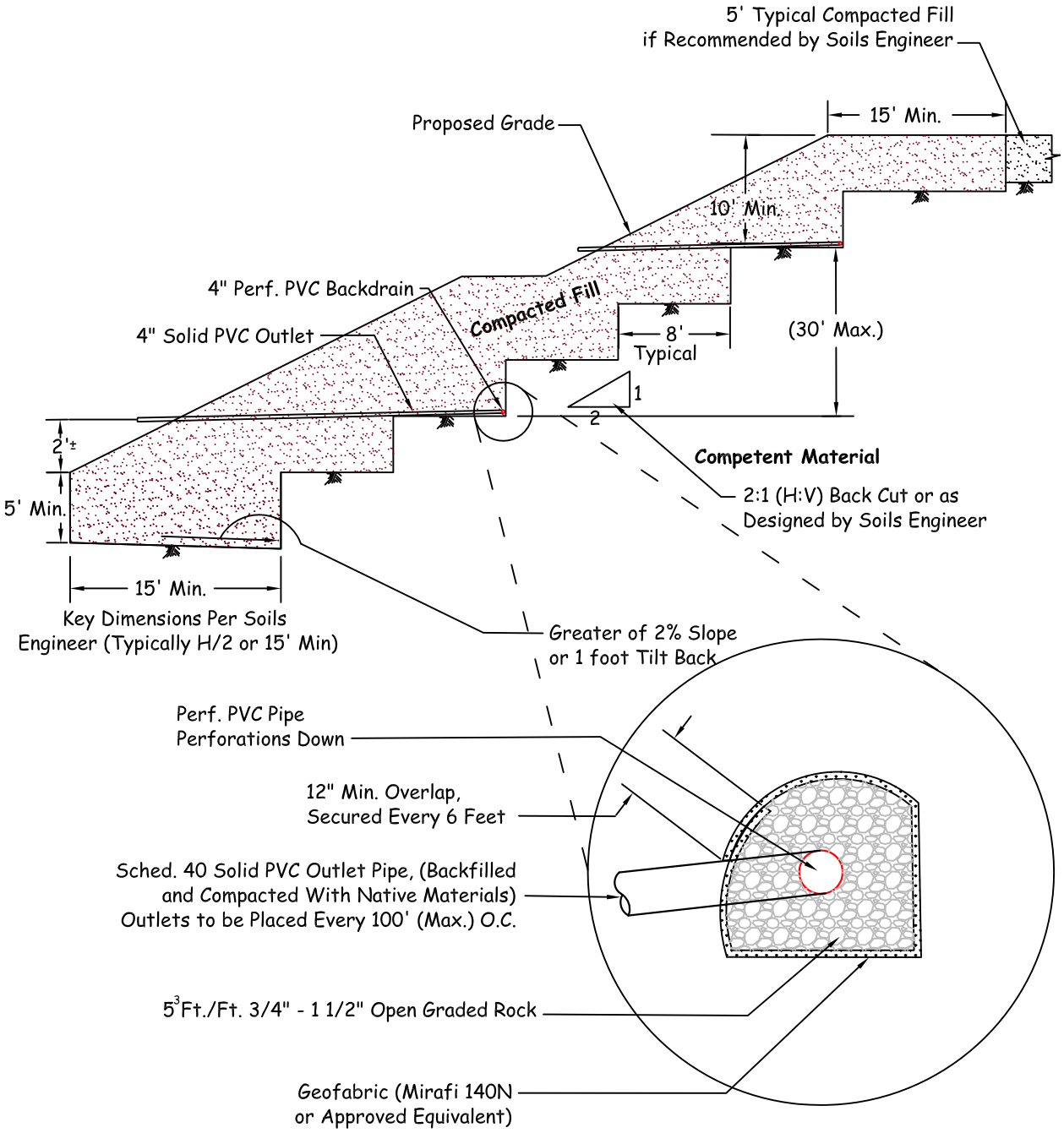
LGC Geotechnical, Inc.

KEYING AND BENCHING



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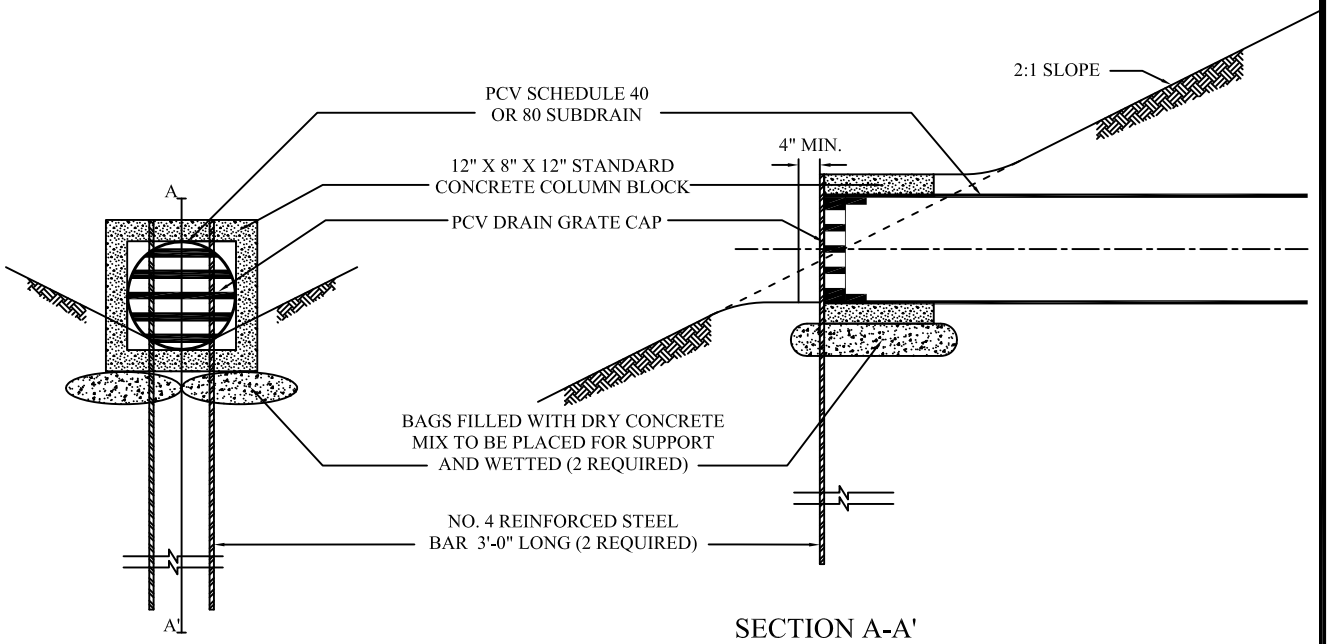
TYPICAL BUTTRESS DETAIL



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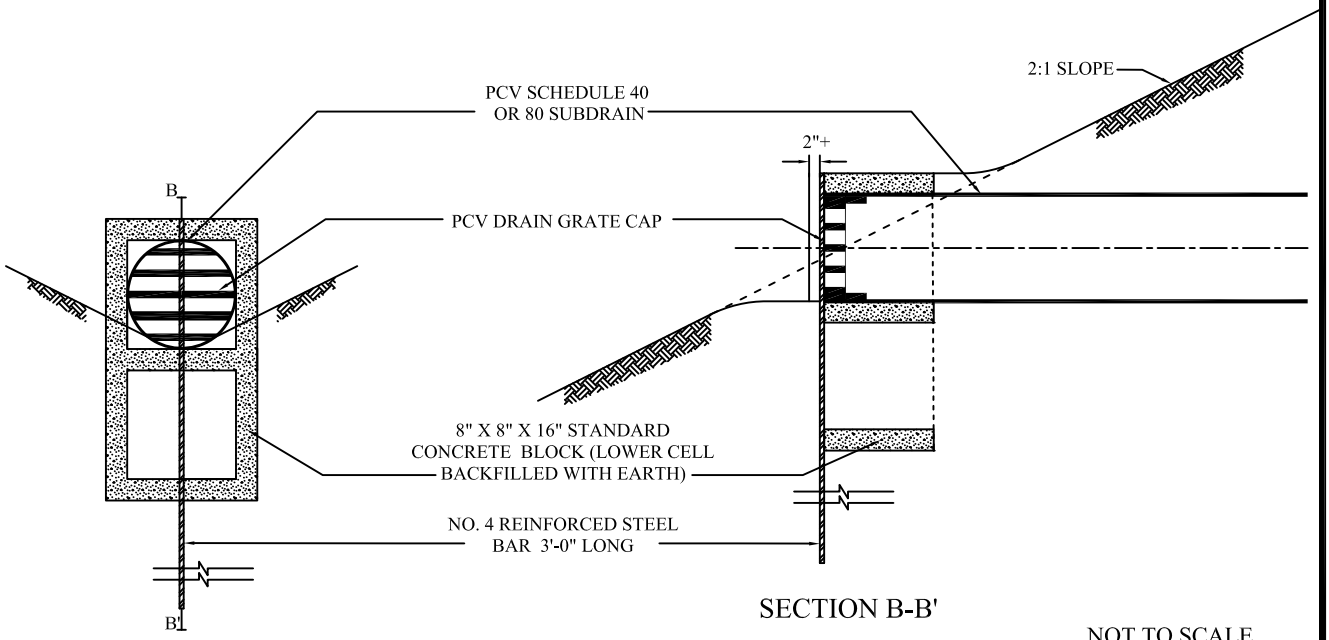
TYPICAL STABILIZATION FILL DETAIL

SUBDRAIN OUTLET MARKER -6" & 8" PIPE



SECTION A-A'

SUBDRAIN OUTLET MARKER -4" PIPE



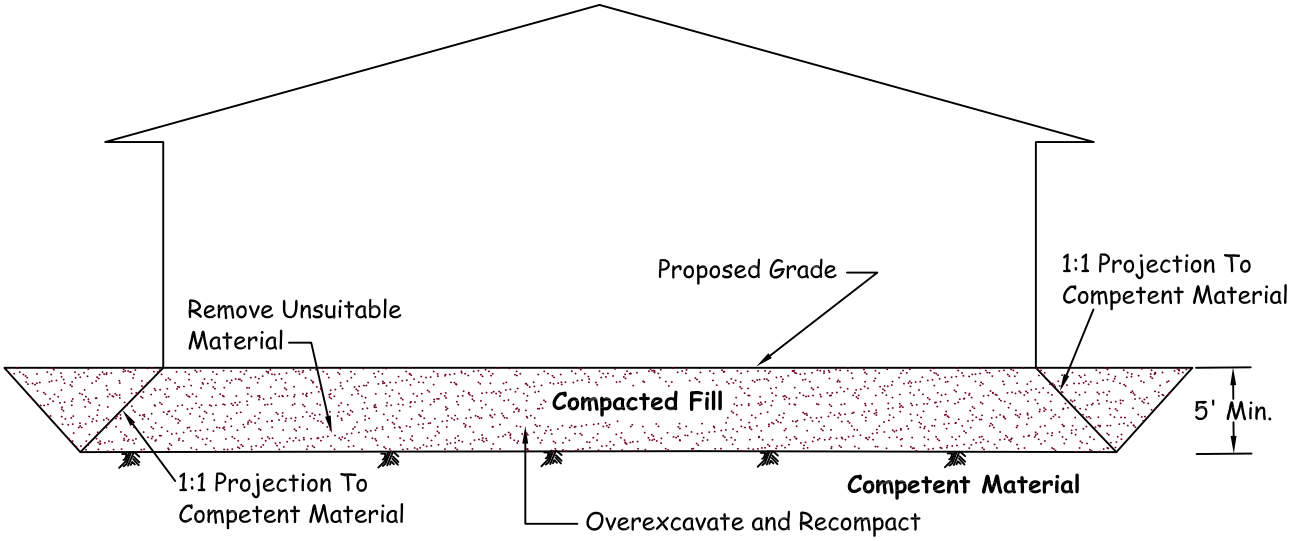
SECTION B-B'

NOT TO SCALE

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SUBDRAIN OUTLET MARKER DETAIL

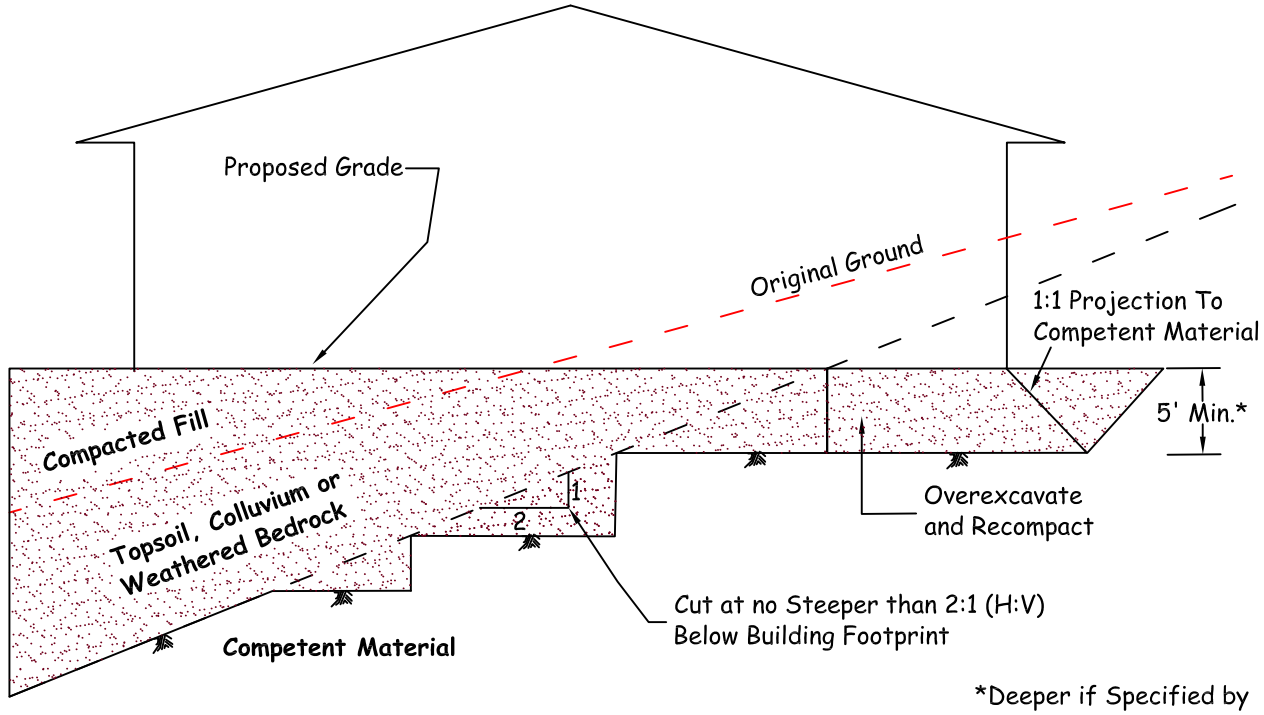
Cut Lot
(Exposing Unsuitable Soils at Design Grade)



Note 1: Removal Bottom Should be Graded With Minimum 2% Fall Towards Street or Other Suitable Area (as Determined by Soils Engineer) to Avoid Ponding Below Building

Note 2: Where Design Cut Lots are Excavated Entirely Into Competent Material, Overexcavation May Still be Required for Hard-Rock Conditions or for Materials With Variable Expansion Characteristics.

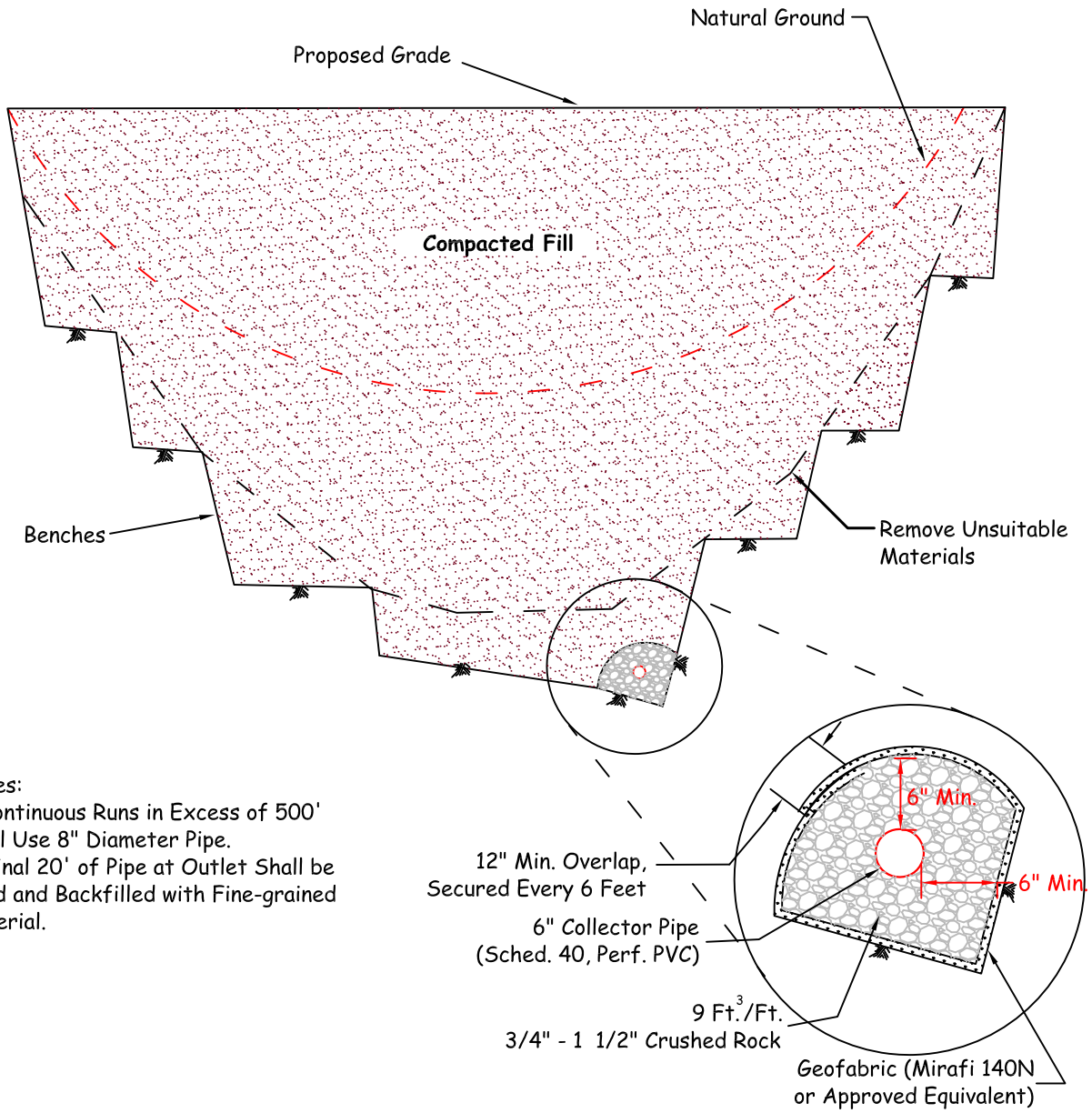
Cut/Fill Transition Lot



*Deeper if Specified by Soils Engineer

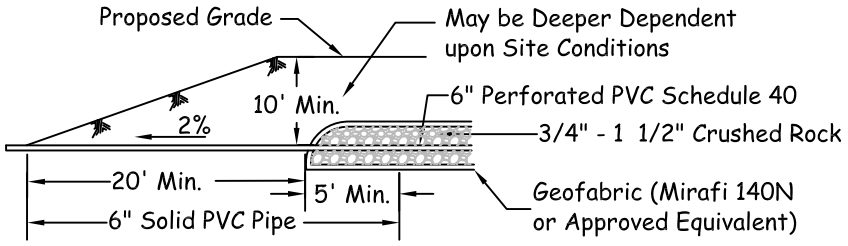
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CUT AND TRANSITION LOT OVEREXCAVATION DETAIL



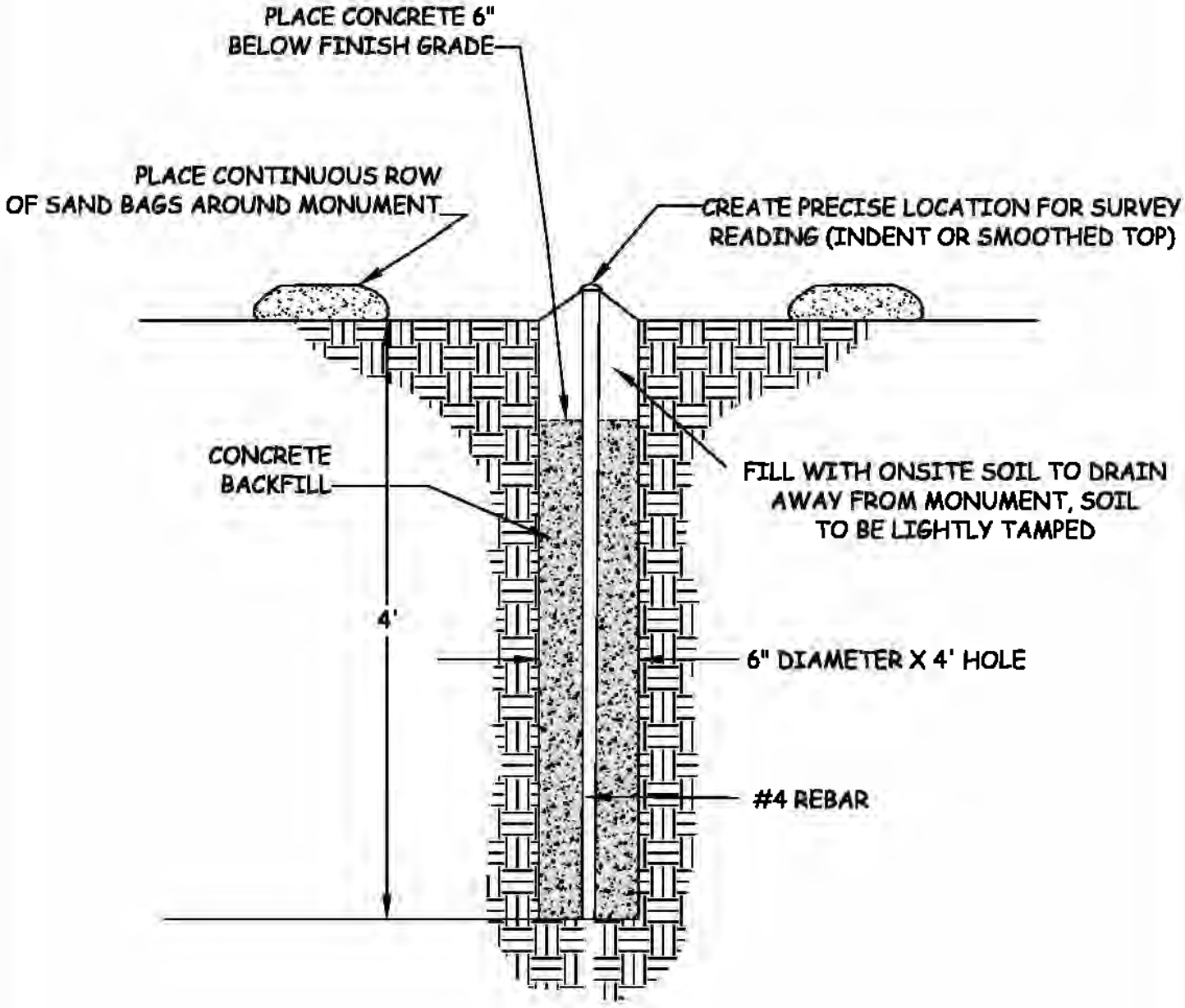
Notes:
1) Continuous Runs in Excess of 500' Shall Use 8" Diameter Pipe.
2) Final 20' of Pipe at Outlet Shall be Solid and Backfilled with Fine-grained Material.

Proposed Outlet Detail



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CANYON SUBDRAINS

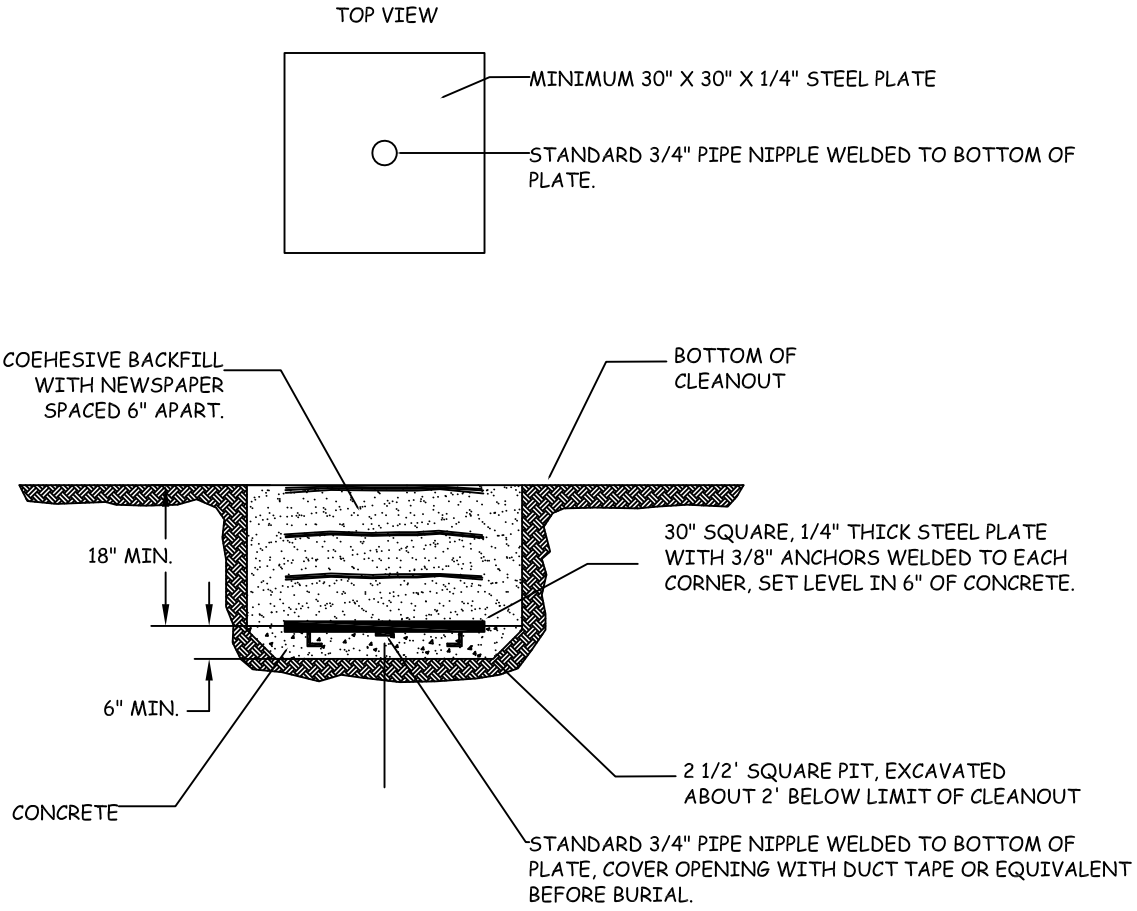


NO CONSTRUCTION EQUIPMENT WITHIN 25 FEET
OF ANY INSTALLED SETTLEMENT MONUMENTS

Revised 11/15

LGC Geotechnical, Inc.

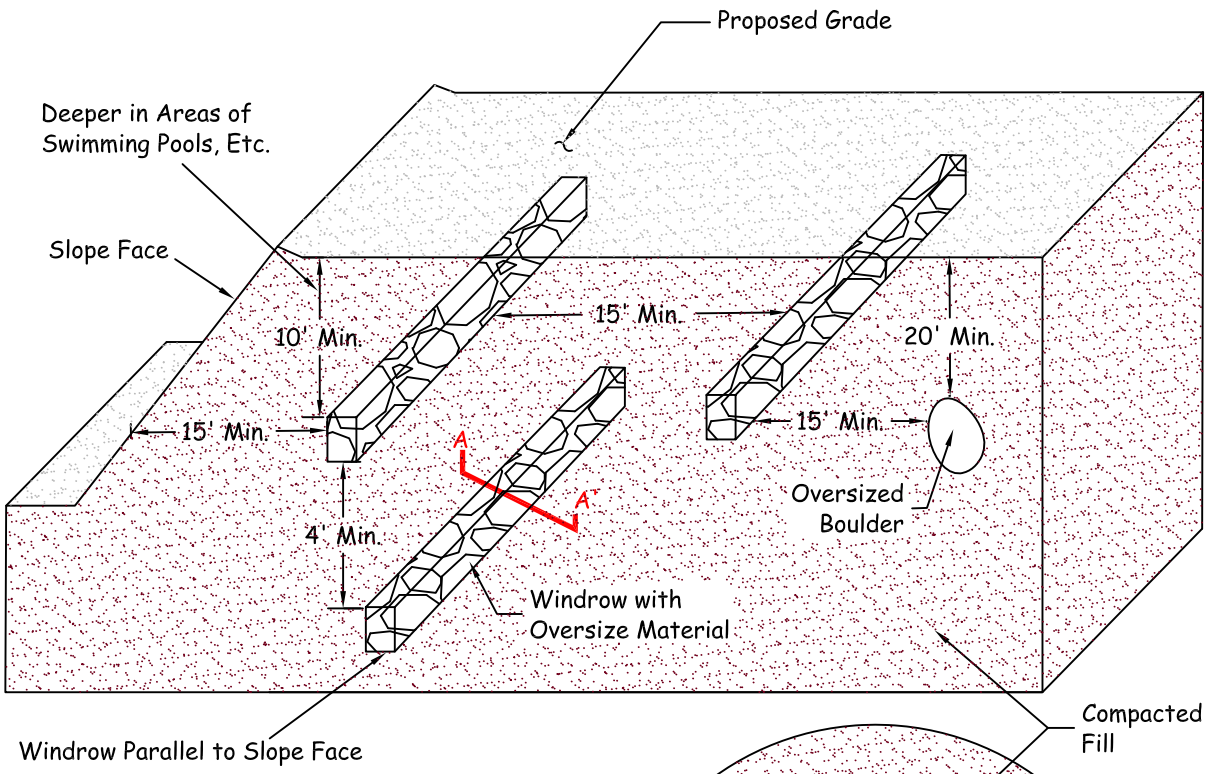
TYPICAL SURFACE SETTLEMENT MONUMENT

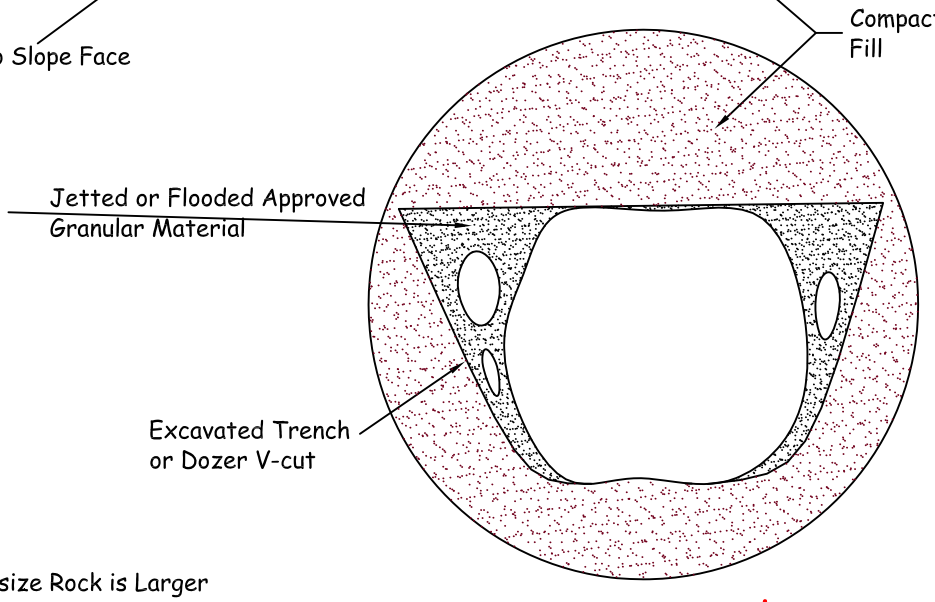


1. SURVEY FOR HORIZONTAL AND VERTICAL LOCATION TO NEAREST .01 INCH PRIOR TO BACKFILL USING KNOW LOCATIONS THAT WILL REMAIN INTACT DURING THE DURATION OF THE MONITORING PROGRAM. KNOW POINTS EXPLICITELY NOT ALLOWED ARE THOSE LOCATED ON FILL OR THAT WILL BE DESTROYED DURING GRADING.
2. IN THE EVENT OF DAMAGE TO SETTLEMENT PLATE DURING GRADING, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE GEOTECHNICAL ENGINEER AND SHALL BE RESPONSIBLE FOR RESTORING THE SETTLEMENT PLATES TO WORKING ORDER.
3. DRILL TO RECOVER AND ATTACH RISER PIPE.

LGC Geotechnical, Inc.

TYPICAL SETTLEMENT PLATE AND RISER





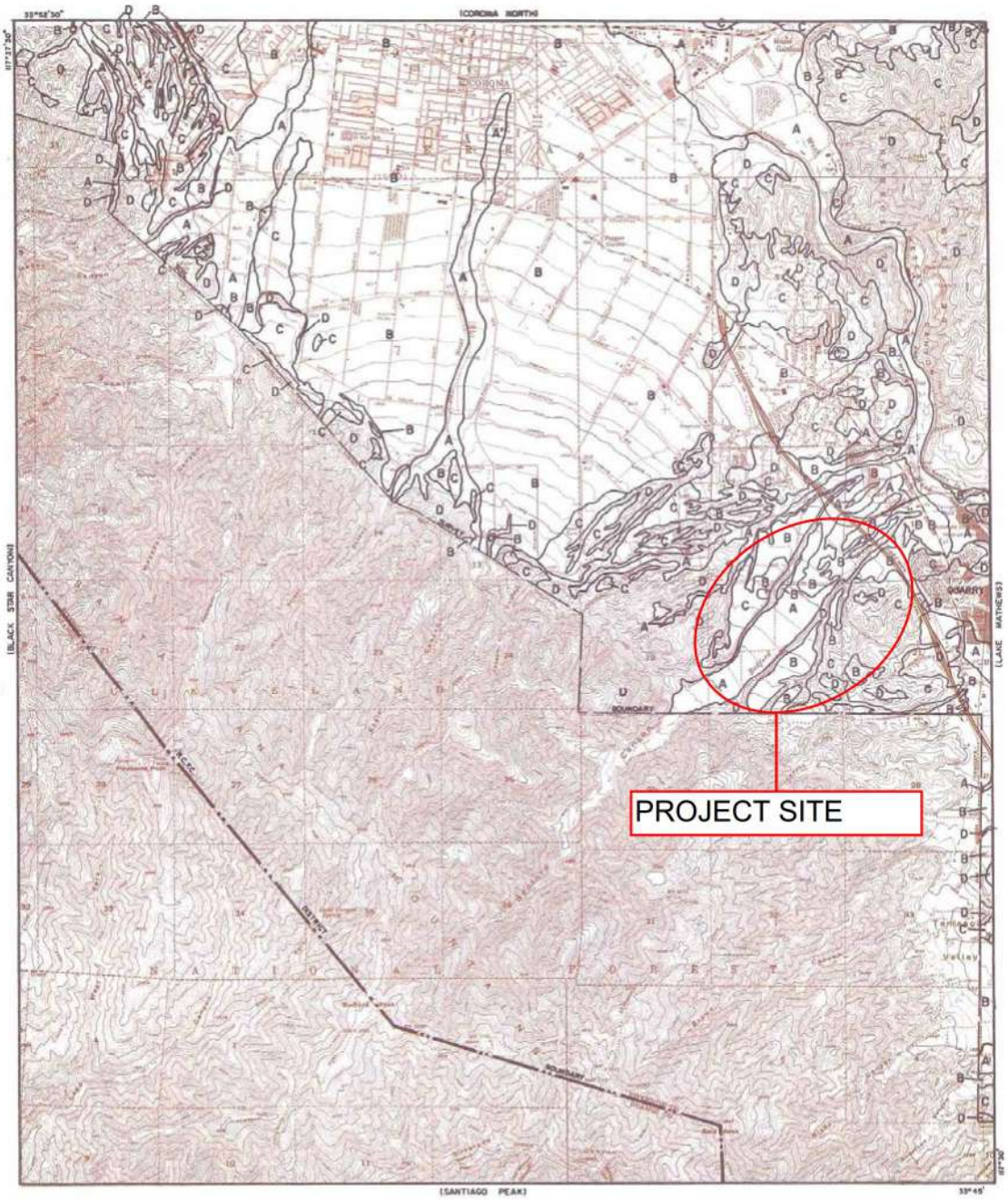
Note: Oversize Rock is Larger
than 8" in Maximum Dimension.

Section A-A'

LGC Geotechnical, Inc.

OVERSIZE ROCK DISPOSAL DETAIL

HYDROLOGIC DATA



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC&WCD

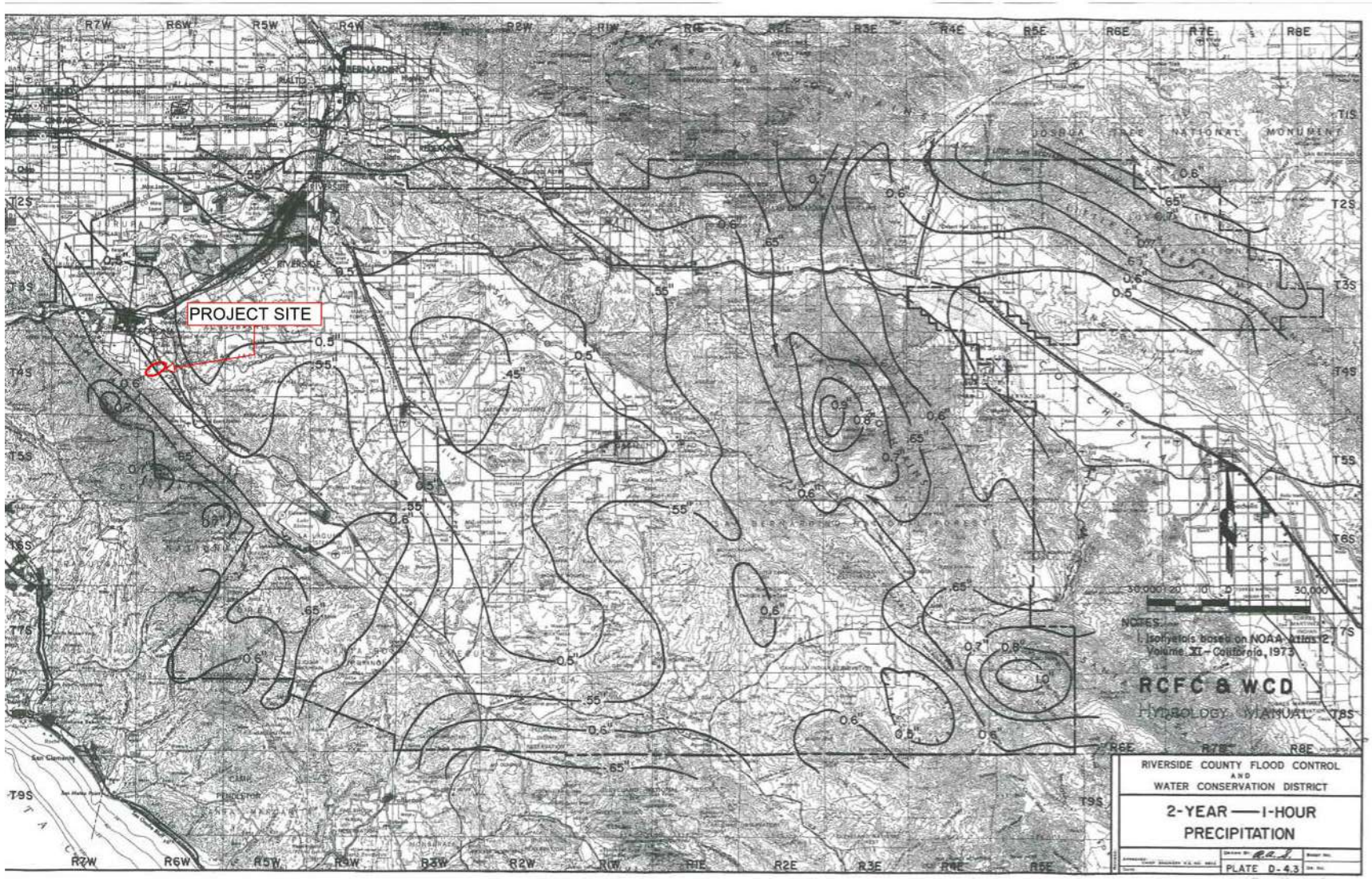
HYDROLOGY MANUAL

N

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR CORONA-SOUTH

PLATE C-1.27


PROJECT SITE
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 1-HOUR PRECIPITATION
PLATE D-4.3

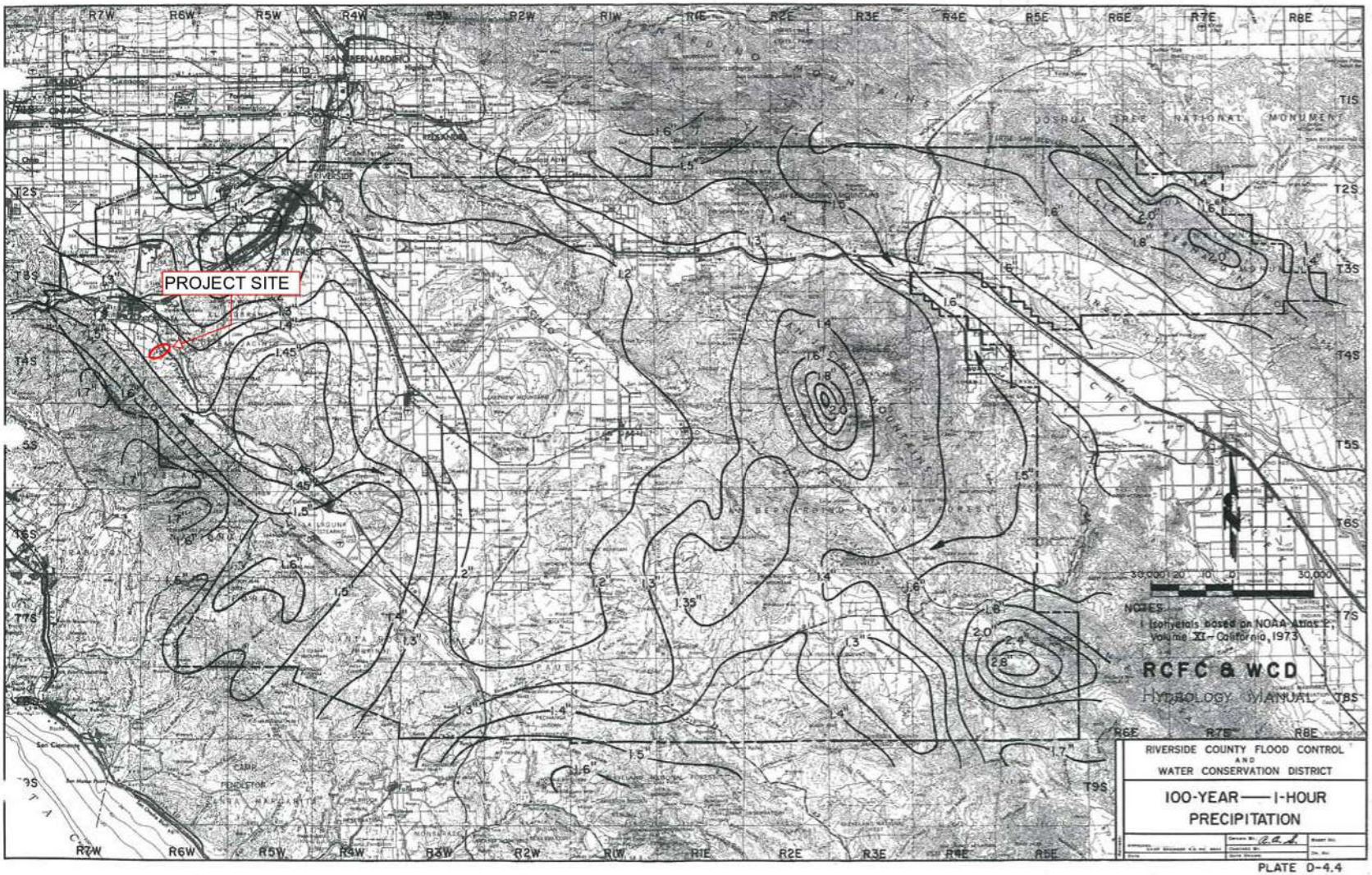

PROJECT SITE
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 1-HOUR PRECIPITATION
NOTES
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973

PLATE D-4.4

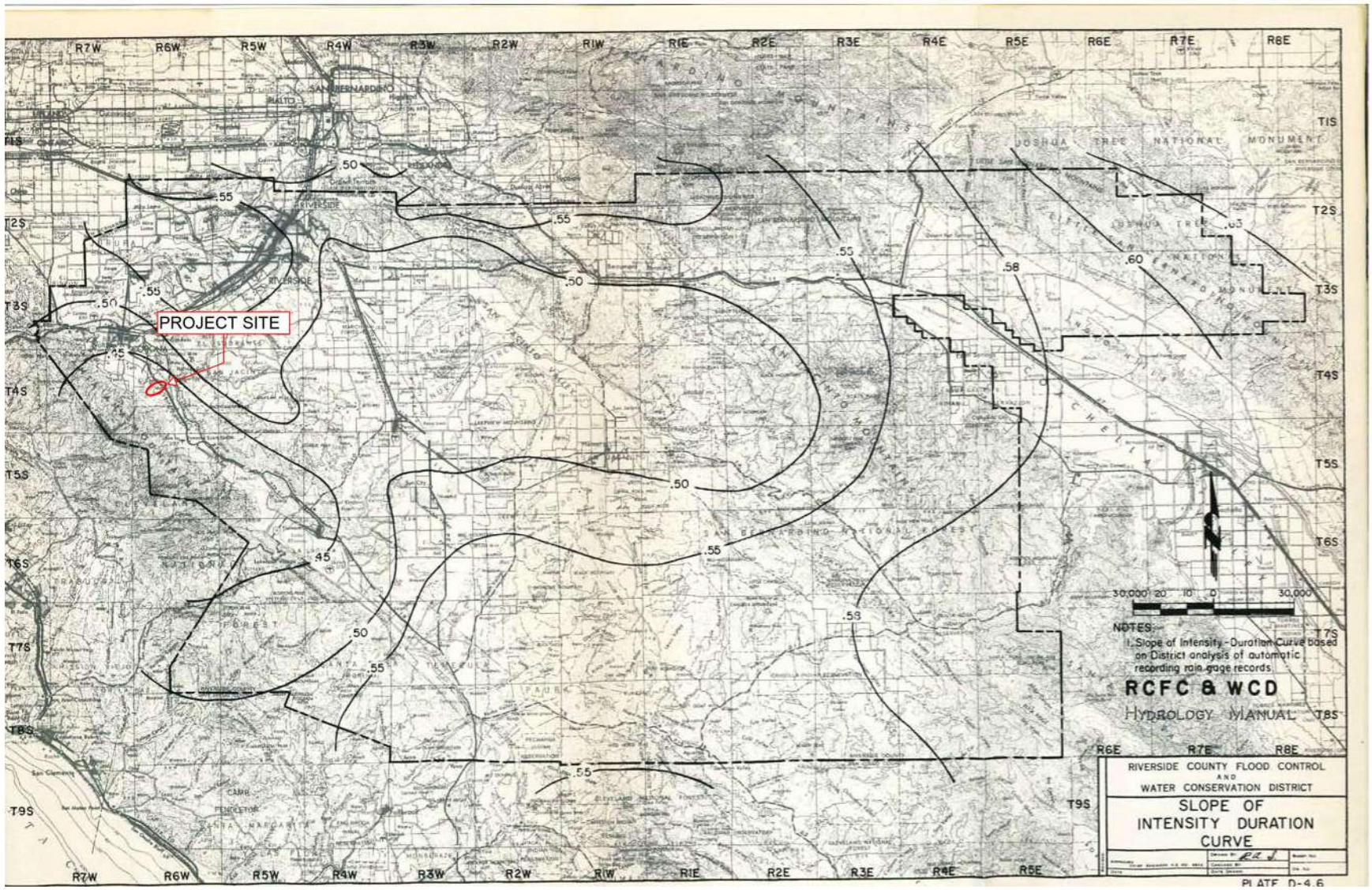

PROJECT SITE
.45
.50
.55
.58
.60
.63
R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T1S
T2S
T3S
T4S
T5S
T6S
T7S
T8S
T9S
SAN BERNARDINO MOUNTAINS
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO NATIONAL FOREST
CLEVELAND NATIONAL FOREST
SAN JACINTO MOUNTAINS
SANTA ROSA PLATEAU
SAN JACINTO VALLEY
SAN JACINTO MOUNTAINS
SAN BERNARDINO
RIVERSIDE
RIALTO
30,000' 20 10 0 30,000'
NOTES:
1. Slope of Intensity - Duration Curve based on District analysis of automatic recording rain gage records.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
SLOPE OF INTENSITY DURATION CURVE

PLATE D-4.6

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparrel, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparrel, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	72	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	28	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
URBAN COVERS -					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
AGRICULTURAL COVERS -					
Fallow (Land plowed but not tilled or seeded)		76	85	90	92

RCFC & WCD
HYDROLOGY MANUAL

RUNOFF INDEX NUMBERS FOR PERVIOUS AREA

PLATE D-5.5 (1 of 2)

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
AGRICULTURAL COVERS (cont.) -					
Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.)	Poor	66	77	85	89
	Good	58	72	81	85
Orchards, Deciduous (Apples, apricots, pears, walnuts, etc.)		See Note 4			
Orchards, Evergreen (Citrus, avocados, etc.)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
Pasture, Dryland (Annual grasses)	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Pasture, Irrigated (Legumes and perennial grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
Row Crops (Field crops - tomatoes, sugar beets, etc.)	Poor	72	81	88	91
	Good	67	78	85	89
Small Grain (Wheat, oats, barley, etc.)	Poor	65	76	84	88
	Good	63	75	83	87
Vineyard		See Note 4			

Notes:

1. All runoff index (RI) numbers are for Antecedent Moisture Condition (AMC) II.

2. Quality of cover definitions:
   Poor-Heavily grazed or regularly burned areas. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.
   Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.
   Good-Heavy or dense cover with more than 75 percent of the ground surface protected.

3. See Plate C-2 for a detailed description of cover types.

4. Use runoff index numbers based on ground cover type. See discussion under "Cover Type Descriptions" on Plate C-2.

5. Reference Bibliography item 17.

RCFC & WCD
HYDROLOGY MANUAL

RUNOFF INDEX NUMBERS FOR PERVIOUS AREA

PLATE D-5.5 (2 of 2)

ACTUAL IMPERVIOUS COVER

Land Use (1)	Range-Percent	Recommended Value For Average Conditions-Percent(2)
Natural or Agriculture	0 - 10	0
Single Family Residential: (3)		
40,000 S. F. (1 Acre) Lots	10 - 25	20
20,000 S. F. (½ Acre) Lots	30 - 45	40
7,200 - 10,000 S. F. Lots	45 - 55	50
Multiple Family Residential:		
Condominiums	45 - 70	65
Apartments	65 - 90	80
Mobile Home Park	60 - 85	75
Commercial, Downtown Business or Industrial	80 -100	90

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.

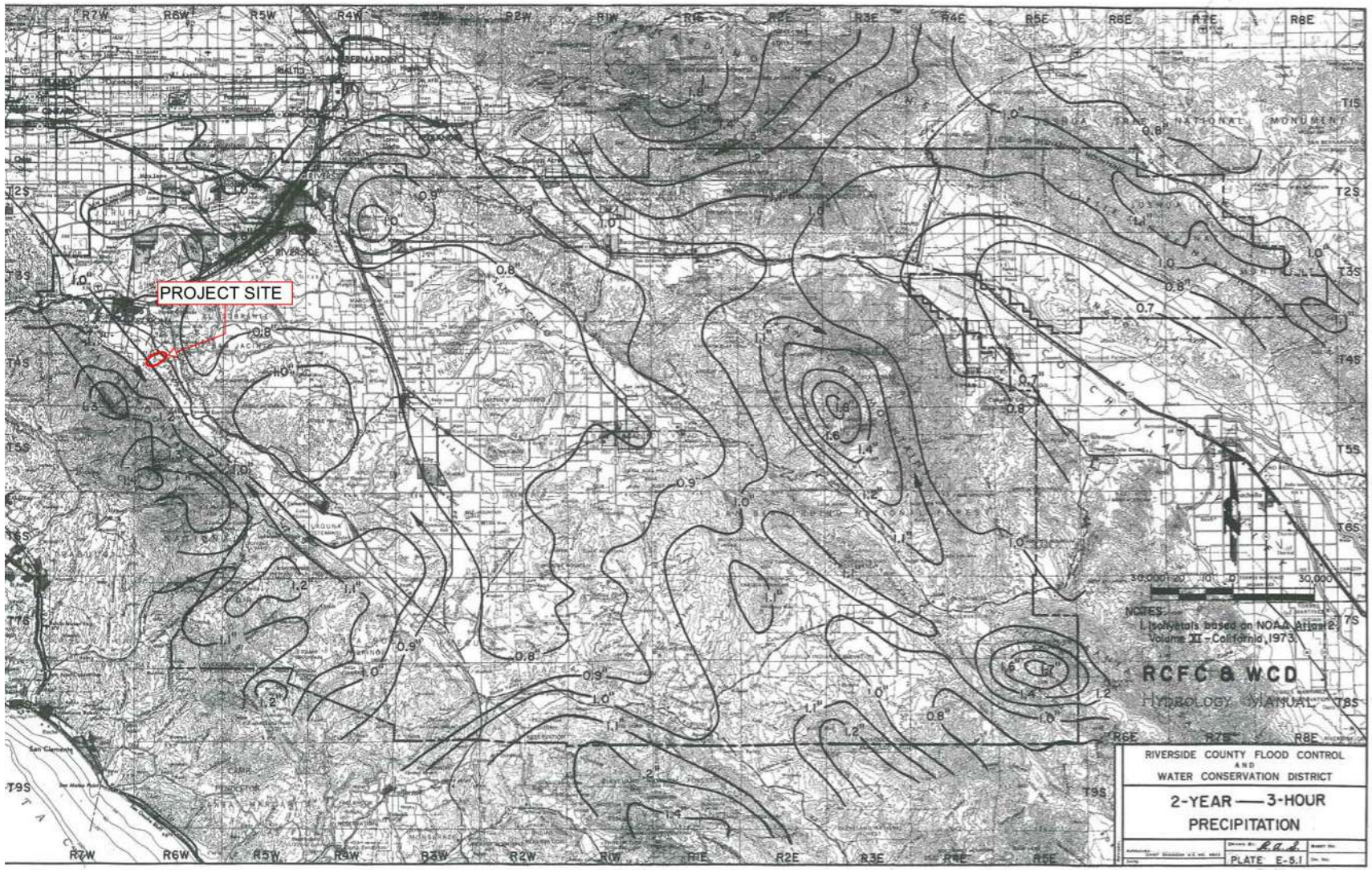
2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area should always be made, and a review of aerial photos, where available may assist in estimating the percentage of impervious cover in developed areas.

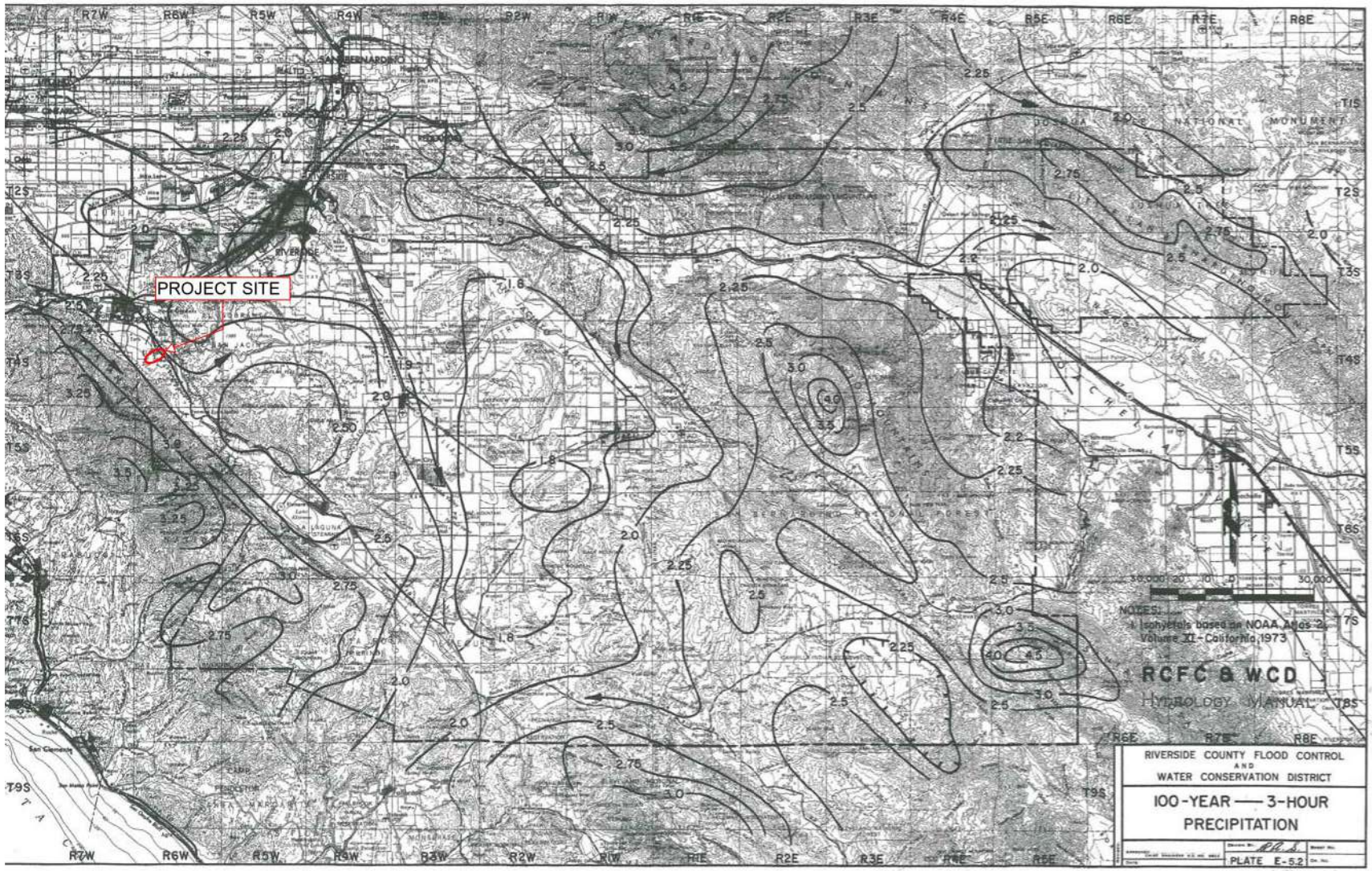
3. For typical horse ranch subdivisions increase impervious area 5 percent over the values recommended in the table above.

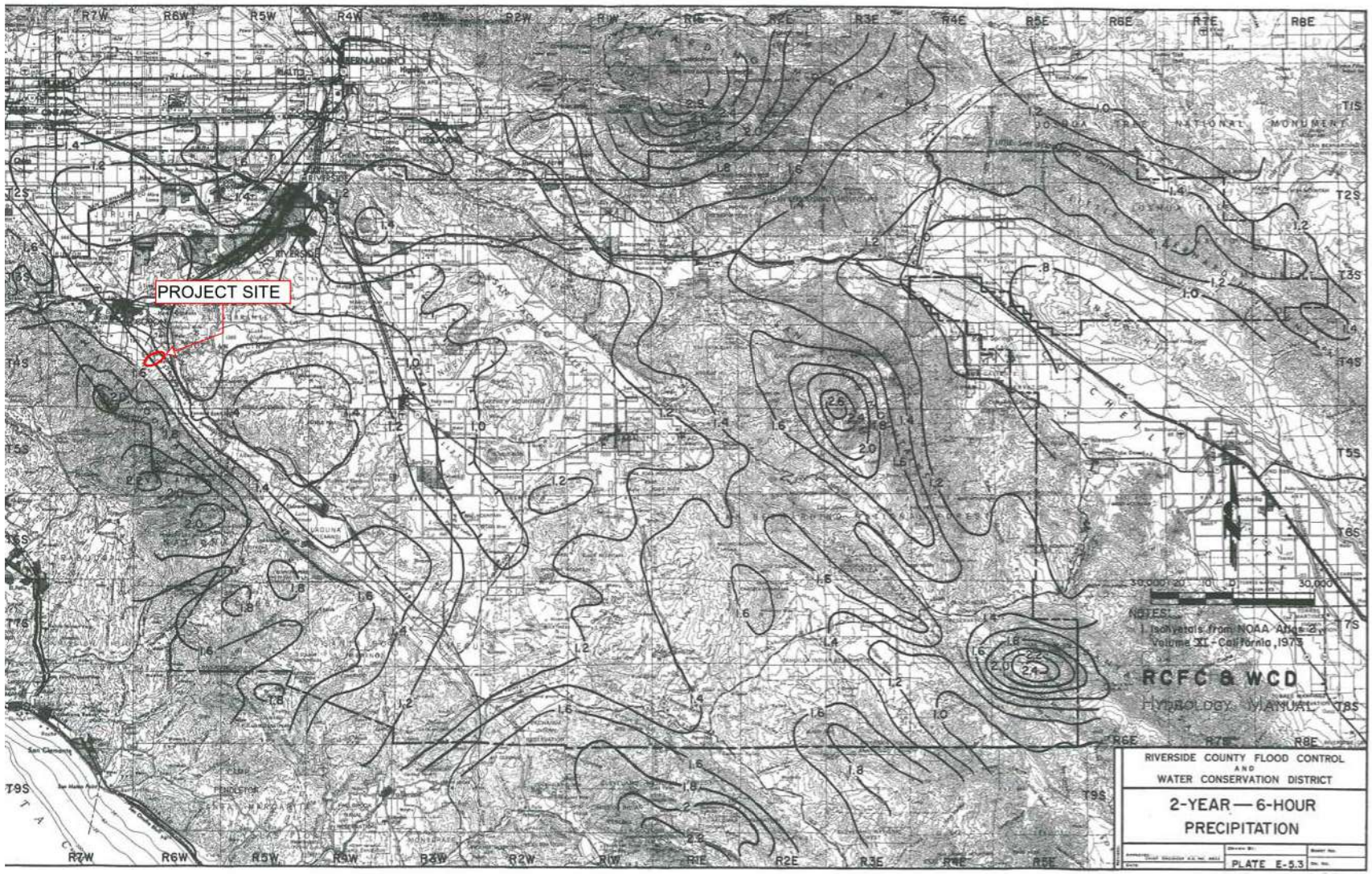
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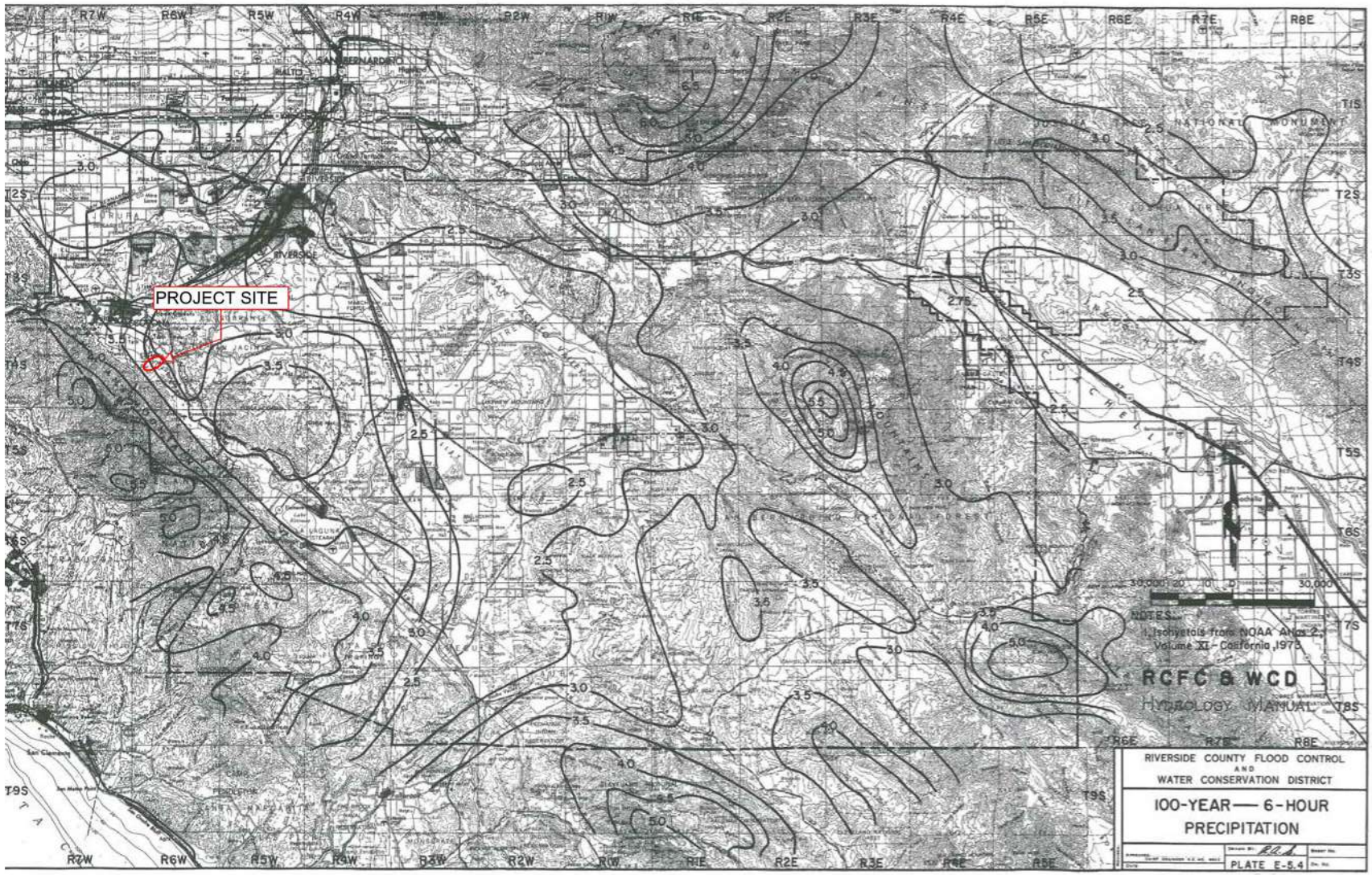
IMPERVIOUS COVER FOR DEVELOPED AREAS

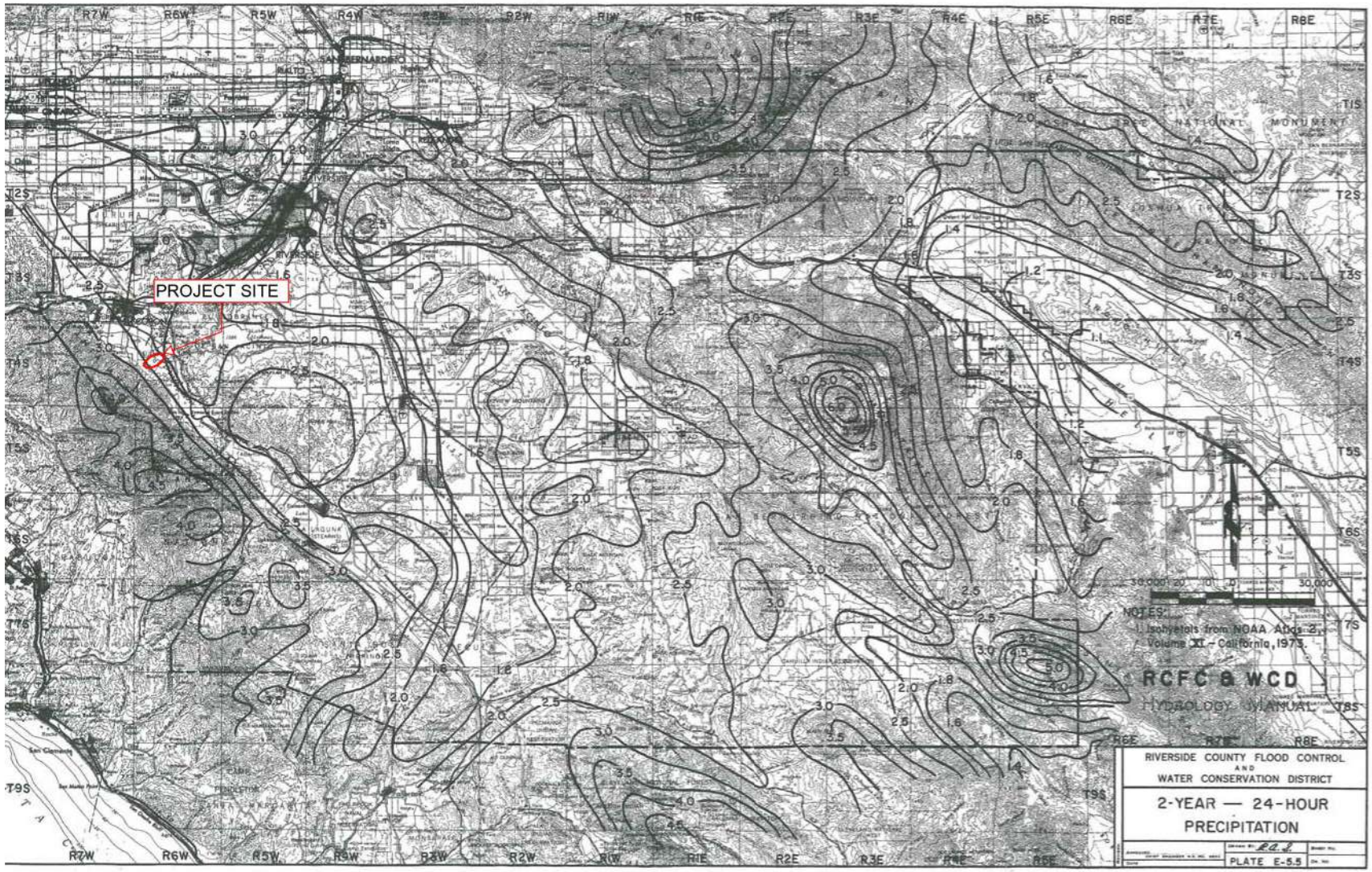
PLATE D-5.6

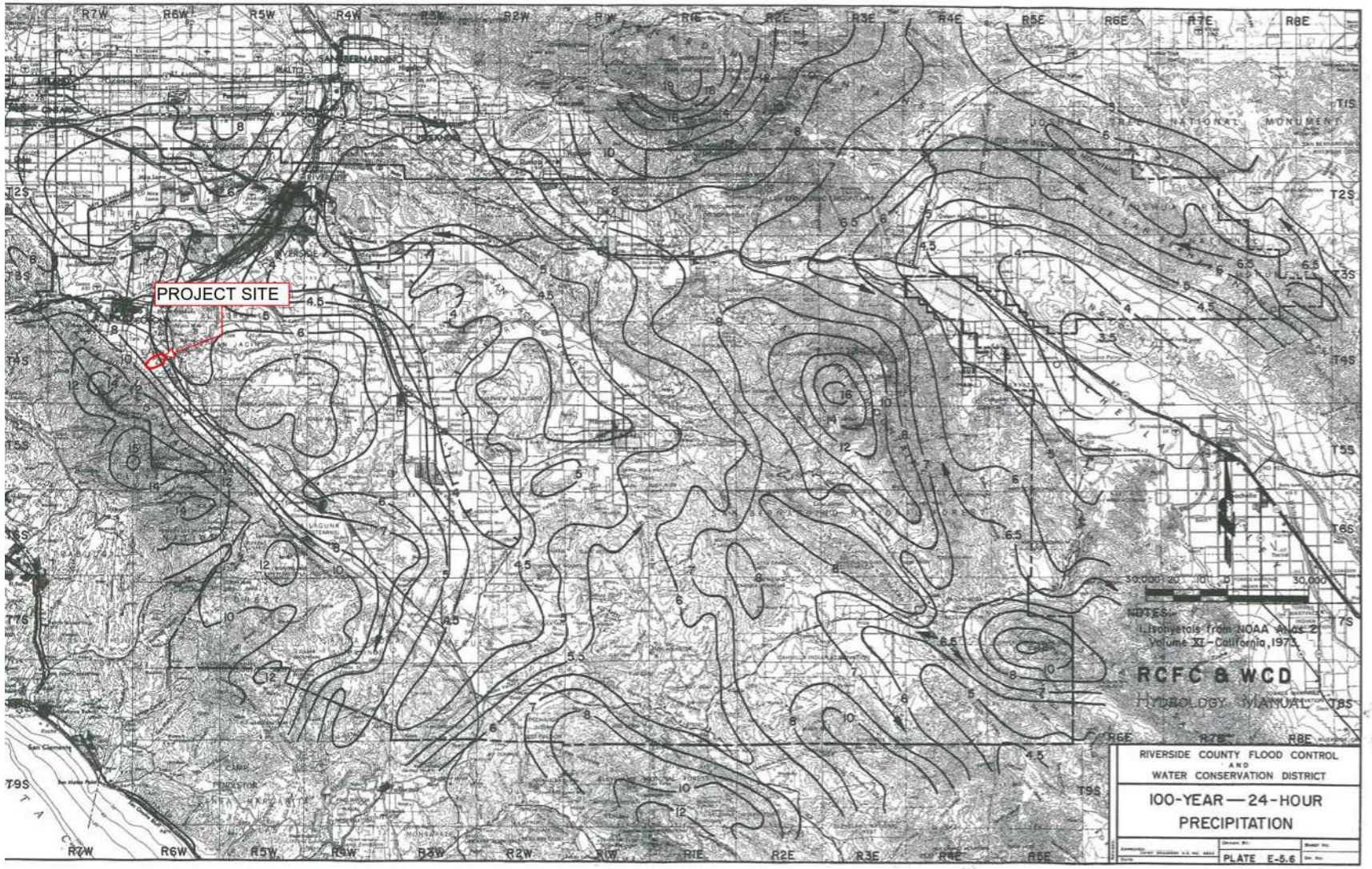

PROJECT SITE
NOTES:
Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 3-HOUR PRECIPITATION
PLATE E-5.1


PROJECT SITE
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 3-HOUR PRECIPITATION
PLATE E-5.2


PROJECT SITE
NOTES:
Isohyetals from NOAA Atlas 2,
Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
2-YEAR — 6-HOUR
PRECIPITATION
PLATE E-5.3


PROJECT SITE
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 6-HOUR PRECIPITATION
PLATE E-5.4


PROJECT SITE
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 24-HOUR PRECIPITATION
PLATE E-5.5


PROJECT SITE
NOTES:
1. Isohyetals from NOAA Atlas 2
Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
100-YEAR — 24-HOUR
PRECIPITATION
PLATE E-5.6

April 2018

PRELIMINARY HYDROLOGY STUDY

For

Tract 37036

Parcel 1

City of Corona

County of Riverside, California

HUNSAKER & ASSOCIATES IRVINE, INC.

PRELIMINARY HYDROLOGY STUDY

Tract 37036 | Parcel 1

City of Corona | County of Riverside, California

HUNSAKER & ASSOCIATES
IRVINE, INC.

April 2018

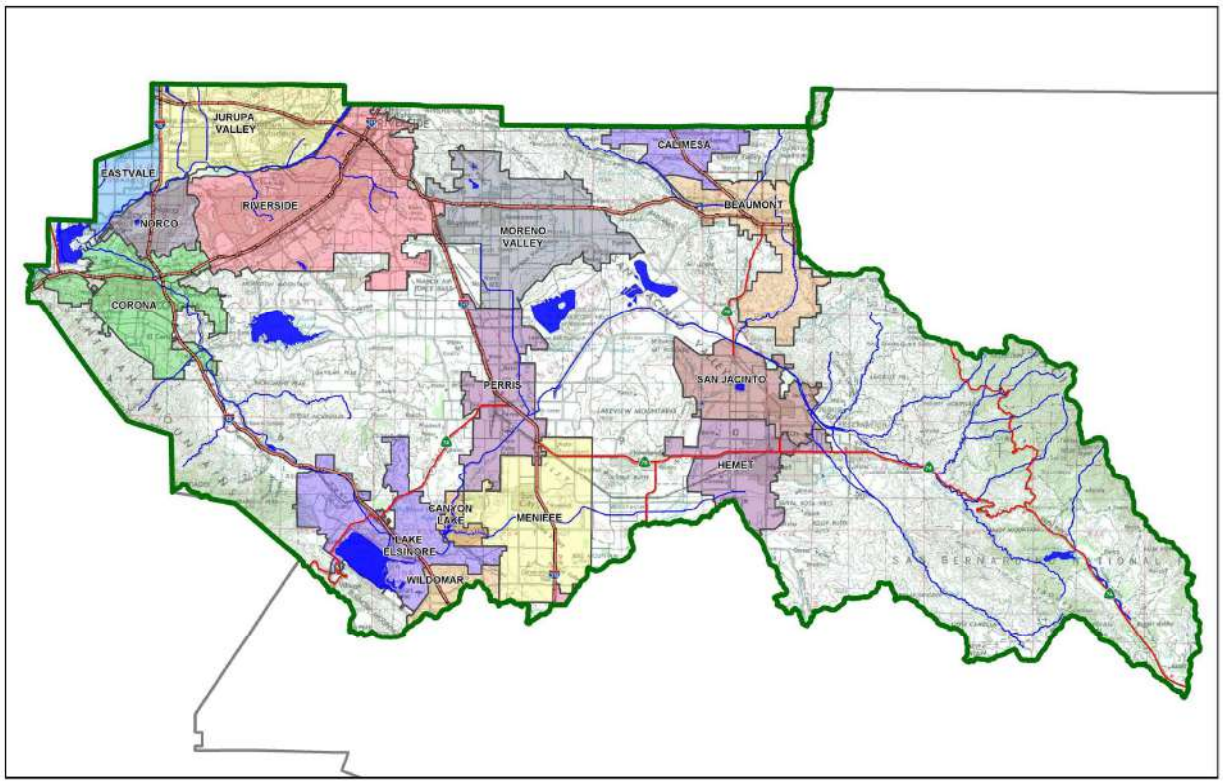
APPENDIX G: PRELIMINARY WATER QUALITY MANAGEMENT PLAN

Project Specific Water Quality Management Plan

Project Title: Lower McMillan

Public Works No:

Design Review/Case No: TPM 37036



☒ **Preliminary**
☐ **Final**

Original Date Prepared: April 5, 2018

Revision Date(s):

Prepared for Compliance with
Regional Board Order No. **R8-2010-0033**

Contact Information:

Prepared for:
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Aliso Viejo, CA 92656
(949) 382-2766

Prepared by:
Hunsaker & Associates Irvine, Inc.
3 Hughes,
Irvine, CA 92618
(949) 583-1010

OWNER'S CERTIFICATION

This Project-Specific Water Quality Management Plan (WQMP) has been prepared for Arantine Hills Holdings, LP, by Hunsaker & Associates Irvine, Inc. for the Lower McMillan project.

This WQMP is intended to comply with the requirements of The City of Corona which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater BMPs until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP.

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature	Date
Owner's Printed Name	Owner's Title/Position

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan meet the requirements of Regional Water Quality Control Board Order No. R8-2010-0033 and any subsequent amendments thereto."

Preparer's Signature	Date
Paul Huddleston	Principal
Preparer's Printed Name	Preparer's Title/Position

Preparer's Licensure: PE#58020

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Section A: **Project and Site Information**

Arantine Hills Holdings, LP. proposes the development of TPM 37036 "Lower McMillan", located just southeast of Jupiter Hills Road and Driving Range Road, northwest of Bedford Canyon Wash and north of Bedford Motor Way, in the City of Corona, California. Specifically, the project location is bound to the north by Arantine Hills development and beyond; to the east by vacant land; to the south by existing single-family homes; and to the west by Eagle Glen Golf Club.

Entrance to the site shall be obtained from Hudson House Drive to the north, per Tract 36294.

PROJECT INFORMATION	
Type of Project:	Tentative Parcel Map 37036 consists of approximately 159.16 (3 Parcels) acres located just southeast of Jupiter Hills Road and Driving Range Road, northwest of Bedford Wash and north of Bedford Motor Way, in the City of Corona, California. The project proposes medium density residential (10 units per acre) on Parcel 1. Parcel 2 will consist of a channel and Parcel 3 will consist of open space. The project will comprise of one Drainage Management Area (DMA), DMA "1". DMA "1" will convey flows to the Infiltration basin located at the northeast corner of the project site, located within Parcel 1.
Planning Area:	
Community Name:	Lower McMillan
Development Name:	TPM 37036
PROJECT LOCATION	
Latitude & Longitude (DMS): 33.806204, -117.531780	
Project Watershed and Sub-Watershed: Santa Ana River Watershed	
APN(s): 282-040-003	
Map Book and Page No.: Riverside County Map Book 16, Page 10.	
PROJECT CHARACTERISTICS	
Proposed or Potential Land Use(s)	Residential
Proposed or Potential SIC Code(s)	1521
Area of Impervious Project Footprint (SF)	554,053 (Parcel 1)
Total Area of proposed Impervious Surfaces within the Project Limits (SF)/or Replacement	554,053 (Parcel 1)
Does the project consist of offsite road improvements?	☐ Y ☒ N
Does the project propose to construct unpaved roads?	☐ Y ☒ N
Is the project part of a larger common plan of development (phased project)?	☐ Y ☒ N
EXISTING SITE CHARACTERISTICS	
Total area of existing Impervious Surfaces within the project limits (SF)	0 SF
Is the project located within any MSHCP Criteria Cell?	☐ Y ☒ N
If so, identify the Cell number:	N/A
Are there any natural hydrologic features on the project site?	☐ Y ☒ N

Is a Geotechnical Report attached?	☒ Y ☐ N
If no Geotech. Report, list the NRCS soils type(s) present on the site (A, B, C and/or D)	Preliminary Geotechnical Evaluation attached.
What is the Water Quality Design Storm Depth for the project?	0.80”

A.1 Maps and Site Plans

- Drainage Management Areas
- Proposed Structural BMPs
- Drainage Path
- Drainage Infrastructure, Inlets, Overflows
- Source Control BMPs
- Buildings, Roof Lines, Downspouts
- Impervious Surfaces
- Standard Labeling

A.2 Receiving Waters

The project's receiving waters are as follows:

Table A.1 Identification of Receiving Waters

Receiving Waters	303(d) List Impairments[1]	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Bedford Canyon Wash	None	None	No RARE designation
Temescal Creek Reach, Reach 2	None	AGR, IND, GWR, REC 1, REC 2, WARM	No RARE designation
Temescal Creek, Reach 1	pH	REC1, REC2, WARM, WILD	No RARE designation
Santa Ana River (Reach 3)	Copper, Lead, Pathogens *(Pathogens, Nitrate)*	AGR, GWR, REC1, REC2, WARM, WILD, RARE	10 miles
Prado Dam	Nutrients and Pathogens	AGR, GWR, REC1, REC 2, WARM, WILD, RARE, SPWN	10 miles
Santa Ana River (Reach 2)	Indicator Bacteria	AGR, GWR, REC1, REC2, WARM, WILD, RARE	No RARE designation
Santa Ana River (Reach 1)	None	REC1, REC2, WARM, WILD	No RARE designation
Pacific Ocean	None	None	No RARE designation

[1] TMDLs denoted in italics and parenthesis.

A.3 Additional Permits/Approvals required for the Project:

Table A.2 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☒ Y	☐ N
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Cert.	☒ Y	☐ N
US Army Corps of Engineers, CWA Section 404 Permit	☒ Y	☐ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☒ Y	☐ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other *(please list in the space below as required)* City of Corona Grading and Building Permits	☒ Y	☐ N

Section B: **Optimize Site Utilization (LID Principles)**

Site Optimization

Does the project identify and preserve existing drainage patterns? If so, how? If not, why?

Yes. Bedford Canyon Wash located along the project's southerly perimeter will maintain its existing drainage pattern as will the project site, draining from the southwest to northeast.

Does the project identify and protect existing vegetation? If so, how? If not, why?

Parcel 2 will be constructed as a flood control channel and Parcel 3 (126 acres) will remain as natural open space.

Does the project identify and preserve natural infiltration capacity? If so, how? If not, why?

Yes, an infiltration basin is proposed for the project site where infiltration rates are feasible. Based on the geotechnical evaluation report, the average infiltration rate is 1.85 in/hr, which includes a factor of safety.

Does the project identify and minimize impervious area? If so, how? If not, why?

Yes. The site design meets the minimum standards per the Riverside County LID Handbook and City of Corona requirements.

Does the project identify and disperse runoff to adjacent pervious areas? If so, how? If not, why?

Yes. the future development will propose impervious areas that will drain to pervious landscape areas. When not feasible runoff will be conveyed to the project's catch basin and storm drain system before being routed to the Infiltration Basin.

Section C: **Delineate Drainage Management Areas (DMAs)**

Table C.1 DMA Classifications

DMA Name or ID	Surface Type(s)[1]	Area (Sq. Ft.)	DMA Type
DMA 1	Mixed Surface Types (Residential)	923,422	D

[1]*Reference Table 2-1 in the WQMP Guidance Document to populate this column*

Table C.2 Type 'A', Self-Treating Areas

DMA Name or ID	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)
None			

Table C.3 Type 'B', Self-Retaining Areas

Self-Retaining Area				**Type 'C' DMAs that are draining to the Self-Retaining Area**		
DMA Name/ ID	Post-project surface type	Area (square feet)	Storm Depth (inches)	DMA Name / ID	[C] from Table C.4 =	Required Retention Depth (inches)
		[A]	[B]		[C]	[D]

$$[D] = [B] + \frac{[B] \cdot [C]}{[A]}$$

Table C.4 Type 'C', Areas that Drain to Self-Retaining Areas

DMA					Receiving Self-Retaining DMA		
DMA Name/ ID	Area (square feet)	Post-project surface type	Runoff factor	Product	DMA name /ID	Area (square feet)	Ratio
	[A]		[B]	[C] = [A] x [B]		[D]	[C]/[D]

Table C.5 Type 'D', Areas Draining to BMPs

DMA Name or ID	BMP Name or ID
DMA 1	Basin "1"

Note: More than one drainage management area can drain to a single LID BMP, however, one drainage management area may not drain to more than one BMP.

Section D: Implement LID BMPs

D.1 Infiltration Applicability

Is there an approved downstream 'Highest and Best Use' for stormwater runoff (Reference Chapter 2.4.4 of the WQMP Guidance Document for further details)? ☐ Y ☒ N

Geotechnical Report

A Geotechnical Report is required by the City of Corona to confirm present and past site characteristics that may affect the use of Infiltration BMPs, see Appendix 3.

Is this project classified as a small project consistent with the requirements of Chapter 2 of the WQMP Guidance Document? ☐ Y ☒ N

Infiltration Feasibility

Table D.1 Infiltration Feasibility

Does the project site…	YES	NO
…have any DMAs with a seasonal high groundwater mark shallower than 10 feet?		X
If Yes, list affected DMAs:		
…have any DMAs located within 100 feet of a water supply well?		X
If Yes, list affected DMAs:		
…have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact?		X
If Yes, list affected DMAs:		
…have measured in-situ infiltration rates of less than 1.6 inches / hour?		X
If Yes, list affected DMAs:		
…have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface?		X
If Yes, list affected DMAs:		
…geotechnical report identifies other site-specific factors that would preclude effective and safe infiltration?		X
Describe here:		

D.2 Harvest and Use Assessment

The following conditions apply*:*

- ☐ Reclaimed water will be used for the non-potable water demands for the project.
- ☐ Downstream water rights may be impacted by Harvest and Use as approved by the Regional Board (verify with the City of Corona).
- ☒ The Design Capture Volume will be addressed using Infiltration Only BMPs. In such a case, Harvest and Use BMPs are still encouraged, but it would not be required if the Design Capture Volume will be infiltrated or evapotranspired.

Irrigation Use Feasibility

Step 1: *Total Area of Irrigated Landscape*: **N/A**

Type of Landscaping (Conservation Design or Active Turf): **N/A**

Step 2: *Total Area of Impervious Surfaces:* **N/A**

Step 3: *The project EIATIA factor*: **N/A**

Step 4: *Minimum required irrigated area*: **N/A**

Step 5:

Minimum required irrigated area (Step 4)	Available Irrigated Landscape (Step 1)
N/A	N/A

Since the minimum required irrigated area is greater than the available irrigated landscape area for the proposed project, capture of storm water for irrigation use is not feasible.

Toilet Use Feasibility

Step 1: *Projected Number of Daily Toilet Users:* **N/A**

Project Type: **N/A**

Step 2: *Total Area of Impervious Surfaces:* **N/A**

Step 3: *Enter your TUTIA factor:* **N/A**

Step 4: *Minimum number of toilet users:* **N/A**

Step 5:

Minimum required Toilet Users (Step 4)	Projected number of toilet users (Step 1)
N/A	N/A

Other Non-Potable Use Feasibility

Are there other non-potable uses for stormwater runoff on the site (e.g. industrial use)? There are no other non-potable uses for stormwater runoff of site. See Chapter 2 of the Guidance for further information. If yes, describe below. If no, write N/A.

N/A

Step 1: *Average Daily Demand:* ***N/A***

Step 2: *Total Area of Impervious Surfaces:* ***N/A***

Step 3: *Enter the factor from Table 2-3:* ***N/A***

Step 4: *Minimum required use:* ***N/A***

Step 5:

Minimum required non-potable use (Step 4)	Projected average daily use (Step 1)
N/A	N/A

D.3 Bioretention and Biotreatment Assessment

Other LID Bioretention and Biotreatment BMPs as described in Chapter 2.4.7 of the WQMP Guidance Document are feasible on nearly all development sites with sufficient advance planning.

For the projects of the following applies:

☐ LID Bioretention/Biotreatment BMPs will be used for some or all DMAs of the project as noted below in Section D.4

☐ A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5.

D.4 Feasibility Assessment Summaries

Table D.2 LID Prioritization Summary Matrix

DMA* Name/ ID	LID BMP Hierarchy				No LID (Alternative Compliance)
	1. Infiltration	2. Harvest and use	3. Bioretention	4. Biotreatment	
DMA 1	☒	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐

Harvest and Use calculations provided in Section D.2, demand for both irrigation and toilet flushing does not exceed the minimum required volume for harvest and use.

D.5 LID BMP Sizing

Table D.3 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*BMP "1" – Infiltration Basin*		
	[A]		[B]	[C]	[A] x [C]			
DMA 1	923,422	Mixed Surface Type	0.60	0.41	377,613	*Design Storm Depth (In)*	*Design Capture Volume, Vbmp (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
Total	923,422				377,613	0.80	25,174	27,118

[B], [C] is obtained as described in Section 2.3.1 of the WQMP Guidance Document 6

Section E: **Alternative Compliance (LID Waiver Program)**

LID BMPs are expected to be feasible on virtually all projects. Where LID BMPs have been demonstrated to be infeasible as documented in Section D, other Treatment Control BMPs must be used (subject to LID waiver approval by the Regional Board). For the projects the following applies:

☒ LID Principles and LID BMPs have been incorporated into the site design to fully address all Drainage Management Areas. No alternative compliance measures are required for this project and thus this Section is not required to be completed.

- *Or* -

☐ The following Drainage Management Areas are unable to be addressed using LID BMPs. A site-specific analysis demonstrating technical infeasibility of LID BMPs has been approved by the Regional Board and included in Appendix 5. Additionally, no downstream regional and/or sub-regional LID BMPs exist or are available for use by the project. The alternative compliance measures on the following pages are being implemented to ensure that any pollutant loads expected to be discharged by not incorporating LID BMPs, are fully mitigated.

Section F Hydromodification

F.1 Hydrologic Conditions of Concern (HCOC) Analysis

HCOC EXEMPTION 1: The Priority Development Project disturbs less than one acre. The City of Corona has the discretion to require a Project-Specific WQMP to address HCOCs on projects less than one acre on a case by case basis. The disturbed area calculation should include all disturbances associated with larger common plans of development.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

HCOC EXEMPTION 2: The volume and time of concentration[1] of storm water runoff for the post-development condition is not significantly different from the pre-development condition for a 2-year return frequency storm (a difference of 5% or less is considered insignificant) using one of the following methods to calculate:

- Riverside County Hydrology Manual
- Technical Release 55 (TR-55): Urban Hydrology for Small Watersheds (NRCS 1986), or derivatives thereof, such as the Santa Barbara Urban Hydrograph Method
- Other methods acceptable to the City of Corona

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

Table E.1 Hydrologic Conditions of Concern Summary

	2 year – 24 hour		
	Pre-condition	Post-condition	% Difference
Time of Concentration			
Volume (Cubic Feet)			

[1] Time of concentration is defined as the time after the beginning of the rainfall when all portions of the drainage basin are contributing to flow at the outlet.

HCOC EXEMPTION 3: All downstream conveyance channels to an adequate sump (, Prado Dam, Santa Ana River) that will receive runoff from the project are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Sensitivity Maps.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

F.2 HCOC Mitigation

As an alternative to the HCOC Exemption Criteria above, HCOC criteria is considered mitigated if the project meets one of the following conditions, as indicated:

☐ Additional LID BMPS are implemented onsite or offsite to mitigate potential erosion or habitat impacts as a result of HCOCs. This can be conducted by an evaluation of site-specific conditions utilizing accepted professional methodologies published by entities such as the California Stormwater Quality Association (CASQA), the Southern California Coastal Water Research Project (SCCRWP), or other Co-Permittee approved methodologies for site-specific HCOC analysis.

☐ The project is developed consistent with an approved Watershed Action Plan that addresses HCOC in Receiving Waters.

☐ Mimicking the pre-development hydrograph with the post-development hydrograph, for a 2-year return frequency storm. Generally, the hydrologic conditions of concern are not significant, if the post-development hydrograph is no more than 10% greater than pre-development hydrograph. In cases where excess volume cannot be infiltrated or captured and reused, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year peak flow.

☒ None of the above.

The project site will mitigate for HCOC's via the proposed Infiltration Basin. Infiltration basin has been designed to attenuate the increase in flows due to the proposed conditions. The mitigated flow rate is less than existing conditions, please refer to the table below and supporting documentation in Appendix 6.

Peak Flow Rate (cfs)		
	Existing Condition	**Proposed Condition**
2-Year/24 Hour	0.7	0.67
10-Year/24 Hour	6.5	5.44

Section G: Source Control BMPs

Source Control BMPs include permanent, structural features that may be required in your Project plans — such as roofs over and berms around trash and recycling areas — and Operational BMPs, such as regular sweeping and "housekeeping", that must be implemented by the site's occupant or user. The Maximum Extent Practicable (MEP) standard typically requires both types of BMPs. In general, Operational BMPs cannot be substituted for a feasible and effective structural BMP. Using the Pollutant Sources/Source Control Checklist in Appendix 8, review the following procedure to specify Source Control BMPs for your site:

1. *Identify Pollutant Sources*: Review Column 1 in the Pollutant Sources/Source Control Checklist. Check off the potential sources of Pollutants that apply to your site.

2. *Note Locations on Project-Specific WQMP Exhibit*: Note the corresponding requirements listed in Column 2 of the Pollutant Sources/Source Control Checklist. Show the location of each Pollutant source and each permanent Source Control BMP in your Project-Specific WQMP Exhibit located in Appendix 1.

3. *Prepare a Table and Narrative*: Check off the corresponding requirements listed in Column 3 in the Pollutant Sources/Source Control Checklist. In the left column of Table G.1 below, list each potential source of Pollutants on your site (from those that you checked in the Pollutant Sources/Source Control Checklist). In the middle column, list the corresponding permanent, Structural Source Control BMPs (from Columns 2 and 3 of the Pollutant Sources/Source Control Checklist) used to prevent Pollutants from entering runoff. Add additional narrative in this column that explains any special features, materials or methods of construction that will be used to implement these permanent, Structural Source Control BMPs.

4. *Identify Operational Source Control BMPs:* To complete your table, refer once again to the Pollutant Sources/Source Control Checklist. List in the right column of your table the Operational BMPs that should be implemented as long as the anticipated activities continue at the site. Copermittee stormwater ordinances require that applicable Source Control BMPs be implemented; the same BMPs may also be required as a condition of a use permit or other revocable Discretionary Approval for use of the site.

Table G.1 Structural and Operational Source Control BMP

Potential Sources of Runoff Pollutants	Structural Source Control BMPs	Operational Source Control BMPs
On-site storm drain inlets	Mark all inlets with the words "Only Rain Down the Storm Drain" or similar. Catch Basin Makers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify	Maintain and periodically repaint or replace inlet markings. Provide stormwater pollution prevention information to new site owners, lessees, or operators. See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

		Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."
Landscape/Outdoor Pesticide Use	Preserve, existing native trees, shrubs, and ground cover to the maximum extent possible. Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. Where landscaping areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. Consider using pest-resistant plants, especially to hardscape. To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	Maintain landscaping using minimum or no pesticides. See applicable operation BMPs in "What you show know for…..Landscaping and Gardening". Provide IPM information to new owners, lessees and operators.
Pools, spas, ponds, decorative fountains, and other water features.	If the Co-Permittee requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.	See applicable operational BMPs in "Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain"
Vehicle/Equipment Repair and Maintenance	Vehicle repairs shall be kept to those that can be considered "self-contained". Clean-up methods shall be done by dry methods. Fluids drained from a vehicle should be contained in a recyclable container and turned into a local facility for recycling.	No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinse water from parts cleaning into storm drains.
Fire Sprinkler Test Water	Fire sprinkler test water shall be drained to the sanitary sewer.	See the note in Fact Sheet SC – 41, "Building and Grounds Maintenance,' in the CASQA Stormwater Quality Handbooks at ww.cabmphandbooks.com
Miscellaneous Drain or Wash Water or Other Sources Roofing, gutters, and trim	Avoid roofing, gutters, and trim made of copper or other unprotected metals	

Section H: **Construction Plan Checklist**

Table H.1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Corresponding Plan Sheet(s)
DMA 1	Basin “1”	WQMP Site Plan

Section I: **Operation, Maintenance and Funding**

The Copermittee will periodically verify that Stormwater BMP's on your site are maintained and continue to operate as designed. To make this possible, your Copermittee will require that you include in Appendix 9 of this Project-Specific WQMP.

1. A means to finance and implement facility maintenance in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred.
3. An outline of general maintenance requirements for the Stormwater BMPs selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized O&M or inspections but will require typical landscape maintenance as noted in Chapter 5, pages 85-86, in the WQMP Guidance.

See Appendix 9 for a detailed Stormwater BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the Stormwater BMPs built on site, and an agreement assigning responsibility for maintenance and providing for inspections and certification.

Maintenance Mechanism: Home Owner's Association

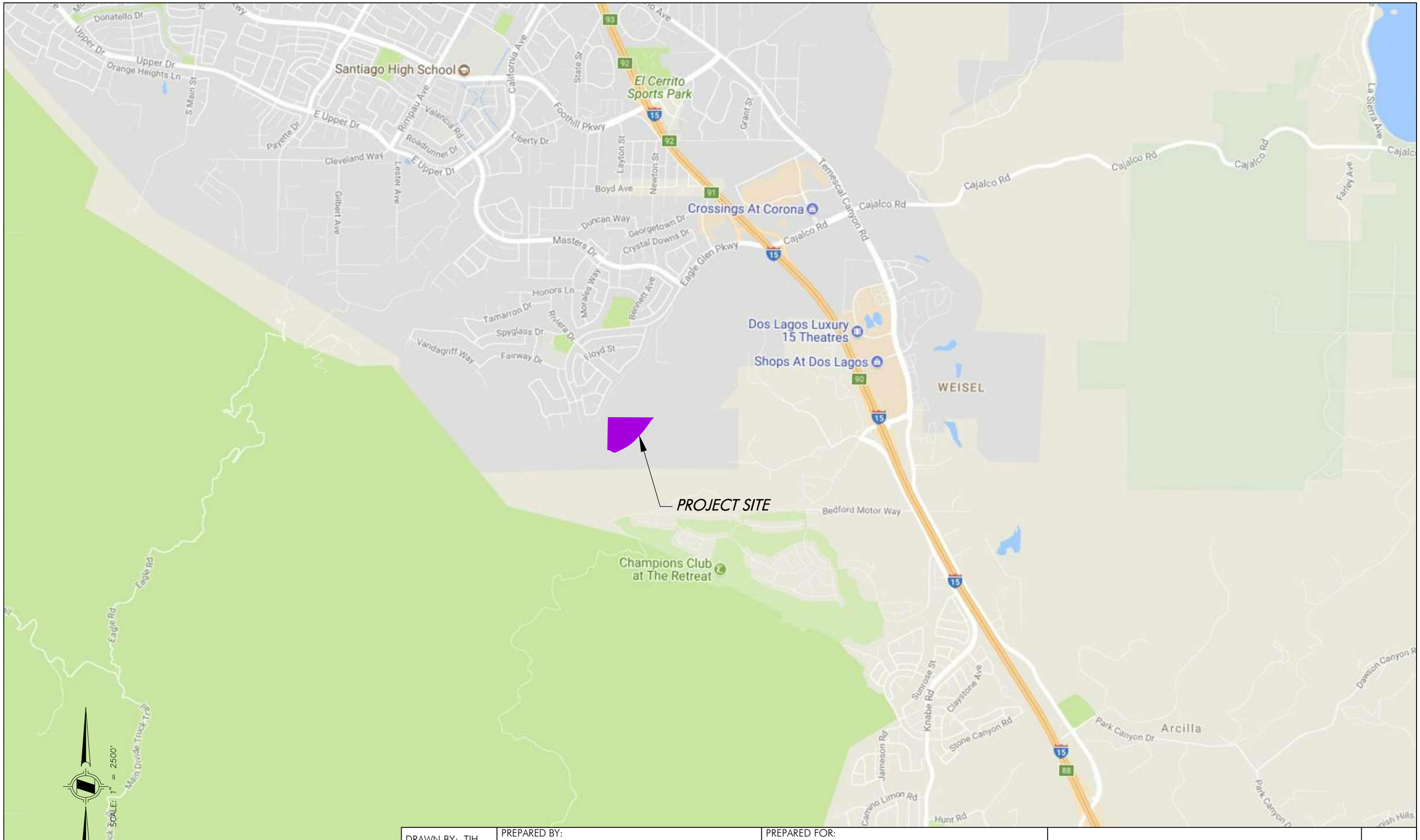
Will the proposed BMPs be maintained by a Home Owners' Association (HOA) or Property Owners Association (POA)?

☒ Y ☐ N

Operation and Maintenance Plan and Maintenance Mechanism are included in Appendix 9. Educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP are included in Appendix 10.

Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan and Receiving Waters



DRAWN BY: TIH DATE: 04/04/2018 W.O.: 2749-18	PREPARED BY: HUNSAKER & ASSOCIATES IRVINE, INC. PLANNING ▪ ENGINEERING ▪ SURVEYING Three Hughes, Irvine, CA 92618 ▪ PH: (949) 583-1010 ▪ FX: (949) 583-0759	PREPARED FOR: **ARANTINE HILLS HOLDINGS, LP** 85 ENTERPRISE, SUITE 450 ALISO VIEJO, CA 92656 - (949) 382-2766	*TENTATIVE PARCEL MAP NO. 37036 - PARCEL 1* *"LOWER MCMILLAN"* *CITY OF CORONA, CA*	*WQMP VICINITY MAP*

DATE: Apr. 05, 2018 04:15:20 PM FILE: F:\0853\Planning\SY_WQ\TPM 37036\Exhibits\WQMP_VIC TM37036.dwg

TR 36294
LOT 1

TR 36294
LOT "M"

NAP

TPM NO. 37036
PARCEL 1

DMA1
21.2

TOP: 1105
BOTTOM: 1095

HUDSON HOUSE DRIVE

BEDFORD CANYON CHANNEL

LEGEND

- PROJECT LIMITS
- NAP — DRAINAGE MANAGEMENT AREA (DMA) LIMITS
- NOT A PART
- DMA / ACRE — DMA DESIGNATION AND ACRES
- SURFACE FLOW (ONSITE)
- SURFACE FLOW (OFFSITE)
- PROJECT STORM DRAIN SYSTEM
- EXISTING/OFFSITE STORM DRAIN SYSTEM
- PROJECT CATCH BASIN WITH BMP SD-13 STORM DRAIN INLET STENCILING
- EXISTING/OFFSITE CATCH BASIN
- PROJECT ROADWAY STREET SWEEPING
- INFILTRATION/DETENTION BASIN
- DISCHARGE POINT

N

GRAPHIC SCALE
0 25 50 100
(IN FEET)
1 INCH = 50 FT.

APPLICANT:
ARANTINE HILLS HOLDINGS, LP
85 ENTERPRISE, SUITE 450
ALISO VIEJO, CA 92656
(949) 382-2766

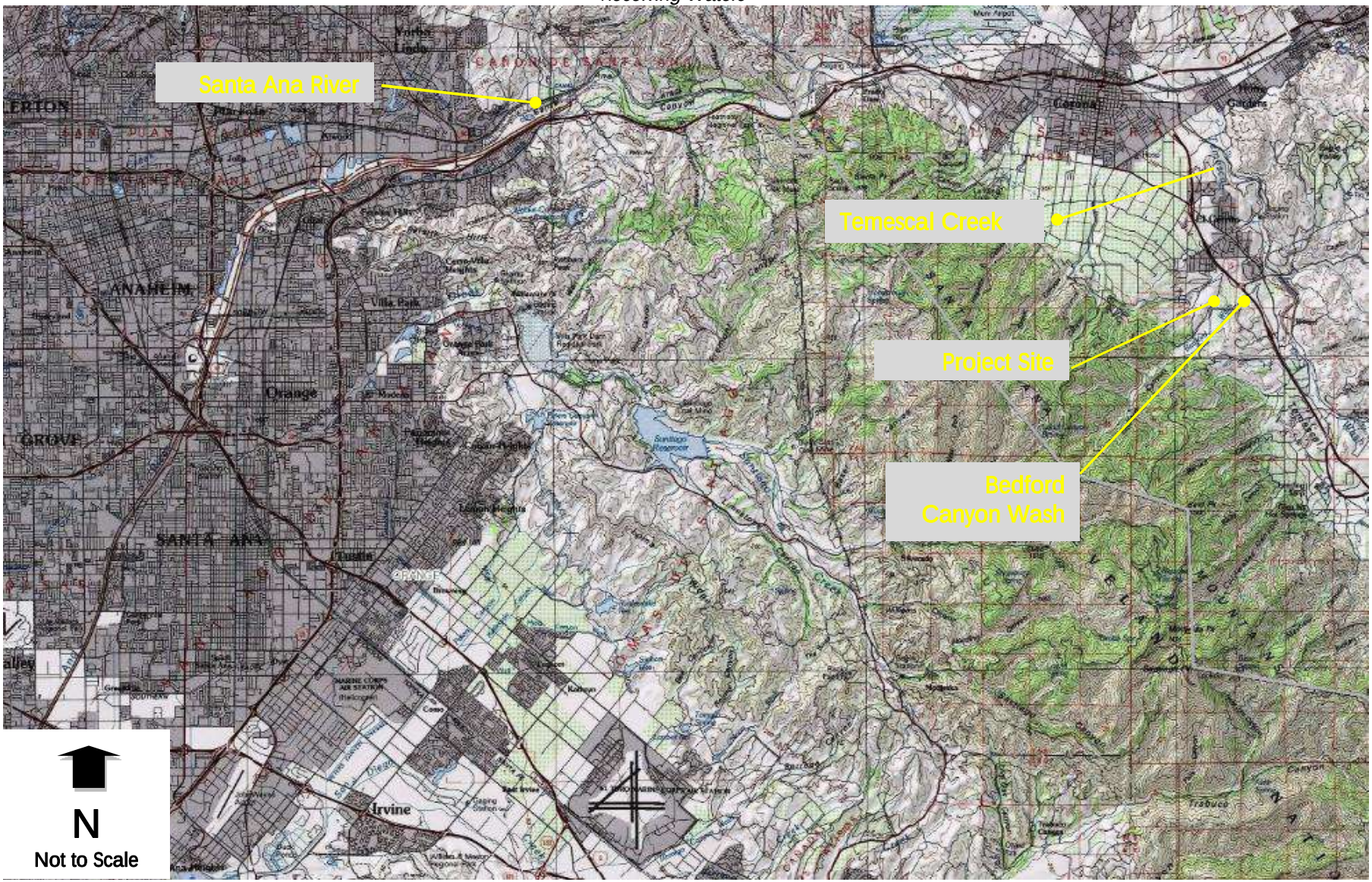
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TENTATIVE PARCEL MAP NO. 37036 - PARCEL 1
"LOWER MCMILLAN"
CITY OF CORONA, COUNTY OF RIVERSIDE, CA

DRAFTED BY: TIH | DATE: 04/04/2018 | W.O. NO: 2749-18 | SHEET NO: 1 OF 1

DATE: Apr. 06, 2018 09:38:27 AM FILE: F:\0853\Planning\SY_WQ\TPM 37036\Exhibits\WQMP_SP TM37036.dwg

Receiving Waters



Appendix 2: Construction Plans

Grading and Drainage Plans

- Project WQMP Site Plan

Appendix 3: Soils Information

April 3, 2018

Project No. 13208-02

Mr. John Sherwood
The New Home Company
95 Enterprise, Suite 325
Aliso Viejo, CA 92656

Subject: ***Preliminary Geotechnical Evaluation for Proposed Lower McMillan Parcel, Arantine Hills Residential Development, Parcels 1 and 2 of Parcel Map No. 37036, City of Corona, California***

In accordance with your request, LGC Geotechnical, Inc. has prepared a preliminary geotechnical evaluation for the Lower McMillan parcel in Arantine Hills residential development, Parcels 1 and 2 of Parcel Map No. 37036, in the City of Corona, California. This report presents a summary of our conclusions and preliminary recommendations relative to our understanding of the proposed development of the site.

If you should have any questions regarding this report, please do not hesitate to contact our office. We appreciate this opportunity to be of service.

Respectfully submitted,

LGC Geotechnical, Inc.

Tim Lawson, CEG 1821, GE 2626
Geotechnical Engineer/Geologist

Kevin Dyekman, CEG 2595
Project Geologist

CNJ/KAD/TJL/aca

Distribution: (1) Addressee (electronic copy)
(4) Recupero & Associates (3 wet signed copies & 1 electronic copy)
Attn: Mr. Tom Dellner

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1.0 INTRODUCTION

1.1 Purpose and Scope of Services

This report presents our preliminary geotechnical evaluation for the proposed Lower McMillan parcel as part of the Arantine Hills residential development, Parcels 1 and 2 of Parcel Map No. 37036, located in the City of Corona, California. The purpose of our review was to provide preliminary geotechnical recommendations relative to the proposed development of the site. As part of this preliminary geotechnical evaluation, we have: 1) reviewed the available previously prepared geotechnical reports pertinent to the site (Appendix A); 2) performed a geotechnical field evaluation; 3) performed field infiltration testing of the native soils onsite; 4) performed geotechnical analysis utilizing the data obtained; and 5) prepared this summary report presenting our preliminary findings, conclusions, and preliminary geotechnical recommendations. The findings, conclusions, and recommendations presented herein should be considered preliminary and must be confirmed by LGC Geotechnical during site grading.

1.2 Project Description

The McMillan Parcel, Parcel Map No. 37036, consists of approximately 160 acres of undeveloped land located at the foothills of the Santa Ana Mountains near the southern boundary of the City of Corona, Riverside County, California (Figure 1 – Site Location Map). The site is bound by the Eagle Glen Specific Plan development to the north and west, by the Cleveland National Forest to the southwest, and by the Retreat Specific Plan development to the south.

The site is primarily comprised of grasses and shrubs, with several scattered trees throughout. Native descending canyon slopes up to approximately 60 feet in height with varying slope ratios, ranging from approximately 1.25:1 to 3:1 (horizontal to vertical), are located in the central to southeastern portion of the site. Bluffs associated with Bedford Canyon are located in the central portion of the site and serve as the southern boundary of the Bedford Canyon Wash. The bluffs are up to approximately 100 feet in height with varying slope ratios ranging from approximately 1:1 (horizontal to vertical) to near vertical. The site can generally be divided into two basic regions based on topography: the lower-lying Bedford Canyon Wash area in the northern portion of the site; and the higher, elevated bluff regions above and southeast of Bedford Canyon Wash. This report is specific to the lower-lying Bedford Canyon Wash area in the northern portion of the McMillan Parcel which is represented by Parcels 1 and 2 on the Parcel Map No. 37036 prepared by Hunsaker & Associates (2018).

It is our understanding that the proposed development will consist of mass/rough grading to construct building pads for future residential dwellings and construction of an improved earthen channel associated with Bedford Canyon that will be located adjacent to the existing bluffs. The recommendations provided in this report are preliminary and are based upon current geotechnical conditions. We understand that the project grading plans are currently being developed at this time. LGC Geotechnical should be provided with updated project grading plans and structural loads as they become available in order to confirm or modify the recommendations provided herein.

1.3 Background

Previous geotechnical subsurface evaluations for the Arantine Hills residential development have been

performed and the information pertinent to the subject "Lower" McMillan Parcel site have been included in this report. Previous geotechnical evaluations are briefly summarized below. For further details regarding previous geotechnical evaluations see the referenced reports (Appendix A).

In 2002, LOR Geotechnical Group (LOR) performed a geotechnical field evaluation consisting of 31 exploratory trenches and 23 hollow-stem borings. The trenches were excavated to depths ranging from approximately 4.5 feet to 15 feet below existing ground surface and the borings ranged in depth from approximately 24.0 feet to 51.5 feet below existing ground surface. LOR also performed a review of aerial photographs and surface mapping of potential site faults identified as "A" through "I". At that time, the proposed development was larger in scale and the southern portion was located in an Alquist-Priolo Earthquake Fault Zone (AP Zone) based on the presence of the Elsinore Fault. LOR concluded that near-surface soils and undocumented fill soils were not suitable for the proposed improvements. LOR recommended a specific fault study be performed to evaluate the potential for fault rupture at the site.

LOR performed a fault investigation study (LOR, 2004) which consisted of five trenches ranging in length from approximately 200 to more than 800 feet and up to approximately 22 feet deep. Three of the trenches were performed in the current subject area known as Arantine Hills, along the southeastern base of the bluff, and two were located outside of the current subject area on top of the bluff at the southwestern corner of the previous, larger site in order to cross the entire portion of the Earthquake Fault Zone in that area. LOR concluded from their trenching that none of the features noted would classify the faults as "active" as defined by the State of California Alquist-Priolo Earthquake Fault Zone Act, thereby no structural setbacks would be required for the proposed development.

In 2014 and 2015, LGC Geotechnical Inc. (LGC Geotechnical), performed a supplemental field investigation including the excavation of five backhoe test pits and four fault trenches (LGC Geotechnical, 2014b & 2015a). The test pits were excavated to depths ranging from approximately five to seven feet below the ground surface utilizing a standard backhoe in order to evaluate the near-surface soil conditions. The fault trenches were excavated in order to evaluate the possible presence of active faults that were previously mapped to transect the site (LOR, 2004). The fault trenches were oriented approximately perpendicular to the previously mapped fault trends. Once excavated, the walls of the trenches were scraped clean and detailed logging of the exposed lithology, geologic structure, and stratigraphy was performed (LGC Geotechnical, 2014b & 2015a). No evidence of faulting was observed in the trenches and thereby no setback zones were recommended.

1.4 Subsurface Geotechnical Evaluation

LGC Geotechnical has conducted a recent subsurface geotechnical evaluation consisting of the excavation of six small-diameter hollow-stem auger borings and performed infiltration testing to evaluate onsite geotechnical conditions.

Six hollow-stem auger borings (HS-1 through HS-3 and I-1 through I-3) were excavated by 2R Drilling, Inc., under subcontract to LGC Geotechnical. The depth of the hollow-stem borings ranged from approximately 4 to 31.5 feet below existing grades. A LGC Geotechnical representative observed the drilling operations, logged the borings, and collected soil samples for laboratory testing. The borings were performed using a truck-mounted drill rig equipped with 6-inch diameter hollow-stem augers. Driven soil samples were collected by means of the Standard Penetration Test (SPT) and Modified California Drive (MCD) samplers, generally at 2.5 and 5-foot vertical increments. The MCD is a

split-barrel sampler with a tapered cutting tip and lined with a series of 1-inch tall brass rings. The SPT sampler (1.4-inch ID) and MCD sampler (2.4-inch ID, 3.0-inch OD) were driven using a 140-pound automatic hammer falling 30 inches to advance the sampler a total depth of 18 inches or until refusal. The raw blow counts for each 6-inch increment of penetration were recorded on the boring logs. Bulk samples of the near-surface soils were logged and collected for laboratory testing from select borings. At the completion of drilling, the borings were backfilled with native soils and tamped. Some settlement of the backfill should be expected.

Borings I-1 and I-3 were excavated and logged to 5 feet and I-2 was excavated and logged to 10 feet below the existing ground surface. Subsequent to excavation and logging, the borings were converted into infiltration test wells. Test well installation consisted of placing a 3-inch diameter perforated PVC pipe in each excavated borehole and backfilling the annulus with crushed rock including the placement of approximately 2 inches of crushed rock at the bottom of each borehole. Infiltration testing was performed in accordance with County of Riverside Guidelines (2011) using relatively clean water, free of particulates, silt, etc.

The approximate locations of our geotechnical borings and infiltration testing are shown on the Geotechnical Map (Figure 2) and the logs are provided in Appendix B. Boring and trench logs from previous site investigations pertinent to the subject site are also shown on the Geotechnical Map (Figure 2) and the logs are presented in Appendix B.

1.5 Preliminary Infiltration Testing

Preliminary field infiltration testing was performed in borings I-1, I-2, and I-3. Field infiltration rate testing was performed in general accordance with guidelines set forth by the County of Riverside (2011). Test well installation consisted of placing a 3-inch diameter perforated PVC pipe in each excavated borehole and backfilling the annulus with crushed rock and included the placement of approximately 2 inches of crushed rock at the bottom of each borehole. The infiltration test wells were presoaked the day of installation and testing took place within 24 hours of presoaking. During the pre-test of each well the water level was observed to drop more than 6 inches in 25 minutes for two consecutive readings. Therefore, the test procedure for coarse-grained soils was followed. The procedure for coarse-grained soils requires performing the test for at least 60 minutes and taking one reading every 10 minutes from a fixed reference point. Test well installation and the estimation of infiltration rates were accomplished in general accordance with the guidelines set forth by the County of Riverside (2011). In general, three-dimensional flow out of the test well (percolation), as observed in the field, is mathematically reduced to one-dimensional flow out of the bottom of the test well (infiltration). Infiltration tests are performed using relatively clean water, free of particulates, silt, etc. The results of our recent field infiltration testing is summarized on the next page.

TABLE 1

Summary of Preliminary Infiltration Testing

Infiltration Test Location	Measured Infiltration Rate* (Inch/Hr)	Calculated Infiltration Rate** (Inch/Hr)
I-1	2.5	1.25
I-2	2.1	1.05
I-3	6.5	3.25

*Does Not Include Any Factors of Safety

**Includes factor of safety of 2 from Measured Rate in order to Evaluate Feasibility (County of Riverside, 2012).

It should be emphasized that infiltration test results are only representative of the location and depth where they are performed. Varying subsurface conditions may exist outside of the test locations which could alter the calculated infiltration rates indicated above. Infiltration tests are performed using relatively clean water free of particulates, silt, etc.

Please note, the testing of infiltration rates is highly dependent upon the materials encountered at the point of testing (i.e. location and depth of testing). Variations from our test results must be expected.

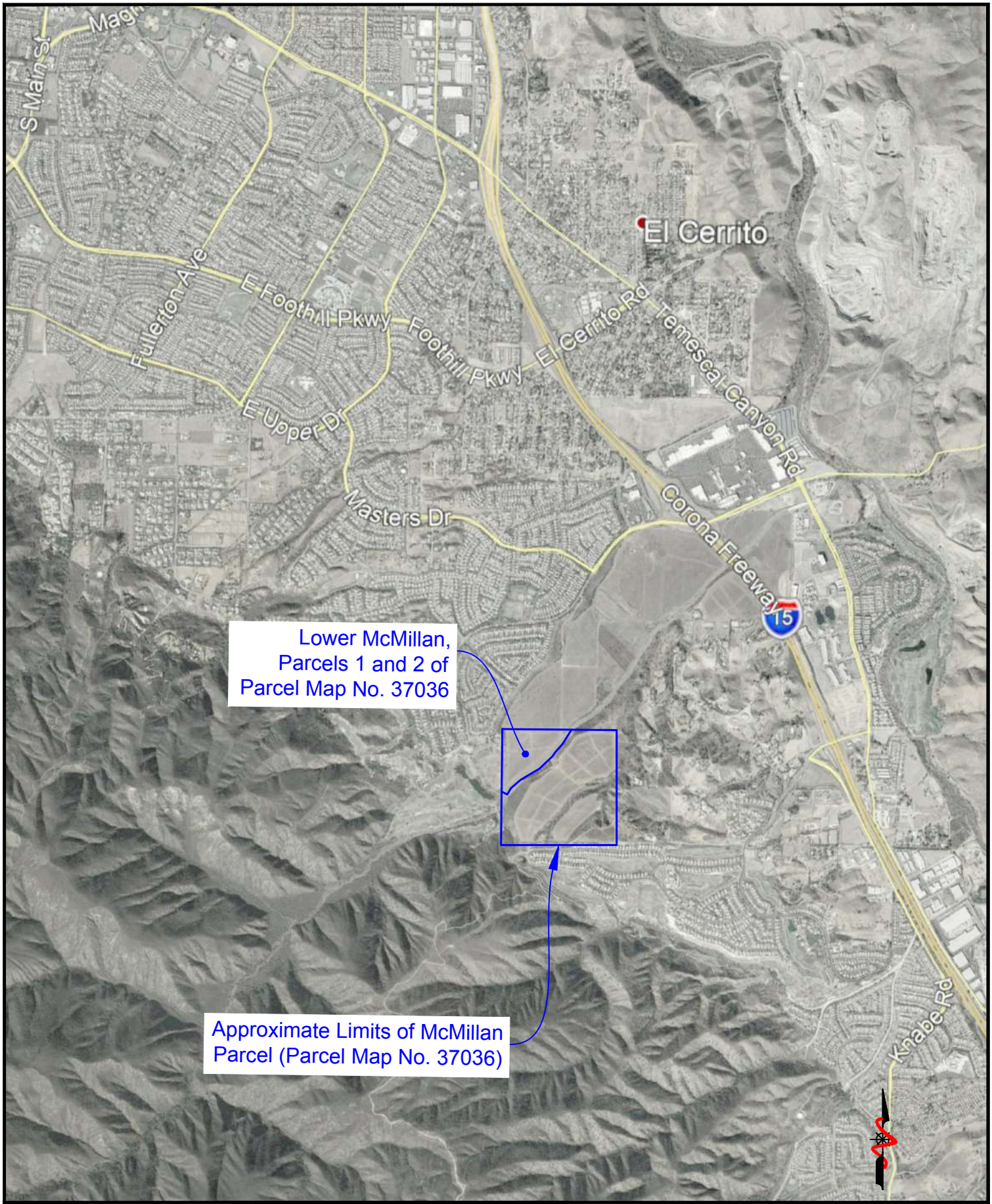
1.6 Laboratory Testing

Representative samples were retained for laboratory testing during our recent field evaluation. Laboratory testing included moisture content, dry density, expansion index, collapse, and corrosion (sulfate, chloride, pH and minimum resistivity).

The following is a summary of the laboratory test results.

- Dry density of the samples collected ranged from approximately 114 pounds per cubic foot (pcf) to 129 pcf, with an average of 121 pcf. Field moisture contents ranged from approximately 3 to 7 percent, with an average of 5 percent.
- Four gradation tests were performed and indicated a fines content (percent passing No. 200 sieve) ranging from approximately 10 to 15 percent. According to the Unified Soils Classification System (USCS), the tested samples would be classified as “coarse-grained” soil.
- One Expansion Index (EI) test was performed. Result was an EI value of 0, corresponding to “Very Low” expansion potential.
- Corrosion testing indicated soluble sulfate content of approximately 0.013 percent, chloride content of 32 parts per million (ppm), pH value of 7.4 and minimum resistivity value of 3,900 ohm-cm.
- Four collapse tests were performed. The load versus deformation plots are provided in Appendix C.

A summary of the recent laboratory results along with previous laboratory testing results are presented in Appendix C.



LGC Geotechnical, Inc.

FIGURE 1
Site Location Map

PROJECT NAME	Arantine Hills - Lower McMillan Parcel
PROJECT NO.	13208-02
ENG. / GEOL.	TJL / KAD
SCALE	Not to Scale
DATE	April 2018

2.0 GEOTECHNICAL CONDITIONS

2.1 Regional Geology

The subject site is located along the northeastern flank of the Santa Ana Mountains, just north of the Elsinore-Temecula basin, within the Peninsular Ranges Geomorphic Province. In this area, the Santa Ana Mountains are composed of a core of metamorphic rocks of the Bedford Canyon Formation with lesser amounts of volcanic rock. Erosion of the mountains has lead to a series of sub-parallel canyons out of the mountains. The material eroded from the mountains has formed a series of coalescing alluvial fans, also referred to as older alluvial deposits. Subsequently these fan deposits have been eroded by a series of drainage courses. The subject site is located in one of these drainages known as "Bedford Canyon". Located adjacent to the southeast corner of the site is the Elsinore Fault Zone. The Elsinore Fault Zone is a major active fault in Southern California and is regionally part of the San Andreas Fault system that distributes the right lateral movement across the North American and Pacific Plates.

2.2 Site-Specific Geology

The site is located on alluvial deposits of Bedford Canyon Wash. The alluvial deposits encountered during our subsurface exploration generally consisted of interbedded layers of variable materials including sand with varying amounts of silt, gravel, cobbles and minor amounts of clay. Moisture ranged from slightly moist to moist, with an increase with depth. Apparent density generally ranged from medium dense to very dense with an increase with depth.

2.3 Groundwater

Groundwater and seepage was not encountered to the maximum explored depth of approximately 30 feet below existing grade during our recent subsurface evaluation. Groundwater was not encountered in the previous geotechnical evaluations to maximum explored depth of approximately 50 feet below existing grade (LGC Geotechnical, 2014 & LOR, 2002).

Seasonal fluctuations of groundwater elevations should be expected over time. In general, groundwater levels fluctuate with the seasons and local zones of perched groundwater may be present due to local seepage caused by irrigation and/or recent precipitation. Local perched groundwater conditions or surface seepage may develop once site development is completed.

2.4 Seismicity

The site seismic characteristics were evaluated per the guidelines set forth in Chapter 16, Section 1613 of the 2016 California Building Code (CBC). Representative site coordinates of latitude 33.8063 degrees north and longitude -117.5311 degrees west were utilized in our analyses. The maximum considered earthquake (MCE) spectral response accelerations (S_{MS} and S_{M1}) and adjusted design spectral response acceleration parameters (S_{DS} and S_{D1}) for Site Class D are provided in Table 2 on the following page.

TABLE 2

2016 Seismic Design Parameters

Selected Parameters from 2016 CBC, Section 1613 - Earthquake Loads	Seismic Design Values
Site Class per Chapter 20 of ASCE 7	D
Risk-Targeted Spectral Acceleration for Short Periods (S_S)*	2.461g
Risk-Targeted Spectral Accelerations for 1-Second Periods (S_1)*	0.971g
Site Coefficient F_a per Table 1613.3.3(1)	1.0
Site Coefficient F_v per Table 1613.3.3(2)	1.5
Site Modified Spectral Acceleration for Short Periods (S_{MS}) for Site Class D [Note: $S_{MS} = F_aS_S$]	2.461g
Site Modified Spectral Acceleration for 1-Second Periods (S_{M1}) for Site Class D [Note: $S_{M1} = F_vS_1$]	1.456g
Design Spectral Acceleration for Short Periods (S_{DS}) for Site Class D [Note: $S_{DS} = (^2/_3)S_{MS}$]	1.641g
Design Spectral Acceleration for 1-Second Periods (S_{D1}) for Site Class D [Note: $S_{D1} = (^2/_3)S_{M1}$]	0.971g
Mapped Risk Coefficient at 0.2 sec Spectral Response Period, C_{RS} (per ASCE 7)	0.933
Mapped Risk Coefficient at 1 sec Spectral Response Period, C_{R1} (per ASCE 7)	0.918

* From USGS, 2014

Section 1803.5.12 of the 2016 CBC (per Section 11.8.3 of ASCE 7) states that the maximum considered earthquake geometric mean (MCE_G) Peak Ground Acceleration (PGA) should be used for geotechnical evaluations such as liquefaction potential. The PGA_M for the site is equal to 0.95g (USGS, 2018).

2.5 Faulting

California is located on the boundary between the Pacific and North American Lithospheric Plates. The average motion along this boundary is on the order of 50-mm/yr in a right-lateral sense. The majority of the motion is expressed at the surface along the northwest trending San Andreas Fault Zone with lesser amounts of motion accommodated by sub-parallel faults located predominantly west of the San Andreas Fault including the Elsinore, Newport-Inglewood, and Coronado Bank Faults.

Prompted by damaging earthquakes in California, State legislation and policies concerning the classification and land-use criteria associated with faults have been developed. The Alquist-Priolo (AP)

Earthquake Fault Zoning Act was established to prevent the construction of urban developments across the trace of active faults. An "active" fault is defined as a fault that has ruptured through materials that are younger than approximately 11,000 years old. Specific Earthquake Fault Zones (AP Zones) have been delineated along the traces of active faults within California, where this potential must be evaluated prior to construction of urban developments.

The subject site is not located within a State of California Earthquake Fault-Rupture Zone. However, the Glen Ivy Section of the Elsinore Fault Zone is located approximately 1,500 feet to the southwest of the site.

Previous studies have been performed on the general area of the Arantine Hills development with regards to active faulting. In general, the older studies recognized a series of faults crossing the Arantine Hills site including the McMillan Parcel. LOR recognized eight fault splays in the general vicinity and specifically noted that some of these faults appear to offset material that is less than 11,000 years old, which would therefore classify them as "active" (LOR, 2002). LOR conducted a further investigation of the site (LOR, 2004) and excavated five trenches across the suspected faults at the site. The conclusion of this investigation was that none of the faults at the site are considered to be "active" and therefore no structural setback zones were recommended.

LGC Geotechnical performed a supplemental fault trench evaluation and four fault trenches up to approximately 1100 feet in length were excavated. The lithology, geologic structure, and stratigraphy exposed in the fault trenches were documented presented in the referenced reports (LGC Geotechnical, 2014b &2015a). No evidence of active faulting was observed in the trenches and therefore no setback zones were recommended. For additional details regarding faulting the vicinity of the subject site please refer to the referenced reports (LGC Geotechnical, 2014b & 2015a).

Secondary effects of seismic shaking resulting from large earthquakes on the major faults in the Southern California region, which may affect the site, include ground lurching and shallow ground rupture, soil liquefaction, dynamic settlement. These secondary effects of seismic shaking are a possibility throughout the Southern California region and are dependant on the distance between the site and causative fault and the onsite geology. The closest major active faults that could produce these secondary effects include the Elsinore, Chino, Whittier and Puente Hills Faults among others (USGS, 2008b). A discussion of these secondary effects is provided in the following sections.

2.5.1 Liquefaction and Dynamic Settlement

Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking. Liquefaction occurs when three general conditions coexist: 1) shallow groundwater; 2) low density non-cohesive (granular) soils; and 3) high-intensity ground motion. Studies indicate that saturated, loose to medium dense, near-surface cohesionless soils exhibit the highest liquefaction potential, while dry, dense, cohesionless soils and cohesive soils exhibit low to negligible liquefaction potential. In general, cohesive soils are not considered susceptible to liquefaction, depending on their plasticity and moisture content (Bray & Sancio, 2006). Effects of liquefaction on level ground include settlement, sand boils, and bearing capacity failures below structures. Dynamic settlement of dry loose sands can occur as the sand particles tend to settle and densify as a result of a seismic event.

The site is mapped by the County of Riverside as having "Very Low" to "Low" potential for liquefaction (RCTLMA, 2014). Based on the proposed development and remedial grading, the site will primarily consist of compacted fill over dense native soils and groundwater is not present. Therefore, the potential for post construction liquefaction and liquefaction-induced dynamic settlement is considered very low.

2.5.2 Lateral Spreading

Lateral spreading is a type of liquefaction induced ground failure associated with the lateral displacement of surficial blocks of sediment resulting from liquefaction in a subsurface layer. Once liquefaction transforms the subsurface layer into a fluid mass, gravity plus the earthquake inertial forces may cause the mass to move downslope towards a free face (such as a river channel or an embankment). Lateral spreading may cause large horizontal displacements and such movement typically damages pipelines, utilities, bridges, and structures.

Due to the very low potential for liquefaction, the potential for lateral spreading is also considered very low.

2.6 Rippability

In general, moderate ripping utilizing heavy-duty excavation equipment should be anticipated for site soils. Localized difficult excavation due to very dense cemented zones should be anticipated. The use of blasting is not anticipated.

2.7 Oversized Material

Oversized material (material larger than 8 inches in maximum dimension) will likely be generated during site grading. Recommendations are provided for appropriate handling of oversized material, refer Appendix D.

2.8 Expansive Soil Characteristics

Previous and recent site laboratory testing of the onsite soils indicated "Very Low" to "Low" expansion potential. Final expansion potential must be determined at the completion of grading.

2.9 Corrosion Potential

Although not corrosion engineers (LGC Geotechnical is not a corrosion consultant), several governing agencies in Southern California require the geotechnical consultant to determine the corrosion potential of soils on buried concrete and metal facilities. We therefore present the results of our and previous testing results with regard to corrosion for the use of the client and other consultants, as they determine necessary.

Previous and recent corrosion test (pH, resistivity, soluble sulfate, and chloride content) results indicated soluble sulfate content of approximately 0.008 to 0.013 percent, chloride content of approximately 32 to 64 parts per million (ppm), pH values of approximately 7.4 to 8.1, and minimum resistivity values of approximately 3,495 to 3,900 ohm-centimeters.

Based on Caltrans Corrosion Guidelines (2012), soils are considered corrosive to structural elements if the pH is 5.5 or less, or the chloride concentration is 500 ppm or greater, or the sulfate concentration is 2,000 ppm (0.2 percent) or greater.

Based on laboratory test results of representative site soil samples, onsite soils have a designated sulfate exposure class of “S0” per ACI 318-14, Table 19.3.1.1.

3.0 CONCLUSIONS

Based on the results of our geotechnical field evaluation and our understanding of the proposed development, it is our opinion that the proposed development is feasible from a geotechnical standpoint, provided that the recommendations contained in the following sections are incorporated during site grading and construction. A summary of our geotechnical conclusions is as follows:

- The site is primarily underlain by alluvial soils. Near-surface soils are not considered suitable for support of the proposed improvements and will require removal and recompaction (See Section 4.1).
- Groundwater was not encountered during previous or recent subsurface evaluations to the maximum explored depths of approximately 50 feet and 30 feet below existing grade, respectively.
- Field infiltration test results indicated "measured" infiltration rates ranging from approximately 2.1 inches per hour to 6.5 inches per hour. Field infiltration rate testing was performed in general accordance with guidelines set forth by the County of Riverside (2011).
- The subject site is not located within a State of California Earthquake Fault-Rupture Zone. Potential damage to site improvements due to ground rupture are considered low since no active faults are known to transect the site.
- The main seismic hazard that may affect the site is ground shaking from one of the active regional faults. The subject site will likely experience strong seismic ground shaking during its design life. The PGA_M for the site is equal to 0.95g (USGS, 2018).
- Based on our understanding of the proposed development, the site will primarily consist of compacted fill over dense native soils and an absence of shallow groundwater. Therefore, the potential for post construction liquefaction and liquefaction-induced dynamic settlement is considered very low.
- Based on preliminary laboratory test results, the majority of onsite soils are anticipated to have "Very Low" to "Low" expansion potential. Final design expansion potential must be determined at the completion of grading.
- The generation of oversized material (rock greater than 8 inches in maximum dimension) during grading should be anticipated by the contractor. Oversized materials are to be properly handled during grading in accordance with Appendix D.

4.0 PRELIMINARY RECOMMENDATIONS

The following recommendations are to be considered preliminary and should be confirmed upon completion of grading and earthwork operations. In addition, they should be considered minimal from a geotechnical viewpoint, as there may be more restrictive requirements from the architect, structural engineer, building codes, governing agencies, or the owner.

It should be noted that the following geotechnical recommendations are intended to provide sufficient information to develop the site in general accordance with the 2016 CBC requirements. With regard to the potential occurrence of potentially catastrophic geotechnical hazards such as fault rupture, earthquake-induced landslides, liquefaction, etc. the following geotechnical recommendations should provide adequate protection for the proposed development to the extent required to reduce seismic risk to an "acceptable level." The "acceptable level" of risk is defined by the California Code of Regulations as "that level that provides reasonable protection of the public safety, though it does not necessarily ensure continued structural integrity and functionality of the project" [Section 3721(a)]. Therefore, repair and remedial work of the proposed improvement may be required after a significant seismic event. With regards to the potential for less significant geologic hazards to the proposed development, the recommendations contained herein are intended as a reasonable protection against the potential damaging effects of geotechnical phenomena such as expansive soils, fill settlement, groundwater seepage, etc. It should be understood, however, that although our recommendations are intended to maintain the structural integrity of the proposed development given the site geotechnical conditions, they cannot preclude the potential for some cosmetic distress or nuisance issues to develop as a result of the site geotechnical conditions.

The geotechnical recommendations contained herein must be confirmed to be suitable or modified based on the actual as-graded conditions.

4.1 Site Earthwork

We recommend that earthwork onsite be performed in accordance with the following recommendations, the City of Corona/2016 CBC requirements, and the General Earthwork and Grading Specifications for Rough Grading included in Appendix D. In case of conflict, the following recommendations shall supersede all previous recommendations and those included as part of Appendix D. The following recommendations should be considered preliminary and may be revised by the geotechnical consultant based on the actual conditions encountered during site grading.

4.1.1 Site Preparation

Prior to grading of areas to receive structural fill or engineered structures, the areas should be cleared of surface obstructions and potentially compressible material (such as undocumented fill, topsoil, colluvium, alluvium, and vegetation). Vegetation and debris should be removed and properly disposed of offsite. Holes resulting from the removal of buried obstructions, which extend below proposed removal bottoms, should be replaced with properly compacted fill material. Any encountered oil or water wells should be properly abandoned in accordance with regulatory requirements.

4.1.2 Removal Depths

In general, existing undocumented artificial fill and loose, upper alluvium soils should be removed to competent alluvium. In general, removal depths are estimated to be approximately 3 feet below existing grade or 2 feet below proposed footings, whichever is greater.

Local conditions may be encountered which could require additional removals beyond the estimated depths indicated above, deeper removals should be anticipated in isolated areas. The actual depth and lateral extents of removals should be determined by the geotechnical consultant, based on subsurface conditions encountered during grading.

4.1.3 Over-excavation of Design Cut and Cut/Fill Transition Pads and Streets

Due to the low moisture conditions of the site soils, we recommend design cut and cut/fill transition pads to be over-excavated to a minimum of 3 feet below ultimate finish pad grade based on the future rough grade design elevations. A maximum 3:1 differential fill thickness underneath individual lots should be maintained in order to reduce the potential for future differential settlement. Over-excavation should extend laterally a minimum of 5 feet beyond proposed building footprints.

It is our opinion, that utility excavations may be completed utilizing typical heavy machinery. As previously mentioned, the native soils at the site are generally uncemented alluvial sands and gravels which correlate to a Class "C" soil per Cal OSHA guidelines. These soils are anticipated to be unstable when excavated vertically. At the owners' discretion, the streets may be over-excavated, such that utility trenches will later be excavated through compacted fill soils which is considered more stable. If desired, it is recommended that the street over-excavation extend approximately 1-foot below the lowest utility.

The actual depth and lateral extends of over-excavation should be determined by the geotechnical consultant, based on subsurface conditions encountered during grading.

4.1.4 Temporary Excavations

We anticipate temporary slopes to be grossly stable at 1.5:1 (horizontal to vertical) or flatter; however, excavations must be made in accordance with Cal OSHA and OSHA requirements. Vehicular traffic, stockpiles, and equipment storage should be set back from the perimeter of excavations a minimum distance equivalent to a 1:1 projection from the bottom of the excavation or 5 feet, whichever is greater.

Soil conditions should be frequently observed by a representative of LGC Geotechnical, not only to confirm the geotechnical conditions, but to also help provide early warnings of potential failures. Based on observed conditions, flatter inclinations may be required. The majority of site soils are anticipated to be OSHA Type "C" soils. The contractor will be responsible for providing the "competent person" required by Cal/OSHA standards to evaluate soil conditions. Close coordination with the geotechnical consultant should be maintained to facilitate construction while providing safe excavations. Excavation safety is the sole responsibility of the contractor.

Once an excavation has been initiated, it should be backfilled as soon as practical. Prolonged exposure of temporary excavations may result in some localized instability. Excavations should be planned so that they are not initiated without sufficient time to shore/fill them prior to weekends, holidays, or forecasted rain.

4.1.5 Removal Bottoms and Subgrade Preparation

In general, removal bottom areas and areas to receive compacted fill should be scarified to a minimum depth of 6 inches, brought to a near-optimum moisture condition, and re-compacted per project recommendations. Removal bottoms and areas to receive fill should be observed and accepted by the geotechnical consultant prior to subsequent fill placement.

4.1.6 Material for Fill

From a geotechnical perspective, the onsite soils are generally considered suitable for use as general compacted fill, provided they are screened of organic materials and construction debris. Any encountered oversized material (material larger than 8 inches in maximum dimension) must be appropriately handled as outlined in Appendix D.

From a geotechnical viewpoint, any required import soils should consist of clean, relatively granular soils with a Very Low expansion potential (expansion index 20 or less based on ASTM D4829) and no particles larger than 3 inches in greatest dimension. Source samples of planned importation should be provided to the geotechnical consultant for laboratory testing a minimum of 3 working days prior to any planned importation.

4.1.7 Fill Placement and Compaction

Material to be placed as fill should be brought to near-optimum moisture content (generally within optimum to 2 percent above optimum moisture content) and recompacted to at least 90 percent relative compaction (per ASTM D1557). Moisture conditioning of site soils will be required in order to achieve adequate compaction. The optimum lift thickness to produce a uniformly compacted fill will depend on the type and size of compaction equipment used. In general, fill should be placed in uniform lifts not exceeding 8 inches in compacted thickness. Each lift should be thoroughly compacted and accepted prior to subsequent lifts. Generally, placement and compaction of fill should be performed in accordance with local grading ordinances and under the observation and testing performed by the geotechnical consultant.

Fill placed on any slopes greater than 5:1 (horizontal to vertical) should be properly keyed and benched into firm and competent soils as it is placed in lifts. During backfill of excavations, the fill should be properly benched into firm and competent soils of temporary backcut slopes as it is placed in lifts. All benching must be performed behind the design backcuts. Every bench must be a minimum of 4 feet high.

Slope face compaction must be achieved by the contractor by overfilling the slope face a minimum of 2 feet and cutting back to design finish grades or by other acceptable methods. Compaction of the slopes at grade is not considered an acceptable method of slope finishing.

4.1.8 Shrinkage

Volumetric changes in earth quantities will occur when excavated onsite earth materials are replaced as properly compacted fill. We estimate a shrinkage factor of 5 to 15 percent for the native soils onsite. It should be stressed that this is only an estimate and that an actual shrinkage factor is extremely difficult to predetermine. These values are estimates only and exclude losses due to removal of vegetation or debris. The effective shrinkage of onsite soils will depend primarily on the type of compaction equipment and method of compaction used onsite by the contractor and accuracy of the topographic survey. Contingencies should be made for balancing earthwork quantities based on actual shrinkage that occurs during grading. Shrinkage is also expected to vary with variations in survey accuracy during mass/rough grading.

4.2 Soil Corrosivity to Concrete and Metal

Although not corrosion engineers (LGC Geotechnical is not a corrosion consultant), several governing agencies in Southern California require the geotechnical consultant to determine the corrosion potential of soils to buried concrete and metal facilities. We therefore present the results of our testing with regard to corrosion for the use of the client and other consultants, as they determine necessary.

Previous and recent corrosion test (pH, resistivity, soluble sulfate, and chloride content) results indicated soluble sulfate content of approximately 0.008 to 0.013 percent, chloride content of approximately 32 to 64 parts per million (ppm), pH values of approximately 7.4 to 8.1, and minimum resistivity values of approximately 3,495 to 3,900 ohm-centimeters.

Based on Caltrans Corrosion Guidelines (2012), soils are considered corrosive to structural elements if the pH is 5.5 or less, or the chloride concentration is 500 ppm or greater, or the sulfate concentration is 2,000 ppm (0.2 percent) or greater.

Based on laboratory test results of representative site soil samples, onsite soils have a designated sulfate exposure class of “S0” per ACI 318-14, Table 19.3.1.1.

4.3 Subsurface Infiltration

Recent regulatory changes have occurred that make the infiltration of storm water into subsurface site soils, rather than having it collected in a conventional storm drain system, a priority. Typically, a combination of methods are implemented to reduce surface water runoff and increase infiltration including, but not limited to, permeable pavements/pavers for roadways, water quality/infiltration basins, directing surface water runoff to grass-lined swales, retention areas, and/or drywells.

It should be noted that collecting and concentrating surface water for the purpose of intentionally infiltrating it below grade into site soils conflicts with the geotechnical engineering objective of directing surface water away from slopes, structures, and other improvements. The geotechnical stability and integrity of a site is reliant upon appropriately handling surface water. In general, we do not recommend that surface water be intentionally infiltrated into the subsurface soils. However, if it is determined that water must be infiltrated due to regulatory requirements, we recommend the absolute minimum amount of water be infiltrated and that the infiltration areas not be located near slopes or near settlement sensitive existing/proposed improvements. We recommend the design of any infiltration

system include at least one redundancy or overflow system. It may be prudent to provide an overflow system, connected directly to a storm drain system, in order to prevent failure of the infiltration system, either as a result of lower than anticipated infiltration rates and/or very high flow volumes.

Preliminary field infiltration testing was performed in borings I-1, I-2, and I-3. Field infiltration rate testing was performed in general accordance with guidelines set forth by the County of Riverside (2011). In general, three-dimensional flow out of the test well (percolation), as observed in the field, is mathematically reduced to one-dimensional flow out of the bottom of the test well (infiltration) which results in the "measured" infiltration rate. The "calculated" infiltration rate was determined by applying a minimum factor of safety of 2 to the "measured" rate in order to evaluate feasibility. The "measured" and "design" infiltration rates provided in Section 1.4 are considered a general representation of the infiltration rates of the native soils near the location of the proposed water quality basin.

Based on Chapter 2, Section 2.4.5 of the Water Quality Management Plan for the Santa Ana Region of Riverside County (County of Riverside, 2012), the minimum infiltration rate for Low Impact Development (LID) infiltration Best Management Practices (BMP) is an average of 1.6 inches per hour which utilizes a minimum factor of safety of 2 in order to evaluate feasibility (County of Riverside, 2012). Adjusting the "measured" infiltration rates with a factor of safety of 2 results in "calculated" infiltration rates of 1.05. 1.25, and 3.25 inches per hour with an average of approximately 1.85 inches per hour. Therefore, LID infiltration BMPs may be utilized and designed for the proposed project in accordance with the County of Riverside.

It should be emphasized that infiltration test results are only representative of the location and depth where they are performed. Varying subsurface conditions may exist outside of the test locations which could alter the calculated infiltration rates indicated above. Once locations and elevations of proposed water quality basins or other LID infiltration BMPs are determined additional infiltration testing will be needed in order to confirm design infiltration rates.

4.4 Rough Grading Plan Review

LGC Geotechnical should perform a geotechnical review of the proposed rough grading plans. Updated recommendations and/or additional field work may be necessary. Preliminary geotechnical recommendations for foundation design will be provided at that time.

4.5 Geotechnical Observation and Testing During Construction

The recommendations provided in this report are based on limited subsurface observations and geotechnical analysis. The interpolated subsurface conditions should be checked in the field during construction by a representative of LGC Geotechnical. Geotechnical observation and testing is required per Section 1705 of the 2016 CBC.

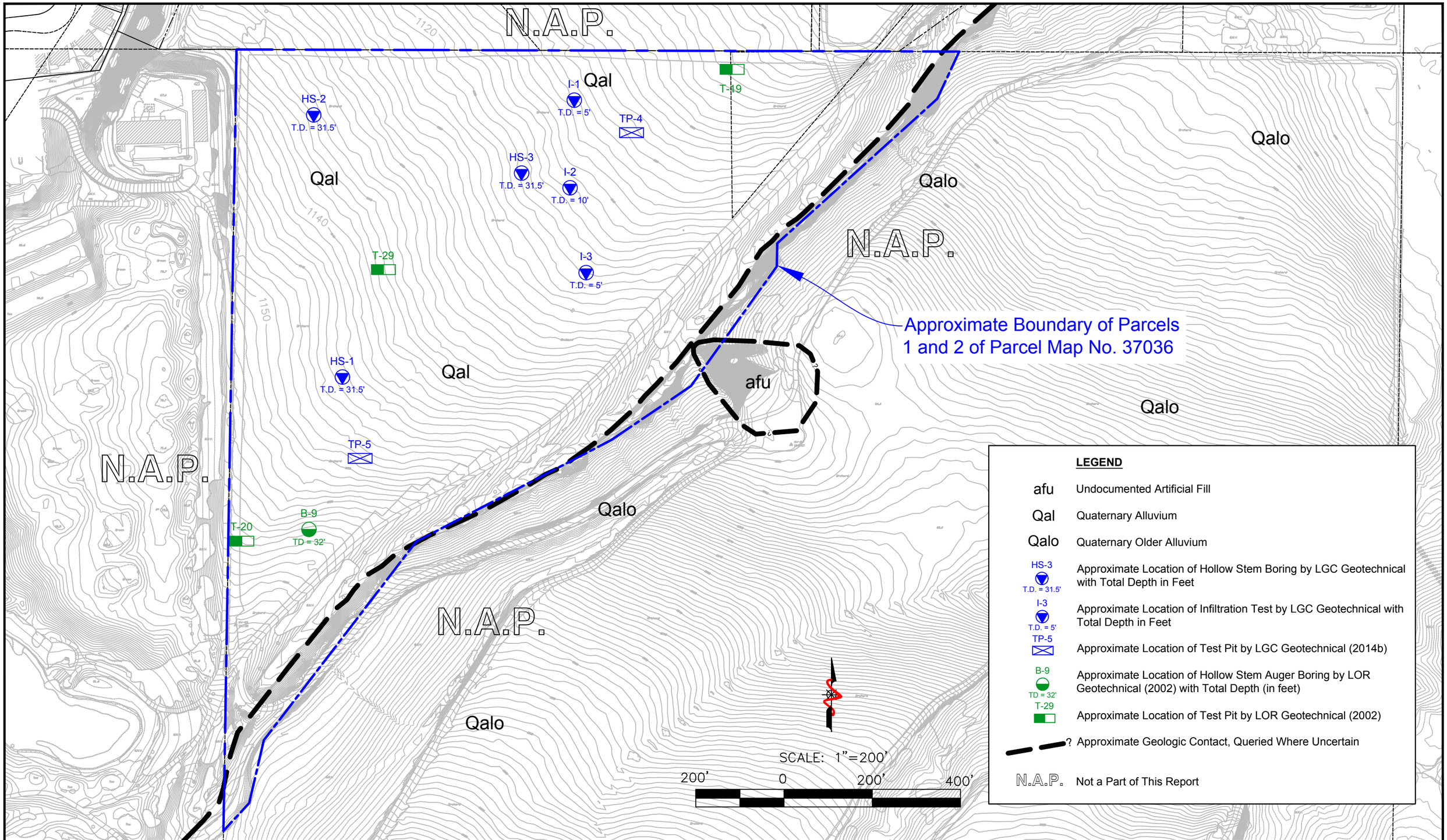
5.0 LIMITATIONS

Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable engineers and geologists practicing in this or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report. The samples taken and submitted for laboratory testing, the observations made and the in-situ field testing performed are believed representative of the entire project; however, soil and geologic conditions revealed by excavation may be different than our preliminary findings. If this occurs, the changed conditions must be evaluated by the project soils engineer and geologist and design(s) adjusted as required or alternate design(s) recommended.

This report is issued with the understanding that it is the responsibility of the owner, or of his/her representative, to ensure that the information and recommendations contained herein are brought to the attention of the designer and/or project engineer and incorporated into the plans, and the necessary steps are taken to see that the contractor and/or subcontractor properly implements the recommendations in the field. The contractor and/or subcontractor should notify the owner if they consider any of the recommendations presented herein to be unsafe.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can and do occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. Therefore, the findings, conclusions, and recommendations presented in this report can be relied upon only if LGC Geotechnical has the opportunity to observe the subsurface conditions during grading and construction of the project, in order to confirm that our preliminary findings are representative for the site.

In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and modification, and should not be relied upon after a period of 3 years.



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FIGURE 2
Geotechnical Map

PROJECT NAME	*Arantine Hills - Lower McMillan Parcel*
PROJECT NO.	*13208-02*
ENG. / GEOL.	*TJL / KAD*
SCALE	*1" = 200'*
DATE	*April 2018*

Appendix A
References

APPENDIX A

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Appendix B
Field Exploration Logs & Infiltration Test Data

Geotechnical Boring Log Borehole HS-1

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1143' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - Quaternary Alluvial Deposits (Qal):** @0' - Silty SAND with Gravel: brown, moist	
1140			R-1	16 17 20	119.5	6.0	SW-SM	@2.5' - SAND with Gravel and Silt: dark brown, slightly moist, dense; angular gravel up to 2" in diameter; scattered rootlets	
	5		SPT-1	12 12 12		4.2	GW-GM	@5' - GRAVEL with Sand and Silt: brown, slightly moist, medium dense; angular gravel	SA
1135			R-2	10 14 16	122.8	5.0	SW-SM	@7.5' - SAND with Gravel and Silt: brown, slightly moist, dense; angular gravel	CO
	10		SPT-2	5 12 13		6.2		@10' - SAND with Gravel and Silt: brown, slightly moist, medium dense	
1130									
	15		R-3	10 11 21	122.8	7.3		@15' - SAND with Gravel and Silt: brown, moist, dense	CO
1125									
	20		SPT-3	19 19 10		4.9	SM	@20' - Silty SAND with Gravel: brown, slightly moist, medium dense	
1120									
	25		R-4	26 33 35	122.5	5.7	SW-SM	@25' - SAND with Gravel and Silt: brown, slightly moist, very dense	
1115									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole HS-1

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1143' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-4	12 17 14		5.4	SM	@30' - Silty SAND with Gravel: brown, slightly moist, dense	
1110								Total Depth = 31.5' Groundwater Not Encountered Backfilled with Cuttings on 3/1/2018	
	35								
1105									
	40								
1100									
	45								
1095									
	50								
1090									
	55								
1085									
	60								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-2

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1135' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - Quaternary Alluvial Deposits (Qal):** @0' - Sandy SILT with Gravel: brown, moist	
			SPT-1	11 15 15		2.9	SM	@2.5' - Silty SAND with Gravel: brown, slightly moist, medium dense; angular gravel up to 1" in diameter; rootlets	SA
1130	5		R-1	13 13 13	117.6	4.8		@5' - SAND with Gravel and Silt: brown, slightly moist, medium dense	CO
			SPT-2	6 9 11		5.0	SM	@7.5' - Silty SAND with Gravel: brown, slightly moist, medium dense	
1125	10		R-2	12 12 11	114.8	3.7	SW-SM	@10' - SAND with Gravel and Silt: brown, slightly moist, medium dense	
1120	15		SPT-3	13 15 13		4.0	GW-GM	@15' - GRAVEL with Sand and Silt: brown, slightly moist, medium dense	SA
1115	20		R-3	14 25 22	119.6	3.6	SW-SM	@ 20' - SAND with Gravel and Silt: brown, slightly moist, dense	
1110	25		SPT-4	9 12 12		4.3	SM	@ 25' - Silty SAND with Gravel: brown, slightly moist, medium dense	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
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▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
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EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole HS-2

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1135' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		R-4	27 30 42	125.4	2.7	SW-SM	@30' - SAND with Gravel and Silty: brown, slightly moist, very dense	
								Total Depth = 31.5' Groundwater Not Encountered Backfilled with Cuttings on 3/1/2018	
1105	35								
1100	40								
1095	45								
1090	50								
1085	55								
	60								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-3

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1120' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - Quaternary Alluvial Deposits (Qal):**	
			R-1	12 15 15	119.6	3.8	SW-SM	@2.5' - SAND with Gravel and Silt: brown, slightly moist, dense	CO
1115	5	B-1	SPT-1	6 6 6		4.4	SM	@5' - Silty SAND with Gravel: brown, slightly moist, medium dense	EI, CR
			R-2	4 9 13	117.4	5.7	SW-SM	@7.5' - SAND with Gravel and Silt: brown, slightly, medium dense	CO
1110	10		SPT-2	10 11 10		5.5		@10' - SAND with Gravel and Silt: brown, slightly moist, medium dense	SA
1105	15		R-3	19 23 22	119.0	7.1		@15' - SAND with Gravel and Silt: brown, moist, dense	
1100	20		SPT-3	10 13 18		3.9	SM	@20' - Silty SAND with Gravel: brown, slightly moist, dense	
1095	25		R-4	20 20 22	128.8	5.4		@25' - Silty SAND with Gravel: brown, slightly moist, dense	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

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MD	MAXIMUM DENSITY
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CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole HS-3

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1120' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-4	14 17 21		5.2	SM	@30' - Silty SAND with Gravel: brown, slightly moist, dense	
1090	35							Total Depth = 31.5' Groundwater Not Encountered Backfilled with Cuttings on 3/1/2018	
1085	40								
1080	45								
1075	50								
1070	55								
	60								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
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CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole I-1

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1112' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map |

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
1110	0						SW-SM	**@0' to T.D. - Quaternary Alluvial Deposits (Qal):** @0' to T.D. - SAND with Gravel and Silt: brown, slightly moist	
1105	5							Total Depth = 5' Groundwater Not Encountered 3" Perforated Pipe Installed, Surrounded with Gravel, and Presoaked on 3/1/2018. Pipe Removed and Boring Backfilled with Cuttings on 3/2/2018	
1100	10								
1095	15								
1090	20								
1085	25								
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
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EI	EXPANSION INDEX
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AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole I-2

Date: 3/1/2018	**Drilling Company:** 2R Drilling
Project Name: Arantine Hills - McMillan	**Type of Rig:** Hollow Stem Auger
Project Number: 13208-02	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~1117' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
1115	0						SW-SM	**@0' to T.D. - Quaternary Alluvial Deposit (Qal):** @0' to T.D. - SAND with Gravel and Silt: brown, moist	
1110	5								
1105	10							Total Depth = 10' Groundwater Not Encountered 3" Perforated Pipe Installed, Surrounded with Gravel, and Presoaked on 3/1/2018. Pipe Removed and Boring Backfilled with Cuttings on 3/2/2018	
1100	15								
1095	20								
1090	25								
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Geotechnical Boring Log Borehole I-3

Date: 3/1/2018 | **Drilling Company:** 2R Drilling

Project Name: Arantine Hills - McMillan | **Type of Rig:** Hollow Stem Auger

Project Number: 13208-02 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~1121' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By KAD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
1120	0						SW-SM	**@0' to T.D. - Quaternary Alluvial Deposit (Qal):** @0' to T.D. - SAND with Gravel and Silt: brown, moist	
1115	5							Total Depth = 5' Groundwater Not Encountered 3" Perforated Pipe Installed, Surrounded with Gravel, and Presoaked on 3/1/2018. Pipe Removed and Boring Backfilled with Cuttings on 3/2/2018	
1110	10								
1105	15								
1100	20								
1095	25								
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/7/2018

Infiltration Test Data Sheet

LGC Geotechnical, Inc

131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Arantine - McMillan
Project Number: 13208-02
Date: 3/2/2018
Boring Number: I-1

Test hole dimensions (if circular)	
Boring Depth (feet)*:	4.85
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:32	7:57	25.0	3.00	4.85	1.85	Yes
2	7:57	8:22	25.0	3.12	4.85	1.73	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Measured Infiltration Rate(in/hr)
1	10:45	10:55	10.0	3.11	3.52	0.41	2.9
2	10:55	11:05	10.0	3.02	3.47	0.45	3.0
3	11:05	11:15	10.0	3.04	3.41	0.37	2.5
4	11:15	11:25	10.0	2.97	3.42	0.45	3.0
5	11:25	11:35	10.0	3	3.43	0.43	2.9
6	11:35	11:45	10.0	3.01	3.39	0.38	2.5
					Calculated Infiltration Rate (No factors of safety)		**2.5**

Sketch:

Notes:

Based on Guidelines from: Riverside County

LGC Geotechnical, Inc.

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Arantine - McMillan
Project Number: 13208-02
Date: 3/2/2018
Boring Number: I-2

Test hole dimensions (if circular)	
Boring Depth (feet)*:	9.95
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:37	8:02	25.0	8.10	9.82	1.72	Yes
2	8:02	8:27	25.0	8.17	9.65	1.48	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Measured Infiltration Rate(in/hr)
1	9:40	9:50	10.0	7.65	7.98	0.33	1.7
2	9:50	10:00	10.0	7.64	8.04	0.40	2.1
3	10:00	10:10	10.0	7.68	7.89	0.21	1.1
4	10:10	10:20	10.0	7.55	7.97	0.42	2.1
5	10:20	10:30	10.0	7.62	7.86	0.24	1.2
6	10:30	10:40	10.0	7.59	7.99	0.40	2.1

Calculated Infiltration Rate (No factors of safety) **2.1**

Sketch:

Notes:

Based on Guidelines from: Riverside County

LGC Geotechnical, Inc.

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Arantine - McMillan
Project Number: 13208-02
Date: 3/2/2018
Boring Number: I-3

Test hole dimensions (if circular)	
Boring Depth (feet)*:	5
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:42	8:07	25.0	3.12	5	1.88	Yes
2	8:07	8:32	25.0	3.01	5	1.99	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Measured Infiltration Rate(in/hr)
1	8:35	8:45	10.0	3.21	4.02	0.81	6.3
2	8:45	8:55	10.0	3.27	4.00	0.73	5.7
3	8:55	9:05	10.0	3.07	3.98	0.91	6.7
4	9:05	9:15	10.0	3.11	3.95	0.84	6.2
5	9:15	9:25	10.0	3.16	3.99	0.83	6.3
6	9:25	9:35	10.0	3.02	3.94	0.92	6.5
					Calculated Infiltration Rate (No factors of safety)		**6.5**

Sketch:

Notes:

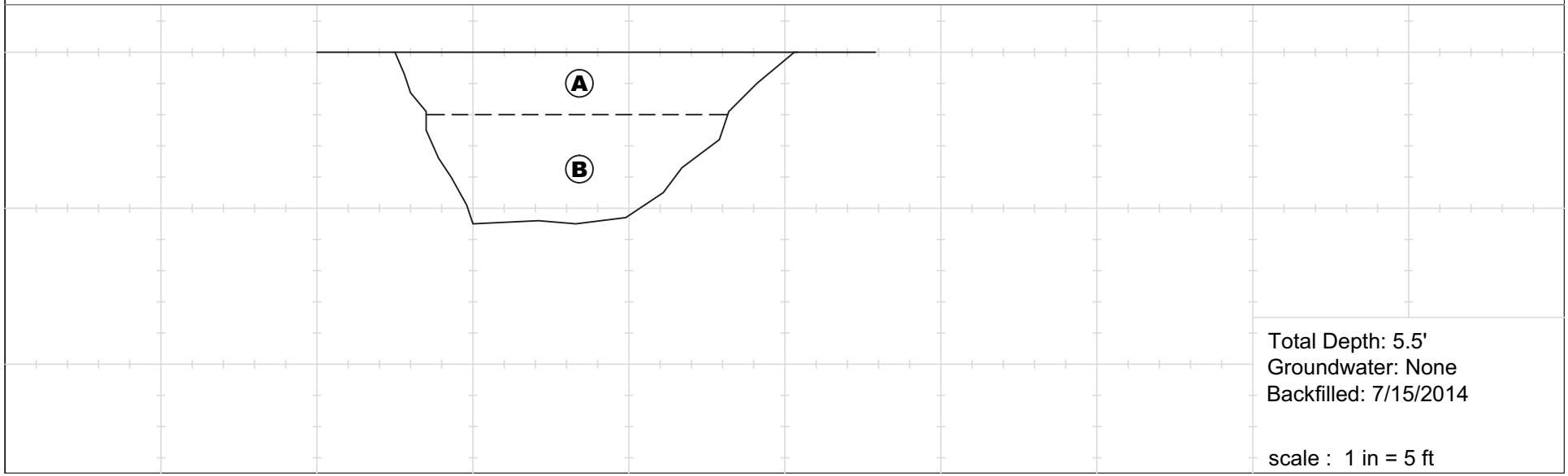
Based on Guidelines from: Riverside County

LGC Geotechnical, Inc.

Project Name: Arantine Hills	**Logged By: ASR**	**Trench No: TP-4**	
Project Number : 13208-01	**Date : 7/15/2014**	**Engineering Properties:**	
Equipment: CASE 580 Super M Backhoe	**Location: See Geotechnical Map**		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	Topsoil - light brownish grey gravelly sand with silt, dry, very loose, abundant grass roots	Qal	SM-SP			
	B	Dark grey sandy gravel with silt and occasional cobbles, slightly moist		GM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 1030 ' MSL** **Surface Slope: 0 deg.** **Trend: 321N**

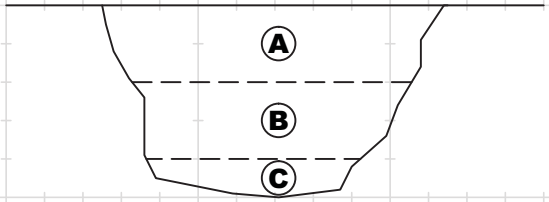


Last Edited: 7/31/2014

Project Name: Arantine Hills	**Logged By: ASR**	**Trench No: TP-5**	
Project Number : 13208-01	**Date : 7/15/2014**	**Engineering Properties:**	
Equipment: CASE 580 Super M Backhoe	**Location: See Geotechnical Map**		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	Topsoil - light grey gravelly sand with silt, dry to slightly moist, loose, abundant roots	Qal	SM-SP			
	B	Dark grey silty sand with gravel, slightly moist to moist, cohesive, marginal roots		SM	B-1		
	C	Dark grey silty sand with gravel, slightly moist to moist					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 1000 ' MSL** **Surface Slope: 0 deg.** **Trend: 13N**



Total Depth: 5'
Groundwater: None
Backfilled: 7/15/2014

scale : 1 in = 5 ft

Last Edited: 7/31/2014

LOG OF BORING B-9

DEPTH IN FEET	EQUIVALENT SPT BLOW COUNTS	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S	DESCRIPTION
0		2.2		T		SM	FILL: SILTY SAND with gravel, approximately 10% angular cobbles to 4", 20% gravel, 10% coarse grained sand, 15% medium grained sand, 30% fine grained sand, 15% silty fines.
	38-6"	4.2	117.3	■			
5	38-6"	5.3	106.7	■			
10	36	3.9	117.6	■		SM	@ 10 feet ALLUVIUM: SILTY SAND, approximately 10% fine gravel, 20% coarse grained sand, 15% medium grained sand, 30% fine grained sand, 25% silty fines, grayish brown, damp. @ 11 feet near refusal on cobbles.
15	22	5.1	113.2	■			@ 16 feet difficult drilling on cobbles.
20	36	4.4	126.2	■			@ 20 feet approximately 5% gravel, 15% coarse grained sand, 20% medium grained sand, 30% fines with trace of brown clay in pores, damp to slightly moist.
25	59	4.8	119.8	■			
30	48			■			END OF BORING
							Fill 0-10'
35							No caving No groundwater No bedrock

TEST DATA

PROJECT: **500+ Acres in Bedford Canyon, Corona, CA**	PROJECT NUMBER:	**31558.1**	
CLIENT: **Bluestone Communities**	ELEVATION:	**1156**	
	DATE DRILLED:	**February 4, 2002**	
LOR GEOTECHNICAL GROUP INC.	EQUIPMENT:	**CME 55**	
	HOLE DIA.: **8"**	ENCLOSURE:	**B-9**

LOG OF TRENCH T-19

DEPTH IN FEET	ESTIMATED COMPACTION (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S	DESCRIPTION
0		4.1				SM	FILL: **SILTY SAND with gravel, approximately 40% gravel to 2", 15% coarse grained sand, 15% medium grained sand, 15% fine grained sand, 15% silty fines, brown, moist, loose.**
	86	6.4	112.9			GW	**@ 2 feet ALLUVIUM: WELL GRADED GRAVEL with silt, approximately 5% cobbles to 6", 40% gravel to 3", 30% coarse grained sand, 10% medium grained sand, 10% fine grained sand, 5% silty fines, moist, brown.**
5	85	5.6	111.7				
10							
15							**END OF TRENCH** **Fill 0-2'** **No caving** **No groundwater** **No bedrock**

PROJECT: **500+ Acres in Bedford Canyon, Corona, CA**		PROJECT NUMBER:	**31558.1**
CLIENT:	**Bluestone Communities**	ELEVATION:	**1096**
		DATE EXCAVATED:	**February 6, 2002**
LOR GEOTECHNICAL GROUP INC.		EQUIPMENT:	**Ford 555E**
		BUCKET W.: **24"**	ENCLOSURE: **B-42**

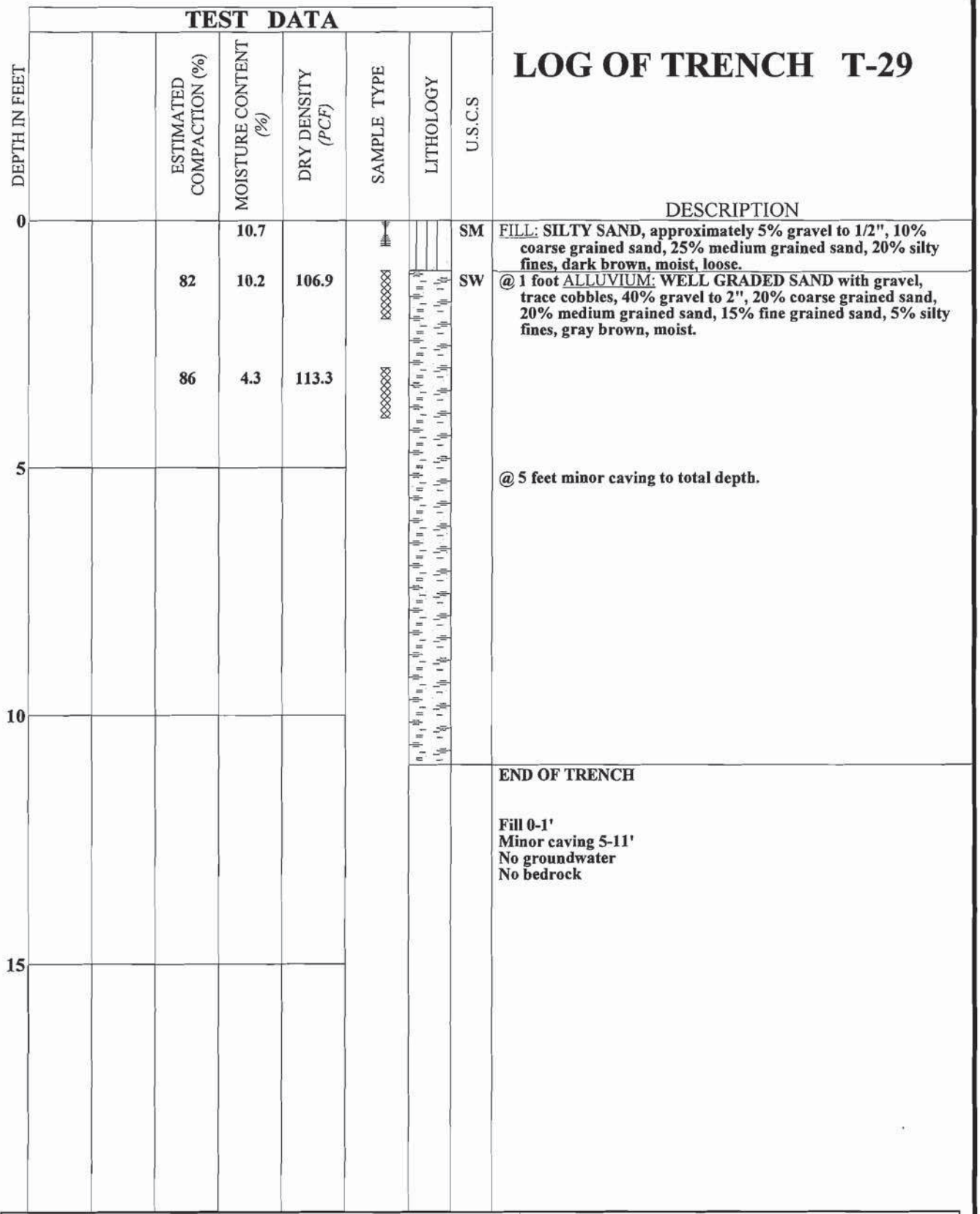
LOG OF TRENCH T-20

DEPTH IN FEET	ESTIMATED COMPACTION (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S	DESCRIPTION
0		3.8				GW	FILL: **WELL GRADED GRAVEL with silt, approximately 5% cobbles to 6", 55% gravel to 3", 15% coarse grained sand, 15% medium grained sand, 10% fine grained sand, brown, moist, loose.**
	78	11.0	101.9			GW	@ 1 foot ALLUVIUM: **WELL GRADED GRAVEL with sand and silt, approximately 5% cobbles to 8", 55% gravel to 3", 15% coarse grained sand, 10% medium grained sand, 10% fine grained sand, 5% silty fines, brown gray, moist.**
5	92	5.2	120.1				
10							**END OF TRENCH**
15							**Fill 0-1'** **No caving** **No groundwater** **No bedrock**

TEST DATA

PROJECT: **500+ Acres in Bedford Canyon, Corona, CA**		PROJECT NUMBER:	**31558.1**
CLIENT:	**Bluestone Communities**	ELEVATION:	**1160**
		DATE EXCAVATED:	**February 6, 2002**
LOR GEOTECHNICAL GROUP INC.		EQUIPMENT:	**Ford 555E**
		BUCKET W.: **24"**	ENCLOSURE: **B-43**

LOG OF TRENCH T-29



PROJECT: **500+ Acres in Bedford Canyon, Corona, CA**		PROJECT NUMBER:	**31558.1**
CLIENT:	**Bluestone Communities**	ELEVATION:	**1132**
		DATE EXCAVATED:	**February 7, 2002**
LOR GEOTECHNICAL GROUP INC.		EQUIPMENT:	**Ford 555E**
		BUCKET W.: **24"**	ENCLOSURE: **B-52**

Appendix C
Laboratory Test Results

APPENDIX C

Laboratory Test Results

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on driven samples obtained from the test borings. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution/Fines Content: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve (ASTM D1140). Where applicable, the portion retained on the No. 200 sieve was dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D6913 (sieve) or ASTM D422 (sieve and hydrometer).

Sample Location	Description	% Passing # 200 Sieve
HS-1 @ 5 ft	Well-Graded Gravel with Sand and Silt	11
HS-2 @ 2.5 ft	Well-Graded Silty Sand with Gravel	15
HS-2 @ 15 ft	Well-Graded Gravel with Sand and Silt	10
HS-3 @ 10 ft	Well-Graded Sand with Gravel and Silt	12
T-20 @ 1-3 ft	Well-Graded Gravel with Silt and Sand	5

Direct Shear: Direct shear tests were performed on selected driven and remolded samples, which were soaked for a minimum of 24 hours prior to testing. The samples were tested under various normal loads using a motor-driven, strain-controlled, direct-shear testing apparatus (ASTM D3080). The plot is provided in this Appendix.

Collapse/Swell Potential: Four collapse tests were performed per ASTM D4546. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and loaded to their approximate in-situ effective stress. The curves are presented in this Appendix.

Laboratory Test Results

Expansion Index: The expansion potential of selected representative samples was evaluated by the Expansion Index Test per ASTM D4829. The results are presented in the table below.

Sample Location	Expansion Index	Expansion Potential*
TP-5 @ 2-3 ft	3	Very Low
HS-3 @5-10 ft	0	Very Low

* Per ASTM D4829

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by standard geochemical methods (CTM 417). The test results are presented in the table below.

Sample Location	Sulfate Content
HS-3 @5-10 ft	0.013%
TP-5 @2-3 ft	0.008%

Chloride Content: Chloride content was tested per CTM 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-3 @5-10 ft	32
TP-5 @2-3 ft	64

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-3 @5-10 ft	7.4	3,900
TP-5 @2-3 ft	8.1	3,495

Laboratory Test Results

Laboratory Compaction: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results are presented in the table below.

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
TP-5 @ 2-3 ft	Silty Sand with Gravel	133.5	8.0

Boring No.		HS-1	HS-1	HS-1	HS-1	HS-1	HS-1	HS-2	HS-2	HS-2	HS-2	HS-2	HS-2
Sample No.		R-1	R-4	SPT-1	SPT-2	SPT-3	SPT-4	R-2	R-3	R-4	SPT-1	SPT-2	SPT-3
Depth (ft.)		2.5	25.0	5.0	10.0	20.0	30.0	10.0	20.0	30.0	2.5	7.5	15.0
Sample Type		Ring	Ring	SPT	SPT	SPT	SPT	Ring	Ring	Ring	SPT	SPT	SPT
Soil Identification		Dark Brown Sand w/ Gravel and Silt (SW-SM)	Brown Sand with Gravel and Silt (SC)	Brown Gravel with Sand and Silt (GW-GM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Silty Sand with Gravel (SM)	Brown Silty Sand w/ Gravel (SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Silty Sand with Gravel (SM)	Brown Gravel w/ Sand and Silt (GW-GM)
Pocket Penetrometer	($tons/ft^2$)												
Weight Soil + Rings / Tube	(g)	1185.0	1205.0	N/A	N/A	N/A	N/A	1130.0	1165.0	1200.0	N/A	N/A	N/A
Weight of Rings / Tube	(g)	270.0	270.0	N/A	N/A	N/A	N/A	270.0	270.0	270.0	N/A	N/A	N/A
Average Length	(in.)	6.0	6.0	N/A	N/A	N/A	N/A	6.0	6.0	6.0	N/A	N/A	N/A
Average Diameter	(in.)	2.416	2.416	N/A	N/A	N/A	N/A	2.416	2.416	2.416	N/A	N/A	N/A
Wet Wt. of Soil + Cont.	(g)	107.1	159.1	127.2	119.6	86.8	119.8	158.2	140.1	158.6	155.2	119.0	131.2
Dry Wt. Of Soil + Cont.	(g)	101.2	150.7	122.2	112.8	82.9	113.8	152.6	135.3	154.5	150.9	113.5	126.3
Weight of Container	(g)	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Container No.													
Wet Density	**(pcf)**	126.7	129.5	N/A	N/A	N/A	N/A	119.1	124.0	128.8	N/A	N/A	N/A
Moisture Content	**(%)**	**6.0**	**5.7**	**4.2**	**6.2**	**4.9**	**5.4**	**3.7**	**3.6**	**2.7**	**2.9**	**5.0**	**4.0**
Dry Density	**(pcf)**	**119.5**	**122.5**	**N/A**	**N/A**	**N/A**	**N/A**	**114.8**	**119.6**	**125.4**	**N/A**	**N/A**	**N/A**
Degree of Saturation	**(%)**	39.6	40.9	N/A	N/A	N/A	N/A	21.6	24.0	21.3	N/A	N/A	N/A

LGC Geotechnical, Inc.

MOISTURE & DENSITY of SOILS

ASTM D 2216 & ASTM D 2937

Specific Gravity Assumed 2.70

Project Name:	Arantine - McMillan		
Project No.:	13208-02		
Client Name:	The New Home Company		
Tested By:	CB	Date:	3/1/2018

Boring No.		HS-2	HS-3	HS-3	HS-3	HS-3	HS-3	HS-3					
Sample No.		SPT-4	R-3	R-4	SPT-1	SPT-2	SPT-3	SPT-4					
Depth (ft.)		25.0	15.0	25.0	5.0	10.0	20.0	30.0					
Sample Type		SPT	Ring	Ring	SPT	SPT	SPT	SPT					
Soil Identification		Brown Silty Sand with Gravel (SM)	Brown Sand with Gravel and Silt (SW-SM)	Brown Silty Sand w/ Gravel (SM)	Brown Silty Sand w/ Gravel (SM)	Brown Sand with Gravel and Siltl (SM)	Brown Sand w/ Gravel and Silt (SW-SM)	Brown Silty Sand w/ Gravel (SM)					
Pocket Penetrometer	(tons/ft^2)												
Weight Soil + Rings / Tube	(g)	N/A	1190.0	1250.0	N/A	N/A	N/A	N/A					
Weight of Rings / Tube	(g)	N/A	270.0	270.0	N/A	N/A	N/A	N/A					
Average Length	(in.)	N/A	6.0	6.0	N/A	N/A	N/A	N/A					
Average Diameter	(in.)	N/A	2.416	2.416	N/A	N/A	N/A	N/A					
Wet Wt. of Soil + Cont.	(g)	132.0	118.0	159.6	117.1	118.0	125.2	118.4					
Dry Wt. Of Soil + Cont.	(g)	126.7	110.4	151.6	112.3	112.0	120.6	112.7					
Weight of Container	(g)	3.1	3.1	3.1	3.1	3.1	3.1	3.1					
Container No.													
Wet Density	**(pcf)**	N/A	127.4	135.7	N/A	N/A	N/A	N/A					
Moisture Content	**(%)**	**4.3**	**7.1**	**5.4**	**4.4**	**5.5**	**3.9**	**5.2**					
Dry Density	**(pcf)**	**N/A**	**119.0**	**128.8**	**N/A**	**N/A**	**N/A**	**N/A**					
Degree of Saturation	**(%)**	N/A	45.9	47.1	N/A	N/A	N/A	N/A					

LGC Geotechnical, Inc.

MOISTURE & DENSITY of SOILS

ASTM D 2216 & ASTM D 2937

Specific Gravity Assumed 2.70

Project Name:	Arantine - McMillan		
Project No.:	13208-02		
Client Name:	The New Home Company		
Tested By:	CB	Date:	3/1/2018

Boring No.	HS-1	HS-1	HS-2	HS-3	HS-3			
Sample No.	R-2	R-3	R-1	R-1	R-2			
Depth (ft.)	7.5	15.0	5.0	2.5	7.5			
Sample Type	Ring	Ring	Ring	Ring	Ring			
Soil Identification	Dark olive gray well-graded sand with silt and gravel (SW-SM)g	Dark olive gray well-graded sand with silt and gravel (SW-SM)g	Dark olive gray well-graded sand with silt and gravel (SW-SM)g	Dark olive gray well-graded sand with silt and gravel (SW-SM)g	Dark olive gray well-graded sand with silt and gravel (SW-SM)g			
Pocket Penetrometer (tons/ft^2)	>4.50	>4.50	>4.50	>4.50	3.50/>4.50			
Weight Soil + Rings / Tube (g)	997.39	811.44	1155.60	968.22	967.71			
Weight of Rings / Tube (g)	222.0	177.6	266.4	222.0	222.0			
Average Length (in.)	5.0	4.0	6.0	5.0	5.0			
Average Diameter (in.)	2.415	2.415	2.415	2.415	2.415			
Wet. Wt. of Soil + Cont. (g)	199.52	188.57	223.41	199.03	222.53			
Dry Wt. of Soil + Cont. (g)	191.82	179.47	216.14	193.76	214.10			
Weight of Container (g)	37.94	55.53	65.33	55.51	65.33			
Container No.								
Wet Density	129.0	131.8	123.3	124.1	124.0			
Moisture Content (%)	**5.0**	**7.3**	**4.8**	**3.8**	**5.7**			
Dry Density (pcf)	**122.8**	**122.8**	**117.6**	**119.6**	**117.4**			
Degree of Saturation (%)	36.3	53.2	30.0	25.1	35.1			

MOISTURE & DENSITY of SOILS

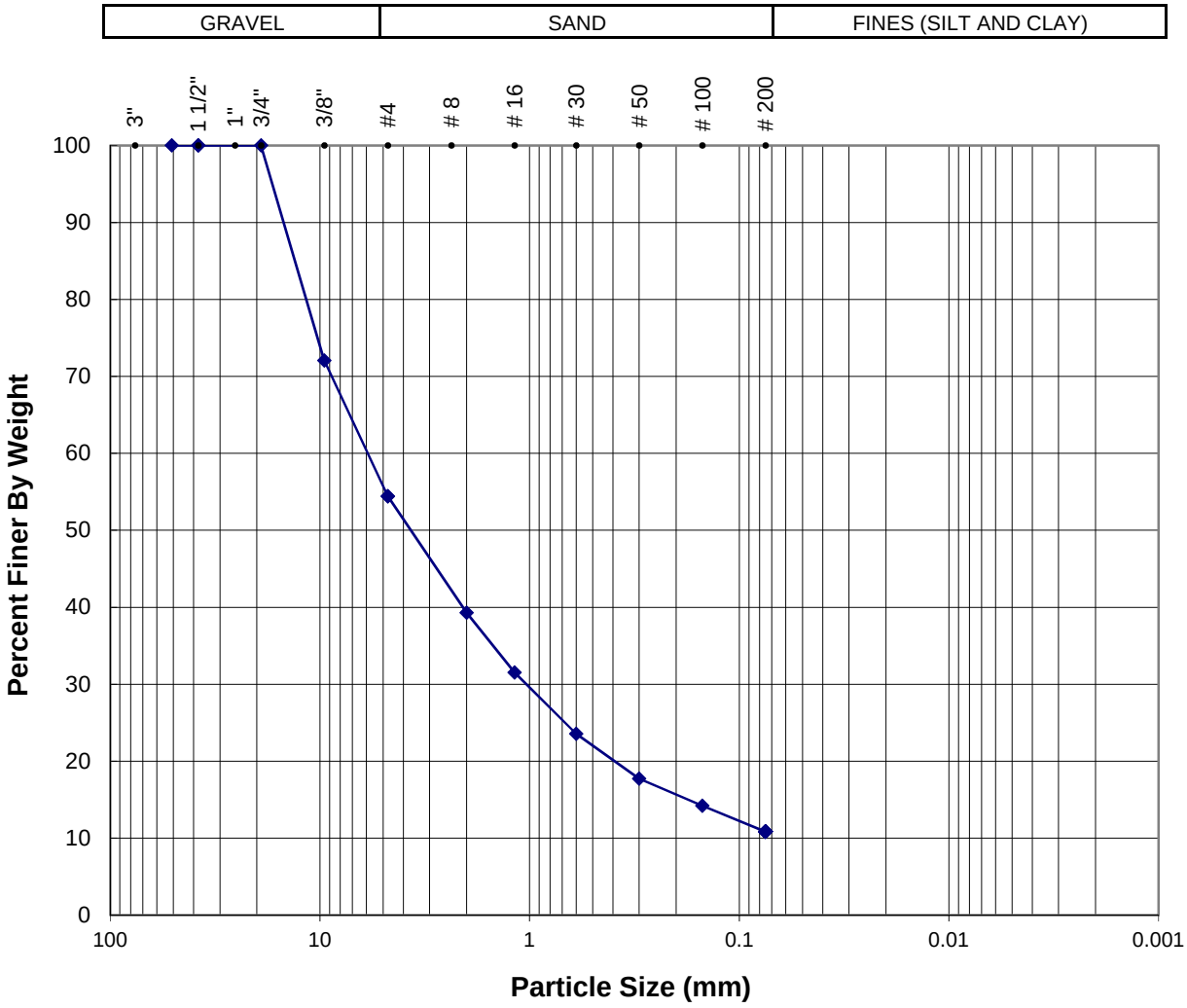
ASTM D 2216 & ASTM D 2937

Project Name: Arantine

Project No.: 13208-02

Client Name: LGC Geotechnical, Inc.

Tested By: G. Bathala Date: 03/15/18



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-1	**SPT-1**	**5'**	**GW-GM**	**46**	**44**	**11**

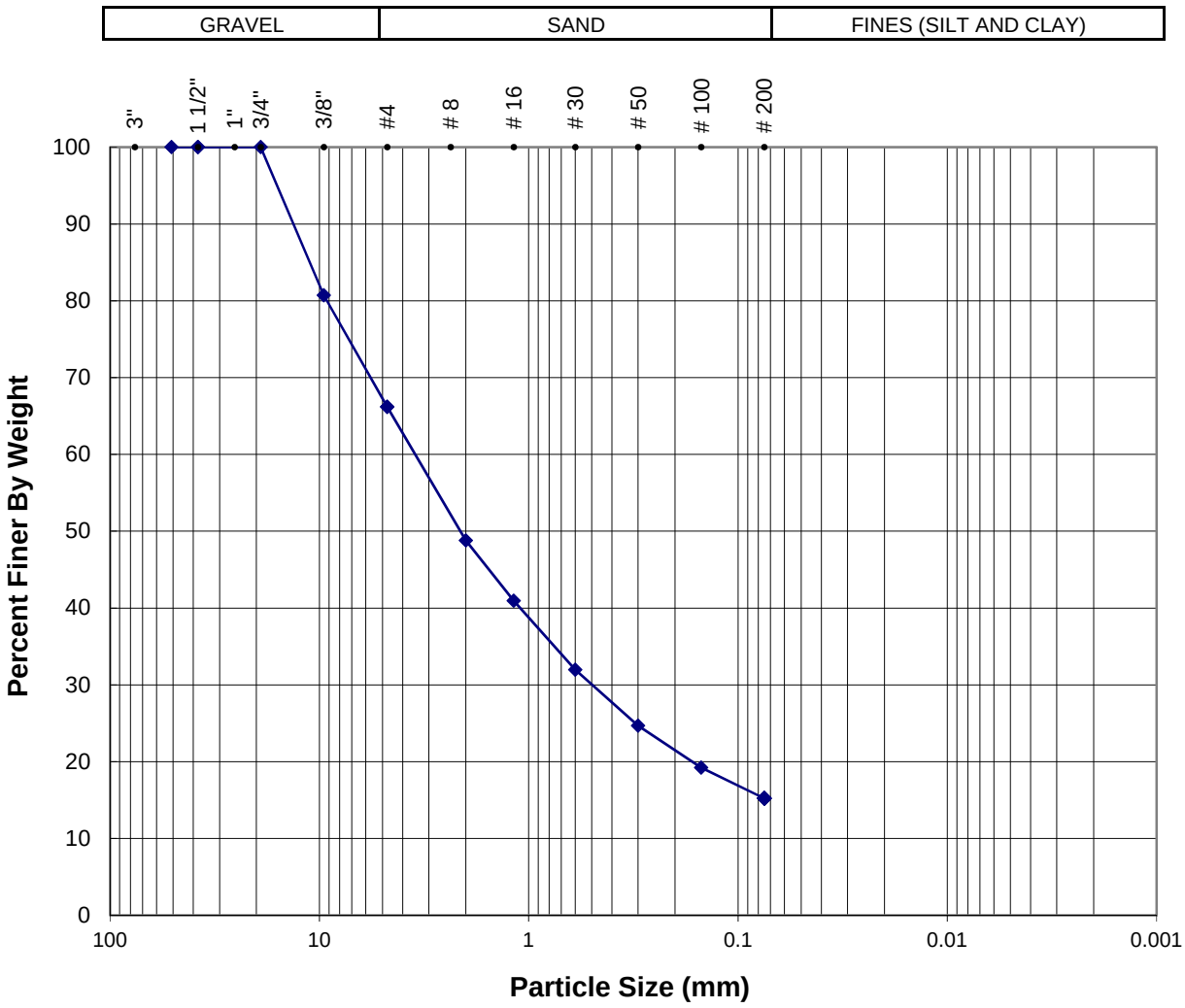
Sample Description: Well-graded gravel with sand and silt

LGC Geotechnical, Inc.

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 13208-02
Date: Mar-18

Arantine - McMillan



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-2	**SPT-1**	**2.5'**	**SW-SM**	**34**	**51**	**15**

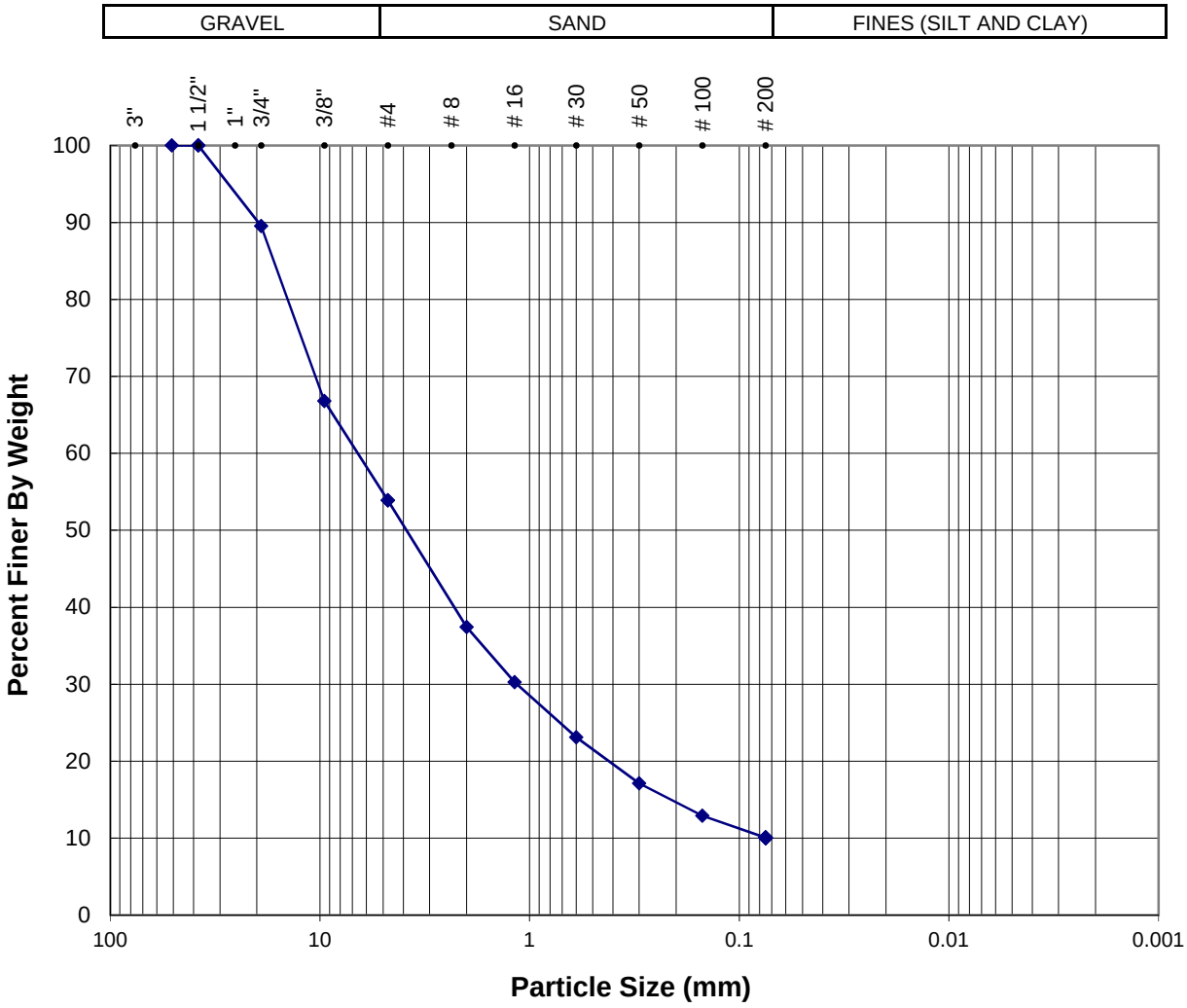
Sample Description: Well-graded silty sand with gravel

LGC Geotechnical, Inc.

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 13208-02
Date: Mar-18

Arantine - McMillan



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-2	**SPT-3**	**15'**	**GW-GM**	**46**	**44**	**10**

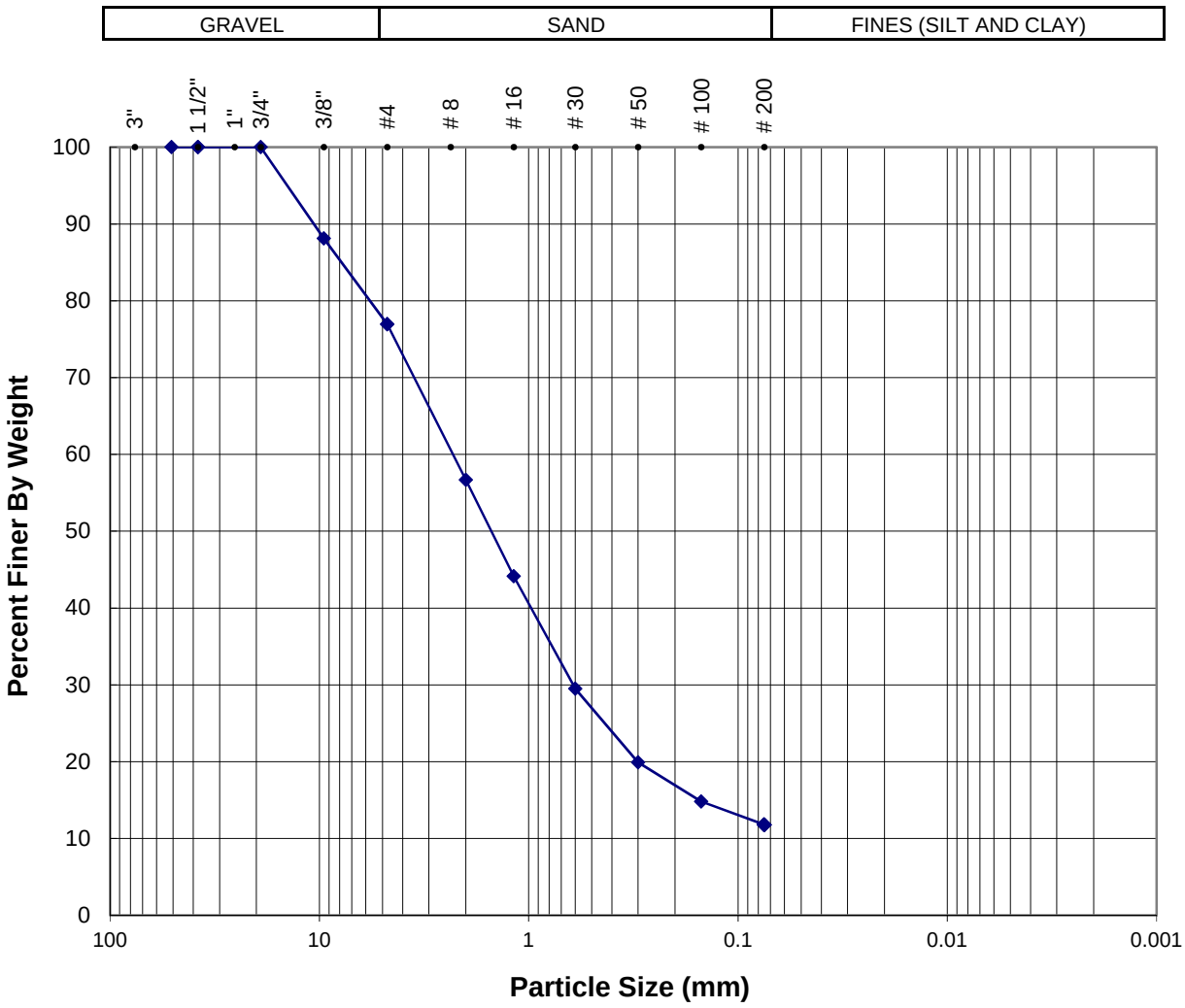
Sample Description: Well-graded gravel with sand and silt

LGC Geotechnical, Inc.

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 13208-02
Date: Mar-18

Arantine - McMillan



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-3	**SPT-2**	**10'**	**SW-SM**	**23**	**65**	**12**

Sample Description: Well-graded sand with gravel and silt

LGC Geotechnical, Inc.

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 13208-02
Date: Mar-18

Arantine - McMillan

One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

Project Name:	Arantine	Tested By:	G. Bathala	Date:	03/15/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-1	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	15.0		

Sample Description: Dark olive gray well-graded sand with silt and gravel (SW-SM)g

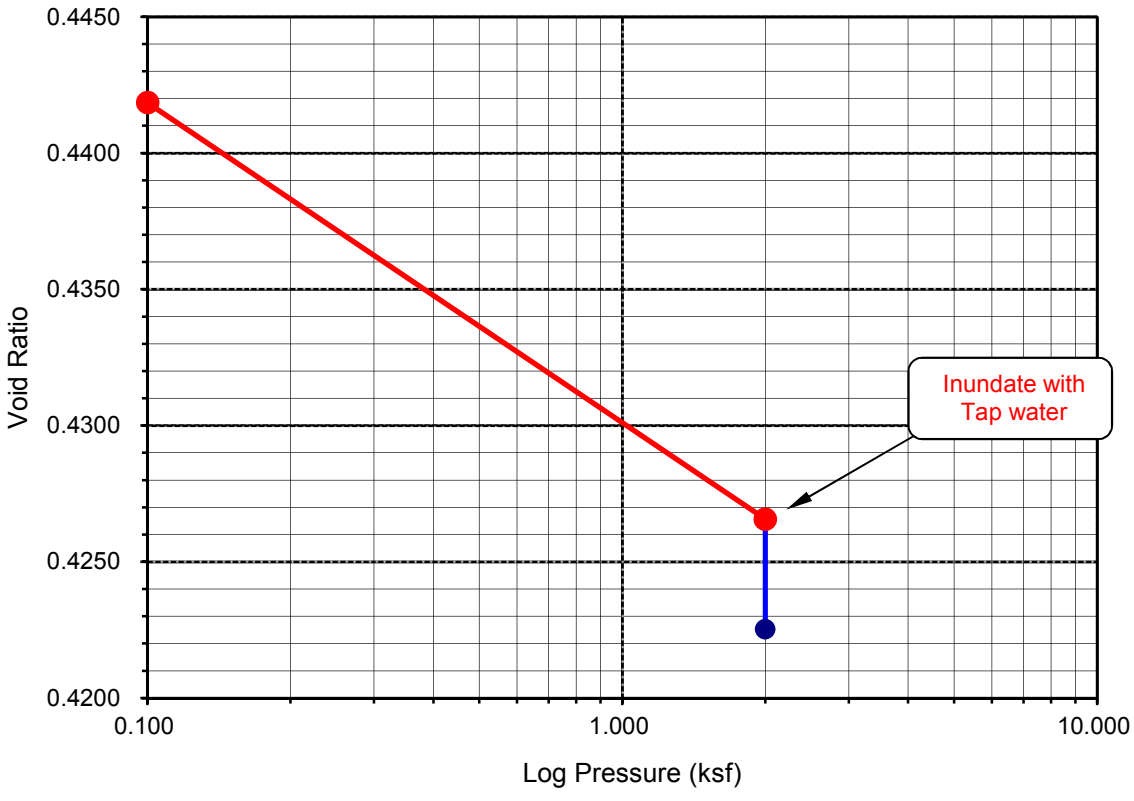
Initial Dry Density (pcf):	116.9
Initial Moisture (%):	7.34
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1099
Diameter(in):	2.415

Final Dry Density (pcf):	118.6
Final Moisture (%) :	13.1
Initial Void ratio:	0.4419
Specific Gravity(assumed):	2.70
Initial Saturation (%)	44.9

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1099	1.0000	0.00	0.00	0.4419	0.00
2.000	0.1211	0.9888	0.06	-1.12	0.4266	-1.06
H2O	0.1239	0.9860	0.06	-1.40	0.4225	-1.34

Percent Swell (+) / Settlement (-) After Inundation = -0.28

Void Ratio - Log Pressure Curve



One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

Project Name:	Arantine	Tested By:	G. Bathala	Date:	03/15/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-2	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	5.0		

Sample Description: Dark olive gray well-graded sand with silt and gravel (SW-SM)g

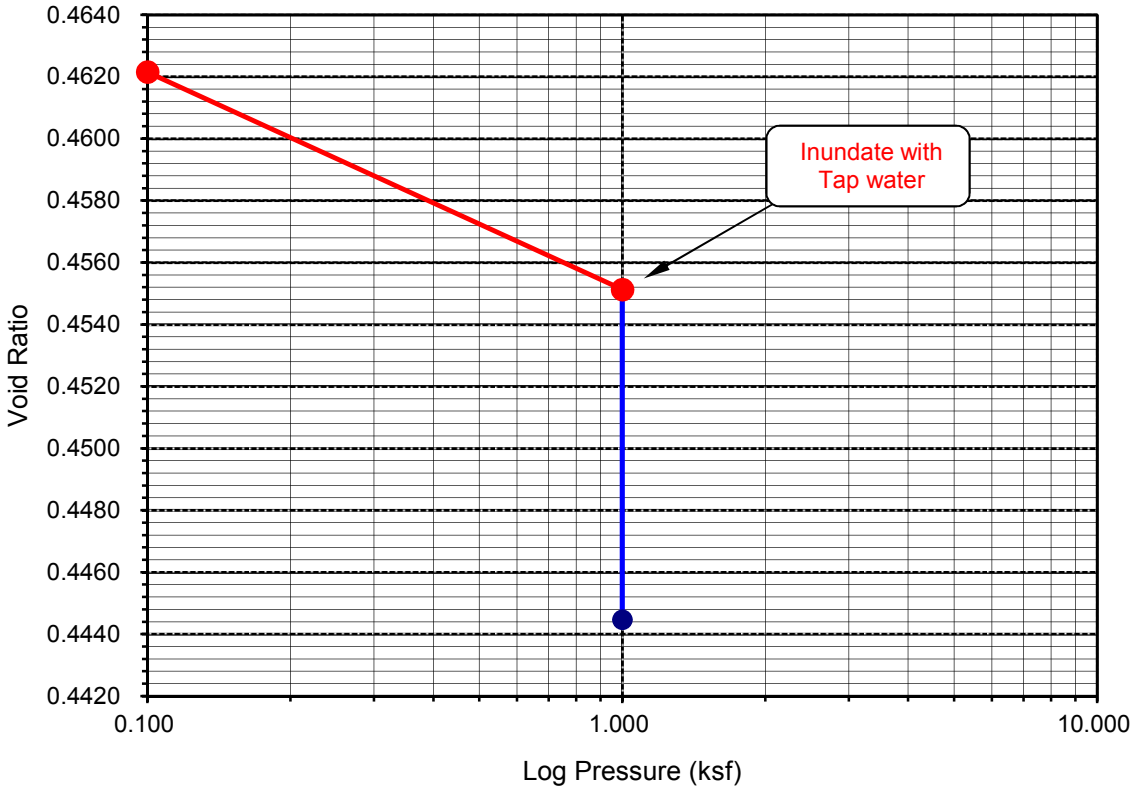
Initial Dry Density (pcf):	115.3
Initial Moisture (%):	4.82
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0926
Diameter(in):	2.415

Final Dry Density (pcf):	116.9
Final Moisture (%) :	12.0
Initial Void ratio:	0.4621
Specific Gravity(assumed):	2.70
Initial Saturation (%)	28.2

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0926	1.0000	0.00	0.00	0.4621	0.00
1.000	0.0982	0.9944	0.08	-0.56	0.4551	-0.48
H2O	0.1055	0.9871	0.08	-1.29	0.4445	-1.21

Percent Swell (+) / Settlement (-) After Inundation = -0.73

Void Ratio - Log Pressure Curve



One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

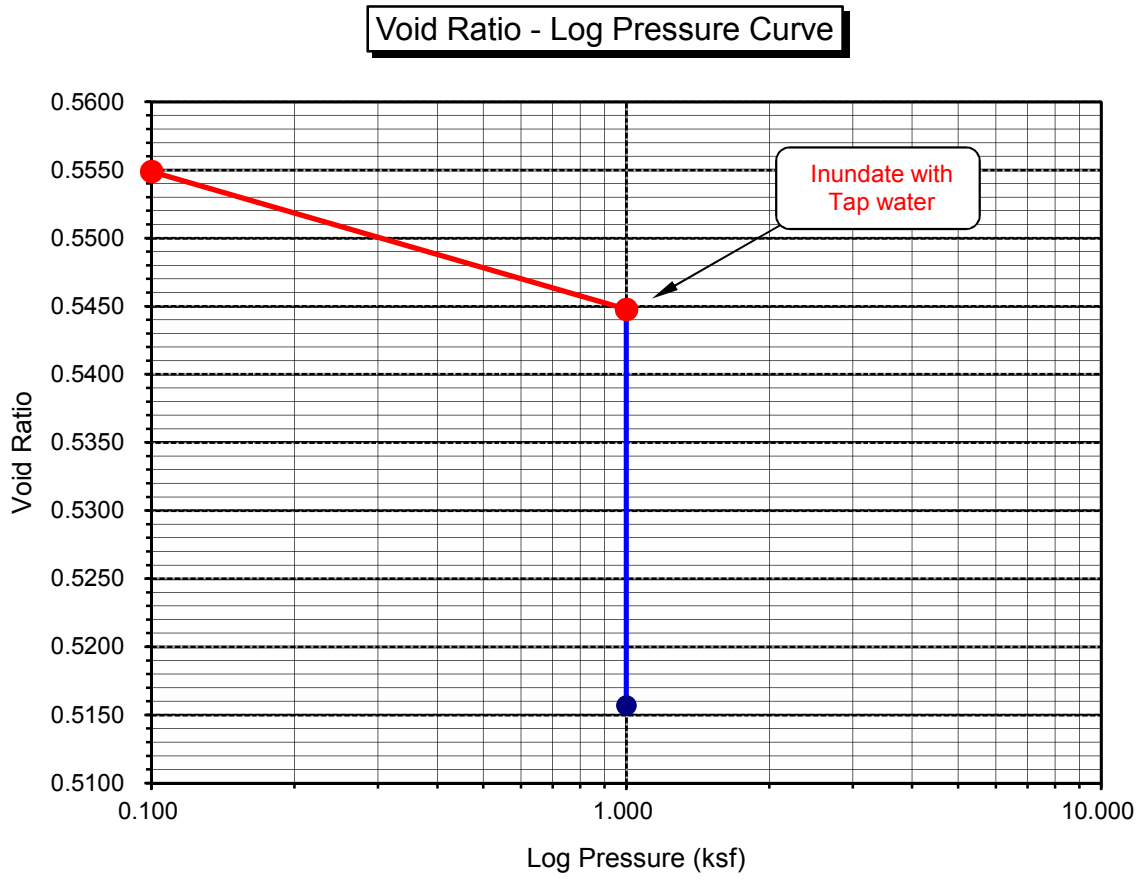
Project Name:	Arantine	Tested By:	G. Bathala	Date:	03/19/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-3	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	2.5		
Sample Description:	Dark olive gray well-graded sand with silt and gravel (SW-SM)g				

Initial Dry Density (pcf):	108.4
Initial Moisture (%):	3.81
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1065
Diameter(in):	2.415

Final Dry Density (pcf):	111.3
Final Moisture (%) :	12.3
Initial Void ratio:	0.5549
Specific Gravity(assumed):	2.70
Initial Saturation (%)	18.5

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1065	1.0000	0.00	0.00	0.5549	0.00
1.000	0.1133	0.9932	0.03	-0.68	0.5448	-0.65
H2O	0.1320	0.9745	0.03	-2.55	0.5157	-2.52

Percent Swell (+) / Settlement (-) After Inundation = -1.88



One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

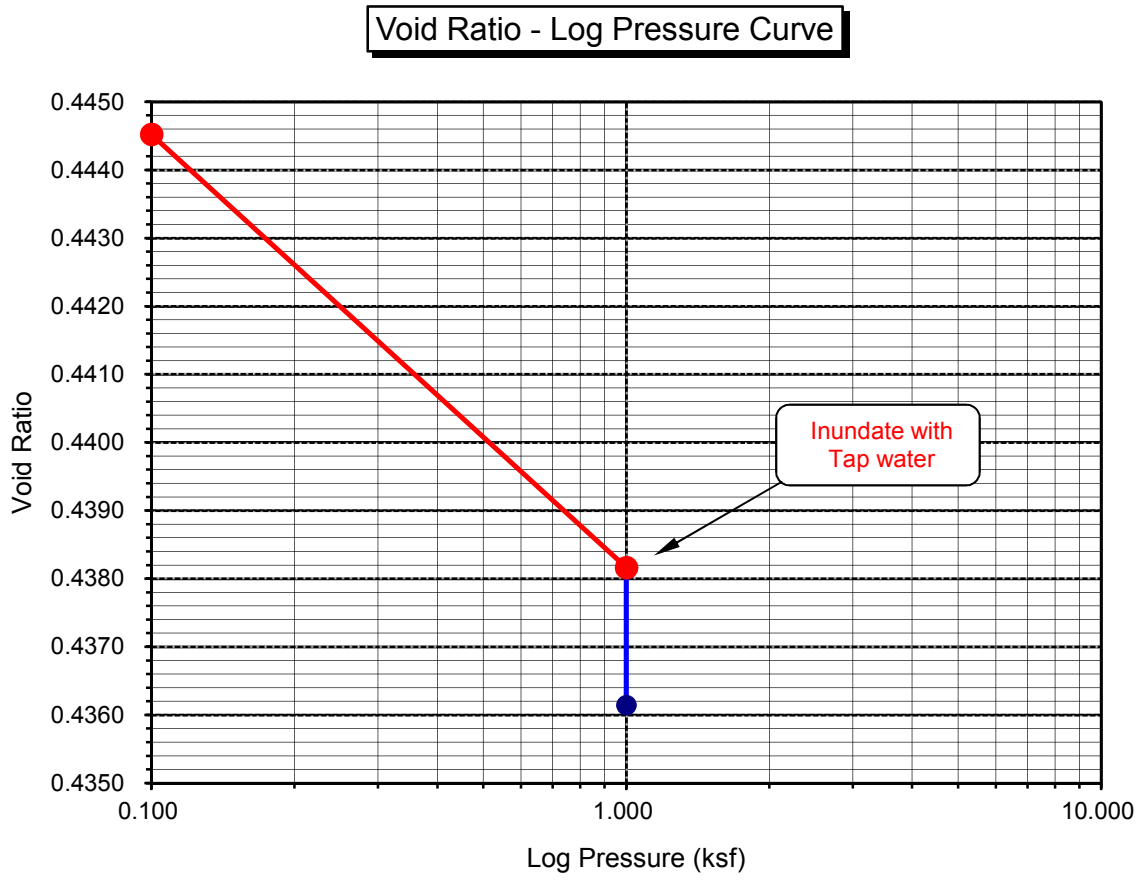
Project Name:	Arantine	Tested By:	G. Bathala	Date:	03/19/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-3	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	7.5		
Sample Description:	Dark olive gray well-graded sand with silt and gravel (SW-SM)g				

Initial Dry Density (pcf):	116.7
Initial Moisture (%):	5.67
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0986
Diameter(in):	2.415

Final Dry Density (pcf):	117.6
Final Moisture (%) :	12.1
Initial Void ratio:	0.4445
Specific Gravity(assumed):	2.70
Initial Saturation (%)	34.4

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0986	1.0000	0.00	0.00	0.4445	0.00
1.000	0.1038	0.9948	0.08	-0.52	0.4382	-0.44
H2O	0.1052	0.9934	0.08	-0.66	0.4361	-0.58

Percent Swell (+) / Settlement (-) After Inundation = -0.14



EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Arantine	Tested By:	G. Berdy	Date:	03/16/18
Project No.:	13208-02	Checked By:	J. Ward	Date:	03/22/18
Boring No.:	HS-3	Depth (ft.):	5-10		
Sample No.:	B-1				
Soil Identification:	Dark olive gray well-graded sand with silt and gravel (SW-SM)g				

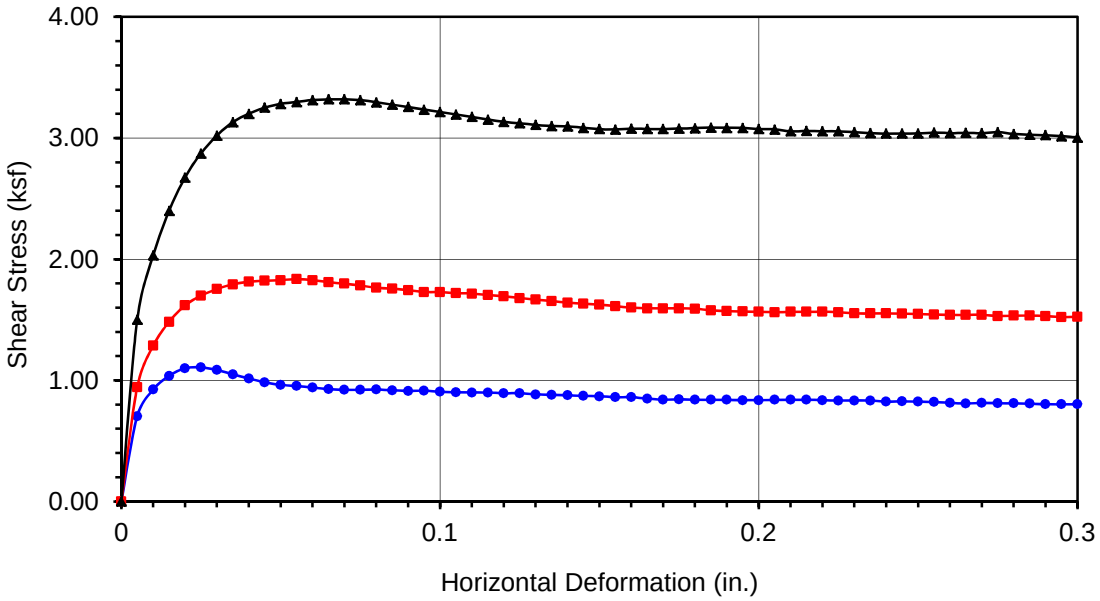
Dry Wt. of Soil + Cont.	(g)	1000.00
Wt. of Container No.	(g)	0.00
Dry Wt. of Soil	(g)	1000.00
Weight Soil Retained on #4 Sieve		0.00
Percent Passing # 4		100.00

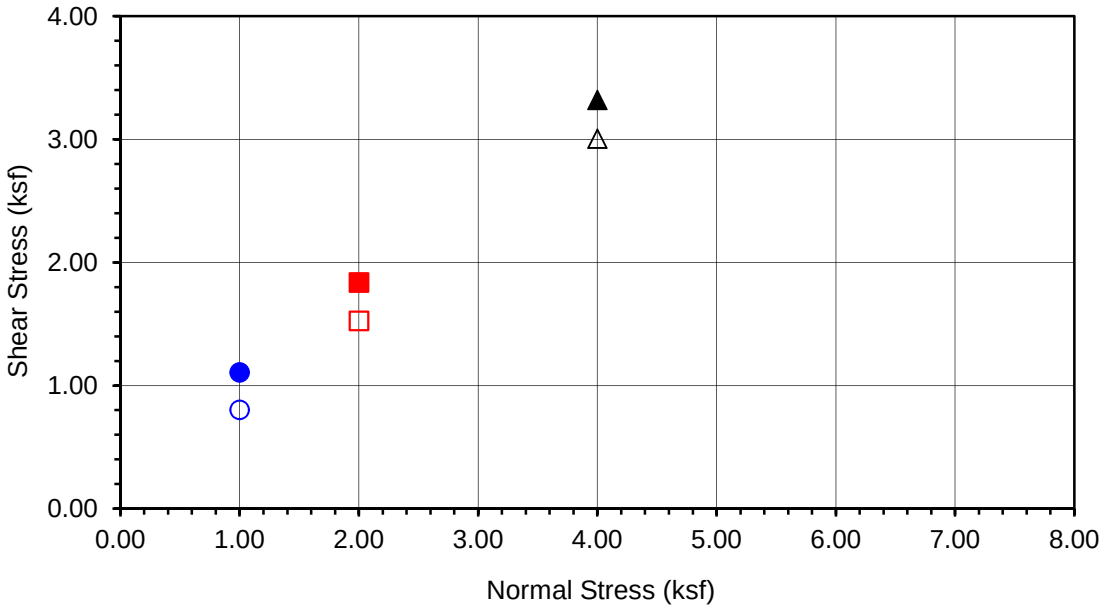
MOLDED SPECIMEN		Before Test	After Test
Specimen Diameter	(in.)	4.01	4.01
Specimen Height	(in.)	1.0000	0.9940
Wt. Comp. Soil + Mold	(g)	619.90	452.97
Wt. of Mold	(g)	190.20	0.00
Specific Gravity (Assumed)		2.70	2.70
Container No.		O	O
Wet Wt. of Soil + Cont.	(g)	852.50	643.17
Dry Wt. of Soil + Cont.	(g)	792.30	589.56
Wt. of Container	(g)	0.00	190.20
Moisture Content	(%)	7.60	13.42
Wet Density	(pcf)	129.6	137.5
Dry Density	(pcf)	120.5	121.2
Void Ratio		0.399	0.391
Total Porosity		0.285	0.281
Pore Volume	(cc)	59.1	57.8
Degree of Saturation (%) [S_{meas}]		**51.4**	92.7

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
03/16/18	14:27	1.0	0	0.1915
03/16/18	14:37	1.0	10	0.1900
Add Distilled Water to the Specimen				
03/16/18	14:58	1.0	21	0.1860
03/17/18	14:30	1.0	1433	0.1855
03/19/18	8:03	1.0	3926	0.1855

Expansion Index (EI_{meas}) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	**0**





Boring No.	**TP-5**
Sample No.	**B-1**
Depth (ft)	**2-3**
Sample Type: 90% Remold	
Soil Identification: Brown silty sand with gravel (SM)g	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 1.107	■ 1.836	▲ 3.320
Shear Stress @ End of Test (ksf)	○ 0.802	□ 1.525	△ 3.005
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	9.36	9.36	9.36
Dry Density (pcf)	114.6	114.6	114.6
Saturation (%)	53.6	53.6	53.6
Soil Height Before Shearing (in.)	0.9957	0.9902	0.9851
Final Moisture Content (%)	14.8	14.4	14.1

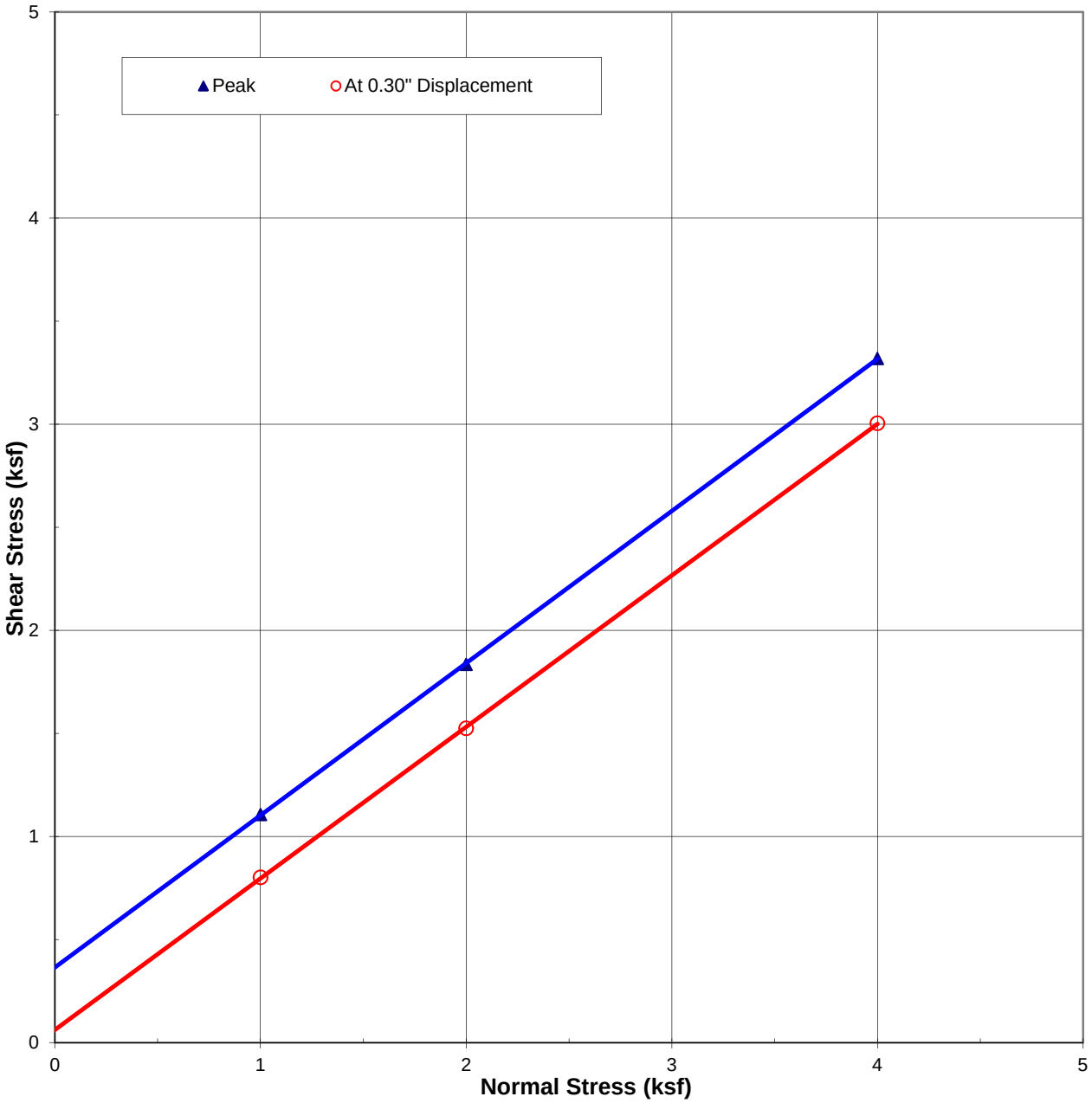
DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: 13208-01

Arantine Hills

07-14



Tested Sample:
TP-5 at 2-3 ft

	Peak:	At 0.30" Displacement:
	36.4 Degrees	36.3 Degrees
	0.37 ksf	0.06 ksf

Samples Remolded to 90% Relative Compaction

LGC Geotechnical, Inc.	**COMPOSITE DIRECT SHEAR PLOT**	**Project Number:** 13208-01 **Date:** Jul-14
		Arantine Hills Corona

EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Arantine Hills		Tested By:	S. Felter	Date: 07/22/14
Project No.:	13208-01		Checked By:	J. Ward	Date: 07/25/14
Boring No.:	TP-5		Depth (ft.):	2-3	
Sample No.:	B-1				
Soil Identification:	Brown silty sand with gravel (SM)g				

Dry Wt. of Soil + Cont. (g)	1000.00
Wt. of Container No. (g)	0.00
Dry Wt. of Soil (g)	1000.00
Weight Soil Retained on #4 Sieve	0.00
Percent Passing # 4	100.00

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0025
Wt. Comp. Soil + Mold (g)	607.20	427.23
Wt. of Mold (g)	201.50	0.00
Specific Gravity (Assumed)	2.70	2.70
Container No.	O	O
Wet Wt. of Soil + Cont. (g)	808.60	628.73
Dry Wt. of Soil + Cont. (g)	738.50	571.98
Wt. of Container (g)	0.00	201.50
Moisture Content (%)	9.49	15.32
Wet Density (pcf)	122.4	128.5
Dry Density (pcf)	111.8	111.5
Void Ratio	0.508	0.512
Total Porosity	0.337	0.339
Pore Volume (cc)	69.8	70.3
Degree of Saturation (%) [S_{meas}]	**50.4**	80.7

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
07/22/14	14:00	1.0	0	0.1180
07/22/14	14:10	1.0	10	0.1180
Add Distilled Water to the Specimen				
07/22/14	14:22	1.0	12	0.1195
07/23/14	6:10	1.0	960	0.1205
07/23/14	7:35	1.0	1045	0.1205

Expansion Index (EI_{meas}) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	**3**

MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	Arantine Hills	Tested By:	A. Santos	Date:	07/20/14
Project No.:	13208-01	Input By:	J. Ward	Date:	07/22/14
Boring No.:	TP-5	Depth (ft.):	2-3		
Sample No.:	B-1				
Soil Identification:	Brown silty sand with gravel (SM)g				

Preparation Method:	X	Moist	Scalp Fraction (%)		Rammer Weight (lb.) = 10.0
		Dry	#3/4		Height of Drop (in.) = 18.0
Compaction Method	X	Mechanical Ram	#3/8		
		Manual Ram	#4	20.1	Mold Volume (ft³) 0.03320

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3800.0	3937.0	3899.0	3828.0		
Weight of Mold (g)	1843.0	1843.0	1843.0	1843.0		
Net Weight of Soil (g)	1957.0	2094.0	2056.0	1985.0		
Wet Weight of Soil + Cont. (g)	594.40	605.90	576.50	607.00		
Dry Weight of Soil + Cont. (g)	560.60	558.80	522.20	539.80		
Weight of Container (g)	76.40	75.20	77.70	82.80		
Moisture Content (%)	6.98	9.74	12.22	14.70		
Wet Density (pcf)	130.0	139.0	136.5	131.8		
Dry Density (pcf)	121.5	126.7	121.7	114.9		

Maximum Dry Density (pcf)	**127.0**	**Optimum Moisture Content (%)**	**9.5**
Corrected Dry Density (pcf)	**133.5**	**Corrected Moisture Content (%)**	**8.0**

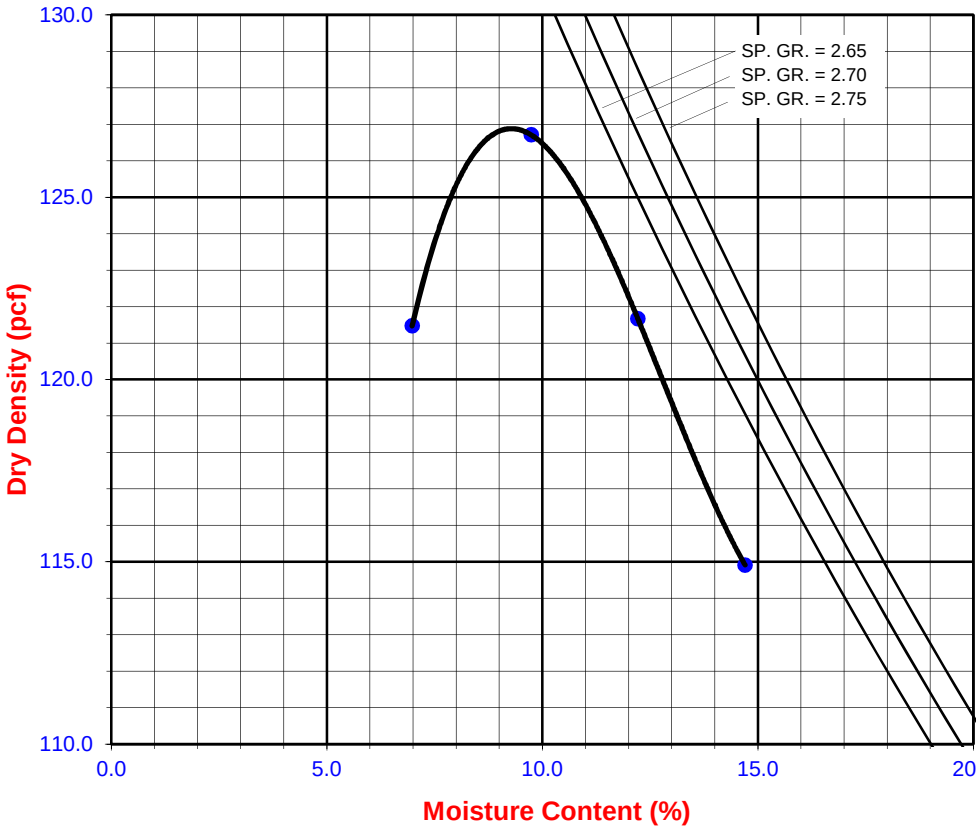
X Procedure A
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

☐ Procedure B
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

☐ Procedure C
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:
GR:SA:FI

Atterberg Limits:
LL,PL,PI



TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: Arantine Hills Tested By : G. Berdy Date: 07/21/14

Project No. : 13208-01 Data Input By: J. Ward Date: 07/25/14

Boring No.	TP-5			
Sample No.	B-1			
Sample Depth (ft)	2-3			
Soil Identification:	Brown (SM)g			
Wet Weight of Soil + Container (g)	202.99			
Dry Weight of Soil + Container (g)	193.94			
Weight of Container (g)	58.54			
Moisture Content (%)	6.68			
Weight of Soaked Soil (g)	100.91			

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	16			
Crucible No.	23			
Furnace Temperature (°C)	840			
Time In / Time Out	11:10/11:55			
Duration of Combustion (min)	45			
Wt. of Crucible + Residue (g)	18.4244			
Wt. of Crucible (g)	18.4225			
Wt. of Residue (g) (A)	0.0019			
PPM of Sulfate (A) x 41150	78.18			
PPM of Sulfate, Dry Weight Basis	**84**			

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	15			
ml of AgNO3 Soln. Used in Titration (C)	0.5			
PPM of Chloride (C -0.2) * 100 * 30 / B	60			
PPM of Chloride, Dry Wt. Basis	**64**			

pH TEST, DOT California Test 532/643

pH Value	**8.17**			
Temperature °C	22.2			

SOIL RESISTIVITY TEST

DOT CA TEST 532 / 643

Project Name:	Arantine Hills		Tested By :	G. Berdy	Date: 07/23/14
Project No. :	13208-01		Data Input By:	J. Ward	Date: 07/25/14
Boring No.:	TP-5		Depth (ft.) :	2-3	
Sample No. :	B-1				

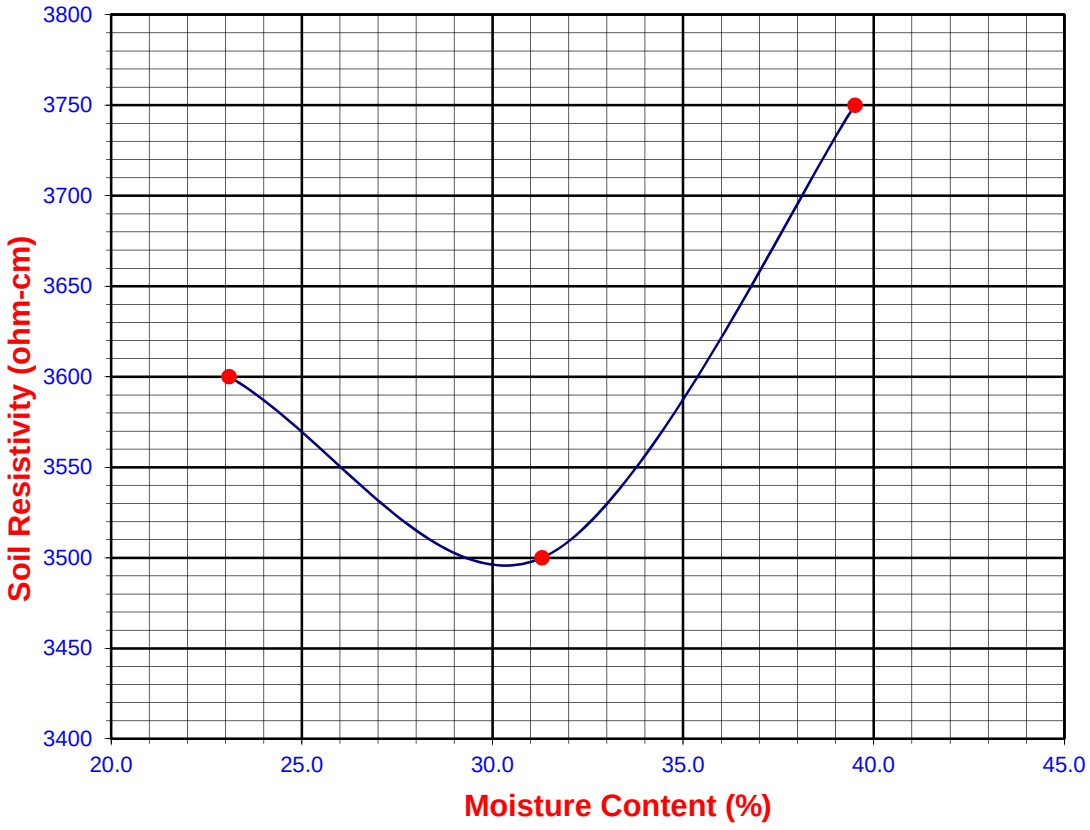
Soil Identification:* Brown (SM)g

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	20	23.10	3600	3600
2	30	31.30	3500	3500
3	40	39.51	3750	3750
4				
5				

Moisture Content (%) (MCi)	6.68
Wet Wt. of Soil + Cont. (g)	202.99
Dry Wt. of Soil + Cont. (g)	193.94
Wt. of Container (g)	58.54
Container No.	
Initial Soil Wt. (g) (Wt)	130.00
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 532 / 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 532 / 643	
3495	**30.3**	**84**	**64**	**8.17**	**22.2**



From LOR, 2002

APPENDIX C
LABORATORY TESTING

General

Selected soil samples obtained from the trenches and borings were tested in our laboratory to evaluate the physical properties of the soils affecting foundation design and construction procedures. The laboratory testing program performed in conjunction with our investigation included moisture content, dry density, laboratory compaction, direct shear, sieve analysis, sand equivalent, R-value, percent passing No. 200 sieve, expansion index, and chemical analysis. The chemical analysis testing was performed by E.S. Babock & Sons, Inc. and are attached as Enclosures C-3 through C-27. Descriptions of the laboratory tests are presented in the following paragraphs.

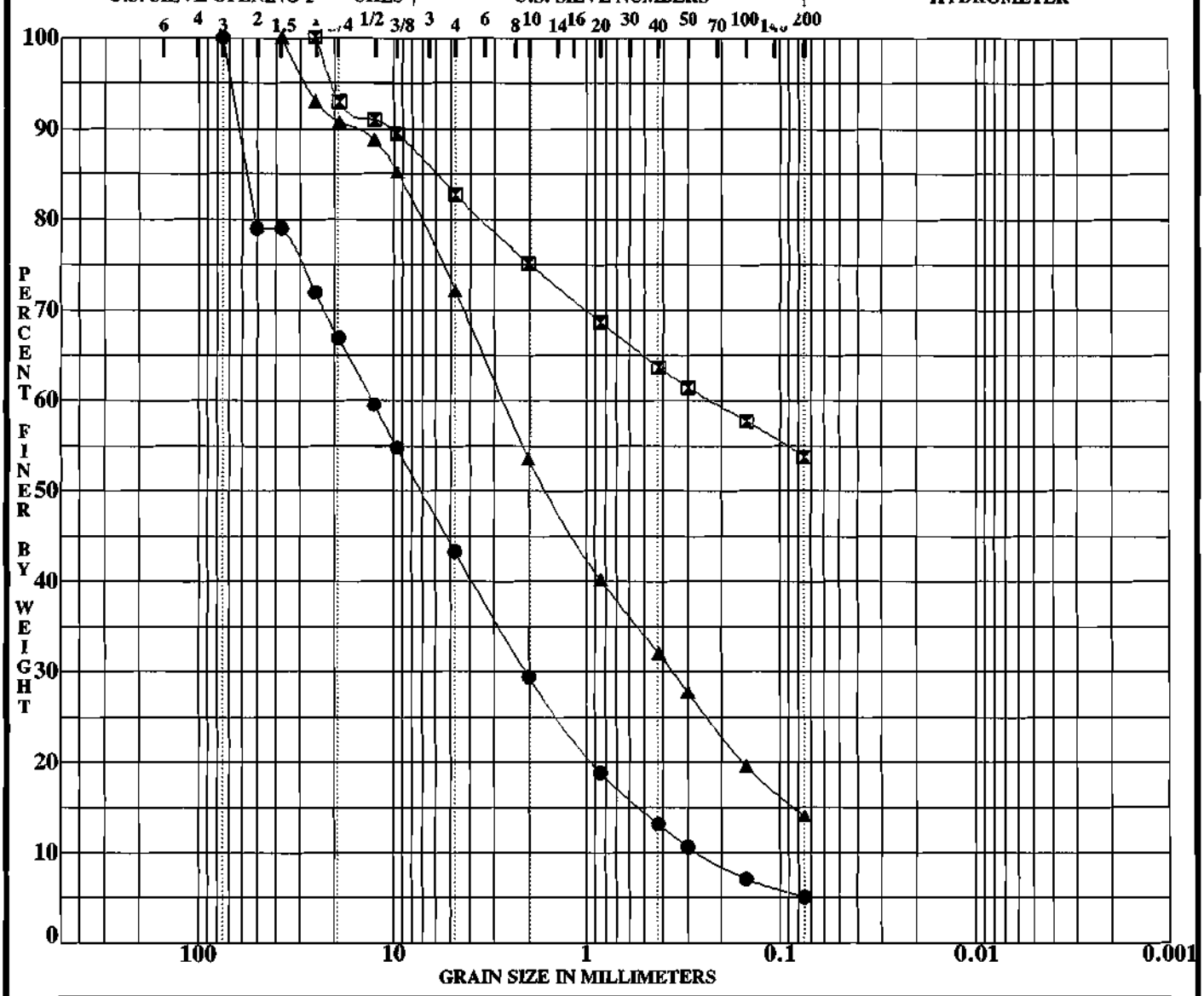
Moisture-Density Tests

The moisture content and dry density information provides an indirect measure of soil consistency for each stratum, and can also provide a correlation between soils on this site. The dry unit weight and field moisture content were determined for selected undisturbed samples, and the results are shown on the boring logs, Enclosures B-1 through B-54, for convenient correlation with the soil profile.

Direct Shear Tests

Shear tests are performed with a direct shear machine at a constant rate-of-strain (usually 0.05 inches/minute). The machine is designed to test a sample partially extruded from a sample ring in single shear. Samples are tested at varying normal loads in order to evaluate the shear strength parameters, angle of internal friction and cohesion. Samples are tested in a remolded condition (90% relative compaction per ASTM 1557) at field moisture content and soaked, according to conditions existing or expected in the field.

The results of the shear tests are presented in the following table:



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	SE	RV			Cc	Cu
● T-20	@ 1-3 ft	(GW) Well Graded Gravel w/ silt and sand	33	--			1.27	48.0
⊠ T-23	@ 1-3 ft	(ML) Sandy Silt w/ gravel	8	21				
▲ T-30	@ 1-3 ft	(SM) Silty Sand w/ gravel	25	65				

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● T-20	@ 1-3 ft	75.00	12.79	2.076	0.2664	56.7	38.2	5.1	
⊠ T-23	@ 1-3 ft	25.00	0.23			17.3	28.9	53.8	
▲ T-30	@ 1-3 ft	37.50	2.70	0.361		27.9	58.1	14.0	

PROJECT 580 ACRES, BEDFORD CANYON - CORONA AREA, CALIFORNIA

PROJECT NO. 31558.1

DATE 3/26/02

GRADATION CURVES

LOR Geotechnical Group, Inc.

Riverside, California

Enclosure C-2

Appendix D
General Earthwork and Grading Specifications for Rough Grading

General Earthwork and Grading Specifications for Rough Grading

1.0 General

1.1 Intent

These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 The Geotechnical Consultant of Record

Prior to commencement of work, the owner shall employ a qualified Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultant shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to confirm that the attained level of compaction is being accomplished as specified. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor

The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the project plans and specifications. The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of “equipment” of work and the estimated quantities of daily earthwork

contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the
Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate personnel will be available for observation and testing. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified. It is the contractor's sole responsibility to provide proper fill compaction.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing

Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed. The contractor is responsible for all hazardous waste relating to his work. The Geotechnical Consultant does not have expertise in this area. If hazardous waste is a concern, then the Client should acquire the services of a qualified environmental assessor.

2.2 Processing

Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be over-excavated as specified in the following section. Scarification shall continue until soils are broken down and free of oversize material and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

2.3 Over-excavation

In addition to removals and over-excavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be over-excavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 Benching

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise over-excavated to provide a flat subgrade for the fill.

2.5 Evaluation/Acceptance of Fill Areas

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 General

Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 Oversize

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 Import

If importing of fill material is required for grading, proposed import material shall meet the requirements of the geotechnical consultant. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers

Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning

Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557).

4.3 Compaction of Fill

After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes

In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557.

4.5 Compaction Testing

Field tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing

Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations

The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than
5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

7.1 The Contractor shall follow all OHSA and Cal/OSHA requirements for safety of trench excavations.

7.2 All bedding and backfill of utility trenches shall be done in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over

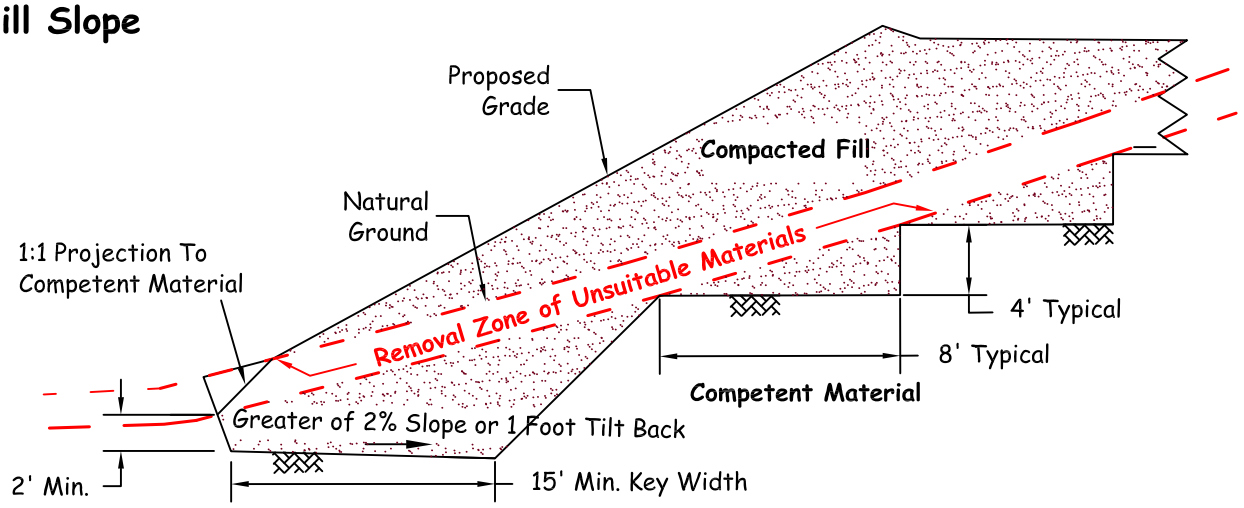
the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90 percent of maximum from 1 foot above the top of the conduit to the surface.

7.3 The jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.

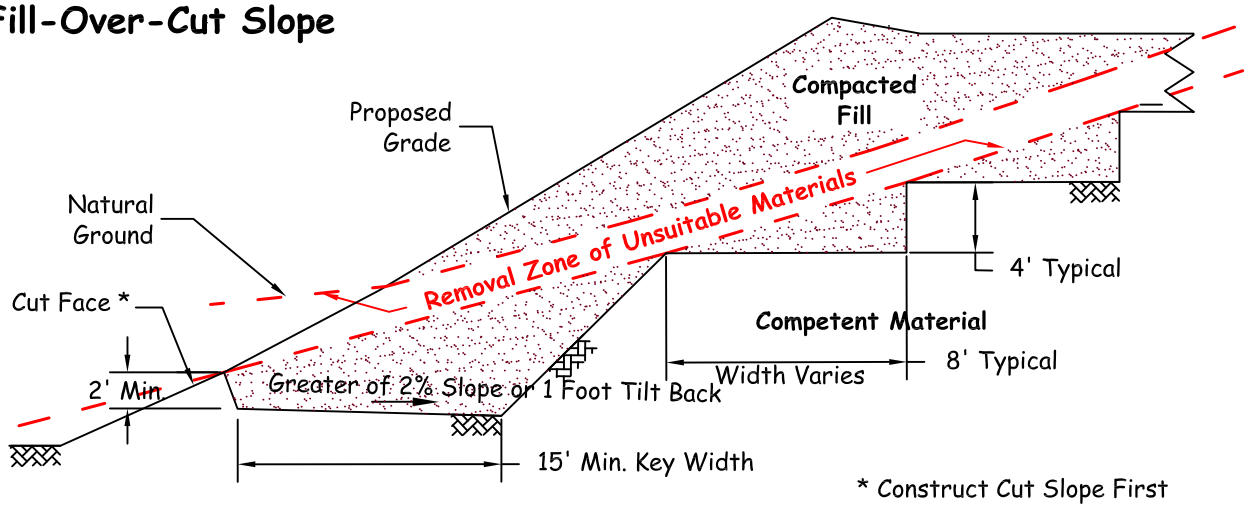
7.4 The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

7.5 Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

Fill Slope

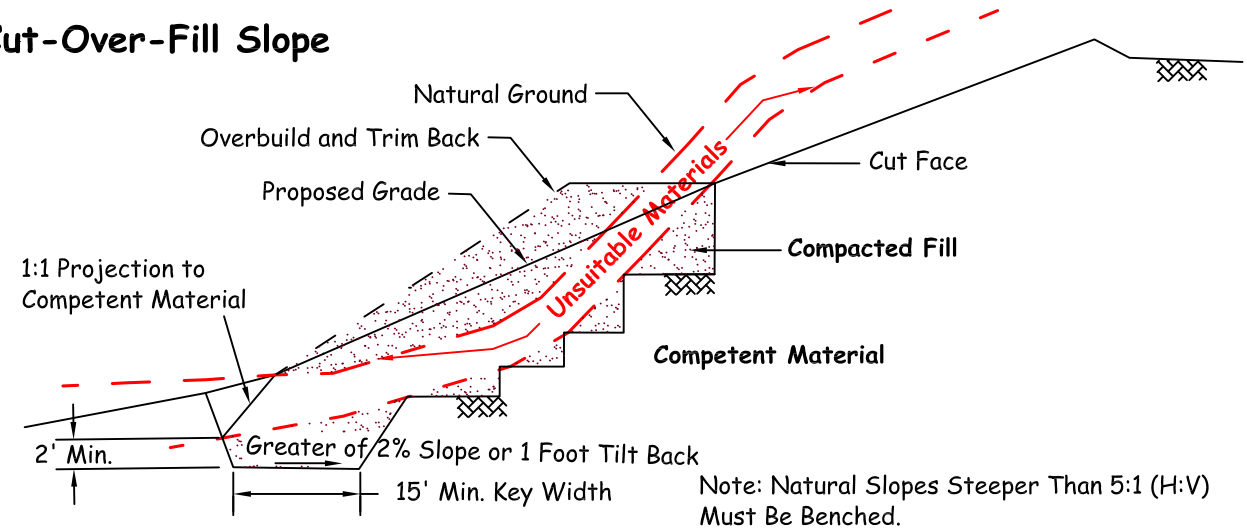


Fill-Over-Cut Slope



* Construct Cut Slope First

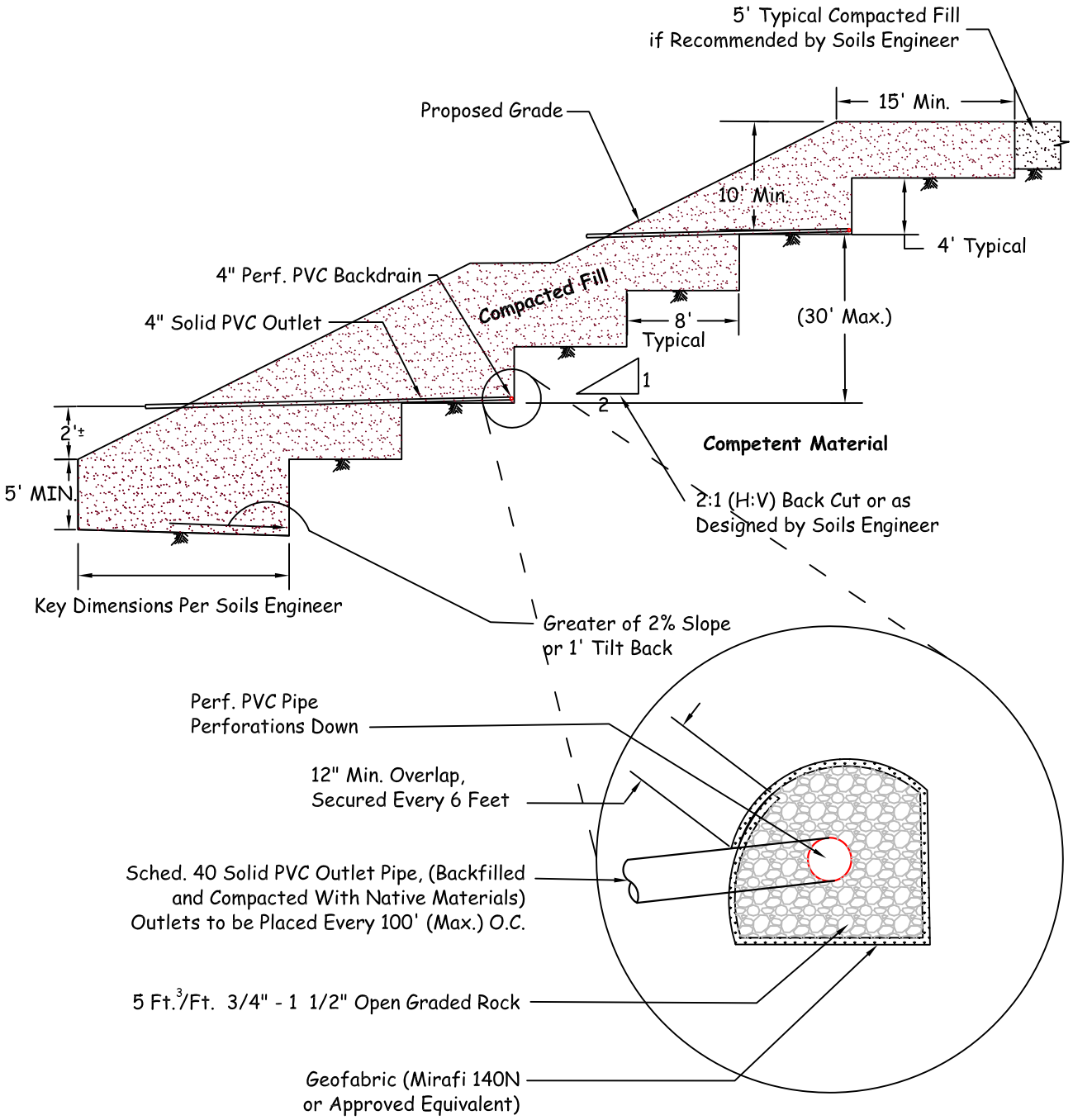
Cut-Over-Fill Slope



Note: Natural Slopes Steeper Than 5:1 (H:V) Must Be Benched.

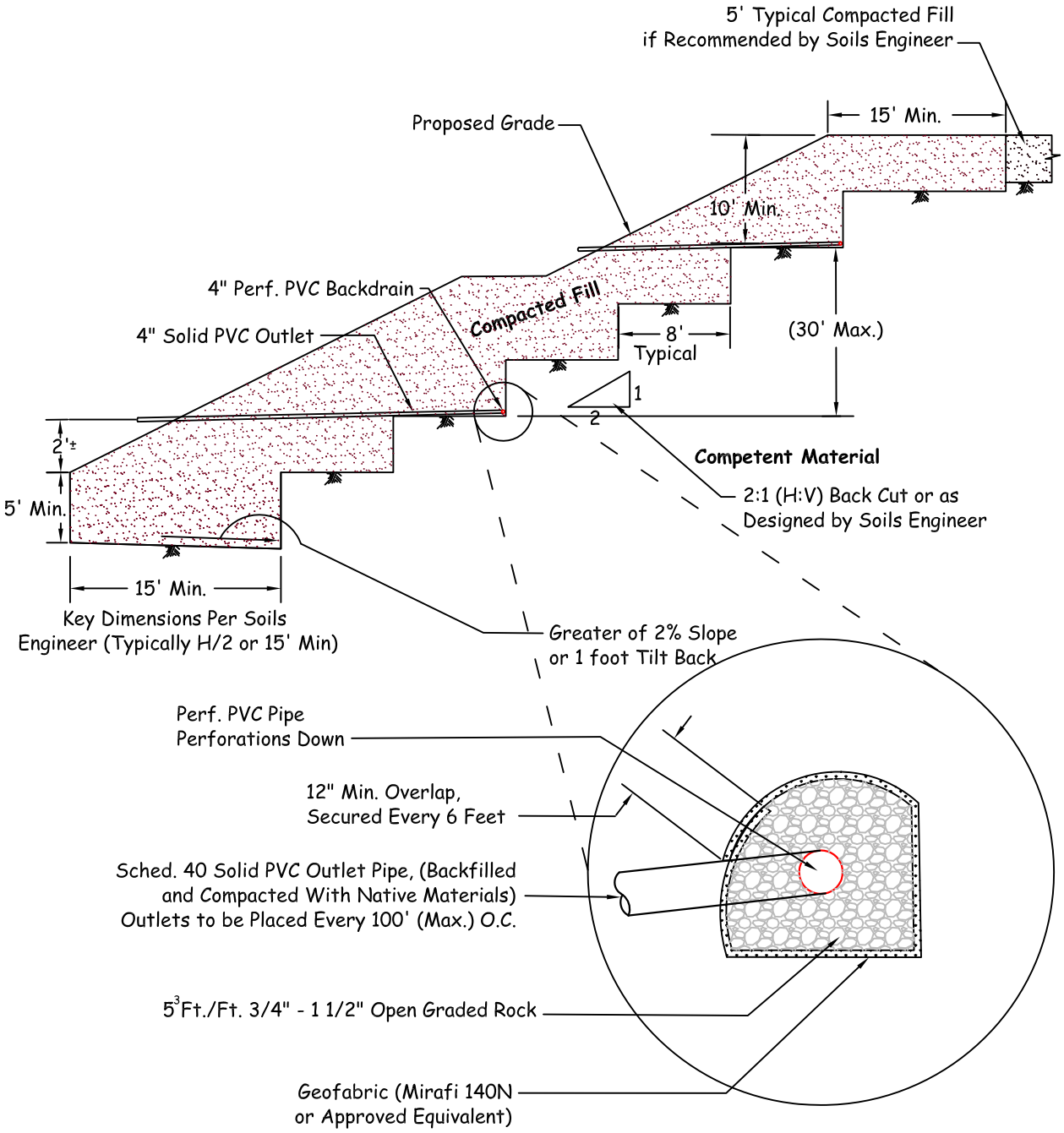
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KEYING AND BENCHING



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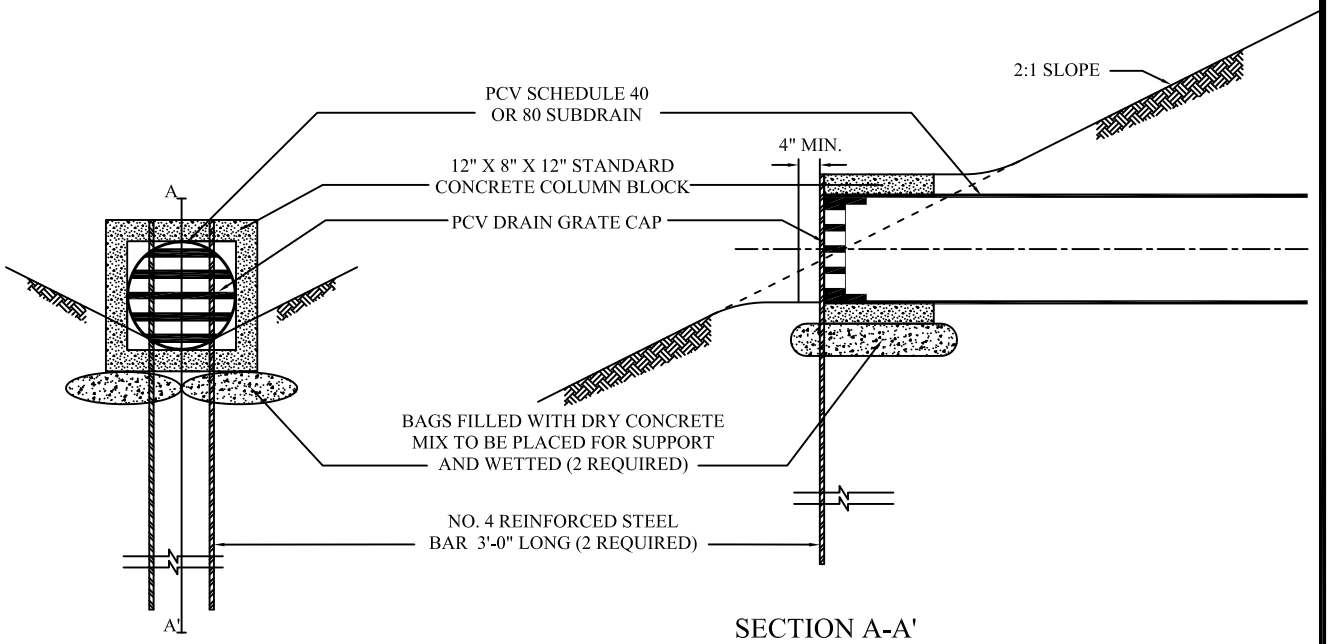
TYPICAL BUTTRESS DETAIL



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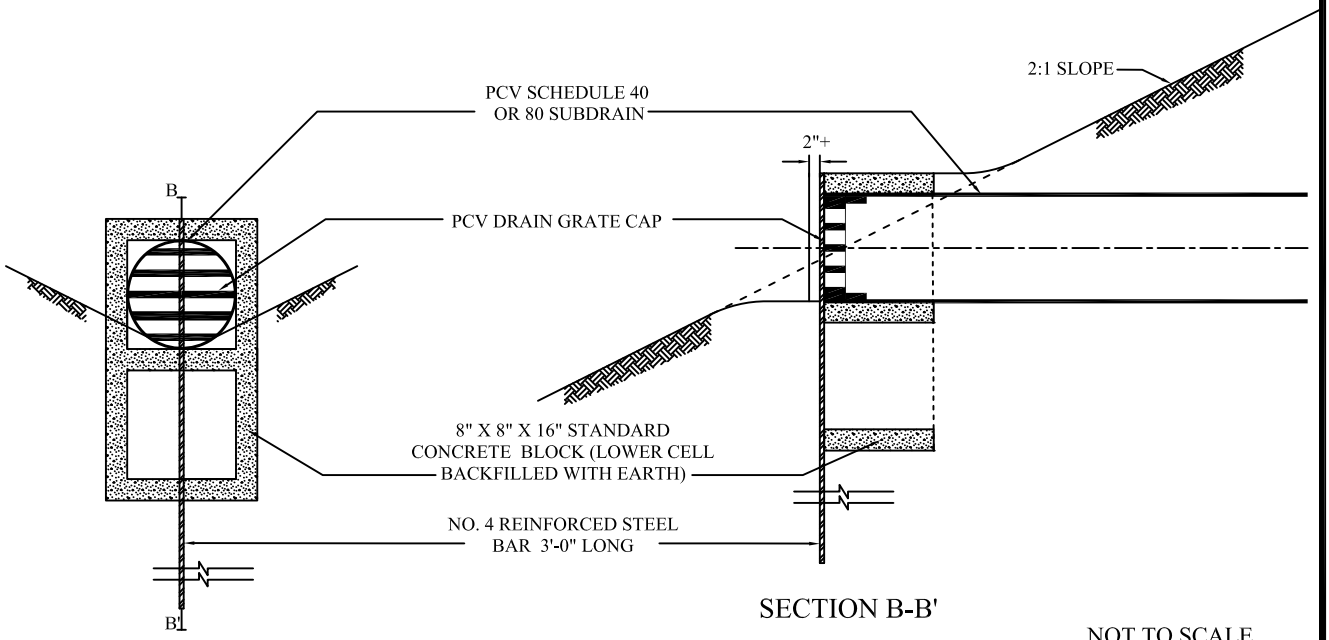
TYPICAL STABILIZATION FILL DETAIL

SUBDRAIN OUTLET MARKER -6" & 8" PIPE



SECTION A-A'

SUBDRAIN OUTLET MARKER -4" PIPE



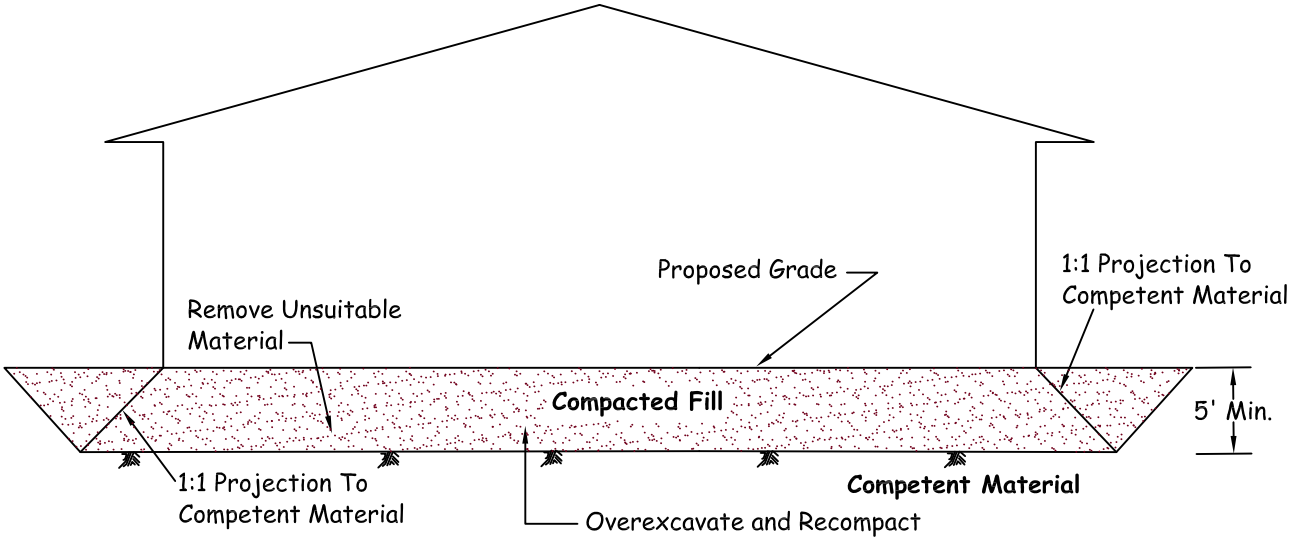
SECTION B-B'

NOT TO SCALE

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SUBDRAIN OUTLET MARKER DETAIL

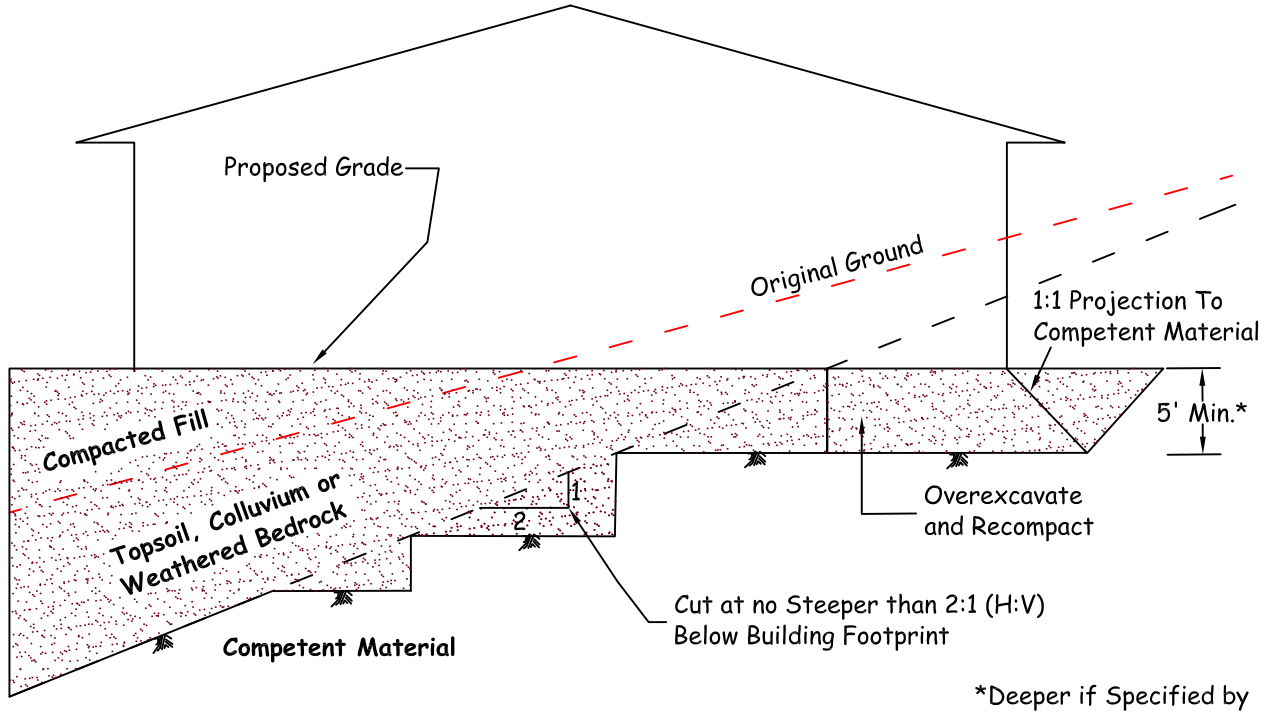
Cut Lot
(Exposing Unsuitable Soils at Design Grade)



Note 1: Removal Bottom Should be Graded With Minimum 2% Fall Towards Street or Other Suitable Area (as Determined by Soils Engineer) to Avoid Ponding Below Building

Note 2: Where Design Cut Lots are Excavated Entirely Into Competent Material, Overexcavation May Still be Required for Hard-Rock Conditions or for Materials With Variable Expansion Characteristics.

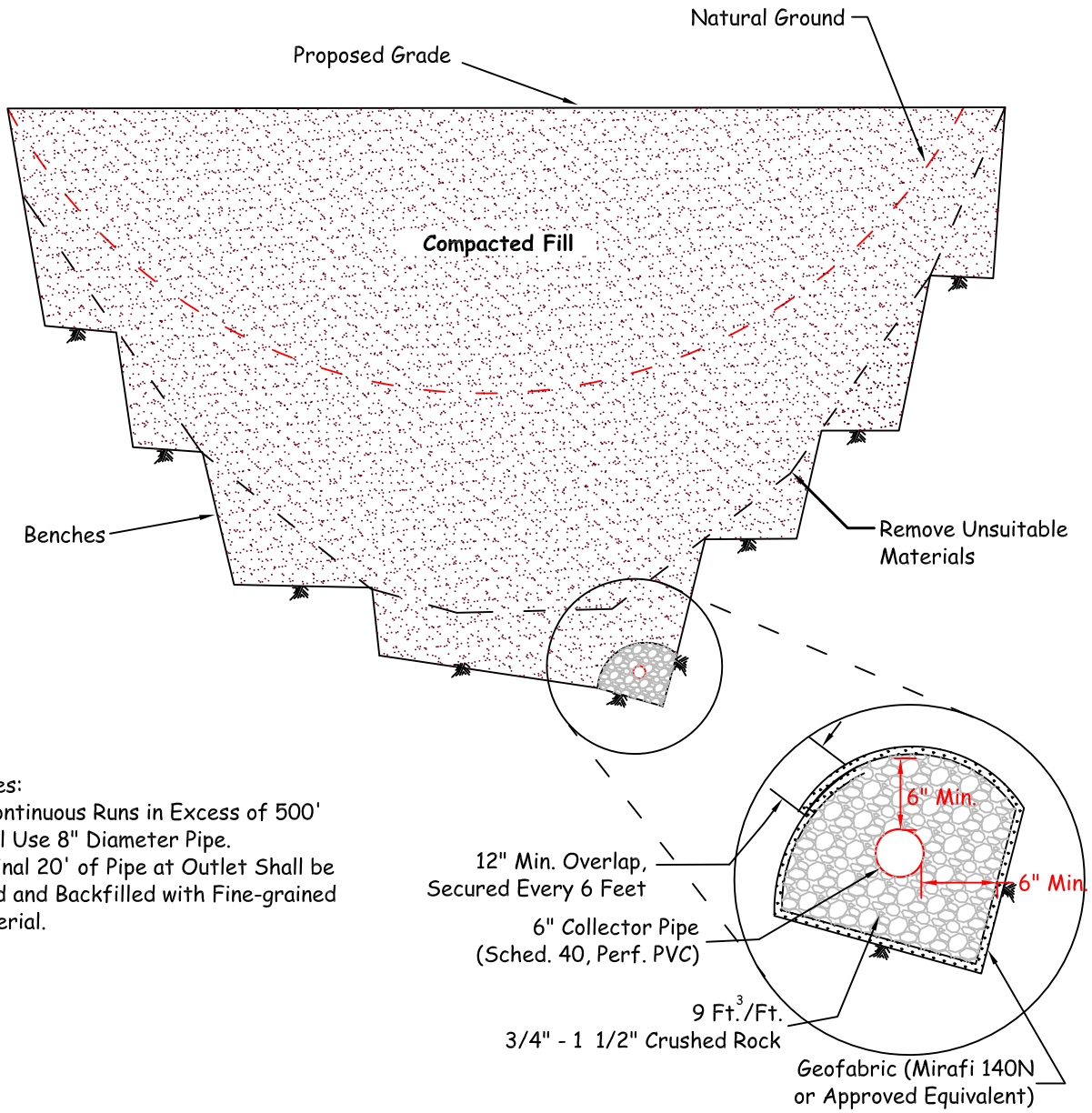
Cut/Fill Transition Lot



*Deeper if Specified by Soils Engineer

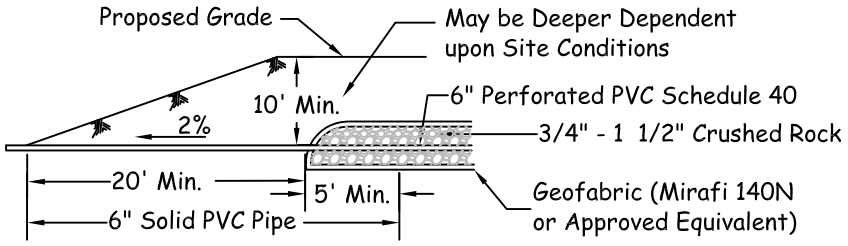
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CUT AND TRANSITION LOT OVEREXCAVATION DETAIL



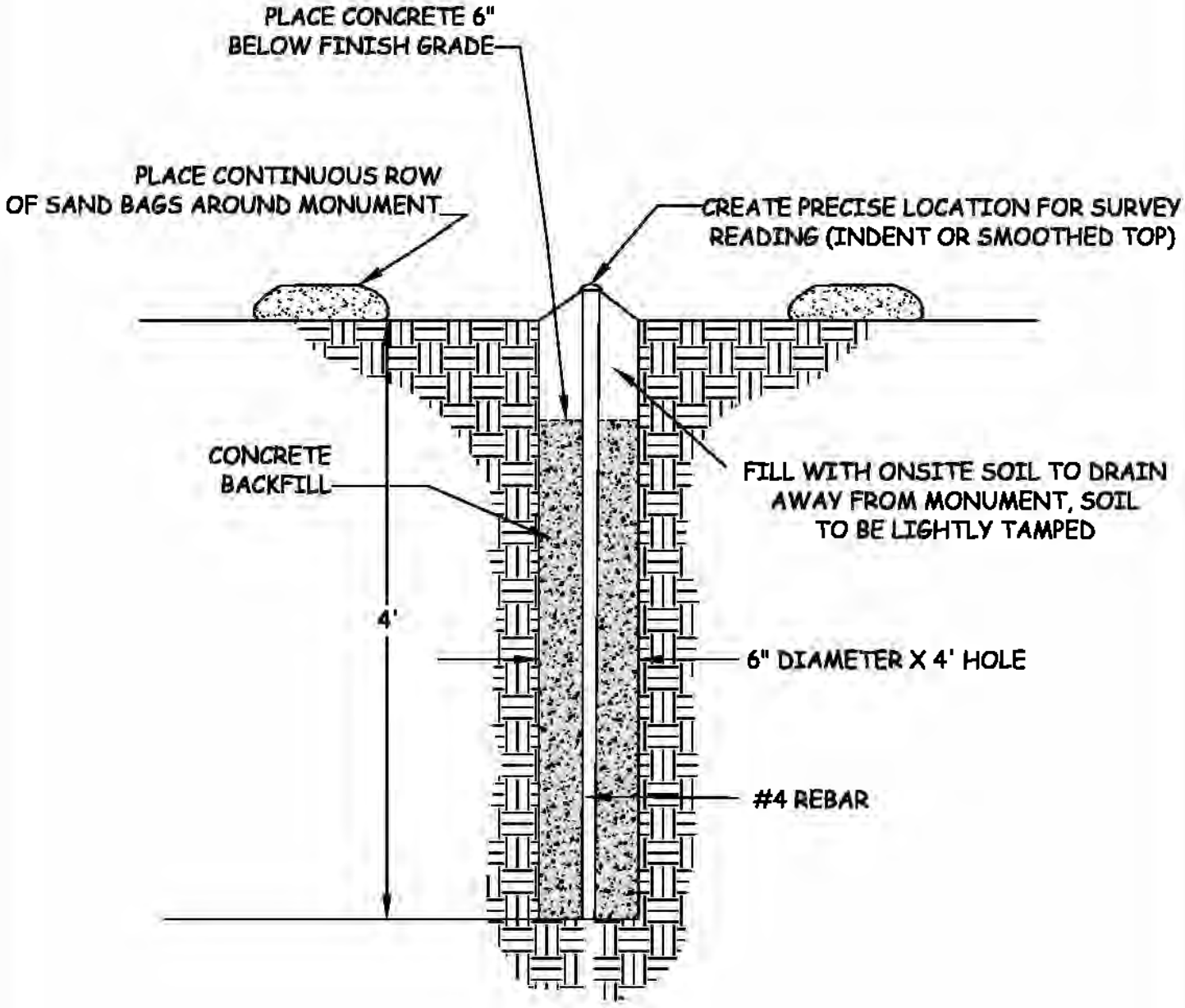
Notes:
1) Continuous Runs in Excess of 500' Shall Use 8" Diameter Pipe.
2) Final 20' of Pipe at Outlet Shall be Solid and Backfilled with Fine-grained Material.

Proposed Outlet Detail



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CANYON SUBDRAINS

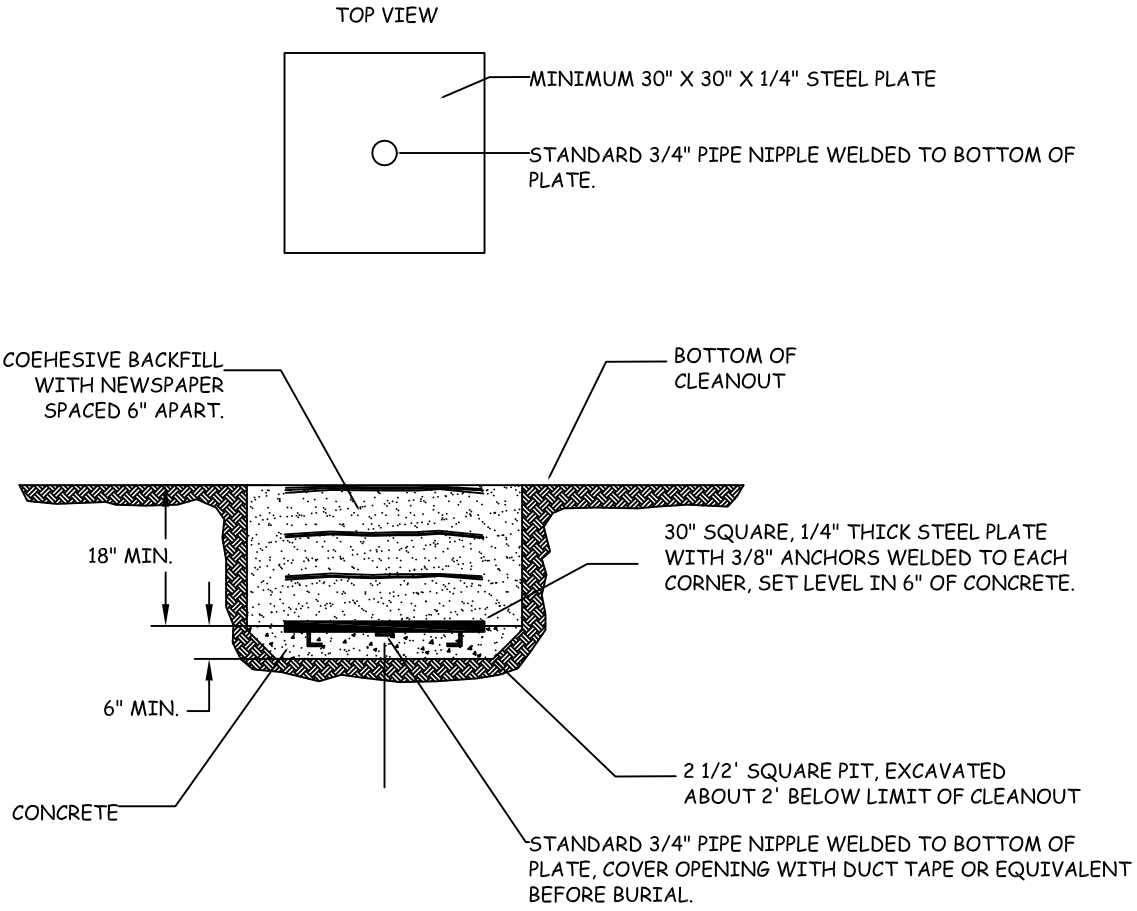


NO CONSTRUCTION EQUIPMENT WITHIN 25 FEET
OF ANY INSTALLED SETTLEMENT MONUMENTS

Revised 11/15

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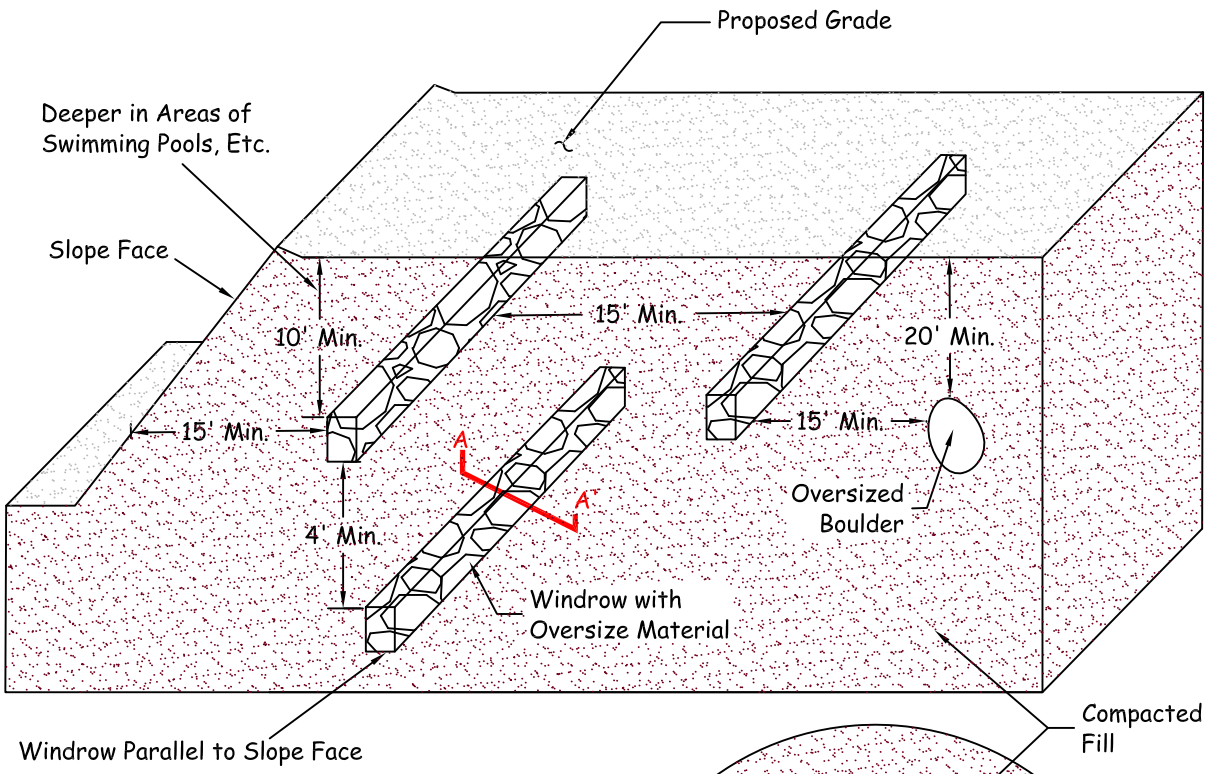
TYPICAL SURFACE SETTLEMENT MONUMENT

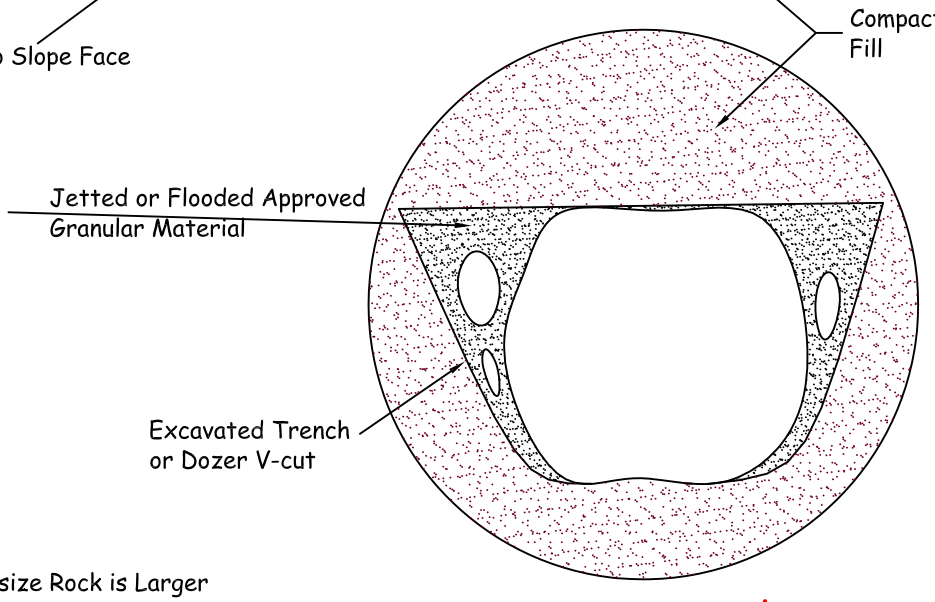


1. SURVEY FOR HORIZONTAL AND VERTICAL LOCATION TO NEAREST .01 INCH PRIOR TO BACKFILL USING KNOW LOCATIONS THAT WILL REMAIN INTACT DURING THE DURATION OF THE MONITORING PROGRAM. KNOW POINTS EXPLICITELY NOT ALLOWED ARE THOSE LOCATED ON FILL OR THAT WILL BE DESTROYED DURING GRADING.
2. IN THE EVENT OF DAMAGE TO SETTLEMENT PLATE DURING GRADING, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE GEOTECHNICAL ENGINEER AND SHALL BE RESPONSIBLE FOR RESTORING THE SETTLEMENT PLATES TO WORKING ORDER.
3. DRILL TO RECOVER AND ATTACH RISER PIPE.

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TYPICAL SETTLEMENT PLATE AND RISER





Note: Oversize Rock is Larger
than 8" in Maximum Dimension.

Section A-A'

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OVERSIZE ROCK DISPOSAL DETAIL

Appendix 4: Historical Site Conditions

Phase I Environmental Site Assessment or Other Information on Past Site Use

N/A

Appendix 5: LID Infeasibility

LID Technical Infeasibility Analysis

N/A

Appendix 6: BMP Design Details

BMP Sizing, Design Details and other Supporting Documentation

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name: Hunsaker & Associates Irvine, Inc. Date: 4/2/2018

Designed by: Case No:

Company Project Number/Name: Lower McMillan

BMP Identification

BMP NAME / ID: Infiltration Basin

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.80 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
1	*923,422*	*Mixed Surface Types*	*0.6*	*0.41*	*377613.1*			
	923422		*Total*		377613.1	0.80	*25174.2*	*27,118*

Notes:

3.1 INFILTRATION BASIN

Type of BMP	LID - Infiltration
Treatment Mechanisms	Infiltration, Evapotranspiration (when vegetated), Evaporation, and Sedimentation
Maximum Treatment Area	50 acres
Other Names	Bioinfiltration Basin

Description

An Infiltration Basin is a flat earthen basin designed to capture the design capture volume, V_{BMP}. The stormwater infiltrates through the bottom of the basin into the underlying soil over a 72 hour drawdown period. Flows exceeding V_{BMP} must discharge to a downstream conveyance system. Trash and sediment accumulate within the forebay as stormwater passes into the basin. Infiltration basins are highly effective in removing all targeted pollutants from stormwater runoff.



Figure 1 – Infiltration Basin

See Appendix A, and Appendix C, Section 1 of *Basin Guidelines*, for additional requirements.

Siting Considerations

The use of infiltration basins may be restricted by concerns over ground water contamination, soil permeability, and clogging at the site. See the applicable WQMP for any specific feasibility considerations for using infiltration BMPs. Where this BMP is being used, the soil beneath the basin must be thoroughly evaluated in a geotechnical report since the underlying soils are critical to the basin's long term performance. To protect the basin from erosion, the sides and bottom of the basin must be vegetated, preferably with native or low water use plant species.

In addition, these basins may not be appropriate for the following site conditions:

- Industrial sites or locations where spills of toxic materials may occur
- Sites with very low soil infiltration rates
- Sites with high groundwater tables or excessively high soil infiltration rates, where pollutants can affect ground water quality
- Sites with unstabilized soil or construction activity upstream
- On steeply sloping terrain
- Infiltration basins located in a fill condition should refer to Appendix A of this Handbook for details on special requirements/restrictions

Setbacks

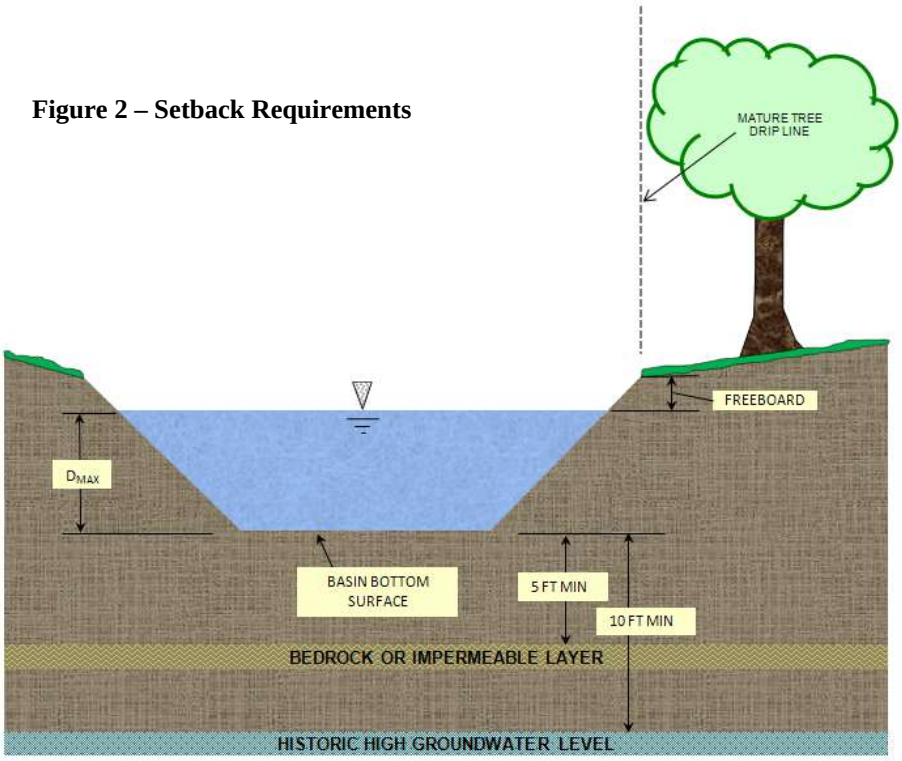
Always consult your geotechnical engineer for site specific recommendations regarding setbacks for infiltration trenches. Recommended setbacks are needed to protect buildings, existing trees, walls, onsite or nearby wells, streams, and tanks. Setbacks should be considered early in the design process since they can affect where infiltration facilities may be placed and how deep they are allowed to be. For instance, depth setbacks can dictate fairly shallow facilities that will have a larger footprint and, in some cases, may make an infiltration basin infeasible. In that instance, another BMP must be selected.

Infiltration basins typically must be set back:

- 10 feet from the historic high groundwater (measured vertically from the bottom of the basin, as shown in Figure 2)
- 5 feet from bedrock or impermeable surface layer (measured vertically from the bottom of the basin, as shown in Figure 2)
- From all existing mature tree drip lines as indicated in Figure 2 (to protect their root structure)
- 100 feet horizontally from wells, tanks or springs

Setbacks to walls and foundations must be included as part of the Geotechnical Report. All other setbacks shall be in accordance with applicable standards of the District's *Basin Guidelines* (Appendix C).

Figure 2 – Setback Requirements



Forebay

A concrete forebay shall be provided to reduce sediment clogging and to reduce erosion. The forebay shall have a design volume of at least 0.5% V_{BMP} and a minimum 1 foot high concrete splashwall / berm. Full height notch-type weir(s), offset from the line of flow from the basin inlet to prevent short circuiting, shall be used to outlet the forebay. It is recommended that two weirs be used and that they be located on opposite sides of the forebay (see Figure 2).

Overflow

Flows exceeding V_{BMP} must discharge to an acceptable downstream conveyance system. Where an adequate outlet is present, an overflow structure may be used. Where an embankment is present, an emergency spillway may be used instead. Overflows must be placed just above the design water surface for V_{BMP} and be near the outlet of the system. The overflow structure shall be similar to the District's Standard Drawing CB 110. Additional details may be found in the District's *Basin Guidelines* (Appendix C).

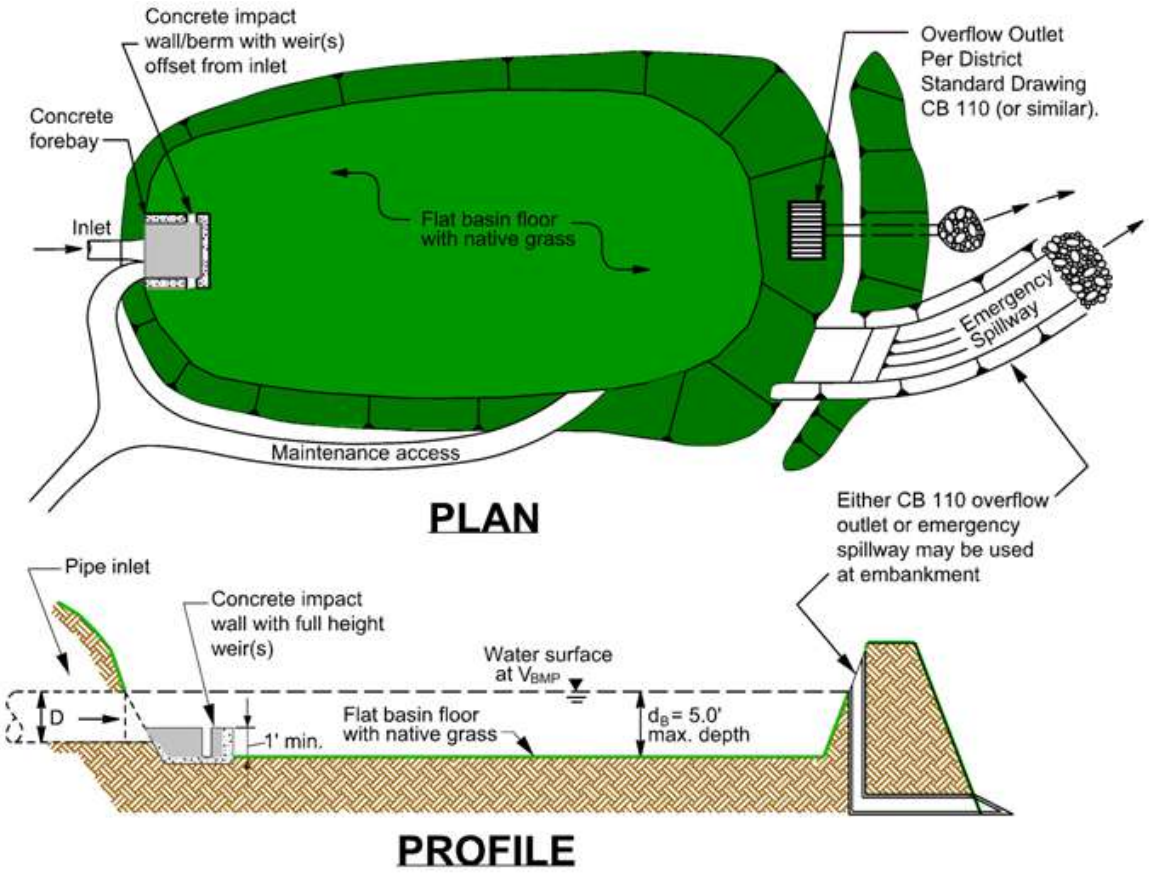


Figure 3 – Infiltration Basin

Landscaping Requirements

Basin vegetation provides erosion protection, improves sediment removal and assists in allowing infiltration to occur. The basin surface and side slopes shall be planted with native grasses. Proper landscape management is also required to ensure that the vegetation does not contribute to water pollution through pesticides, herbicides, or fertilizers. Landscaping shall be in accordance with County of Riverside Ordinance 859 and the District's *Basin Guidelines* (Appendix C), or other guidelines issued by the Engineering Authority.

Maintenance

Normal maintenance of an infiltration basin includes the maintenance of landscaping, debris and trash removal from the surface of the basin, and tending to problems associated with standing water (vectors, odors, etc.). Significant ponding, especially more than 72 hours after an event, may indicate that the basin surface is no longer providing sufficient infiltration and requires aeration. See the District's *Basin Guidelines* (Appendix C) for additional requirements (i.e., fencing, maintenance access, etc.).

Table 1 - Inspection and Maintenance

Schedule	Inspection and Maintenance Activity
Ongoing including just before annual storm seasons and following rainfall events.	• Maintain vegetation as needed. Use of fertilizers, pesticides and herbicides should be strenuously avoided to ensure they don't contribute to water pollution. If appropriate native plant selections and other IPM methods are used, such products shouldn't be needed. If such projects are used, o Products shall be applied in accordance with their labeling, especially in relation to application to water, and in areas subjected to flooding. o Fertilizers should not be applied within 15 days before, after, or during the rain season. • Remove debris and litter from the entire basin to minimize clogging and improve aesthetics. • Check for obvious problems and repair as needed. Address odor, insects, and overgrowth issues associated with stagnant or standing water in the basin bottom. There should be no long-term ponding water. • Check for erosion and sediment laden areas in the basin. Repair as needed. Clean forebay if needed. • Revegetate side slopes where needed.
Annually. If possible, schedule these inspections within 72 hours after a significant rainfall.	• Inspection of hydraulic and structural facilities. Examine the inlet for blockage, the embankment and spillway integrity, as well as damage to any structural element. • Check for erosion, slumping and overgrowth. Repair as needed. • Check basin depth for sediment build up and reduced total capacity. Scrape bottom as needed and remove sediment. Restore to original cross-section and infiltration rate. Replant basin vegetation. • Verify the basin bottom is allowing acceptable infiltration. Use a disc or other method to aerate basin bottom only if there is actual significant loss of infiltrative capacity, rather than on a routine basis[1]. • No water should be present 72 hours after an event. No long term standing water should be present at all. No algae formation should be visible. Correct problem as needed.

1. **CA Stormwater BMP Handbook for New Development and Significant Redevelopment**

Table 2 - Design and Sizing Criteria for Infiltration Basins

Design Parameter	Infiltration Basin
Design Volume	V_{BMP}
Forebay Volume	0.5% V_{BMP}
Drawdown time (maximum)	72 hours
Maximum tributary area	50 acres [2]
Minimum infiltration rate	Must be sufficient to drain the basin within the required Drawdown time over the life of the BMP. The WQMP may include specific requirements for minimum tested infiltration rates.
Maximum Depth	5 feet
Spillway erosion control	Energy dissipators to reduce velocities[1]
Basin Slope	0%
Freeboard (minimum)	1 foot [1]
Historic High Groundwater Setback (max)	10 feet
Bedrock/impermeable layer setback (max)	5 feet
Tree setbacks	Mature tree drip line must not overhang the basin
Set back from wells, tanks or springs	100 feet
Set back from foundations	As recommended in Geotechnical Report

1. **Ventura County's Technical Guidance Manual for Stormwater Quality Control Measures**
2. **CA Stormwater BMP Handbook for New Development and Significant Redevelopment**

Note: The information contained in this BMP Factsheet is intended to be a summary of design considerations and requirements. Additional information which applies to all detention basins may be found in the District's Basin Guidelines (Appendix C). In addition, information herein may be superseded by other guidelines issued by the co-permittee.

INFILTRATION BASIN SIZING PROCEDURE

1. Find the Design Volume, V_{BMP}.
   a) Enter the Tributary Area, $A_{T.}$
   b) Enter the Design Volume, V_{BMP}, determined from Section 2.1 of this Handbook.
2. Determine the Maximum Depth.
   a) Enter the infiltration rate. The infiltration rate shall be established as described in Appendix A: "Infiltration Testing".
   b) Enter the design Factor of Safety from Table 1 in Appendix A: "Infiltration Testing".
   c) The spreadsheet will determine D_1, the maximum allowable depth of the basin based on the infiltration rate along with the maximum drawdown time (72 hours) and the Factor of Safety.

$$D_1 = [(t) \times (I)] / 12s$$

Where I = site infiltration rate (in/hr)
s = safety factor
t = drawdown time (maximum 72 hours)

d) Enter the depth of freeboard.

e) Enter the depth to the historic high groundwater level measured from the top of the basin.

f) Enter the depth to the top of bedrock or other impermeable layer measured from the finished grade.

g) The spreadsheet will determine D_2, the total basin depth (including freeboard, if used) of the basin, based on restrictions to the depth by groundwater and an impermeable layer.

D_2 = Depth to groundwater – (10 + freeboard) (ft);

or

D_2 = Depth to impermeable layer – (5 + freeboard) (ft)

Whichever is least.

h) The spreadsheet will determine the maximum allowable effective depth of basin, D_{MAX}, based on the smallest value between D_1 and D_2. D_{MAX} is the maximum depth of water only and does not include freeboard. D_{MAX} shall not exceed 5 feet.

3. Basin Geometry

a) Enter the basin side slopes, z (no steeper than 4:1).

b) Enter the proposed basin depth, d_B excluding freeboard.

c) The spreadsheet will determine the minimum required surface area of the basin:

$$A_s = V_{BMP} / d_B$$

Where A_s = minimum area required (ft^2)
V_{BMP} = volume of the infiltration basin (ft^3)
d_B= proposed depth not to exceed maximum allowable depth, D_{MAX} (ft)

d) Enter the proposed bottom surface area. This area shall not be less than the minimum required surface area.

4. Forebay

A concrete forebay with a design volume of at least 0.5% V_{BMP} and a minimum 1 foot high concrete splashwall shall be provided. Full-height rectangular weir(s) shall be used to outlet the forebay. The weir(s) must be offset from the line of flow from the basin inlet. It is recommended that two weirs be used and that they be located on opposite sides of the forebay (see Figure 2).

a) The spreadsheet will determine the minimum required forebay volume based on 0.5% V_{BMP}.

b) Enter the proposed depth of the forebay berm/splashwall (1foot minimum).

c) The spreadsheet will determine the minimum required forebay surface area.

d) Enter the width of rectangular weir to be used (minimum 1.5 inches). Weir width should be established based on a 5 minute drawdown time.

Appendix 7: Hydromodification

Supporting Detail Relating to Hydrologic Conditions of Concern

Table 1 - SUMMARY OF AREA "M" FLOWS

DATE: 4/5/2018

STORM FREQUENCIES	DURATION	PEAK FLOW RATE (CFS)				
		PRE-PROJECT CONDITION AREA "M"		POST-PROJECT CONDITION AREA "M"		
		RATIONAL METHOD	UNIT HYDROGRAPH	RATIONAL METHOD	UNIT HYDROGRAPH	DETENTION BASIN OUTFLOW
2-YR	1-HR	7.00		14.6		0
	3-HR		5.8		11.53	0.26
	6-HR		4.6		10.73	0.38
	24-HR		0.7		4.36	0.67
5-YR	1-HR	11.22		20.4		0.15
	3-HR		11.5		17.27	0.37
	6-HR		8.5		14.53	0.51
	24-HR		1.1		6.61	1.1
10-YR	1-HR	20.34		27.4		0.29
	3-HR		20.2		23.35	0.49
	6-HR		15.5		19.47	0.69
	24-HR		6.5		8.31	5.44
100-YR	1-HR	35.14		44.5		0.53
	3-HR		35.1		39.06	1.02
	6-HR		26.4		31.51	1.19
	24-HR		15.8		17.40	15.5
DRAINAGE AREA (ACRES)		21.2		21.2		

Appendix 8: Source Control

Pollutant Sources/Source Control Checklist

STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

How to use this worksheet (also see instructions in Section G of the WQMP Template):

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your WQMP Exhibit.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in your WQMP. Use the format shown in Table G.1on page 23 of this WQMP Template. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternative BMPs for those shown here.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☒ A. **On-site storm drain inlets**	☒ **Locations of inlets.**	☒ **Mark all inlets with the words "Only Rain Down the Storm Drain" or similar. Catch Basin Markers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify.**	☒ **Maintain and periodically repaint or replace inlet markings.** ☒ **Provide stormwater pollution prevention information to new site owners, lessees, or operators.** ☒ **See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com** ☒ **Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."**
☐ B. **Interior floor drains and elevator shaft sump pumps**		☐ **State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.**	☐ **Inspect and maintain drains to prevent blockages and overflow.**
☐ C. **Interior parking garages**		☐ **State that parking garage floor drains will be plumbed to the sanitary sewer.**	☐ **Inspect and maintain drains to prevent blockages and overflow.**

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1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☐ D1. **Need for future indoor & structural pest control**		☐ **Note building design features that discourage entry of pests.**	☐ **Provide Integrated Pest Management information to owners, lessees, and operators.**
☒ D2. **Landscape/ Outdoor Pesticide Use**	☐ **Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained.** ☐ **Show self-retaining landscape areas, if any.** ☐ **Show stormwater treatment and hydrograph modification management BMPs. (See instructions in Chapter 3, Step 5 and guidance in Chapter 5.)**	**State that final landscape plans will accomplish all of the following.** ☐ **Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.** ☒ **Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.** ☐ **Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.** ☒ **Consider using pest-resistant plants, especially adjacent to hardscape.** ☒ **To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.**	☒ **Maintain landscaping using minimum or no pesticides.** ☒ **See applicable operational BMPs in "What you should know for…..Landscape and Gardening"** at http://rcflood.org/stormwater/**Error! Hyperlink reference not valid.** ☒ **Provide IPM information to new owners, lessees and operators.**

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☒ E. **Pools, spas, ponds, decorative fountains, and other water features.**	☐ **Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet. (Exception: Public pools must be plumbed according to County Department of Environmental Health Guidelines.)**	**If the Co-Permittee requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.**	☒ **See applicable operational BMPs in** "Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain" at http://rcflood.org/stormwater/
☐ F. **Food service**	☐ **For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment.** ☐ **On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.**	☐ **Describe the location and features of the designated cleaning area.** ☐ **Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.**	☐ **See the brochure, "**The Food Service Industry Best Management Practices for: Restaurants, Grocery Stores, Delicatessens and Bakeries" at http://rcflood.org/stormwater/ **Provide this brochure to new site owners, lessees, and operators.**
☐ G. **Refuse areas**	☐ **Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas.** ☐ **If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area.** ☐ **Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.**	☐ **State how site refuse will be handled and provide supporting detail to what is shown on plans.** ☐ **State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.**	☐ **State how the following will be implemented:** **Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

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❑ H. **Industrial processes.**	❑ **Show process area.**	❑ **If industrial processes are to be located on site, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."**	❑ **See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com** See the brochure "Industrial & Commercial Facilities Best Management Practices for: Industrial, Commercial Facilities" at http://rcflood.org/stormwater/

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❑ I. **Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)**	❑ **Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area.** ❑ **Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults.** ❑ **Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.**	**Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains.** **Where appropriate, reference documentation of compliance with the requirements of Hazardous Materials Programs for:** ▪ **Hazardous Waste Generation** ▪ **Hazardous Materials Release Response and Inventory** ▪ **California Accidental Release (CalARP)** ▪ **Aboveground Storage Tank** ▪ **Uniform Fire Code Article 80 Section 103(b) & (c) 1991** ▪ **Underground Storage Tank** **www.cchealth.org/groups/hazmat/**	❑ **See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials " in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

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❑ J. **Vehicle and Equipment Cleaning**	❑ **Show on drawings as appropriate:** **(1) Commercial/industrial facilities having vehicle/equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses.** **(2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use).** **(3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer.** **(4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.**	❑ **If a car wash area is not provided, describe any measures taken to discourage on-site car washing and explain how these will be enforced.**	**Describe operational measures to implement the following (if applicable):** ❑ **Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system.** Refer to "Outdoor Cleaning Activities and Professional Mobile Service Providers" for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/ ❑**Car dealerships and similar may rinse cars with water only.**

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☒ K. **Vehicle/Equipment Repair and Maintenance**	☐ **Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater.** ☐ **Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas.** ☐ **Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.**	☐ **State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area.** ☐ **State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.** ☐ **State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.**	**In the Stormwater Control Plan, note that all of the following restrictions apply to use the site:** ☐ **No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains.** ☐ **No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately.** ☒ **No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.** Refer to "Automotive Maintenance & Car Care Best Management Practices for Auto Body Shops, Auto Repair Shops, Car Dealerships, Gas Stations and Fleet Service Operations". Brochure can be found at http://rcflood.org/stormwater/ Refer to Outdoor Cleaning Activities and Professional Mobile Service Providers for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/

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❑ L. **Fuel Dispensing Areas**	❑ **Fueling areas[6] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable.** ❑ **Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area[1].] The canopy [or cover] shall not drain onto the fueling area.**		❑ **The property owner shall dry sweep the fueling area routinely.** ❑ **See the Fact Sheet SD-30 , "Fueling Areas" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

[6] **The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.**

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❑ M. **Loading Docks**	❑ **Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas shall be drained to the sanitary sewer, or diverted and collected for ultimate discharge to the sanitary sewer.** ❑ **Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation.** ❑ **Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.**		❑ **Move loaded and unloaded items indoors as soon as possible.** ❑ **See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

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☒ N. **Fire Sprinkler Test Water**		☐ **Provide a means to drain fire sprinkler test water to the sanitary sewer.**	☒ **See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**
O. **Miscellaneous Drain or Wash Water or Other Sources** ☐ **Boiler drain lines** ☐ **Condensate drain lines** ☐ **Rooftop equipment** ☐ **Drainage sumps** ☒ **Roofing, gutters, and trim.** ☐ **Other sources**		☐ **Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system.** ☐ **Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system.** ☐ **Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment.** ☐ **Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water.** ☒ **Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.** **Include controls for other sources as specified by local reviewer.**	

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❑ P. **Plazas, sidewalks, and parking lots.**			❑ **Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.**

Appendix 9: O&M

Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanism

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

Adopt a pet from your local animal shelter or adoption centers at pet stores. A variety of animals, from purebred tomixe d breed are waiting for loving arms and good homes. Consider volunteering at your local animal shelters. Volunteers, donations, food, newspapers, old towels and linens are needed to help the animals.



RIVERSIDE COUNTY
ANIMAL SHELTER LOCATIONS:

BLYTHE
16450 West Hobson Way
Blythe, CA 92225
760-921-7857

HEMET
800 South Sanderson
Hemet, CA 92545
909 925-8025

INDIO
45-355 Van Buren
Indio, CA 92201
760-347-2319

RIVERSIDE
5950 Wilderness Avenue
Riverside, CA 92504
909-358-7387

FOR ALL OTHER AREAS
CALL 1-888-636-7387

Riverside County gratefully acknowledges the City of Los Angeles Stormwater Program for the design concept of this brochure.

What's the Scoop?



TIPS FOR A HEALTHY PET AND A HEALTHIER ENVIRONMENT

CREATE A HEALTHY ENVIRONMENT in and around your home by following these simple pet practices. Your pet, family and neighbors will appreciate their clean comfortable surroundings.

HOUSEHOLD PETS

We all love our pets, but pet waste is a subject everyone likes to avoid. Pet waste left on trails, sidewalks, streets, and grassy areas is immediately flushed into the nearest waterway when it rains. Even if you can't see water near you, the rain or waste water WASHES all that PET WASTE and BACTERIA INTO THE STORMDRAIN, where it travels to your neighborhood creek or lake untreated. These animal droppings also contain nutrients that can promote the growth of algae, if they enter our streams and lakes. The risk of STORMWATER CONTAMINATION INCREASES, if pet wastes is allowed to accumulate in animal pen areas or left on sidewalks, streets, or driveways where runoff can carry them to storm sewers.

Some of the DISEASES THAT CAN SPREAD from pet waste are:
Campylobacteriosis — a bacterial infection that causes diarrhea in humans.
Salmonellosis — the most common bacterial infection transmitted to humans from animals.
Toxocarisis — roundworms transmitted from animals to humans.

Flies and other pest insects can also increase when pet waste is disposed of improperly, becoming a nuisance and adding yet another vector for disease transmission.

WHAT CAN YOU DO?

- SCOOP up pet waste and flush it down the toilet.
- NEVER DUMP pet waste into a storm drain or catch basin.
- USE the complimentary BAGS or mutt mitts offered in dispensers at local parks.
- CARRY EXTRA BAGS when walking your dog and make them available to other pet owners who are without.
- TEACH CHILDREN how to properly clean up after a pet.
- TELL FRIENDS AND NEIGHBORS about the ill effects of animal waste on the environment. Encourage them to clean up after pets.

Did You Know . . .
that Californians illegally dump about 80 million gallons of motor oil each year?

Many communities have "Scoop the Poop" laws that govern pet waste cleanup. Some of these laws specifically require anyone who walks an animal off of their property to carry a bag, shovel, or scooper. Any waste left by the animal must be cleaned up immediately. CALL YOUR LOCAL CODE ENFORCEMENT OFFICER to find out more about pet waste regulations.

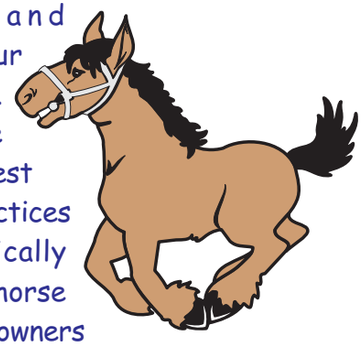


Pets are only one of the many fixtures of suburban America that add to water pollution. Lawn fertilizers, rinse water from driveways and motor oil commonly end up in streams and lakes. **CALL 1-800-506-2555 FOR HOUSEHOLD HAZARDOUS WASTE COLLECTION LOCATION AND DATES.** Maintain your automobile to avoid leaks. Dispose of used vehicle fluids properly. Your pets can be poisoned if they ingest gas, oil or antifreeze that drips onto the pavement or is stored in open containers.

NEVER HOSE VEHICLE FLUIDS into the street or gutter. USE ABSORBENT MATERIALS such as cat litter to clean-up spills. SWEEP UP used absorbent materials and place in the trash.

HORSES AND LIVESTOCK

Fortunate enough to own a horse or livestock? You, too, can play a part in protecting and cleaning up our water resources. The following are a few simple Best Management Practices (BMPs) specifically designed for horse owners and landowners with horses.



- STORE your manure properly. Do not store unprotected piles of manure in places where runoff may enter streams, or flood waters may wash the manure away. Place a cover or tarp over the pile to keep rainwater out.
- CHECK with your local conservation district to design manure storage facilities to protect water quality. These structures usually consist of a concrete pad to protect ground water and a short wall on one or two sides to make manure handling easier.
- TRY composting – A vegetative cover placed around buildings or on steeper slopes can help minimize erosion and absorb nutrients while improving the appearance of your property. In addition, avoid costlier erosion controls, vegetative covers will provide animals with better traction during wet or icy conditions.



- KEEP animals out of steams – Designed stream crossings provide a safe, easy way for horses and livestock to ford streams. Fencing encourages the use of the crossing instead of the streambed to navigate streams. This will allow vegetation to stabilize stream banks and reduce sediment pollution.
- MOW pastures to proper height, six inches is typically recommended.
- Material STORAGE SAFETY TIPS – Many of the chemicals found in barns require careful handling and proper disposal. When using these chemicals, be certain to follow these common sense guidelines:
  - Buy only what you need.
  - Treat spills of hoof oils like fuel spill. Use kitty litter to soak up the oil and dispose in a tightly sealed plastic bag.
  - Store pesticides in a locked, dry, well-ventilated area.
  - Protect stored fertilizer and pesticides from rain and surface water.

Call 1-800-506-2555 to locate your local conservation district to find out what to do with your current backyard manure pile, how to re-establish a healthy pasture, what to do about weeds, and what grasses grow best in your soils.

Thank you for doing your part to protect your watershed, the environment, and the equestrian way of life in your community!



After the Storm

A Citizen's Guide to Understanding Stormwater

EPA 833-B-03-002

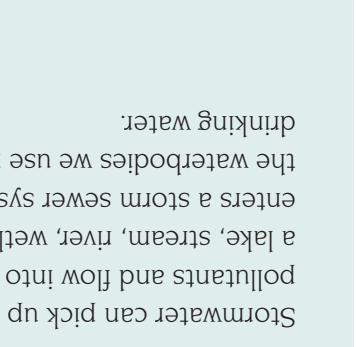
January 2003

Internet Address (URL) • HTTP://www.epa.gov
Recycled/Recyclable • Printed With Vegetable Oil Based Inks on 100% Postconsumer, Process Chlorine Free Recycled Paper

For more information contact:

or visit
www.epa.gov/npdes/stormwater
www.epa.gov/nps

What is stormwater runoff?



Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.



Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

Why is stormwater runoff a problem?

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.



The effects of pollution





Stormwater Pollution Solutions



Residential



Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care



Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Septic systems



Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Auto care



Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Pet waste



Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.



Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.



Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.



Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.



Commercial

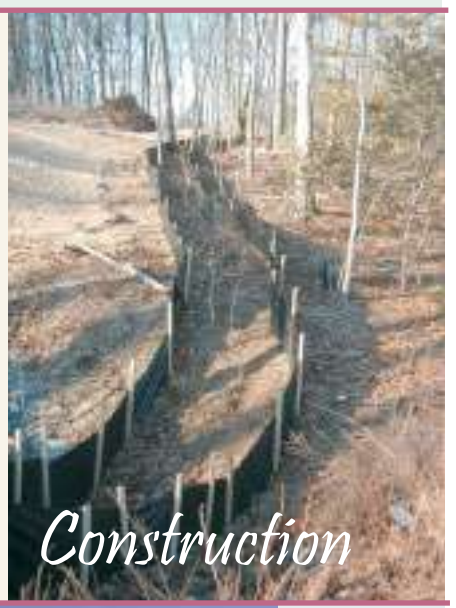
Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

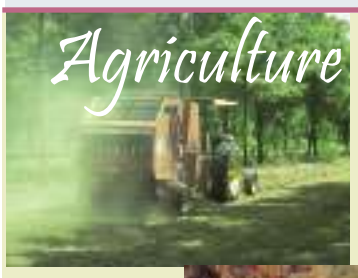
- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

Construction

Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.





Agriculture

Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.



- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.



Forestry

Improperly managed logging operations can result in erosion and sedimentation.

- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.



Automotive Facilities

Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.

AUTO MAINTENANCE



Oil and grease from cars, asbestos worn from brake linings, zinc from tires, and toxics from spilled fluids often make their way into the San Bernardino County storm drain system and DO NOT GET TREATED before reaching the Santa Ana River. These wastes pollute our drinking water, and make our waters unhealthy and unsafe for people and wildlife.

Follow these practices to help prevent stormwater pollution...

Cleanin' Work Sites...



Avoid hosing down your garage floor and driveway; instead, sweep regularly. Also, use non-toxic cleaning products. A water and baking soda mixture works great on removing corrosion from battery terminals and cleaning chrome; mix the soda with a mild, biodegradable dishwashing soap to clean wheels and tires. Additionally, a mixture of white vinegar or lemon juice with water can be used to clean windows.

Spills...

Avoid accidental spills by using a drip pan and funnel when draining or pouring fluids. Be ready for unexpected spills by preparing and using spill containment and cleanup kits. Kits should include safety equipment and cleanup materials such as kitty litter, sawdust or cornmeal. Furthermore, prevent leaks from stored vehicles by draining gas, hydraulic oil, and transmission, brake & radiator fluid. To report serious spills, call 1-800-33-TOXIC.

Recycling...

The law requires people to recycle motor oil and lead acid batteries. REMEMBER: Never dump them down storm drains. Other items which can be recycled include oil filters, antifreeze, cleaning solutions, hydraulic & transmission fluids, metal scraps, water-based paints, and used tires. For recycling information, call 386-8401.

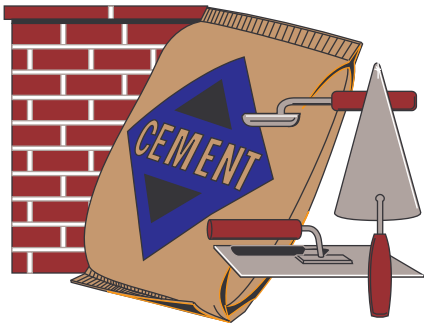
Washin' Vehicles...

Take vehicles to a washing facility to prevent oil & grease, suspended solids and other toxics from washing into our storm drains. Otherwise, use bermed wash areas to prevent contact with stormwater. Discharge wash water to sewer only after contacting local sewer authority to find out if pretreatment is required. At home, vehicles should be washed on the lawn, which can absorb unwanted runoff.



For more information, call your city's stormwater representative

FRESH CONCRETE & MORTAR APPLICATION



Cement, cement wash, gravel, asphalt, solvents, and motor oil from fresh concrete and mortar activities often make their way into the San Bernardino County storm drain system and DO NOT GET TREATED before reaching the Santa Ana River. These wastes pollute our drinking water, and make our waters unhealthy and unsafe for people and wildlife.

Follow these practices to help prevent stormwater pollution...

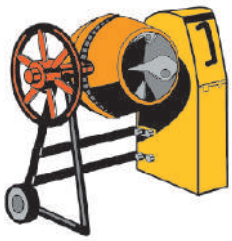
General Business Practices...

Schedule excavation and grading work during dry weather, and in case it rains, prevent materials from contacting stormwater by storing them under cover. Also, secure open bags of cement to keep wind-blown cement powder away from streets, gutters and storm drains.



During Construction...

Prevent mortar and cement from entering the storm drains by placing erosion controls (i.e., berms or temporary vegetation) down-slope to capture runoff. When breaking up paving, be sure to pick up all pieces and recycle them at a crushing company; small amounts of excess dry concrete, grout and mortar can be disposed of in the trash. Setup small mixers on tarps or heavy drop cloths to allow for easy cleanup of debris. REMEMBER: Never bury waste material -- recycle or dispose of it as hazardous waste. Call 386-8401 for recycling and disposal information.



Handling Materials & Wastes...

Minimize wastes when ordering materials by ordering only the amounts needed to complete the job. Whenever possible, use recycled or recyclable materials. Recycle broken asphalt, concrete, wood, and cleared vegetation. Unrecyclable materials must be taken to an appropriate landfill or disposed of as hazardous waste. For recycling and disposal information, call 386-8401.

Cleaning up...

When cleaning up after driveway or sidewalk construction, wash concrete dust onto designated dirt areas, not down the driveway or into the street or storm drain. Also, wash out concrete mixers and equipment only in specified wash-out areas, where the water flows into containment ponds. Cement washwater can be recycled by pumping it back into cement mixers for reuse. REMEMBER: Never dispose of cement washout into driveways, streets, gutters, storm drains or drainage ditches.



For more information, call your city's stormwater representative

For Information:

For more information on the General Industrial Storm Water Permit contact:

State Water Resources Control Board (SWRCB)
(916) 657-1146 or www.swrcb.ca.gov/ or, at your Regional Water Quality Control Board (RWQCB).

Santa Ana Region (8)
California Tower
3737 Main Street, Ste. 500
Riverside, CA 92501-3339
(909) 782-4130

San Diego Region (9)
9771 Clairemont Mesa Blvd., Ste. A
San Diego, CA 92124
(619) 467-2952

Colorado River Basin Region (7)
73-720 Fred Waring Dr., Ste. 100
Palm Desert, CA 92260
(760) 346-7491

SPILL RESPONSE AGENCY:
HAZ-MAT: (909) 358-5055
HAZARDOUS WASTE DISPOSAL: (909) 358-5055
RECYCLING INFORMATION: 1-800-366-SAVE
TO REPORT ILLEGAL DUMPING OR A CLOGGED STORM DRAIN: 1-800-506-2555

To order additional brochures or to obtain information on other pollution prevention activities, call:
(909) 955-1111.

StormWater
CleanWater
PROTECTION PROGRAM

Riverside County gratefully acknowledges the State Water Quality Control Board and the American Public Works Association, Storm Water Quality Task Force for the information provided in this brochure.

DID YOU KNOW . . .

YOUR FACILITY MAY NEED A STORM WATER PERMIT?



Many industrial facilities and manufacturing operations must obtain coverage under the Industrial Activities Storm Water General Permit

FIND OUT
IF YOUR FACILITY MUST OBTAIN A PERMIT

StormWater Pollution . . . What you should know

Riverside County has two drainage systems - sanitary sewers and storm drains. The storm drain system is designed to help prevent flooding by carrying excess rainwater away from streets. Since the storm drain system does not provide for water treatment, it also serves the *unintended* function of transporting pollutants directly to our waterways.

Unlike sanitary sewers, storm drains are not connected to a treatment plant - they flow directly to our local streams, rivers and lakes.



In recent years, awareness of the need to protect water quality has increased. As a result, federal, state, and local programs have been established to reduce polluted stormwater discharges to our waterways. The emphasis of these programs is to prevent stormwater pollution since it's much easier, and less costly, than cleaning up "after the fact."

National Pollutant Discharge Elimination System (NPDES)

In 1987, the Federal Clean Water Act was amended to establish a framework for regulating industrial stormwater discharges under the NPDES permit program. In California, NPDES permits are issued by the State Water Resources Control Board (SWRCB) and the nine (9) Regional Water Quality Control Boards (RWQCB). In general, certain industrial facilities and manufacturing operations must obtain coverage under the Industrial Activities Storm Water General Permit if the type of facilities or operations falls into one of the several categories described in this brochure.

How Do I Know If I Need A Permit?

Following are ***general descriptions*** of the industry categories types that are regulated by the Industrial Activities Storm Water General Permit. Contact your local Region Water Quality Control Board to determine if your facility/operation requires coverage under the Permit.

➜ Facilities such as cement manufacturing; feedlots; fertilizer manufacturing; petroleum refining; phosphate manufacturing; steam electric power generation; coal mining; mineral mining and processing; ore mining and dressing; and asphalt emulsion;

➜ Facilities classified as lumber and wood products (except wood kitchen cabinets); pulp, paper, and paperboard mills; chemical producers (except some pharmaceutical and biological products); petroleum and coal products; leather production and products; stone, clay and glass products; primary metal industries; fabricated structural metal; ship and boat building and repairing;

➜ Active or inactive mining operations and oil and gas exploration, production, processing, or treatment operations;

➜ Hazardous waste treatment, storage, or disposal facilities;

➜ Landfills, land application sites and open dumps that receive or have received any industrial waste; unless there is a new overlying land use such as a golf course, park, etc., and there is no discharge associated with the landfill;

➜ Facilities involved in the recycling of materials, including metal scrap yards, battery reclaimers, salvage yards, and automobile junkyards;

➜ Steam electric power generating facilities, facilities that generate steam for electric power by combustion;

➜ Transportation facilities that have vehicle maintenance shops, fueling facilities, equipment cleaning operations, or airport deicing operations. This includes school bus maintenance facilities operated by a school district;

➜ Sewage treatment facilities;

➜ Facilities that have areas where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water.

How do I obtain coverage under the Industrial Activities Storm Water General Permit?

Obtain a permit application package from your local Regional Water Quality Control Board listed on the back of this brochure or the State Water Resources Control Board (SWRCB). Submit a completed Notice of Intent (NOI) form, site map and the appropriate fee ($250 or $500) to the SWRCB. Facilities must submit an NOI thirty (30) days prior to beginning operation. Once you submit the NOI, the State Board will send you a letter acknowledging receipt of your NOI and will assign your facility a waste discharge identification number (WDID No.). You will also receive an annual fee billing. These billings should roughly coincide with the date the State Board processed your original NOI submittal.

What are the requirements of the Industrial Activities Storm Water General Permit?

The basic requirements of the Permit are:

1. The facility must eliminate any non-stormwater discharges or obtain a separate permit for such discharges.

2. The facility must develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must identify sources of pollutants that may be exposed to stormwater. Once the sources of pollutants have been identified, the facility operator must develop and implement Best Management Practices (BMPs) to minimize or prevent polluted runoff.

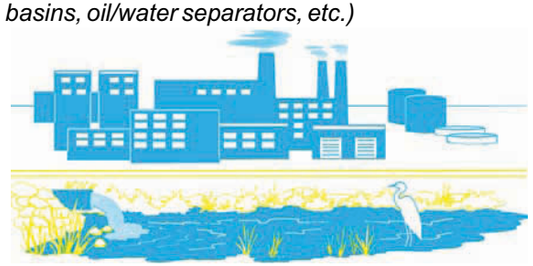
   Guidance in preparing a SWPPP is available from a document prepared by the California Storm Water Quality Task Force called the California Storm Water Best Management Practice Handbook.

3. The facility must develop and implement a Monitoring Program that includes conducting visual observations and collecting samples of the facility's storm water discharges associated with industrial activity. The General Permit requires that the analysis be conducted by a laboratory that is certified by the State of California.

4. The facility must submit to the Regional Board, every July 1, an annual report that includes the results of its monitoring program.

A Non-Storm Water Discharge is... *any discharge to a storm drain system that is not composed entirely of storm water. The following non-storm water discharges are authorized by the General Permit: fire hydrant flushing; potable water sources, including potable water related to the operation, maintenance, or testing of potable water systems; drinking fountain water; atmospheric condensates including refrigeration, air conditioning, and compressor condensate; irrigation drainage; landscape watering; springs; non-contaminated ground water; foundation or footing drainage; and sea water infiltration where the sea waters are discharged back into the sea water source.*

A BMP is . . . *a technique, process, activity, or structure used to reduce the pollutant content of a storm water discharge. BMPs may include simple, non-structural methods such as good housekeeping, staff training and preventive maintenance. Additionally, BMPs may include structural modifications such as the installation of berms, canopies or treatment control (e.g. setting basins, oil/water separators, etc.)*



WARNING*: There are significant penalties for non-compliance: a minimum fine of $5,000 for failing to obtain permit coverage, and, up to $10,000 per day, per violation plus $10 per gallon of discharge in excess of 1,000 gallons.*

Adopt a pet from your local animal shelter or adoption centers at pet stores. A variety of animals, from purebred tomixe d breed are waiting for loving arms and good homes. Consider volunteering at your local animal shelters. Volunteers, donations, food, newspapers, old towels and linens are needed to help the animals.



RIVERSIDE COUNTY
ANIMAL SHELTER LOCATIONS:

BLYTHE
16450 West Hobson Way
Blythe, CA 92225
760-921-7857

HEMET
800 South Sanderson
Hemet, CA 92545
909 925-8025

INDIO
45-355 Van Buren
Indio, CA 92201
760-347-2319

RIVERSIDE
5950 Wilderness Avenue
Riverside, CA 92504
909-358-7387

FOR ALL OTHER AREAS
CALL 1-888-636-7387

Riverside County gratefully acknowledges the City of Los Angeles Stormwater Program for the design concept of this brochure.

What's the Scoop?



TIPS FOR A HEALTHY PET AND A HEALTHIER ENVIRONMENT

CREATE A HEALTHY ENVIRONMENT in and around your home by following these simple pet practices. Your pet, family and neighbors will appreciate their clean comfortable surroundings.

HOUSEHOLD PETS

We all love our pets, but pet waste is a subject everyone likes to avoid. Pet waste left on trails, sidewalks, streets, and grassy areas is immediately flushed into the nearest waterway when it rains. Even if you can't see water near you, the rain or waste water WASHES all that PET WASTE and BACTERIA INTO THE STORMDRAIN, where it travels to your neighborhood creek or lake untreated. These animal droppings also contain nutrients that can promote the growth of algae, if they enter our streams and lakes. The risk of STORMWATER CONTAMINATION INCREASES, if pet wastes is allowed to accumulate in animal pen areas or left on sidewalks, streets, or driveways where runoff can carry them to storm sewers.

Some of the DISEASES THAT CAN SPREAD from pet waste are:
Campylobacteriosis — a bacterial infection that causes diarrhea in humans.
Salmonellosis — the most common bacterial infection transmitted to humans from animals.
Toxocarisis — roundworms transmitted from animals to humans.

Flies and other pest insects can also increase when pet waste is disposed of improperly, becoming a nuisance and adding yet another vector for disease transmission.

WHAT CAN YOU DO?

- SCOOP up pet waste and flush it down the toilet.
- NEVER DUMP pet waste into a storm drain or catch basin.
- USE the complimentary BAGS or mutt mitts offered in dispensers at local parks.
- CARRY EXTRA BAGS when walking your dog and make them available to other pet owners who are without.
- TEACH CHILDREN how to properly clean up after a pet.
- TELL FRIENDS AND NEIGHBORS about the ill effects of animal waste on the environment. Encourage them to clean up after pets.

Did You Know . . .
that Californians illegally dump about 80 million gallons of motor oil each year?

Many communities have "Scoop the Poop" laws that govern pet waste cleanup. Some of these laws specifically require anyone who walks an animal off of their property to carry a bag, shovel, or scooper. Any waste left by the animal must be cleaned up immediately. CALL YOUR LOCAL CODE ENFORCEMENT OFFICER to find out more about pet waste regulations.

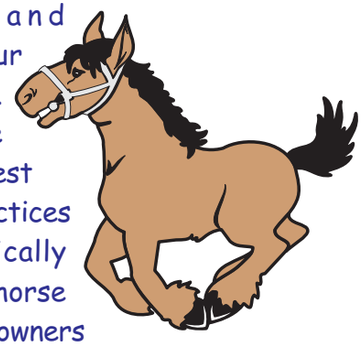


Pets are only one of the many fixtures of suburban America that add to water pollution. Lawn fertilizers, rinse water from driveways and motor oil commonly end up in streams and lakes. **CALL 1-800-506-2555 FOR HOUSEHOLD HAZARDOUS WASTE COLLECTION LOCATION AND DATES.** Maintain your automobile to avoid leaks. Dispose of used vehicle fluids properly. Your pets can be poisoned if they ingest gas, oil or antifreeze that drips onto the pavement or is stored in open containers.

NEVER HOSE VEHICLE FLUIDS into the street or gutter. USE ABSORBENT MATERIALS such as cat litter to clean-up spills. SWEEP UP used absorbent materials and place in the trash.

HORSES AND LIVESTOCK

Fortunate enough to own a horse or livestock? You, too, can play a part in protecting and cleaning up our water resources. The following are a few simple Best Management Practices (BMPs) specifically designed for horse owners and landowners with horses.



- STORE your manure properly. Do not store unprotected piles of manure in places where runoff may enter streams, or flood waters may wash the manure away. Place a cover or tarp over the pile to keep rainwater out.
- CHECK with your local conservation district to design manure storage facilities to protect water quality. These structures usually consist of a concrete pad to protect ground water and a short wall on one or two sides to make manure handling easier.
- TRY composting – A vegetative cover placed around buildings or on steeper slopes can help minimize erosion and absorb nutrients while improving the appearance of your property. In addition, avoid costlier erosion controls, vegetative covers will provide animals with better traction during wet or icy conditions.



- KEEP animals out of steams – Designed stream crossings provide a safe, easy way for horses and livestock to ford streams. Fencing encourages the use of the crossing instead of the streambed to navigate streams. This will allow vegetation to stabilize stream banks and reduce sediment pollution.
- MOW pastures to proper height, six inches is typically recommended.
- Material STORAGE SAFETY TIPS – Many of the chemicals found in barns require careful handling and proper disposal. When using these chemicals, be certain to follow these common sense guidelines:
  - Buy only what you need.
  - Treat spills of hoof oils like fuel spill. Use kitty litter to soak up the oil and dispose in a tightly sealed plastic bag.
  - Store pesticides in a locked, dry, well-ventilated area.
  - Protect stored fertilizer and pesticides from rain and surface water.

Call 1-800-506-2555 to locate your local conservation district to find out what to do with your current backyard manure pile, how to re-establish a healthy pasture, what to do about weeds, and what grasses grow best in your soils.

Thank you for doing your part to protect your watershed, the environment, and the equestrian way of life in your community!



Helpful telephone numbers and links:

Riverside County Water Agencies

City of Banning	(951) 922-3130
City of Beaumont/Cherry Valley	(951) 845-9581
City of Blythe	(760) 922-6161
City of Coachella	(760) 398-3502
City of Corona	(951) 736-2263
City of Hemet	(951) 765-3710
City of Norco	(951) 270 5607
City of Riverside Public Works	(951) 351-6140
City of San Jacinto	(951) 654-4041
Coachella Valley Water District	(760) 398-2651
Desert Water Agency (Palm Springs)	(760) 323-4971
Eastern Municipal Water District	(951) 928-3777
Elsinore Valley Municipal Water District	(951) 674 3146
Elsinore Water District	(951) 674-2168
Farm Mutual Water Company	(951) 244-4198
Idyllwild Water District	(951) 659-2143
Indio Water Authority	(760) 391-4129
Jurupa Community Services District	(951) 685-7434
Lee Lake Water	(951) 658-3241
Mission Springs Water	(760) 329-6448
Rancho California Water District	(951) 296-6900
Ripley, CSA #62	(760) 922-4951
Riverside Co. Service Area #51	(760) 227-3203
Rubidoux Community Services District	(951) 684-7580
Valley Sanitary District	(760) 347-2356
Western Municipal Water District	(951) 789-5000
Yucaipa Valley Water District	(909) 797-5117

REPORT ILLEGAL STORM DRAIN DISPOSAL
1-800-506-2555 or e-mail us at
fcnpdes@rcflood.org

- Riverside County Flood Control and Water Conservation District
  www.rcflood.org

Online resources include:

- California Storm Water Quality Association
  www.casqa.org
- State Water Resources Control Board
  www.waterboards.ca.gov
- Power Washers of North America
  www.thepwna.org

Stormwater Pollution

What you should know for...

Outdoor Cleaning Activities and Professional Mobile Service Providers



Storm drain pollution prevention information for:

- Car Washing / Mobile Detailers
- Window and Carpet Cleaners
- Power Washers
- Waterproofers / Street Sweepers
- Equipment cleaners or degreasers and all mobile service providers

Do you know where street flows actually go?

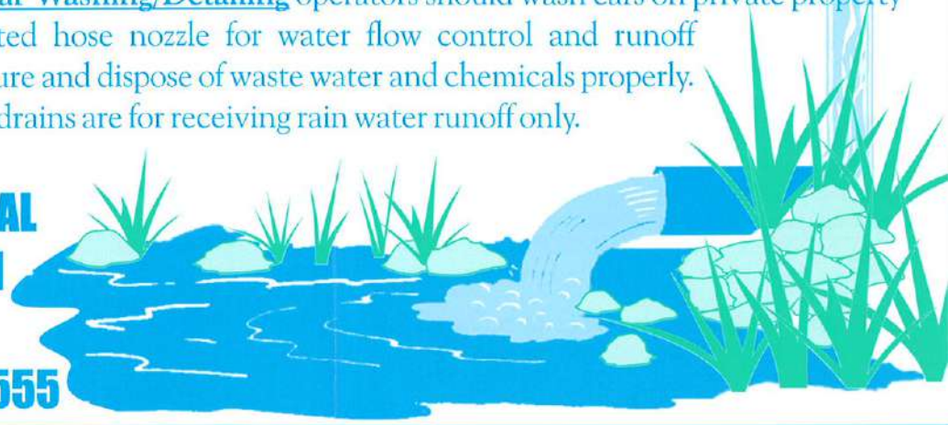
Storm drains are NOT connected to sanitary sewer systems and treatment plants!



The primary purpose of storm drains is to carry rain water away from developed areas to prevent flooding. Pollutants discharged to storm drains are transported directly into rivers, lakes and streams. Soaps, degreasers, automotive fluids, litter and a host of materials are washed off buildings, sidewalks, plazas and parking areas. Vehicles and equipment must be properly managed to prevent the pollution of local waterways.

Unintentional spills by mobile service operators can flow into storm drains and pollute our waterways. **Avoid mishaps.** *Always* have a **Spill Response Kit** on hand to clean up unintentional spills. Only emergency **Mechanical** repairs should be done in City streets, using drip pans for spills. **Plumbing** should be done on private property. Always store chemicals in a leak-proof container and keep covered when not in use. **Window/Power Washing** waste water shouldn't be released into the streets, but should be disposed of in a sanitary sewer, landscaped area or in the soil. Soiled **Carpet Cleaning** wash water should be filtered before being discharged into the sanitary sewer. Dispose of all filter debris properly. **Car Washing/Detailing** operators should wash cars on private property and use a regulated hose nozzle for water flow control and runoff prevention. Capture and dispose of waste water and chemicals properly. Remember, storm drains are for receiving rain water runoff only.

REPORT ILLEGAL STORM DRAIN DISPOSAL 1-800-506-2555



Help Protect Our Waterways!

Use these guidelines for Outdoor Cleaning Activities and Wash Water Disposal

Did you know that disposing of pollutants into the street, gutter, storm drain or body of water is *PROHIBITED* by law and can result in stiff penalties?

Best Management Practices

Waste wash water from Mechanics, Plumbers, Window/Power Washers, Carpet Cleaners, Car Washing and Mobile Detailing activities may contain significant quantities of motor oil, grease, chemicals, dirt, detergents, brake pad dust, litter and other materials.

Best Management Practices, or BMPs as they are known, are guides to prevent pollutants from entering the storm drains. ***Each of us*** can do our part to keep storm water clean by using the suggested BMPs below:

Simple solutions for both light and heavy duty jobs:

Do...consider dry cleaning methods first such as a mop, broom, rag or wire brush. Always keep a spill response kit on site.

Do...prepare the work area before power cleaning by using sand bags, rubber mats, vacuum booms, containment pads or temporary berms to keep wash water away from the gutters and storm drains.

Do...use vacuums or other machines to remove and collect loose debris or litter before applying water.

Do...obtain the property owner's permission to dispose of ***small amounts*** of power washing waste water on to landscaped, gravel or unpaved surfaces.

Do...check your local sanitary sewer agency's policies on wash water disposal regulations before disposing wash water to the sewer. (See list on reverse side)

Do...be aware that if discharging to landscape areas, soapy wash water may damage landscaping. Residual wash water may remain on paved surfaces to evaporate. Sweep up solid residuals and dispose of properly. Vacuum booms are another option for capturing and collecting wash water.

Do...check to see if local ordinances prevent certain activities.

Do not let...wash or waste water from sidewalk, plaza or building cleaning go into a street or storm drain.



Report illegal storm drain disposal,
Call Toll Free
1-800-506-2555

Using Cleaning Agents

Try using biodegradable/phosphate-free products. They are easier on the environment, but don't confuse them for being toxic free. Soapy water entering the storm drain system can impact the delicate aquatic environment.



When cleaning surfaces with a ***high-pressure washer*** or ***steam cleaner***, additional precautions should be taken to prevent the discharge of pollutants into the storm drain system. These two methods of surface cleaning can loosen additional material that can contaminate local waterways.

Think Water Conservation

Minimize water use by using high pressure, low volume nozzles. Be sure to check all hoses for leaks. Water is a precious resource, don't let it flow freely and be sure to shut it off in between uses.

Screening Wash Water

Conduct thorough dry cleanup before washing exterior surfaces, such as buildings and decks ***with loose paint***, sidewalks or plaza areas. Keep debris from entering the storm drain after cleaning by first passing the wash water through a "20 mesh" or finer screen to catch the solid materials, then dispose of the mesh in a refuse container. Do not let the remaining wash water enter a street, gutter or storm drain.

Drain Inlet Protection & Collection of Wash Water

- Prior to any washing, block all storm drains with an impervious barrier such as sandbags or berms, or seal the storm drain with plugs or other appropriate materials.
- Create a containment area with berms and traps or take advantage of a low spot to keep wash water contained.
- Wash vehicles and equipment on grassy or gravel areas so that the wash water can seep into the ground.
- Pump or vacuum up all wash water in the contained area.

Concrete/Coring/Saw Cutting and Drilling Projects

Protect any down-gradient inlet by using dry activity techniques whenever possible. If water is used, minimize the amount of water used during the coring/drilling or saw cutting process. Place a barrier of sandbags and/or absorbent berms to protect the storm drain inlet or watercourse. Use a shovel or wet vacuum to remove the residue from the pavement. Do not wash residue or particulate matter into a storm drain inlet or watercourse.

For Information:

Local Sewering Agencies in Riverside County:

City of Beaumont	(909) 769-8520
Belair Homeowners Association	(909) 277-1414
City of Banning	(909) 922-3130
City of Blythe	(760) 922-6161
City of Coachella	(760) 391-5008
Coachella Valley Water District	(760) 398-2651
City of Corona	(909) 736-2259
Desert Center, CSA #51	(760) 227-3203
Eastern Municipal Water District	(909) 928-3777
Elsinore Valley MWD	(909) 674-3146
Farm Mutual Water Company	(909) 244-4198
Idyllwild Water District	(909) 659-2143
Jurupa Community Services Dist.	(909) 685-7434
Lake Hemet MWD	(909) 658-3241
Lee Lake Water District	(909) 277-1414
March Air Force Base	(909) 656-7000
Mission Springs Water District	(760) 329-6448
City of Palm Springs	(760) 323-8242
Rancho Caballero	(909) 780-9272
Rancho California Water Dist.	(909) 676-4101
Ripley, CSA #62	(760) 922-4909
Rubidoux Community Services Dist.	(909) 684-7580
City of Riverside	(909) 782-5341
Silent Valley Club, Inc	(909) 849-4501
Valley Sanitary District	(760) 347-2356
Western Municipal Water District	(909) 780-4170

Spill Response Agency:
Haz-Mat: (909) 358-5055
Hazardous Waste Disposal: (909) 358-5055
To Report Illegal Dumping or a Clogged Storm Drain: 1-800-506-2555

StormWater CleanWater
PROTECTION PROGRAM

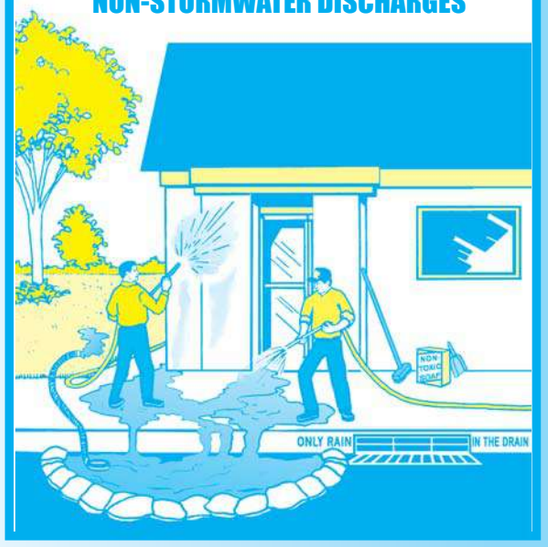
Riverside County gratefully acknowledges the Bay Area Stormwater Management Agencies Association and the Cleaning Equipment Trade Association for information provided in this brochure.

StormWater Pollution

What you should know for...

OUTDOOR CLEANING ACTIVITIES

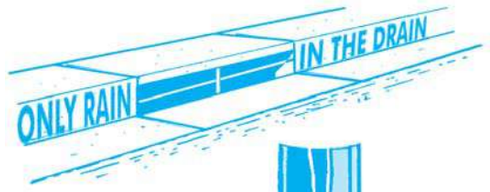
NON-STORMWATER DISCHARGES



GUIDELINES for disposal of washwater from:

- Sidewalk, plaza or parking lot cleaning
- Vehicle washing or detailing
- Building exterior cleaning
- Waterproofing
- Equipment cleaning or degreasing

Do you know . . . where the water should go?



Riverside County has two drainage systems - sanitary sewers and storm drains. The storm drain system is designed to prevent flooding by carrying excess rainwater away from streets. . . it's not designed to be a waste disposal system. Since the storm drain system does not provide for water treatment, it often serves the unintended function of transporting pollutants directly to our waterways.

Unlike sanitary sewers, storm drains are not connected to a treatment plant - they flow directly to our local streams, rivers and lakes.

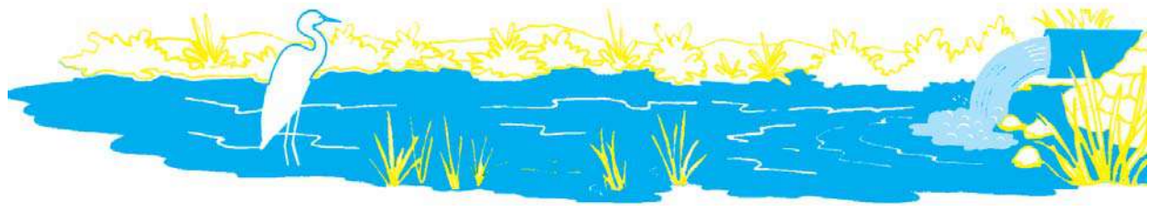
Non-stormwater discharges such as washwater generated from outdoor cleaning projects often transport harmful pollutants into storm drains and our local waterways. Polluted runoff contaminates local waterways and poses a threat to groundwater resources.

Soaps, degreasers, automotive fluids, litter, and a host of other materials washed off buildings, sidewalks, plazas, parking areas, vehicles, and equipment can all pollute our waterways.

The Cities and County of Riverside StormWater/CleanWater Protection Program

Since preventing pollution is much easier, and less costly than cleaning up "after the fact," the Cities and County of Riverside StormWater/CleanWater Protection Program informs residents and businesses of pollution prevention activities such as those described in this pamphlet.

The Cities and County of Riverside have adopted ordinances for stormwater management and discharge control. In accordance with state and federal law, these local stormwater ordinances **prohibit** the discharge of wastes into the storm drain system or local surface waters. This includes non-stormwater discharges containing oil, grease, detergents, degreasers, trash, or other waste materials.



PLEASE NOTE: The discharge of pollutants into the street, gutters, storm drain system, or waterways - without a Regional Water Quality Control Board permit or waiver - is ***strictly prohibited*** by local ordinances and state and federal law.

Help Protect Our Waterways!

Use These Guidelines For Outdoor Cleaning Activities and Washwater Disposal

DO . . . Dispose of **small amounts** of **washwater from cleaning building exteriors, sidewalks, or plazas** onto landscaped or unpaved surfaces provided you have the owner's permission and the discharge will not cause flooding or nuisance problems, or flow into a storm drain.

DO NOT . . . Discharge **large amounts** of these types of washwater onto landscaped areas or soil where water may run to a street or storm drain. Wastewater from exterior cleaning may be pumped to a sewer line with specific permission from the local sewering agency.

DO . . . Check with your local sewering agency's policies and requirements concerning waste water disposal. **Water from many outdoor cleaning activities** may be acceptable for disposal to the sewer system. See the list on the back of this flyer for phone numbers of the sewering agencies in your area.

DO NOT . . . Pour **hazardous wastes** or toxic materials into the storm drain or sewer system . . . properly dispose of it instead. When in doubt, contact the local sewering agency! The agency will tell you what types of liquid wastes can be accepted.

DO . . . Understand that **water (without soap) used to remove dust from clean vehicles** may be discharged to a street or storm drain. **Washwater from sidewalk, plaza, and building surface cleaning** may go into a street or storm drain if ALL of the following conditions are met:

1) The surface being washed is free of residual oil stains, debris and similar pollutants by using dry cleanup methods (sweeping, and cleaning any oil or chemical spills with rags or other absorbent materials before using water).
2) Washing is done with water only - no soap or other cleaning materials.
3) You have not used the water to remove paint from surfaces during cleaning.

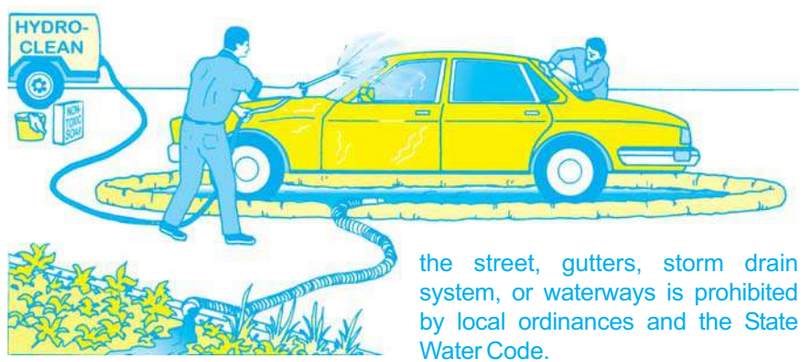
DO NOT . . . Dispose of water containing **soap or any other type of cleaning agent** into a storm drain or water body. This is a direct violation of state and/or local regulations. Because **wastewater from cleaning parking areas or roadways** normally contains metallic brake pad dust, oil and other automotive fluids, it should never be discharged to a street, gutter, or storm drain.

DO . . . Understand that **mobile auto detailers** should divert washwater to landscaped or dirt areas. Note: Be aware that soapy washwater may adversely affect landscaping; consult with the property owner. Residual washwater may remain on paved surfaces to evaporate; sweep up any remaining residue. If there is sufficient water volume to reach the storm drain, collect the runoff and obtain permission to pump it into the sanitary sewer. Follow local sewering agency's requirements for disposal.

DO NOT . . . Dispose of left over cleaning agents into the gutter, storm drain or sanitary sewer.

Regarding Cleaning Agents:

If you must use soap, use biodegradable/phosphate free cleaners. Avoid use of petroleum based cleaning products. Although the use of nontoxic cleaning products is strongly encouraged, ***do*** understand that these products can still degrade water quality and, therefore, the discharge of these products into



the street, gutters, storm drain system, or waterways is prohibited by local ordinances and the State Water Code.

Note: When cleaning surfaces with a high pressure washer or steam cleaning methods, additional precautions should be taken to prevent the discharge of pollutants into the storm drain system. These two methods of surface cleaning, as compared to the use of a low pressure hose, can remove additional materials that can contaminate local waterways.

Other Tips to Help Protect Our Water . . .

Screening Wash Water

A thorough dry cleanup before washing (without soap) surfaces such as building exteriors and decks without loose paint, sidewalks, or plaza areas, *should be sufficient to protect storm drains.* **However**, if any debris (solids) could enter storm drains or remain in the gutter or street after cleaning, washwater should first pass through a "20 mesh" or finer screen to catch the solid material, which should then be disposed of in the trash.

Drain Inlet Protection/ Containing & Collecting Wash Water

- Sand bags can be used to create a barrier around storm drain inlets.
- Plugs or rubber mats can be used to temporarily seal storm drain openings.
- You can also use vacuum booms, containment pads, or temporary berms to keep wash water away from the street, gutter, or storm drain.

Equipment and Supplies

Special materials such as absorbents, storm drain plugs and seals, small sump pumps, and vacuum booms are available from many vendors. For more information check catalogs such as New Pig (800-468-4647), Lab Safety Supply (800-356-0783), C&H (800-558-9966), and W.W. Grainger (800-994-9174); or call the Cleaning Equipment Trade Association (800-441-0111) or the Power Washers of North America (800-393-PWNA).



PAINTING

Paints, solvents, adhesives, and toxic chemicals from painting operations often make their way into the San Bernardino County storm drain system and DO NOT GET TREATED before reaching the Santa Ana River. These wastes pollute our drinking water, and make our waters unhealthy and unsafe for people and wildlife.

Follow these practices to help prevent stormwater pollution...

General Business Practices...

Keep all paint products and wastes away from the street, gutter, and storm drains. Reuse paint thinner by setting used thinner aside in a closed, labeled jar to settle out paint particles, and then pouring off the clear liquid for future use. Wrap dried paint residue in newspaper and dispose of it in the trash.

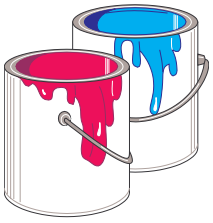
Water-Based Paints...

Purchase water-based paints whenever possible. Look for products labeled “latex” or “clean up with water.”

Recycle or Reuse Paints...

Recycle/reuse leftover paint by using it for touch-ups, or by giving it to someone who can use it, such as a theatre group, school, city or other community organization. If you’re unable to give it away, contact 386-8401 for information on hazardous waste pick-up.

Paint Cleanup...



Avoid cleaning brushes and rinsing paint containers in a street, gutter, or storm drain. For water-based paints, “brush out” as much paint as possible and and rinse in the sink. For oil-based paints, “brush out” as much paint as possible, clean with thinner, and then filter and reuse thinner or solvent.

Paint Removal...

Chemical paint stripping residue, chips & dust from marine paints, and paints containing lead or tributyl tin are hazardous wastes. For disposal information, call 386-8401. Also, when stripping or cleaning building exteriors with high-pressure water, block storm drains and divert the washwater onto a designated dirt area. Check with your local wastewater treatment authority to find out if you can collect building cleaning water and discharge it to the sewer.



For more information, call your city’s stormwater representative

Helpful telephone numbers and links:

Riverside County Water Agencies:

City of Banning	(951) 922-3130
City of Beaumont	(951) 769-8520
City of Blythe	(760) 922-6161
City of Coachella	(760) 398-3502
Coachella Valley Water District	(760) 398-2651
City of Corona	(951) 736-2259
Desert Center, CSA #51	(760) 227-3203
Eastern Municipal Water District	(951) 928-3777
Elsinore Valley MWD	(951) 674-3146
Farm Mutual Water Company	(951) 244-4198
City of Hemet	(951) 765-3712
Idyllwild Water District	(951) 659-2143
Jurupa Community Services District	(951) 360-8795
Lake Hemet MWD	(951) 658-3241
Lee Lake Water District	(951) 277-1414
March Air Force Base	(951) 656-7000
Mission Springs Water District	(760) 329-6448
City of Palm Springs	(760) 323-8253
Rancho Caballero	(951) 780-9272
Rancho California Water District	(951) 296-6900
Ripley, CSA #62	(760) 922-4951
City of Riverside	(951) 351-6170
Rubidoux Community Services District	(951) 684-7580
Silent Valley Club, Inc	(951) 849-4501
Valley Sanitary District	(760) 347-2356
Western Municipal Water District	(951) 789-5000
Yucaipa Valley Water District	(909) 797-5117

CALL 1-800-506-2555 to:

- Report clogged storm drains or illegal storm drain disposal from residential, industrial, construction and commercial sites into public streets, storm drains and/or water bodies.
- Find out about our various storm drain pollution prevention materials.
- Locate the dates and times of Household Hazardous Waste (HHW) Collection Event.
- Request adult, neighborhood, or classroom presentations.
- Locate other County environmental services.
- Receive grasscycling information and composting workshop information.

Or visit our (Riverside County Flood Control District website at:
www.floodcontrol.co.riverside.ca.us

Other links to additional storm drain pollution information:

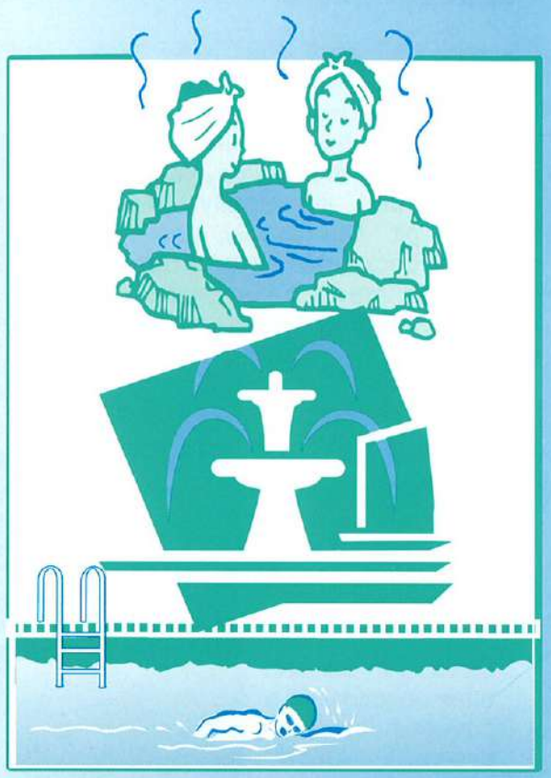
- County of Riverside Environmental Health:
  www.rivcoeh.org
- California State Water Resource Conservation Board:
  www.swrcb.ca.gov/stormwtr/links.html
- California Water Quality Task Force:
  www.cabmphandbooks.com/
- United State Environmental Protection Agency (EPA):
  www.epa.gov/opptintr/p2home/programs/busprc.htm
  (compliance assistance information)

ONLY RAIN DOWN THE STORM DRAIN

Riverside County Only Rain in the Storm Drain Pollution Protection Program gratefully acknowledges the Bay Area Stormwater Management Agencies Association and the Cleaning Equipment Trade Association for information provided in this brochure.

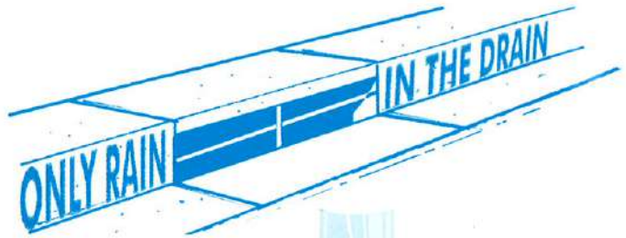
StormWater Pollution

What you should know for...



Swimming Pool, Jacuzzi and Fountain Maintenance

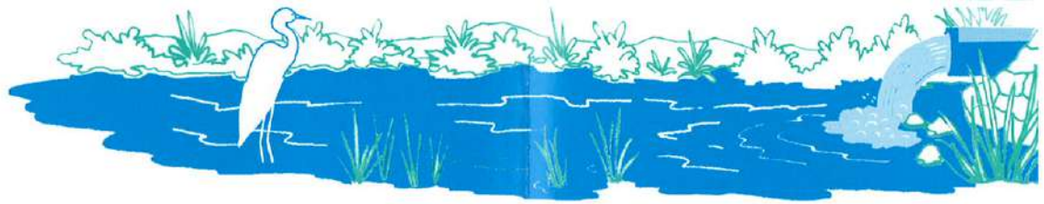
Do you know . . . where the water actually goes?



Storm Drains are not connected to sanitary sewer systems and treatment plants!

The primary purpose of storm drains is to carry rain water away from developed areas to prevent flooding. Untreated storm water and the pollutants it carries flow directly into rivers, lakes, and streams. Wastewater from residential swimming pools, jacuzzis, fishponds, and fountains often contain chemicals used for sanitizing or cleansing purposes. Toxic chemicals (such as chlorine or copper-based algaecides) can damage the environment when wastewater is allowed to flow into our local rivers, lakes, and streams by way of the storm drain system. Each of us can do our part to help clean our water, and that adds up to a pollution solution.

The Cities and County of Riverside have adopted ordinances for storm drain pollution management to maintain discharge control and prevent illegal storm drain discharge. In accordance with state and federal law, these local storm water ordinances prohibit the discharge of pollutants into the storm drain system or local surface waters. The Only Rain in the Storm Drain Pollution Program informs residents and businesses of storm drain pollution prevention activities such as those described in this brochure.



PLEASE NOTE: The discharge of pollutants into the street, gutters, storm drain system, or waterways – without a Regional Water Quality Control board permit or waiver – is strictly prohibited by local ordinances and state and federal law.

Do Your Part to Protect Our Waterways!

Use These Guidelines For Proper Draining of Your Swimming Pool, Jacuzzi and Fountain Water

Discharge Regulations



Requirements for pool draining may differ from city to city. Check with your water agency to see if disposal to the sanitary sewer line is allowed for pool discharges (see reverse side for Riverside County water purveyors).

If sewer discharge is allowed, a hose can be run from your swimming pool pump to the washing machine drain or a sink or bathtub. If sewer discharge is not allowed, or if your house is served by a septic tank, review the options presented below.

Discharge Options

If your local sewer agency will not accept pool water into their system, or if you are on a septic tank system, follow these guidelines:

1. Reduce or eliminate solids (e.g., debris, leaves or dirt) in the pool water.
2. Allow the chemicals in the pool water to dissipate. This could take up to seven (7) days depending on the time of year. Create a co-op; let your neighbor share your pool while theirs is being prepared for draining, then use their pool while yours is being drained. Chlorinated water should not be discharged into the storm drain or surface waters. This includes large pools such as community swimming pools or spas.
3. When the pool water is free of all chemicals (verify by a home pool water test kit) drain pool water to landscaped areas, lawns, yards, or any areas that will absorb the water.
4. You may have to drain the pool water over a period of a few days to allow the landscape areas to absorb most of the water.
5. Control the flow of the draining pool water to prevent soil erosion. Do not allow sediment to enter the street, gutter or storm drain.
6. Avoid discharging pool water into the street and storm drain system. Water runoff that enters the street can pick up motor oil, pet waste, trash and other pollutants, eventually carrying them into the storm drain system and local surface waters.

Refinishing Pool Surfaces

If you are resurfacing your pool, or resurfacing the pool patio area, be sure to hose down mixers, tools and trailers in a dirt area where rinse water won't flow into the street, gutter or storm drain. Local storm water ordinances strictly prohibit the discharge of pollutants into the storm drain system.

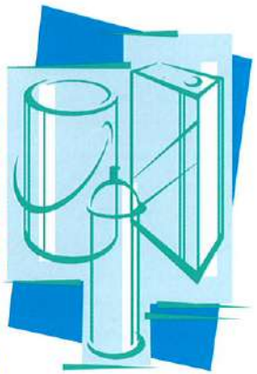
Residues from acid washing and similar activities require special handling. Never discharge low or high pH wastewater into the street, gutter or storm drain.



Cleaning Filters

Discharge of pool filter rinse water and backflush to a stream, ditch, or storm drain is prohibited. Backflush from pool filters must be discharged to the sanitary sewer, on-site septic tank and drainfield system (if properly designed and adequately sized), or a seepage pit. Alternatively, pool filter rinse water and backwash may be diverted to dirt or landscaped areas. Filter media and other solids should be picked up and disposed of in the trash.

Algaecides



Avoid using copper-based algaecides unless absolutely necessary. Control algae with chlorine, organic polymers or other alternatives to copper-based pool chemicals. Copper is a heavy metal that can be toxic to aquatic life.

Chemical Storage and Handling



- Use only the amount indicated on product labels.
- Store chlorine and other chemicals in a covered area to prevent runoff. Keep out of reach of children and pets.
- Chlorine kits, available at retail swimming pool equipment and supply stores, should be used to monitor the chlorine and pH levels.
- Chlorine and other pool chemicals should never be allowed to flow into the gutter or the storm drain system.

Proper Disposal of Pool Chemicals

If you need to dispose of unwanted pool chemicals, first try giving them to a neighbor with a pool. If that doesn't work, bring unwanted pool chemicals to a Household Hazardous Waste (HHW) Collection Event. There's no cost for bringing HHW items to collection events - it's FREE! Call **1-800-506-2555** for a schedule of HHW events in your community.

NEVER put unused chemicals into the trash, onto the ground or down a storm drain.

Appendix 11: Operation and Maintenance Responsibility Plan

NON-STRUCTURAL BMP MAINTENANCE RESPONSIBILITY/FREQUENCY MATRIX

BMP	RESPONSIBILITY	BMP START DATE	FREQUENCY
Education for Property Owners, Operators, Tenants, Occupants, or Employees	Arantine Hills Holding, LP at the first sale; HOA thereafter Other agencies: City of Corona DWP, Riverside County Flood Control and Water Conservation District (RCFCWCD), Riverside County Transportation Department (RCTD).	At close of escrow/ transfer of site responsibilities to HOA / appropriate agencies.	At the first sale of units and every six months thereafter. Information to be provided to property owners, lessees, facility users, HOA members, employees, and tenants. Other agencies providing services to the homeowners (City of Corona DWP, and the County of Riverside Flood Control District) will provide educational materials to residents periodically as brochures and continuously through the internet. See these websites for further information: http://discovercoronadwp.com/ http://www.floodcontrol.co.riverside.ca.us/stormwater/
Activity Restrictions	HOA through enforcement of the CC&Rs.	At transfer of site responsibilities to HOA.	Continuous.
Irrigation System and Landscape Maintenance	HOA through its landscape maintenance contractor and private property owners via City of Corona rules and regulations.	At transfer of site responsibilities to HOA and property owners.	Monthly during regular maintenance, manage landscaping in accordance with the City of Corona Water Conservation Ordinance and with the State of California Department of Pesticides management guidelines for use of fertilizers and pesticides.

NON-STRUCTURAL BMP MAINTENANCE RESPONSIBILITY/FREQUENCY MATRIX

BMP	RESPONSIBILITY	BMP START DATE	FREQUENCY
Common Area Litter Control	HOA and private property owners through the site maintenance contractor.	At transfer of site responsibilities to HOA and property owner.	Weekly sweeping and trash pick up within project areas, landscape areas and parking areas. Daily inspection of trash receptacles to ensure that lids are closed and pick up any excess trash on the ground, noting trash disposal violations by facility users and reporting the violations to the owner/operator for investigation.
Street Sweeping Private Streets and Parking Lots (SC-70)	HOA through the site maintenance contractor.	At transfer of site responsibilities to HOA.	Streets shall be swept on a monthly basis, at minimum. Sweeping will intensify during non-rainy days after October 1st (Rainy season).
Drainage Facility Inspection and Maintenance (SC-74)	HOA through its site maintenance contractor for all private drains and the RCFCWCD and City of Corona as appropriate for public facilities.	At transfer of site responsibilities appropriate party / agency.	Once a month to clean debris and silt in bottom of catch basins. Intensified around October 1st of each year, prior to “first flush” storm.

STRUCTURAL BMP MAINTENANCE RESPONSIBILITY/FREQUENCY MATRIX

BMP	RESPONSIBILITY	BMP START DATE	FREQUENCY
Storm Drain System Stenciling and Signage (SD-13)	HOA through its site maintenance contractor for all private catch basins and at the creek crossing.	At transfer of site responsibilities to HOA.	Once every 6 months, inspect for re-stenciling needs and re-stencil as necessary.
Landscape and Irrigation System Design (SD-10 & SD-12)	HOA and private property owners through the landscape maintenance contractor.	At transfer of site responsibilities to HOA and property owner.	Once a week, in conjunction with maintenance activities. Verify that runoff minimizing landscape design continues to function by checking that water sensors are functioning properly, that irrigation heads are adjusted properly to eliminate overspray to hardscape areas, and to verify that irrigation timing and cycle lengths are adjusted in accordance with water demands, given time of year, weather and day or night time temperatures.
Protect Slopes and Channels	The HOA and private property owners through the landscape maintenance contractor.	At transfer of site responsibilities to HOA and property owner.	Conducted in conjunction with inspection for Landscape and Irrigation System Design. Inspect rip rap and areas around rip rap for signs of erosion and wash out. Drainage channels will be maintained periodically throughout the year, and cleared of silt and debris as necessary to maintain acceptable site discharge.

TREATMENT BMP MAINTENANCE RESPONSIBILITY/FREQUENCY MATRIX

BMP	RESPONSIBILITY	BMP START DATE	FREQUENCY
Infiltration Basin	The HOA through its site maintenance contractor.	At transfer of site responsibilities to HOA.	Ongoing including just before annual storm seasons and following rainfall events • Maintain vegetation as needed. Use of fertilizers, pesticides and herbicides should be strenuously avoided to ensure they don't contribute to water pollution. If appropriate native plant selections and other IPM methods are used, such products shouldn't be needed. If such projects are used, o Products shall be applied in accordance with their labeling, especially in relation to application of water, and in areas subjected to flooding. o Fertilizers should not be applied within 15 days before, after, or during the rain season. • Remove debris and litter from the entire basin to minimize clogging and improve aesthetics. • Check for obvious problems and repair as needed. Address odor, insects, and overgrowth issues associated with stagnant or standing water in the basin bottom. There should be no long-term ponding water.

- Check for erosion and sediment laden areas in the basin. Repair as needed. Clean forebay as needed.
- Revegetate side slopes where needed.

Annually. If possible, schedule these inspections within 72 hours after a significant rainfall.

- Inspection of hydraulic and structural facilities. Examine the inlet for blockage, the embankment and spillway integrity, as well as damage to any structural element.
- Check for erosion, slumping and overgrowth. Repair as needed.
- Check basin depth for sediment build up and reduced total capacity. Scrape bottom as needed and remove sediment. Restore to original cross-section and infiltration rate. Replant basin vegetation.
- Verify the basin bottom is allowing acceptable infiltration. Use a disc or other method to aerate basin bottom only if there is actual significant loss of infiltrative capacity, rather than on a routine basis.
- No water should be present 72 hours after an event. No long term standing water should be present at all. No algae formation should be visible. Correct problem as needed.

Operation and Maintenance Responsibility Plan

The owner of the property shall be responsible for funding, inspecting, and maintaining all improvements onsite.

Maintenance and inspection activities for the identified BMPs will be performed as indicated on the enclosed BMP Maintenance Responsibility/Frequency Matrix. **The owner shall be responsible for all maintenance and inspection responsibilities for all improvements located within the limits of the project.**

NON-STRUCTURAL BMP MAINTENANCE RESPONSIBILITY/FREQUENCY MATRIX

BMP	RESPONSIBILITY	BMP START DATE	FREQUENCY
Education for Property Owners, Operators, Tenants, Occupants, or Employees	Owner	Upon completion of project.	Information to be provided to employees/contractors upon hire and residents upon lease signing. Information to
Activity Restrictions	Owner	Upon completion of project.	Continuous.
Irrigation System and Landscape Maintenance	Owner	Upon completion of project.	Monthly during regular maintenance, manage landscaping in accordance with the City of Corona Water Conservation Ordinance and with the State of California Department of Pesticides management guidelines for use of fertilizers and pesticides.
Common Area Litter Control	Owner	Upon completion of project.	Daily inspection of trash receptacles to ensure that lids are closed and pick up any excess trash on the ground, noting trash disposal violations by tenants or employees and reporting the violations to the owner for investigation.
Drainage Facility Inspection and Maintenance	Owner	Upon completion of project.	Once per quarter to clean debris and silt in from area drains as needed.

STRUCTURAL BMP MAINTENANCE RESPONSIBILITY/FREQUENCY MATRIX

BMP	RESPONSIBILITY	BMP START DATE	FREQUENCY
Landscape and Irrigation System Design (SD-10 & SD-12)	Owner	Upon completion of project.	Once a week, in conjunction with maintenance activities. Verify that runoff minimizing landscape design continues to function by checking that water sensors are functioning properly, that irrigation heads are adjusted properly to eliminate overspray to hardscape areas, and to verify that irrigation timing and cycle lengths are adjusted in accordance with water demands, given time of year, weather and day or night time temperatures.

APPENDIX H: NOISE ASSESSMENT

URBAN CROSSROADS

260 E. Baker St. | Suite 200 | Costa Mesa, CA 92626 | (949) 660-1994
urbanxroads.com

April 5, 2018

Mr. John Sherwood
The New Home Company
85 Enterprise, Suite 450
Aliso Viejo, CA 92656

SUBJECT: ARANTINE HILLS SPECIFIC PLAN AMENDMENT NO. 2 NOISE ASSESSMENT

Dear Mr. John Sherwood:

Urban Crossroads, Inc. is pleased to submit the following supplemental assessment for the *Arantine Hills Specific Plan Amendment No. 2*.

PROJECT DESCRIPTION

It is our understanding that the applicant, Arantine Hills Holdings LP, proposes to amend the Arantine Hills Specific Plan (AHSP) to increase the boundary of the Project Site by approximately 32.31 acres ("Project"). In addition, this proposal includes a General Plan Amendment, a Zone Change, A Specific Plan Amendment, a tentative Parcel Map, and an Addendum to the previously certified Supplemental EIR.

Proposed changes include the designation of the northern approximate 20 acres of the Project Site as Planning Area 17 (PA 17) with a land use designation of Medium Density Residential (MDR), allowing for a total of 15 dwelling units per acre; the land use designation of the Bedford Canyon Wash portion of the Project Site (Planning Area 16A, 12.31 acres) as Open Space; the transfer of development rights for 130 dwelling units from Planning Area 12 to Planning Area 17; and the transfer of development rights for 77 dwelling units from Planning Area 6 to Planning Area 17.

NOISE IMPACTS

Although the total Project boundary increases by approximately 32.31 acres, no increases to operational or construction noise levels beyond what was previously disclosed would occur as the total number of dwelling units and commercial square footage planned will be less than or equal to the number of units originally approved. Further, construction noise levels analyzed in the *Arantine Hills Modified Project Noise Impact Analysis* (April 9, 2015) were based on the conservative distance from each receiver location to the Project site boundary, and the additional Planning Area 17 construction activity would occur at greater distances than those previously analyzed.

Therefore, based on an assessment of information provided in the Draft AHSP Amendment number two, the addition of Planning Area 17 does not appear to conflict with the conclusions in the *Arantine Hills Modified Project Noise Impact Analysis* (April 9, 2015). As such, the noise levels resulting from the development changes proposed in amendment number two of the AHSP would be less than or equal to

the original findings and a less than significant impact would occur.

If you have any questions or require any additional information regarding this letter, please contact me directly at (949) 336-5977.

Respectfully submitted,

URBAN CROSSROADS, INC.



Alex Wolfe, INCE
Analyst

APPENDIX I: TRAFFIC ASSESSMENT

URBAN CROSSROADS

Ofc: 1001 Dove St. | Suite 260 | Newport Beach, CA 92660
Main: 260 E. Baker St. | Suite 200 | Costa Mesa, CA 92626
urbanxroads.com

November 12, 2018

Mr. John Sherwood
The New Home Company
85 Enterprise, Suite 450
Aliso Viejo, CA 92656

SUBJECT: ARANTINE HILLS SPECIFIC PLAN AMENDMENT NO. 2 TRAFFIC ASSESSMENT

Dear Mr. John Sherwood:

The purpose of this letter is to evaluate the relocation of some of the entitled units in the existing Arantine Hills land plan to the Lower McMillan parcel (an expansion of development area for Arantine Hills), without an increase in total residential units and commercial square footage.

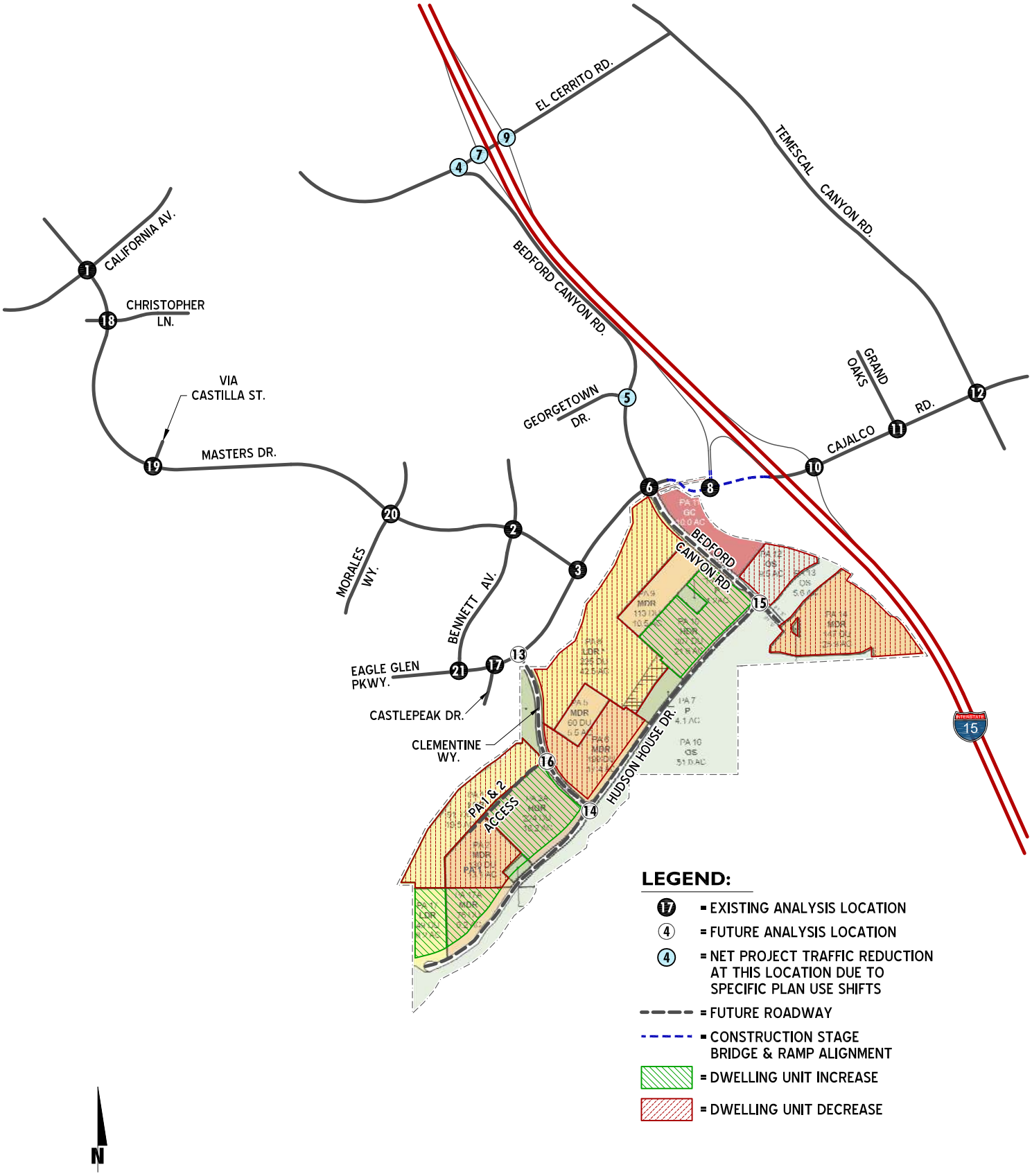
The Project is located south of Eagle Glen Parkway – Cajalco Road and west of the I-15 Freeway in the City of Corona as shown on Exhibit 1.

The Arantine Hills Modified Project was evaluated in a full Traffic Impact Analysis (TIA) in September 2015. This previous TIA evaluated 1,806 dwelling units (1,054 single-family detached dwelling units, 567 multi-family attached dwelling units, and 185 senior housing residential units) in combination with 80,000 square feet of retail.

The proposed Project land use plan (shown on Exhibit 2) would make the following changes to the September 2015 Arantine Hills Modified Project (no change in total number of dwelling units and retail square footage):

- Adjust the project site boundary to include the Lower McMillan parcel (shown as PA's 17 and 17A in Exhibit 2). New PA 17 consists of 49 Low Density Residential (LDR) units and PA 17A consists of 76 Medium Density Residential (MDR) units.
- Adjust Planning Area (PA) boundaries within TAZ 2 (PA's 1, 2, and 3) to include the new PA 2A which consists of 224 High Density Residential units.
- Designate PA 6 as Medium Density Residential (MDR) to account for the transfer of dwelling units and shift in housing type.
- Designate PA 12 as Open Space.
- Transfer 49 dwelling units from PA 1 to PA 17.
- Transfer 76 dwelling units from PA 12 to PA 17A.
- Transfer 224 dwelling units to PA 2A. Development rights would be transferred from PA 2 (120 dwelling units), PA 6 (61 dwelling units), and PA 12 (43 dwelling units).
- Transfer 53 dwelling units to PA 10. Development rights would be transferred from PA 8 (22 dwelling units), PA 12 (11 dwelling units), and PA 14 (20 dwelling units).

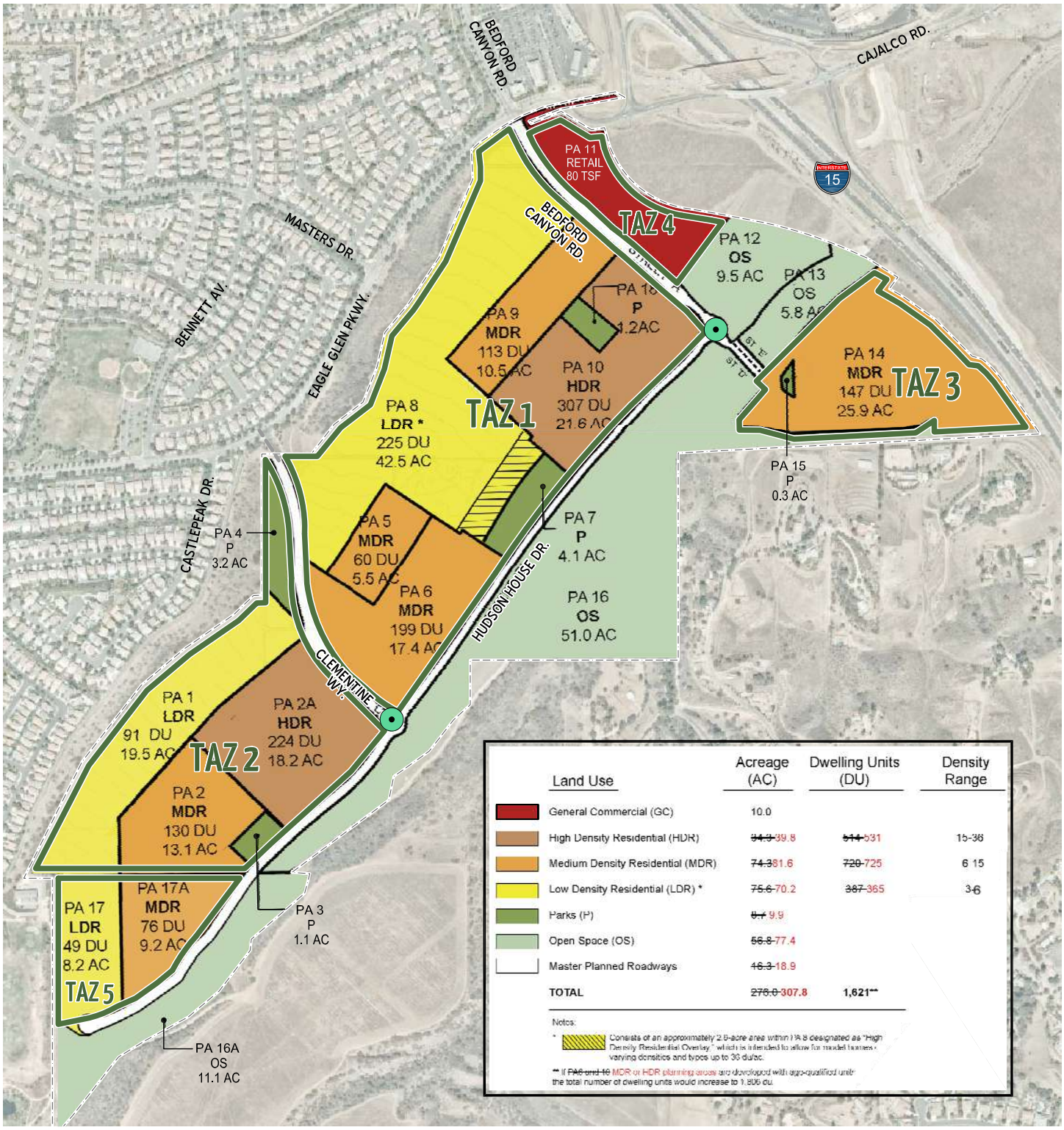
EXHIBIT 1: OVERALL ARANTINE HILLS SPECIFIC PLAN TRAFFIC STUDY AREA, LOWER MCMILLAN DU TRANSFERS



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EXHIBIT 2: PROJECT LAND USE PLAN



Land Use	Acreage (AC)	Dwelling Units (DU)	Density Range
General Commercial (GC)	10.0		
High Density Residential (HDR)	~~34.9~~ 39.8	~~514~~ 531	15-36
Medium Density Residential (MDR)	~~74.3~~ 81.6	~~720~~ 725	6 15
Low Density Residential (LDR) *	~~75.6~~ 70.2	~~387~~ 365	3-6
Parks (P)	~~8.7~~ 9.9		
Open Space (OS)	~~56.8~~ 77.4		
Master Planned Roadways	~~16.3~~ 18.9		
TOTAL	~~276.0~~ 307.8	1,621**	

Notes:
* Consists of an approximately 2.6-acre area within PA 8 designated as "High Density Residential Overlay," which is intended to allow for model homes varying densities and types up to 36 du/ac.
** If ~~PA6 and 16~~ MDR or HDR planning areas are developed with age-qualified units the total number of dwelling units would increase to 1,806 du.

LEGEND:

= ROUNDABOUT LOCATION

= TRAFFIC ANALYSIS ZONE (TAZ) BOUNDARY

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- Decrease the area of PA 1 from 27.6 acres to 19.5 acres and decrease the maximum number of units to 80.
- Decrease the area of PA 2 from 23.2 acres to 13.1 acres, and decrease the maximum number of units to 130.
- Revise PA 6 from High Density Residential to Medium Density Residential and reduce the number of units from 260 to 199.
- Decrease the area of PA 8 from 48.0 acres to 42.5 acres.
- Increase the area of PA 9 from 10.2 acres to 10.5 acres.
- Increase the area of PA 10 from 16.9 acres to 21.6 acres.
- Add a new PA 18 which consist of 1.2 acre park.
- Permit age qualified dwelling units in the Medium Density Residential and High Density Residential planning areas.

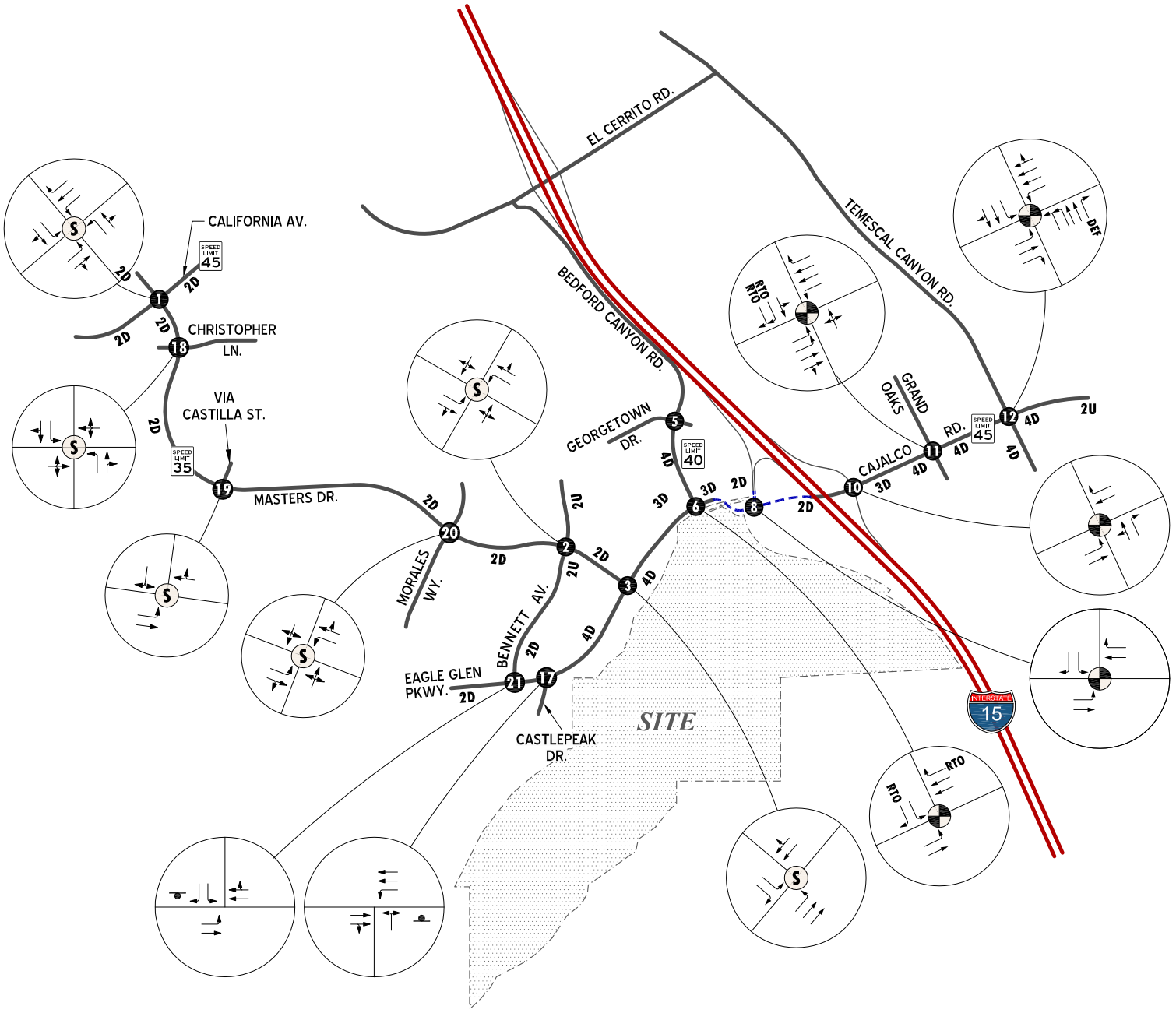
EXISTING CONDITIONS

Due to the recent changes to the site plan (residential land use shifts), new traffic counts have been collected to provide an updated existing (baseline) conditions assessment, since the traffic counts for the previously approved project were taken in 2014 and 2015. For the purpose of this traffic assessment, the analysis focuses on the following locations listed below and shown previously on Exhibit 1.

ID	Intersection Location	Jurisdiction
1	Masters Drive / California Avenue	Corona
2	Masters Drive / Bennett Avenue	Corona
3	Masters Drive / Eagle Glen Parkway	Corona
6	Bedford Canyon Road / Eagle Glen Parkway	Corona
8	I-15 SB Ramps / Cajalco Road	Caltrans
10	I-15 NB Ramps / Cajalco Road	Caltrans
11	Grand Oaks / Cajalco Road	Corona
12	Temescal Canyon Road / Cajalco Road	Corona
13	Clementine Way / Eagle Glen Pkwy.	Corona
14	Clementine Way / Hudson House Drive	Corona
15	Bedford Canyon Road / Hudson House Drive	Corona
16	Clementine Way / PA 1 & 2 Access	Corona
17	Castlepeak Drive / Eagle Glen Parkway	Corona
18	Masters Drive / Christopher Lane	Corona
19	Via Castilla Street / Masters Drive	Corona
20	Morales Way / Masters Drive	Corona
21	Bennett Avenue / Eagle Glen Parkway	Corona

Exhibit 3 illustrates the study area intersections and identifies the number of through traffic lanes for existing roadways and intersection traffic controls (during interchange construction).

EXHIBIT 3: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS



LEGEND:

21 = INTERSECTION ID

= ROADWAY CONFIGURATION DURING INTERCHANGE CONSTRUCTION

N

The AM peak hour traffic volumes were determined by counting traffic volumes in the two and half hour period between 7:00 and 9:00 AM. The PM peak hour traffic volumes were identified by counting traffic volumes in the two hour period from 4:00 to 6:00 PM. The most currently available counts were collected during 2017 and 2018 in order to provide updated information on existing conditions. The manual AM and PM peak hour turning movement counts were conducted in October 2017 and March 2018. The raw manual peak hour turning movement traffic count data sheets are included in Attachment 1. Existing (2017 and 2018) AM and PM peak hour intersection volumes are shown on Exhibit 4 and Exhibit 5, respectively.

Existing (2017 and 2018) average daily traffic (ADT) volumes on arterial highways throughout the study area are shown on Exhibit 6. The ADT volumes are either based on traffic counts or have been estimated by factoring up peak hour counts. The following formula was used to estimate the daily volume for each intersection leg if daily traffic counts were not available:

PM Peak Hour (Approach Volume + Exit Volume) x 12 = Leg Volume

Existing (2017 and 2018) peak hour traffic operations have been evaluated for the study area intersections. The intersection operations analysis results are summarized in Table 1 which indicates that the intersections of Masters Drive / California Avenue (#1), Masters Drive / Christopher Lane (#18), Via Castilla Street / Masters Drive (#19), and Morales Way / Masters Drive (#20) do not operate at an acceptable level of service (LOS) during the peak hours. The intersection operations analysis worksheets are included in Attachment 2.

Table 2 provides a summary of the Existing (2017 and 2018) conditions roadway segment capacity analysis. As shown on Table 2, Eagle Glen Parkway – Cajalco, east of I-15 SB Ramps currently serves daily volumes which exceed the theoretical daily segment LOS thresholds.

PROJECT TRAFFIC

For analysis purposes, the Project was divided into 5 traffic analysis zones (TAZ), as depicted previously on Exhibit 2.

Trip generation represents the amount of traffic which is both attracted to and produced by a development and is based upon the specific land uses being proposed for a given development. The ITE Trip Generation manual is a nationally recognized source for estimating site specific trip generation. To be consistent with the 2015 project traffic impact analysis (TIA), the ITE 2012 Trip Generation manual (9th Edition) trip generation rates are used to estimate Project traffic as shown in Table 3.

Table 4 presents overall project trip generation. The Project is now anticipated to generate a total of approximately 18,573 external trips per day with 1,214 AM peak hour external trips and 1,751 PM peak hour external trips. As shown on Table 4, the peak hour changes in comparison to the September 2015 Arantine Hills project are nominal.

TABLE 1: INTERSECTION ANALYSIS SUMMARY FOR EXISTING (2017/2018) CONDITIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (Secs)		Level of Service[2]		LOS Criteria
			Northbound			Southbound			Eastbound			Westbound							
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	
1	Masters Dr. / California Av.	AWS	1	1	0	1	1	0	1	1	0	1	1	1	**82.1**	19.9	**F**	C	*C*
2	Masters Dr. / Bennett Av.	AWS	1	1	0	1	1	0	0	1!	0	0	1!	0	10.0	15.1	A	C	*C*
3	Masters Dr. / Eagle Glen Pkwy.	AWS	0	0	0	1	0	1	1	2	0	0	2	0	12.4	28.4	B	D	*D*
6	Bedford Cyn. Rd. / Eagle Glen Pkwy.	TS	0	0	0	1	0	1>	1	1	0	0	2	1>	22.4	29.7	C	C	*D*
8	I-15 SB Ramps / Cajalco Rd.	TS	0	0	0	1	0	1	1	1	0	0	1	1	33.2	38.1	C	D	*E*
10	I-15 NB Ramps / Cajalco Rd.	TS	0	1	1	0	0	0	1	1	0	0	1	1	27.4	21.4	C	C	*E*
11	Grand Oaks / Cajalco Rd.	TS	0	1!	0	0.5	0.5	2>	2	2	0	1	***2***	1	11.1	26.3	B	C	*D*
12	Temescal Cyn. Rd. / Cajalco Rd.	TS	2	2	1	1	2	0	1	1	1	1	3	0	35.2	44.8	D	D	*D*
13	Clementine Wy. / Eagle Glen Pkwy.	--	Future Intersection												--	--	--	--	*D*
14	Clementine Wy. / Hudson House Dr.	--	Future Intersection												--	--	--	--	*C*
15	Bedford Cyn. Rd. / Hudson House Dr.	--	Future Intersection												--	--	--	--	*C*
16	Clementine Wy. / PA 1 & 2 Access	--	Future Intersection												--	--	--	--	*C*
17	Castlepeak Dr. / Eagle Glen Pkwy.	CSS	0	1!	0	0	0	0	0	2	0	1	2	0	10.3	9.2	B	A	*D*
18	Masters Dr. / Christopher Ln.	AWS	1	1	0	1	1	0	0	1!	0	0	1!	0	**29.6**	**40.0**	**D**	**E**	*C*
19	Via Castilla St. / Masters Dr.	AWS	0	0	0	0	1!	0	1	1	0	0	1	0	20.5	**49.8**	C	**E**	*C*
20	Morales Wy. / Masters Dr.	AWS	0	1!	0	0	1!	0	1	1	0	1	1	0	14.1	**40.5**	B	**E**	*C*
21	Bennett Av. / Eagle Glen Pkwy.	CSS	0	0	0	1	0	1	1	2	0	0	2	0	17.2	11.2	C	B	*D*

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; 1! = Shared Left-Through-Right turn lane; d= Defacto Right Turn Lane;

1 = Lane reduction during interchange construction

[2] Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. Delay and level of service is calculated using Synchro 10.1 analysis software.

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[3] TS = Traffic Signal; CSS = Cross-street Stop; AWS = All-Way Stop

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TABLE 2: ROADWAY VOLUME/CAPACITY ANALYSIS FOR EXISITING (2017/2018) CONDITIONS

Roadway	Segment	Through Travel Lanes[1]	LOS "E" Capacity[2]	ADT[3]	Volume/ Capacity Ratio
Masters Dr.	North of California Av.	2	13,000	4,500	0.35
	South of California Av.	2	13,000	8,600	0.66
	South of Christopher Ln.	2	13,000	8,000	0.62
	East of Via Castilla St.	2	13,000	7,000	0.54
	North of Bennett Av.	2	13,000	6,000	0.46
	North of Eagle Glen Pkwy.	2	13,000	5,500	0.42
Bennett Av.	East of Masters Dr.	2	13,000	900	0.07
	West of Masters Dr.	2	13,000	2,000	0.15
Bedford Cyn.	North of Eagle Glen Pkwy.	4	26,000	8,100	0.31
Temescal Canyon Rd.	North of Cajalco Rd.	4	35,900	15,600	0.43
	South of Cajalco Rd.	4	35,900	21,700	0.60
California Dr.	West of Masters Dr.	2	13,000	5,200	0.40
	East of Masters Dr.	2	13,000	7,000	0.54
Eagle Glen Pkwy./	West of Bennett Av.	3	19,400	4,000	0.21
Cajalco Rd.	West of Masters Dr.	4	25,900	6,800	0.26
	West of Bedford Cyn.	3	19,400	12,900	0.66
	East of Bedford Cyn.	3	26,900	18,500	0.69
	East of I-15 SB Ramps[4]	2	18,000	**20,200**	**1.12**
	East of I-15 NB Ramps	***4***	35,900	30,300	0.84
	East of Grand Oaks	***4***	35,900	18,000	0.50
	East of Temescal Cyn. Rd.	4	35,900	20,100	0.56

[1] Number of Through lanes: 2 = Existing; ***2*** = Lane reduction during interchange construction.

[2] Source: County of Riverside General Plan, Figure C-2 Link Volume Capacities/Level of Service for Riverside County Roadways.

[3] Existing (2017/2018) Average Daily Traffic (ADT) expressed in vehicles per day.

BOLD = Estimated to exceed threshold daily LOS values and subject to further evaluation of peak hour performance at key intersections along these routes.

[4] Planned interchange improvements at the Cajalco / I-15 interchange are not assumed to be completed in 2017.

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TABLE 3: PROJECT TRIP GENERATION RATES[1]

Land Use	ITE CODE	Quantity	Units[2]	AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
Single Family Detached	210	1,090	DU	0.19	0.56	0.75	0.63	0.37	1.00	9.52
Multi-Family (Apartment)	220	531	DU	0.10	0.41	0.51	0.40	0.22	0.62	6.65
Senior Housing	252	185	DU	0.07	0.13	0.20	0.13	0.12	0.25	3.44
Retail	820	80	TSF	1.05	0.65	1.70	3.10	3.35	6.45	73.43
Active Park	-[3]	7.3	AC	1.00	1.00	2.00	2.00	2.00	4.00	50.00
Local Park	-[4]	2.6	AC	0.33	0.32	0.65	0.23	0.22	0.45	5.00

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 9th Edition (2012). Regression Equation applied to ITE Land Use 820 (Retail).
[2] DU = Dwelling Units; AC = Acres
[3] Since ITE does not have trip rates for an Active Park, similar use based on City of San Diego Trip Generation daily rates for developed park is utilized.
[4] Since ITE does not have trip rates for a linear local park, similar use based on SANDAG's neighborhood/county (undeveloped) park daily rates are utilized. For the peak hour rates, SANDAG's in/out ratio for City (developed) park is applied.

The trip distribution patterns for project traffic analysis zones including the McMillan parcel are shown on Exhibits 7 through 12. Project Only traffic volumes are shown on Exhibits 13 through 15.

Changes to the AM (morning peak hour) and PM (evening peak hour) peak hour project volumes related to the proposed Project, as compared to the September 2015 project, are presented in Exhibits 16 and 17.

2035 WITH PROJECT CONDITIONS

The lane configurations and traffic controls assumed for Buildout (2035) conditions are consistent with the September 2015 Arantine Hills TIA and are listed as follows:

OFF-SITE INTERSECTION IMPROVEMENTS

Masters Drive / California Avenue (#1)

- Install a traffic signal.

Masters Drive / Bennett Avenue (#2)

- Install a traffic signal.

Masters Drive / Eagle Glen Parkway (#3)

- Install a traffic signal.

Bedford Canyon Road / Eagle Glen Parkway - Cajalco Road (#6)

- Adjust the east leg striping to provide a 2nd receiving lane.
- EB Approach: Modify striping to provide a shared through-right turn lane.

TABLE 4: PROJECT TRIP GENERATION SUMMARY

Traffic Analysis Zone (TAZ)	Planning Area	Land Use	ITE CODE	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
1	5	Single Family Detached	210	60	DU	12	34	46	38	23	61	571
	8	Single Family Detached	210	225	DU	43	126	169	142	83	225	2,142
	9	Single Family Detached	210	113	DU	21	63	84	71	42	113	1,076
	6	Single Family Detached	210	199	DU	38	111	149	125	74	199	1,895
	10	Multi-Family Attached	220	307	DU	31	126	157	123	68	191	2,042
	6 & 10	Senior Housing	252	185	DU	13	24	37	24	22	46	636
		Residential Total Trips		1,089	DU	158	484	642	523	312	835	8,362
	7	Active Park	-[2]	4.1	AC	4	4	8	8	8	16	205
	18	Local Park	-[3]	1.2	AC	1	1	2	1	1	2	6
		TAZ 1 Subtotal				163	489	652	532	321	853	8,573
		Active Park Internal Capture with Residential (50%)				*(2)*	*(2)*	*(4)*	*(4)*	*(4)*	*(8)*	*(102)*
		Local Park Internal Capture with Residential (80%)				*(1)*	*(1)*	*(2)*	*(1)*	*(1)*	*(2)*	*(5)*
		Residential Internal Capture with Active Park				*(2)*	*(2)*	*(4)*	*(4)*	*(4)*	*(8)*	*(102)*
		Residential Internal Capture with TAZ 4 (Retail)				*(4)*	*(9)*	*(13)*	*(50)*	*(20)*	*(70)*	*(553)*
		TAZ 1 External Total				**154**	**475**	**629**	**473**	**292**	**765**	**7,811**
2	1	Single Family Detached	210	91	DU	17	51	68	57	34	91	866
	2	Single Family Detached	210	130	DU	25	73	98	82	48	130	1,238
	2A	Multi-Family Attached	220	224	DU	22	92	114	90	49	139	1,490
		Residential Total Trips		445	DU	64	216	280	229	131	360	3,594
	3	Local Park	-[3]	1.1	AC	1	1	2	1	1	2	6
	4	Active Park	-[2]	3.2	AC	3	3	6	6	6	12	160
		TAZ 2 Subtotal				68	220	288	236	138	374	3,760
		Local Park Internal Capture with Residential (80%)				*(1)*	*(1)*	*(2)*	*(1)*	*(1)*	*(2)*	*(5)*
		Active Park Internal Capture with Residential (50%)				*(2)*	*(2)*	*(4)*	*(3)*	*(3)*	*(6)*	*(80)*
		Residential Internal Capture with Local & Active Park				*(3)*	*(3)*	*(6)*	*(4)*	*(4)*	*(8)*	*(85)*
		Residential Internal Capture with TAZ 4 (Retail)				*(2)*	*(4)*	*(6)*	*(19)*	*(8)*	*(27)*	*(221)*
		TAZ 2 External Total				**60**	**210**	**270**	**209**	**122**	**331**	**3,369**
3	14	Single Family Detached	210	147	DU	28	83	111	93	54	147	1,399
	15	Local Park	-[3]	0.3	AC	0	0	0	0	0	0	2
		TAZ 3 Subtotal				28	83	111	93	54	147	1,401
		Local Park Internal Capture with Residential (80%)				*0*	*0*	*0*	*0*	*0*	*0*	*(2)*
		Residential Internal Capture with Local Park				*0*	*0*	*0*	*0*	*0*	*0*	*(2)*
		Residential Internal Capture with TAZ 4 (Retail)				*(1)*	*(1)*	*(2)*	*(6)*	*(4)*	*(10)*	*(83)*
		TAZ 3 External Total				**27**	**82**	**109**	**87**	**50**	**137**	**1,314**
4	11	Retail	820	80	TSF	84	52	136	248	268	516	5,874
		TAZ 4 Subtotal				84	52	136	248	268	516	5,874
		Retail Internal Capture with Residential[4]				*(15)*	*(8)*	*(23)*	*(34)*	*(81)*	*(115)*	*(921)*
		TAZ 4 External Total				**69**	**44**	**113**	**214**	**187**	**401**	**4,953**
5	17	Single Family Detached	210	49	DU	10	27	37	31	18	49	466
	17A	Single Family Detached	210	76	DU	14	44	58	48	28	76	724
		TAZ 5 Subtotal				24	71	95	79	46	125	1,190
		Residential Internal Capture with TAZ 4 (Retail)				*(1)*	*(1)*	*(2)*	*(6)*	*(2)*	*(8)*	*(64)*
		TAZ 5 External Total				**23**	**70**	**93**	**73**	**44**	**117**	**1,126**
Buildout (2035) Cumulative Total Zonal Trips Ends						367	915	1,282	1,188	827	2,015	20,798
Project Internal Trip Capture						*(34)*	*(34)*	*(68)*	*(132)*	*(132)*	*(264)*	*(2,225)*
Buildout (2035) Cumulative Total External Trips						**333**	**881**	**1,214**	**1,056**	**695**	**1,751**	**18,573**

Project Trip Generation Comparison (External Trips)	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Buildout (2035) Cumulative Total External Trips (November 2018 Update)	**333**	**881**	**1,214**	**1,056**	**695**	**1,751**	**18,573**
Buildout (2035) Cumulative Total External Trips (September 2015 Traffic Study)	**334**	**883**	**1,217**	**1,059**	**697**	**1,756**	**18,621**
Delta (November 2018 Update - September 2015 Traffic Study)	**-1**	**-2**	**-3**	**-3**	**-2**	**-5**	**-48**

[1] DU = Dwelling Units; TSF = Thousand Square Feet; AC = Acres

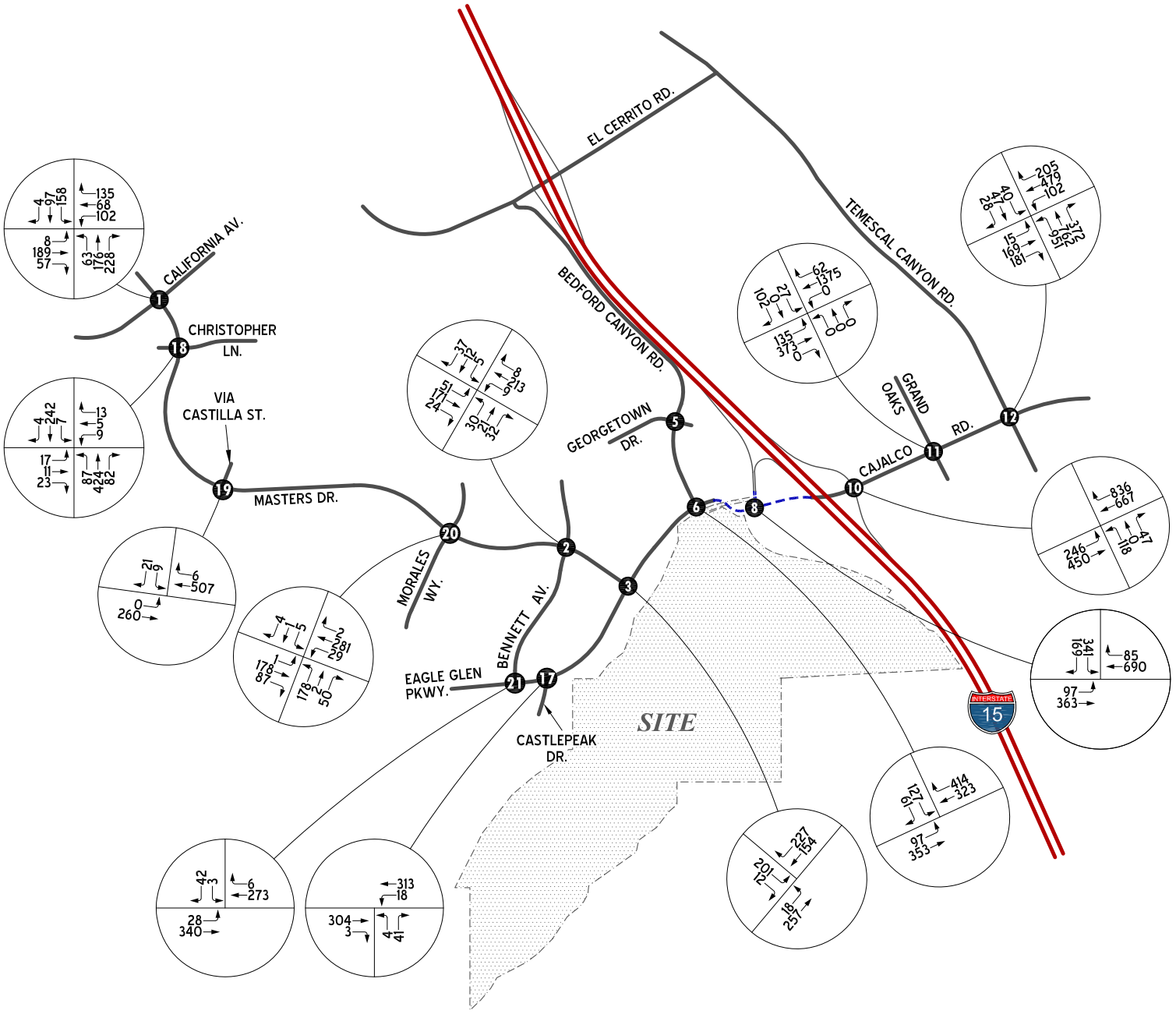
[2] Since ITE does not have trip rates for an Active Park, similar use based on City of San Diego Trip Generation daily rates for developed park is utilized.

[3] Since ITE does not have trip rates for a linear local park, similar use based on SANDAG's neighborhood/county (undeveloped) park daily rates are utilized. For the peak hour rates, SANDAG's in/out ratio for City (developed) park is applied.

[4] Source: Arantine Hills Modified Project Traffic Study, prepared by Urban Crossroads, Inc. (September 2015)

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EXHIBIT 4: EXISTING (2017/2018) AM PEAK HOUR INTERSECTION VOLUMES



LEGEND:

21 = INTERSECTION ID

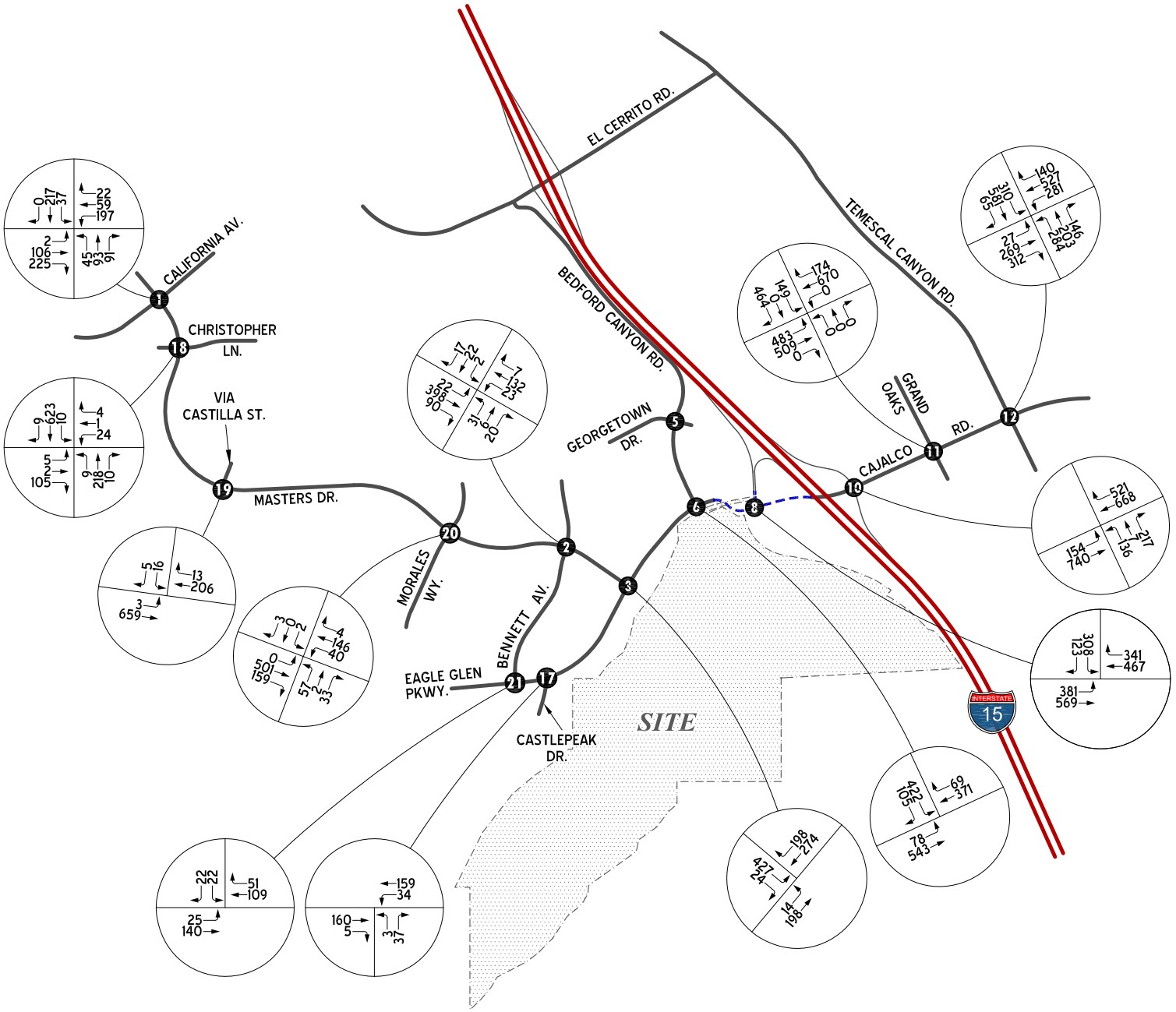
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URBAN CROSSROADS

EXHIBIT 5: EXISTING (2017/2018) PM PEAK HOUR INTERSECTION VOLUMES



LEGEND:

21 = INTERSECTION ID

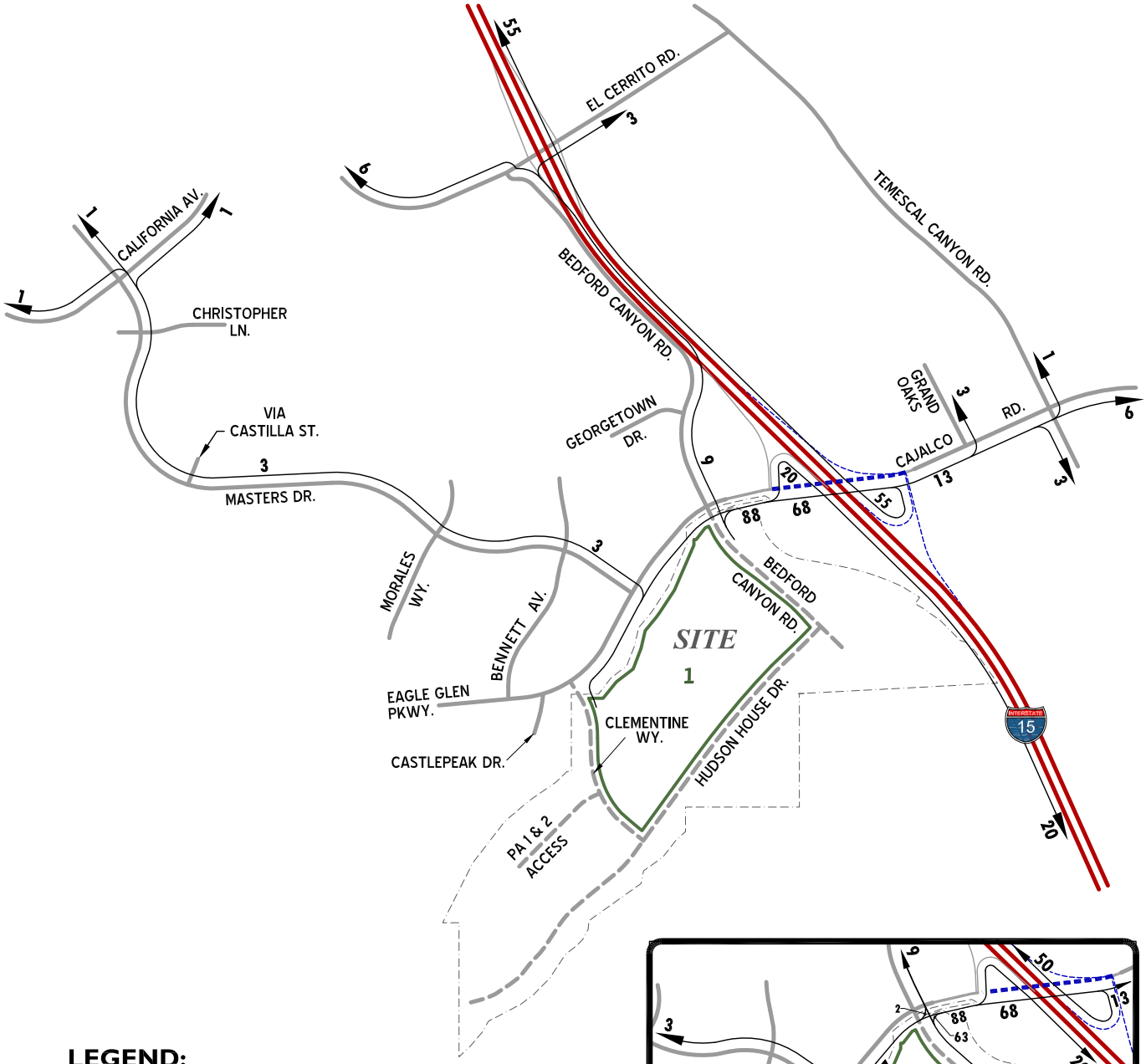
= ROADWAY CONFIGURATION DURING INTERCHANGE CONSTRUCTION

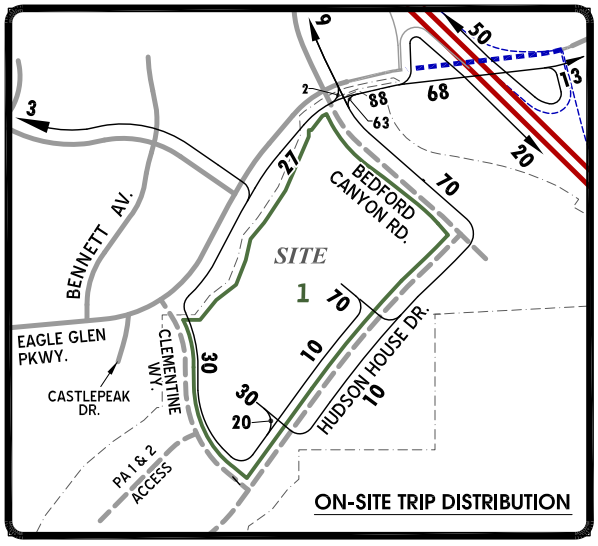
N

EXHIBIT 6: EXISTING (2017/2018) AVERAGE DAILY TRAFFIC (ADT) VOLUMES



EXHIBIT 7: PROJECT TAZ 1 (2035)
(EXTERNAL) TRIP DISTRIBUTION PATTERN





LEGEND:

10 = PERCENT TO/FROM PROJECT

= TRAFFIC ANALYSIS ZONE (TAZ) BOUNDARY

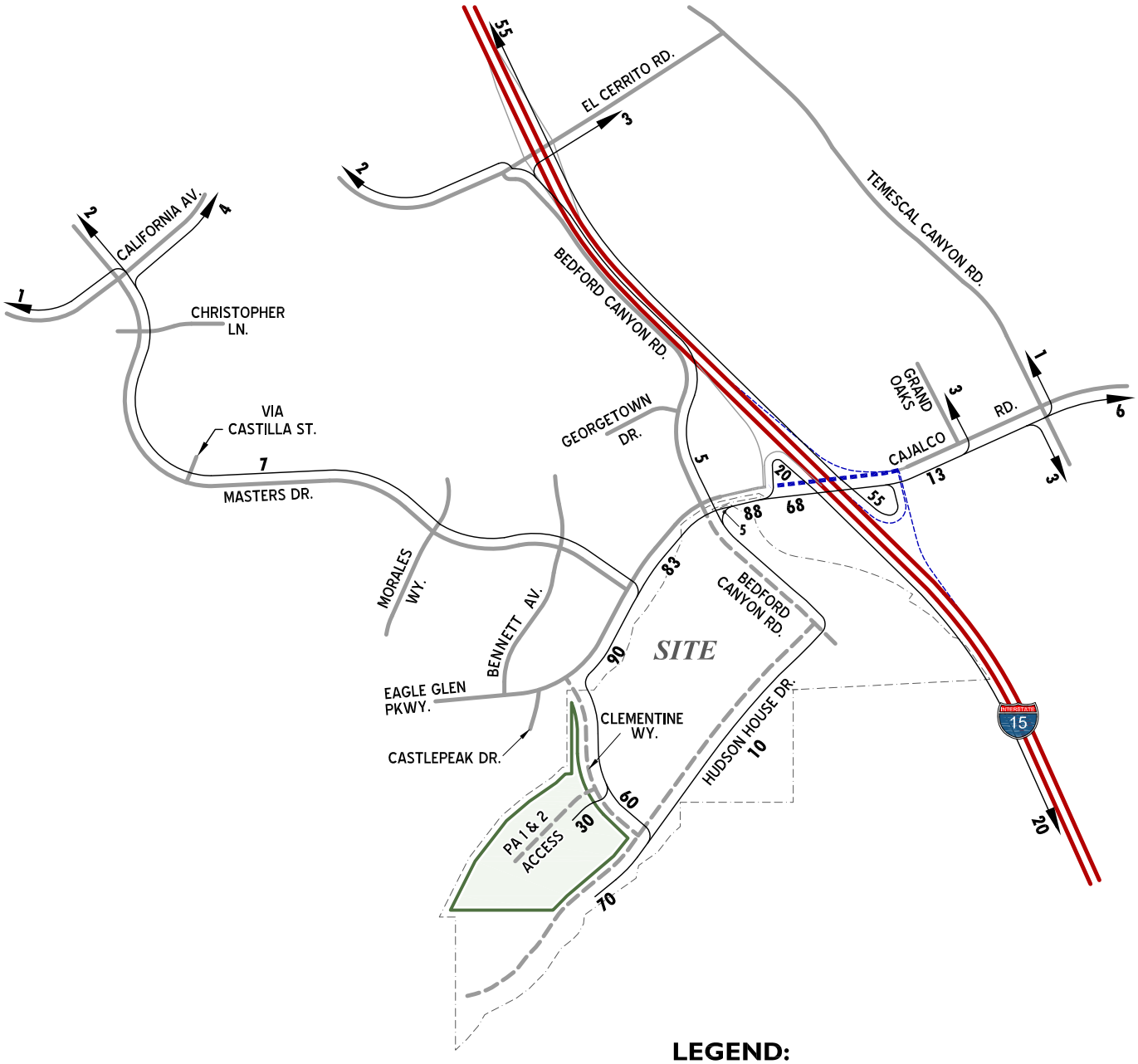
= PROPOSED BRIDGE & RAMP ALIGNMENT

N

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EXHIBIT 8: PROJECT TAZ 2 (2035)
(EXTERNAL) TRIP DISTRIBUTION PATTERN



LEGEND:

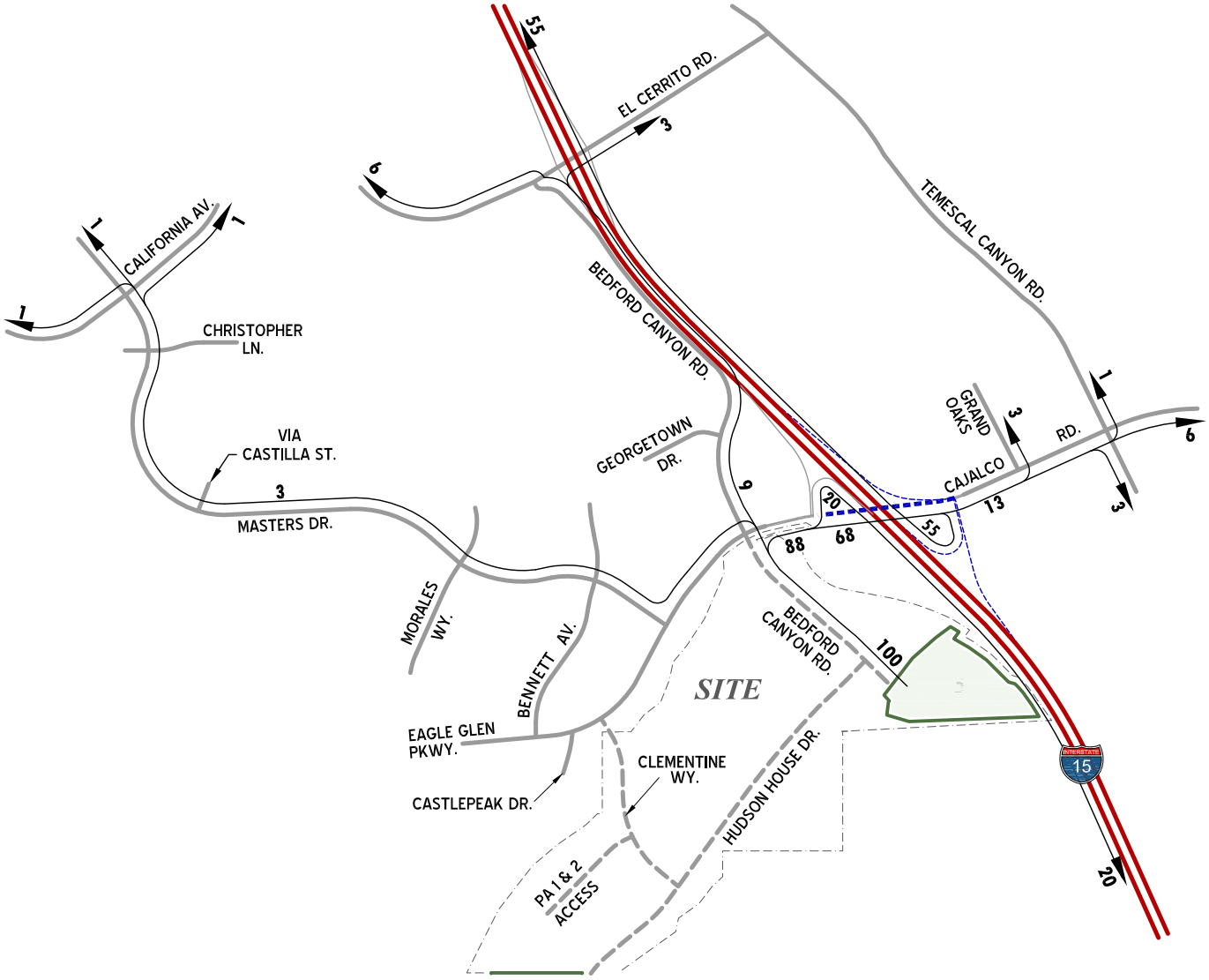
10 = PERCENT TO/FROM PROJECT

= TRAFFIC ANALYSIS ZONE (TAZ) BOUNDARY

= PROPOSED BRIDGE & RAMP ALIGNMENT

N

EXHIBIT 9: PROJECT TAZ 3 (2035)
(EXTERNAL) TRIP DISTRIBUTION PATTERN



LEGEND:

10 = PERCENT TO/FROM PROJECT

= TRAFFIC ANALYSIS ZONE (TAZ) BOUNDARY

= PROPOSED BRIDGE & RAMP ALIGNMENT

EXHIBIT 10: PROJECT TAZ 4 - RETAIL (2035) (EXTERNAL) TRIP DISTRIBUTION PATTERN

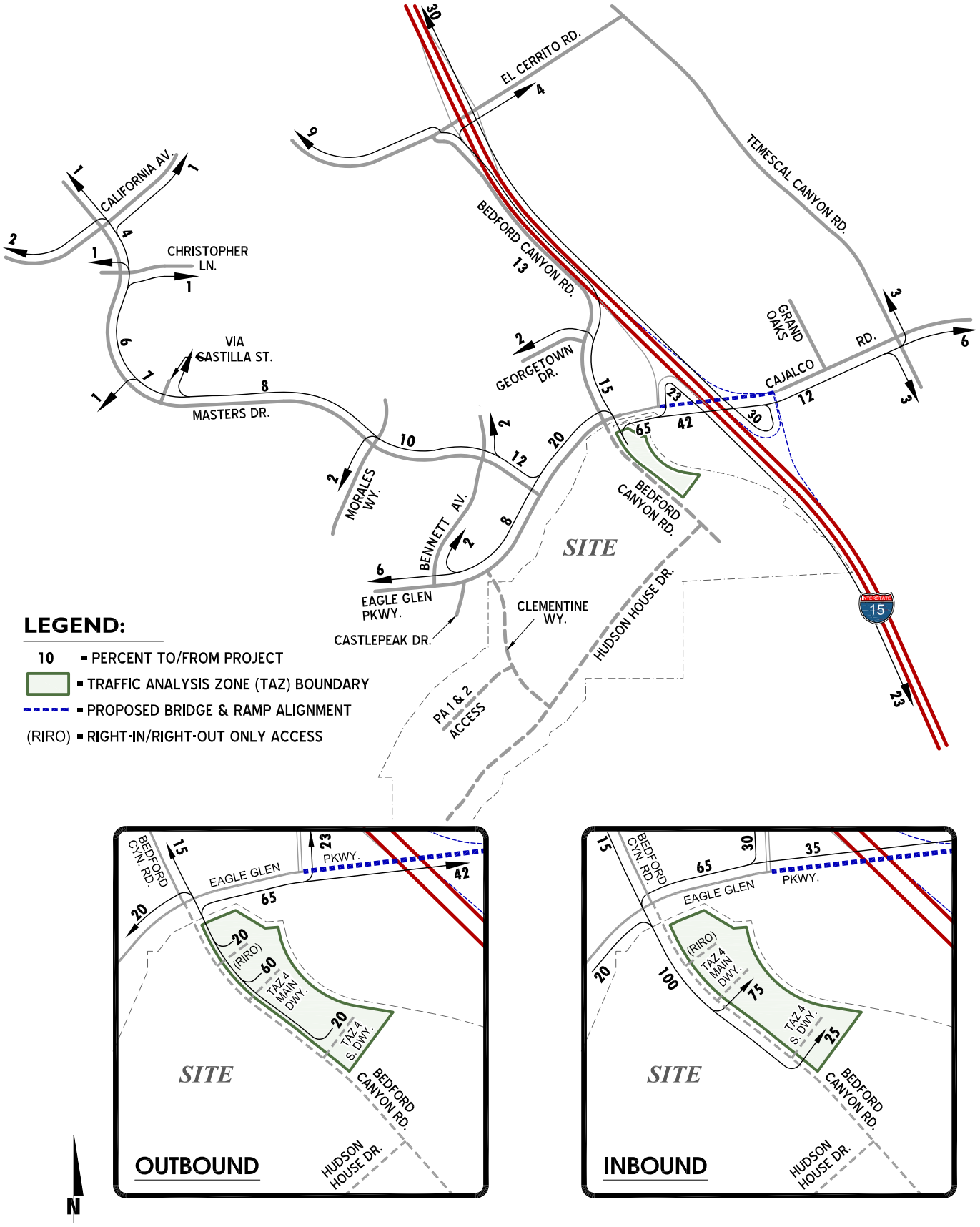


EXHIBIT 11: PROJECT TAZ 4 - RETAIL (2035)
INTERNAL INTERACTION WITH RESIDENTIAL (ON-SITE) TRIP DISTRIBUTION PATTERN

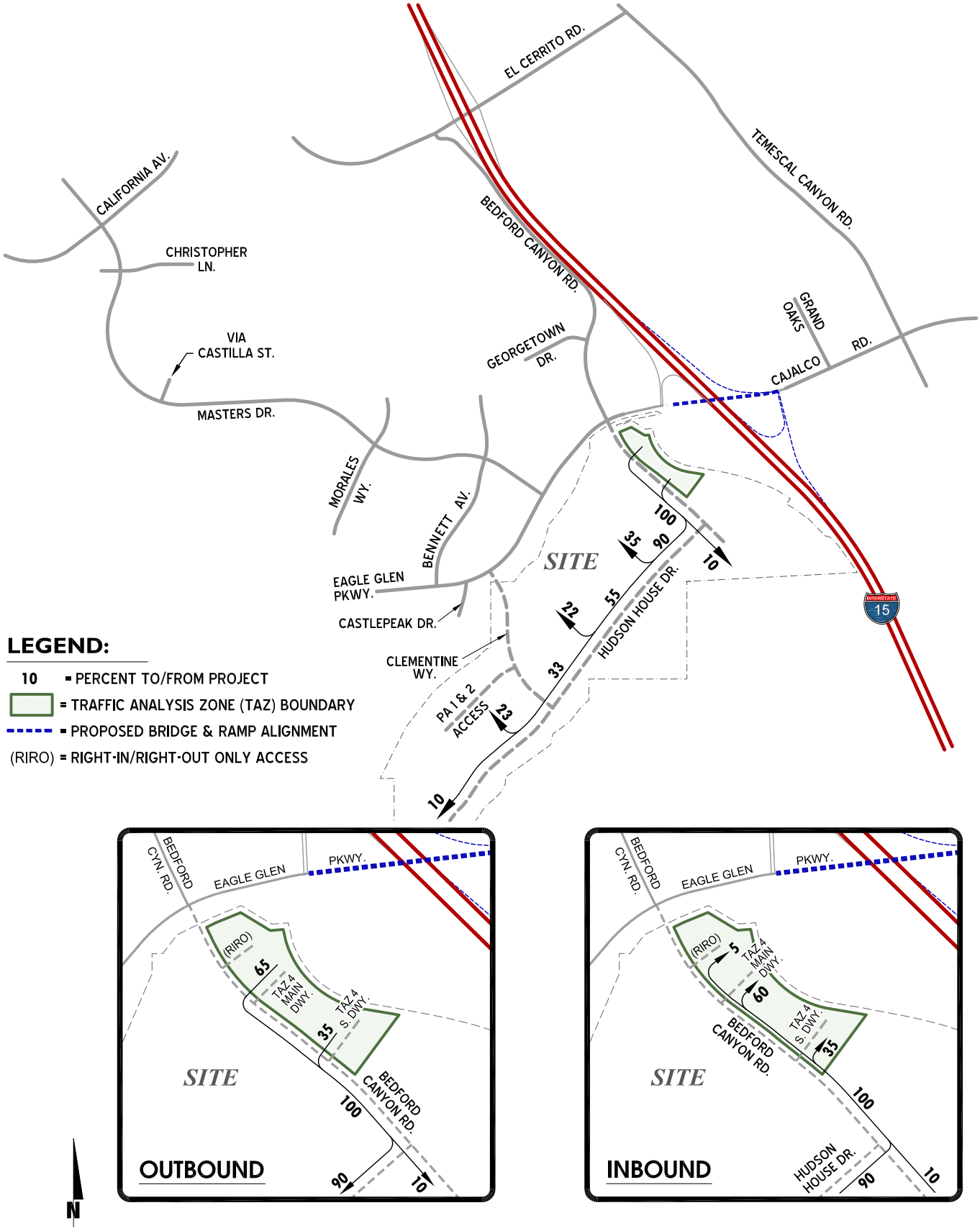
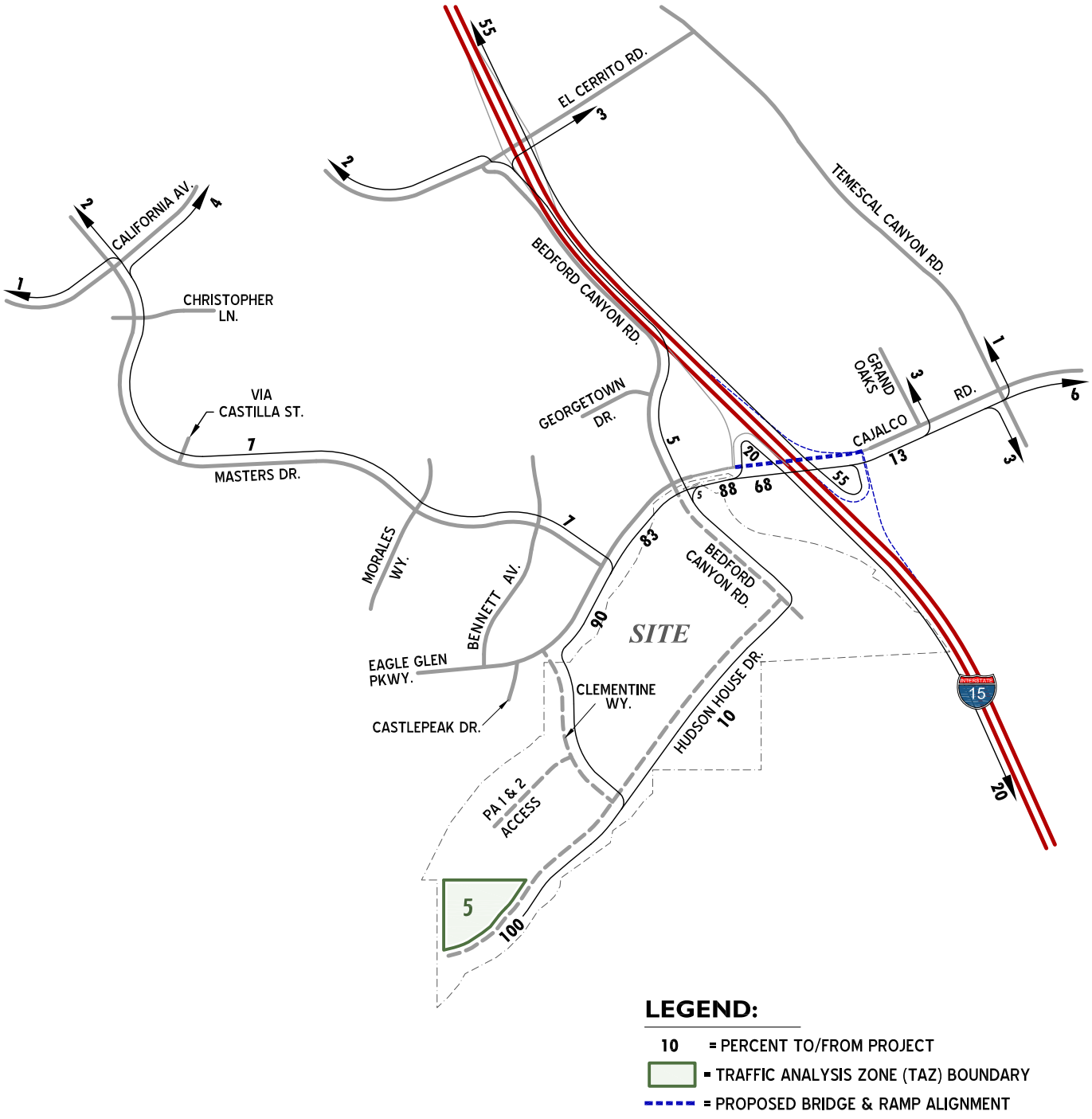


EXHIBIT 12: PROJECT TAZ 5 (2035)
(EXTERNAL) TRIP DISTRIBUTION PATTERN



LEGEND:

10 = PERCENT TO/FROM PROJECT

= TRAFFIC ANALYSIS ZONE (TAZ) BOUNDARY

= PROPOSED BRIDGE & RAMP ALIGNMENT

EXHIBIT 13: 2035 (BUILDOUT) PROJECT ONLY AM PEAK HOUR INTERSECTION VOLUMES

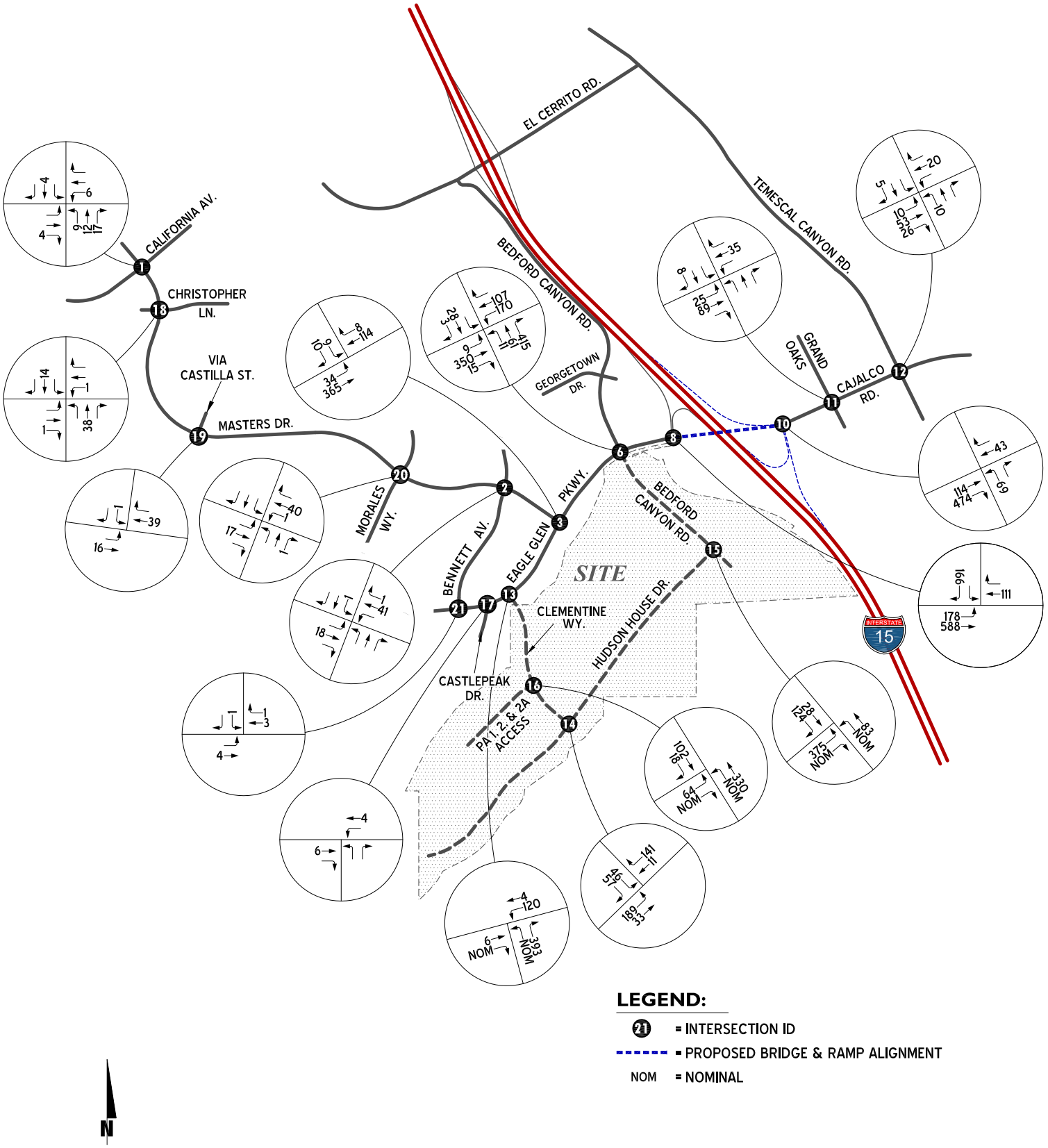


EXHIBIT 14: 2035 (BUILDOUT) PROJECT ONLY PM PEAK HOUR INTERSECTION VOLUMES

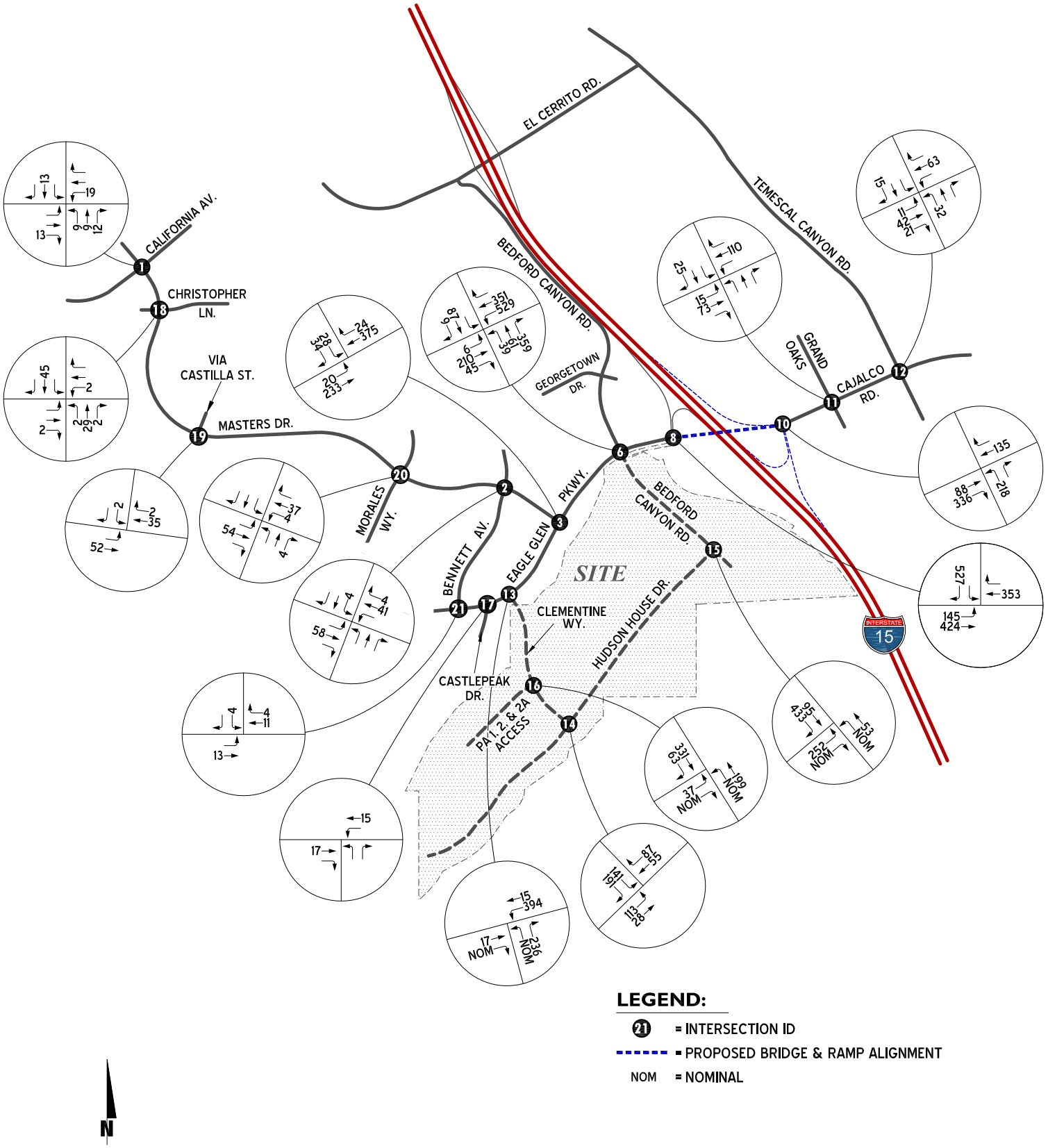


EXHIBIT 15: 2035 (BUILDOUT) PROJECT ONLY AVERAGE DAILY TRAFFIC (ADT) VOLUMES



LEGEND:

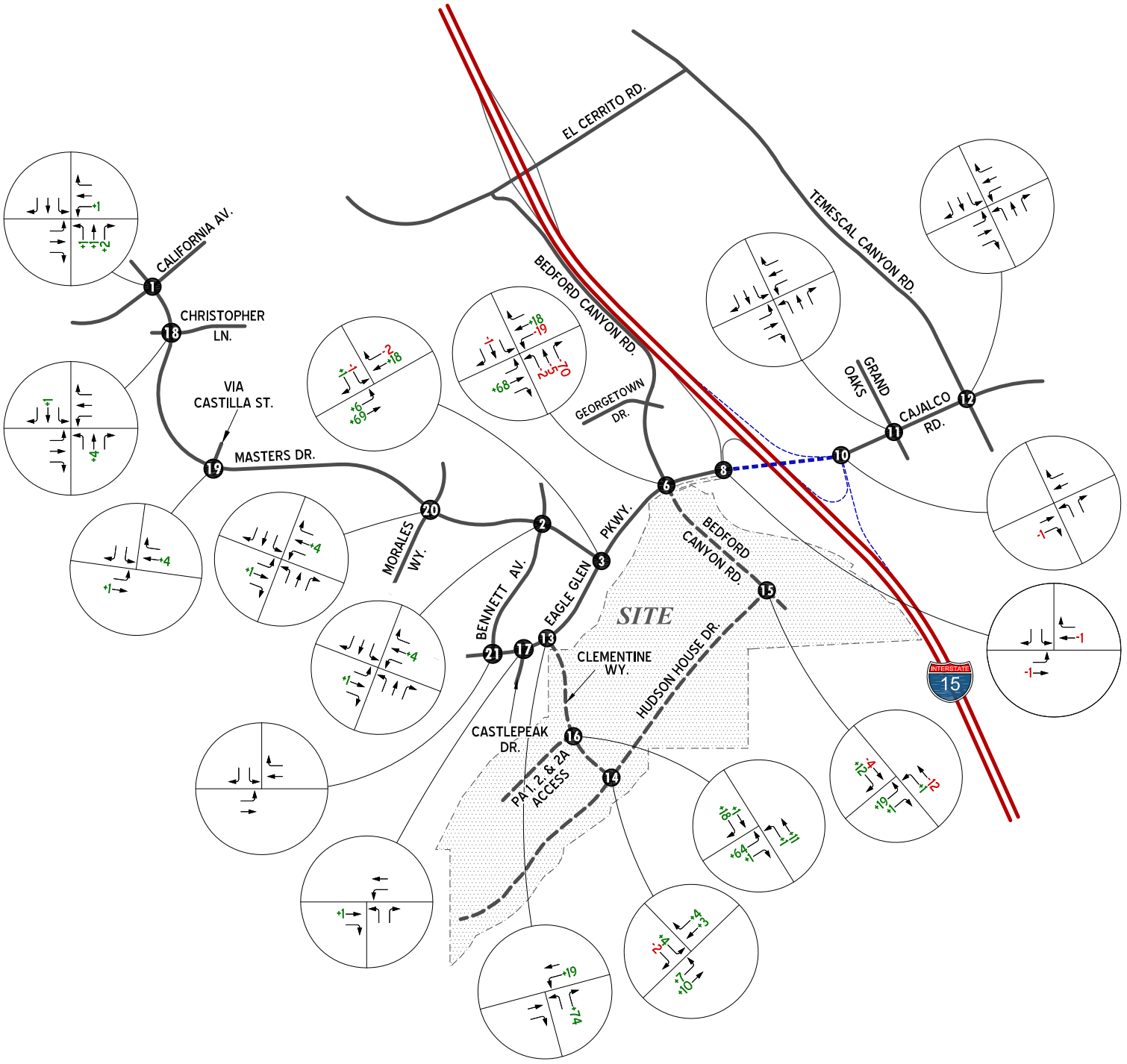
21 = INTERSECTION ID

▪ ▪ ▪ ▪ = PROPOSED BRIDGE & RAMP ALIGNMENT

10.0 = VEHICLES PER DAY (1000'S)

N

EXHIBIT 16: CHANGES IN PROJECT AM PEAK HOUR INTERSECTION VOLUMES (NOVEMBER 2018 UPDATE VS SEPT 2015 PROJECT)



LEGEND:

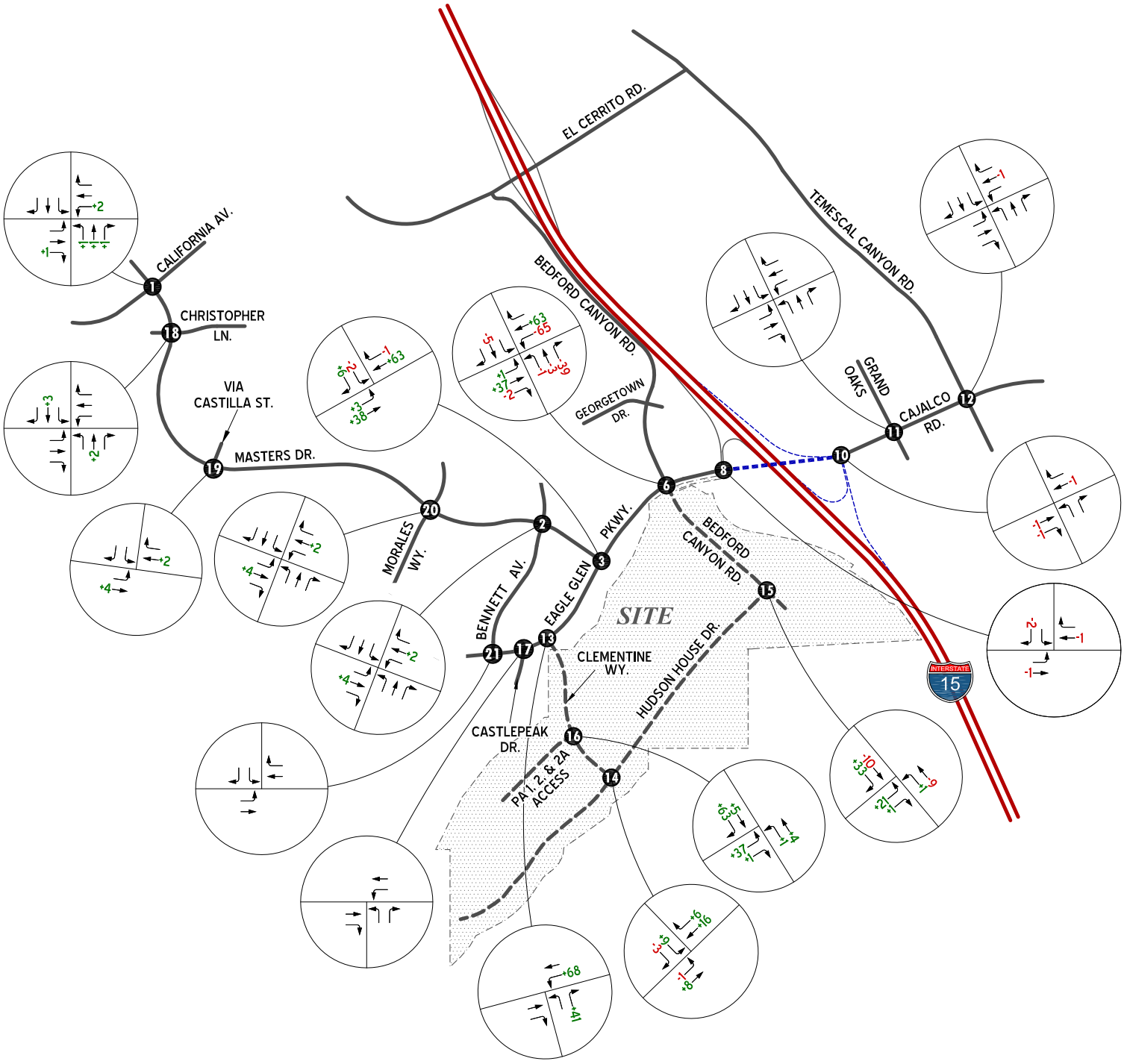
- 21 = INTERSECTION ID
- ------ = PROPOSED BRIDGE & RAMP ALIGNMENT
- -100 = VOLUME REDUCTION ASSOCIATED WITH THE NOVEMBER 2018 LAND USE SHIFTS IN COMPARISON TO THE SEPTEMBER 2015 PROJECT
- +100 = VOLUME INCREASE ASSOCIATED WITH THE NOVEMBER 2018 LAND USE SHIFTS IN COMPARISON TO THE SEPTEMBER 2015 PROJECT

N

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URBAN CROSSROADS

EXHIBIT 17: CHANGES IN PROJECT PM PEAK HOUR INTERSECTION VOLUMES (NOVEMBER 2018 UPDATE VS SEPT 2015 PROJECT)



LEGEND:

- 21 = INTERSECTION ID
- ------ = PROPOSED BRIDGE & RAMP ALIGNMENT
- -100 = VOLUME REDUCTION ASSOCIATED WITH THE NOVEMBER 2018 LAND USE SHIFTS IN COMPARISON TO THE SEPTEMBER 2015 PROJECT
- +100 = VOLUME INCREASE ASSOCIATED WITH THE NOVEMBER 2018 LAND USE SHIFTS IN COMPARISON TO THE SEPTEMBER 2015 PROJECT

N

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URBAN CROSSROADS

I-15 SB Ramps / Cajalco Road (#8)

- SB Approach: Construct a 2nd left turn lane and 2nd right turn lane.
- EB Approach: Construct a 2nd left turn lane, 2nd through lane, and 3rd through lane.
- WB Approach: Construct a 2nd through lane

I-15 NB Ramps / Cajalco Road (#10)

- NB Approach: Construct a 2nd left turn lane and 2nd right turn lane.
- EB Approach: Construct a 2nd and 3rd through lanes and one right turn lane with overlap phasing.
- WB Approach: Construct a 2nd and 3rd through lanes.

Grand Oaks / Cajalco Road (#11)

- EB Approach: Construct a 3rd through lane.

Temescal Canyon Road / Cajalco Road (#12)

- Widen Cajalco Road from four-lane divided to six-lane divided roadway, east of Temescal Canyon Road.
- SB Approach: Modify striping to provide a 2nd left turn lane, in addition to the existing two through lanes.
- EB Approach: Modify striping to provide a 2nd through lane, in addition to the existing left turn lane and right turn lane.
- WB Approach: Construct one right turn lane.

Masters Drive / Christopher Lane (#18)

- Provide traffic signal, or roundabout.

Via Castilla Street / Masters Drive (#19)

- Provide cross-street stop control on Via Castilla Street, or roundabout.

Morales Way / Masters Drive (#20)

- Provide traffic signal, or roundabout.

ON-SITE INTERSECTION IMPROVEMENTS

Bedford Canyon Road / Eagle Glen Parkway - Cajalco Road (#6)

- Construct Bedford Canyon Road (southerly extension of existing Bedford Canyon Road) from Eagle Glen Parkway to Hudon House Drive as a four-lane Modified Divided Collector.
- NB Approach: Construct a separate right turn lane with overlap phasing.
- SB Approach: Modify striping to provide a shared left/through lane.
- WB Approach: Construct a 2nd left turn lane.

Clementine Way / Eagle Glen Parkway (#13)

- Install a traffic signal.
- Provide a separate westbound left turn lane

Clementine Way / Hudson House Drive (#14)

- Construct Hudson House Drive, west of Street Clementine Way, as a two-lane modified collector.
- Install roundabout.
- SB Approach: Provide a shared left/right turn lane.
- EB Approach: Provide a shared left/through lane.
- WB Approach: Provide a shared through/right turn lane.

Bedford Canyon Drive / Hudson House Drive (#15)

- Construct Bedford Canyon Drive, south of Hudson House Drive, as a two-lane modified local.
- Install roundabout.
- NB Approach: Provide a shared left/through lane.
- SB Approach: Provide a shared through/right turn lane.
- EB Approach: Provide a shared left/right turn lane.

In addition to improvements anticipated in the September 2015 Arantine Hills traffic study, the current Project includes an additional internal intersection (location #16 as shown on Exhibit 1) with the following lane configuration:

Clementine Way / PA 1 & PA 2 Access (#16)

- Construct PA 1 & 2 Access, west of Clementine Way, as a two-lane roadway.
- Install a stop control for the eastbound approach.
- NB Approach: Provide a shared left/through lane.
- SB Approach: Provide a shared through/right turn lane.
- EB Approach: Provide a shared left/right turn lane.

The 2035 With Project traffic volumes are shown on Exhibits 18 through 20. Table 5 summarizes the 2035 With Project intersection analysis results. As shown on Table 5, the improvements identified the September 2015 Arantine Hills traffic study (listed above and shown on Exhibits 21 and 22) are still anticipated to provide acceptable level of service with the proposed Project land use shifts.

The 2035 With Project roadway segment capacity analysis results are presented on Table 6. Where roadway segments are estimated to serve daily volumes which exceed the theoretical daily segment LOS thresholds, further review of the more detailed peak hour intersection analysis results indicate that the recommended interchange and intersection improvements recommended in the 2015 Project TIA provide acceptable level of service for both study area intersections and roadway segments.

EXHIBIT 18: 2035 WITH PROJECT AM PEAK HOUR INTERSECTION VOLUMES

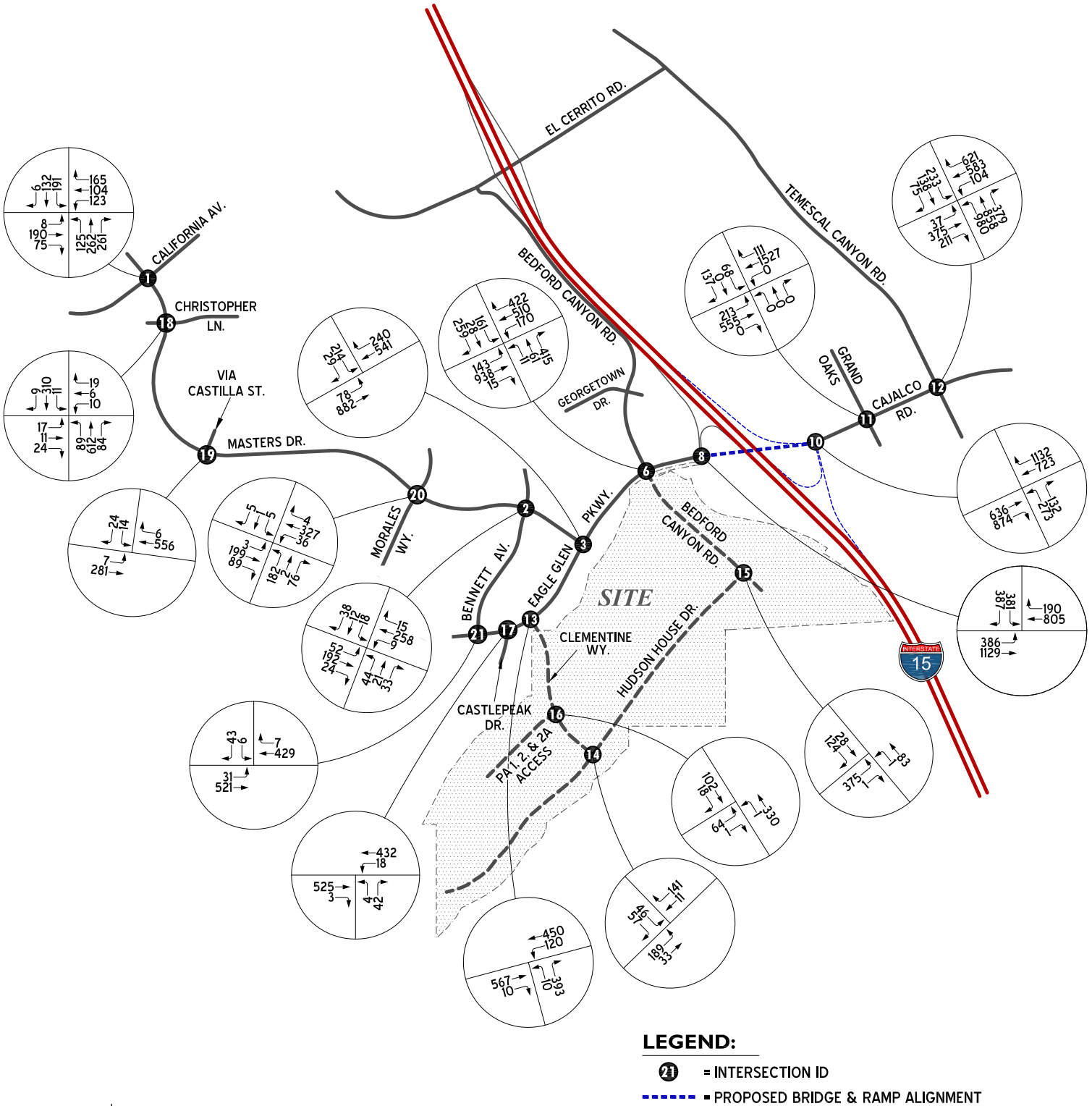


EXHIBIT 19: 2035 WITH PROJECT PM PEAK HOUR INTERSECTION VOLUMES

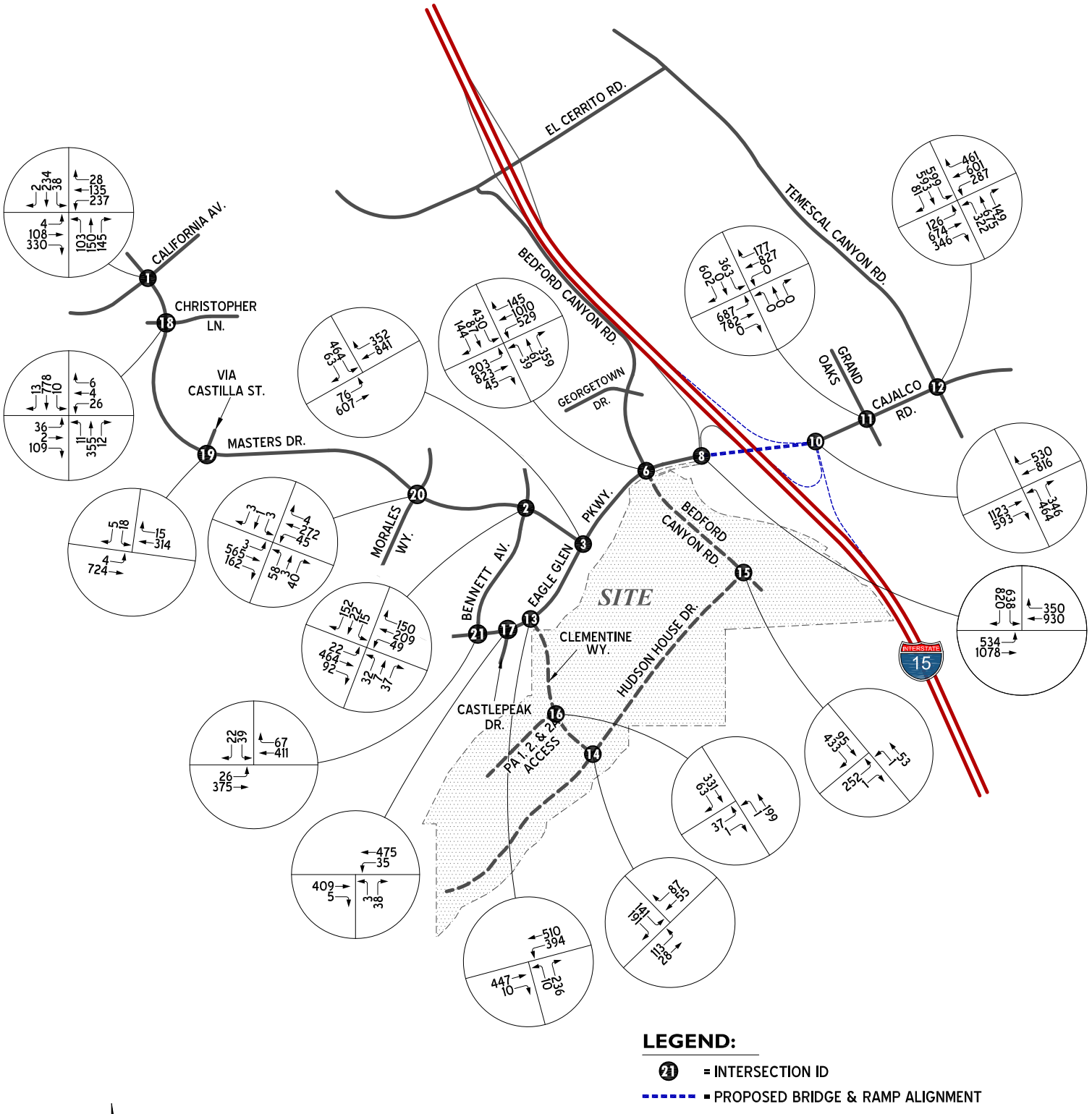


EXHIBIT 20: 2035 WITH PROJECT AVERAGE DAILY TRAFFIC (ADT) VOLUMES



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URBAN CROSSROADS

EXHIBIT 21: RECOMMENDED OFF-SITE INTERSECTION IMPROVEMENTS FOR 2035 WITH PROJECT CONDITIONS

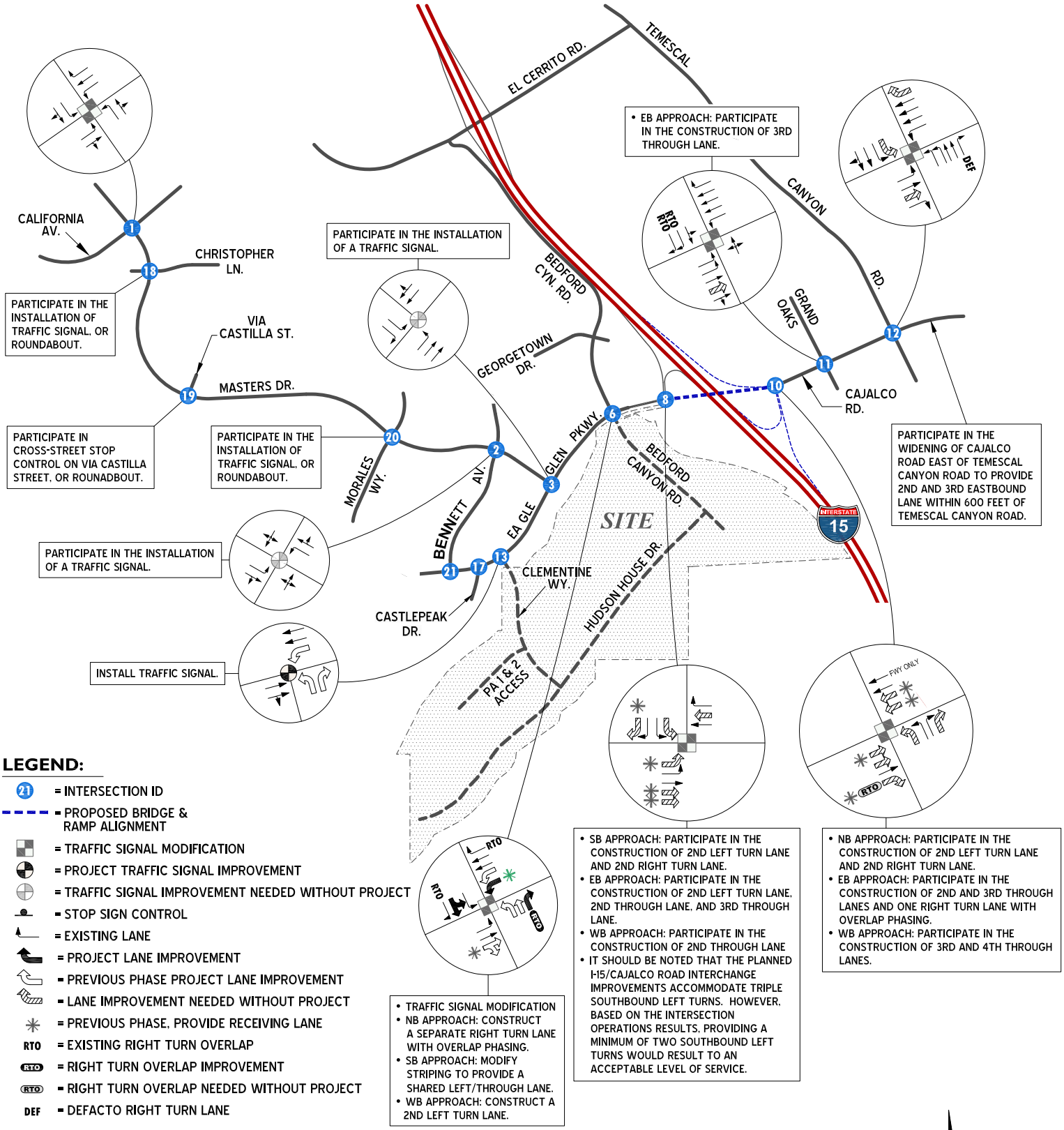
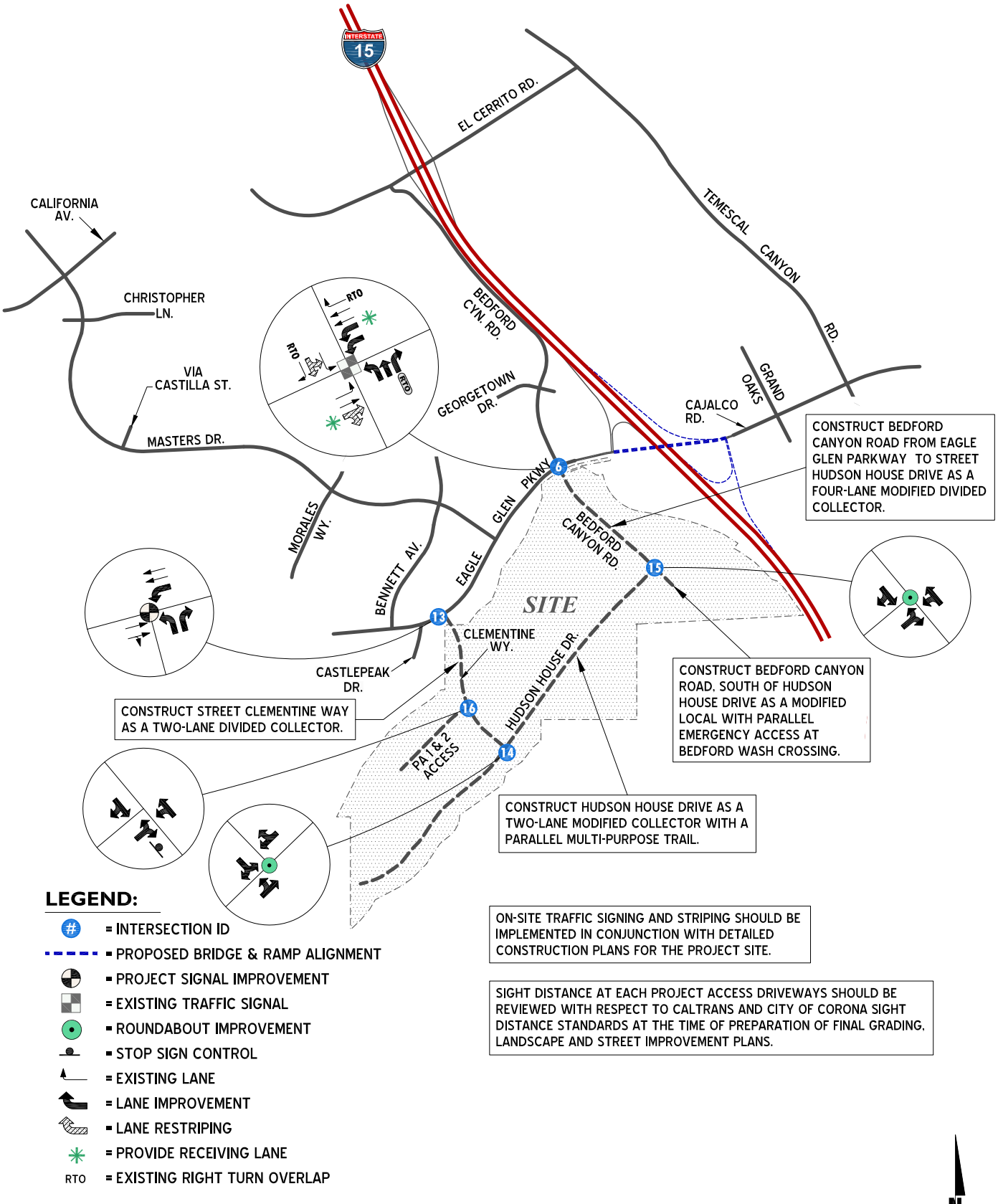


EXHIBIT 22: ON-SITE CIRCULATION RECOMMENDATIONS



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URBAN CROSSROADS

TABLE 5: INTERSECTION ANALYSIS SUMMARY FOR 2035 WITH PROJECT CONDITIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (Secs)		Level of Service[2]		LOS Criteria
			Northbound			Southbound			Eastbound			Westbound							
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	
1	Masters Dr. / California Av.																		
	- With Improvements	**TS**	1	1	0	1	1	0	1	1	0	1	1	1	34.2	18.2	C	B	*C*
2	Masters Dr. / Bennett Av.																		
	- With Improvements	**TS**	1	1	0	1	1	0	0	1!	0	0	1!	0	7.9	8.9	A	A	*C*
3	Masters Dr. / Eagle Glen Pkwy.																		
	- With Improvements	**TS**	0	0	0	1	0	1	1	2	0	0	2	0	17.8	32.3	B	C	*D*
6	Bedford Cyn. Rd. / Eagle Glen Pkwy.																		
	- With Project Improvements	TS	**1**	**1**	**1>**	**1.5**	**1.5**	1>	1	***2***	0	**2**	2	1>	39.5	46.5	D	D	*D*
8	I-15 SB Ramps / Cajalco Rd.																		
	- With Improvements[4]	TS	0	0	0	***2***	0	***2***	***2***	**3**	0	0	***2***	1	21.1	41.8	C	D	*E*
10	I-15 NB Ramps / Cajalco Rd.	TS	***2***	0	***2***	0	0	0	0	***3***	***1>***	0	***4***	0	19.5	18.0	B	B	*E*
11	Grand Oaks / Cajalco Rd.	TS	0	1!	0	0.5	0.5	2>	2	***3***	0	1	3	1	37.8	33.0	D	C	*D*
12	Temescal Cyn. Rd. / Cajalco Rd.																		
	- With Improvements	TS	2	2	1	**2**	2	0	1	**2**	1	1	3	**1**	54.3	52.6	D	D	*D*
13	Clementine Wy. / Eagle Glen Pkwy.	**TS**	**1**	0	**1**	0	0	0	0	2	0	**1**	2	0	27.7	29.1	C	C	*D*
14	Clementine Wy. / Hudson House Dr.	**RDB**	0	0	0	0	**1!**	0	**0.5**	**0.5**	0	0	**1**	0	4.2	4.7	A	A	*C*
15	Bedford Cyn. Rd. / Hudson House Dr.	**RDB**	0	**1**	0	0	**1**	0	0	**1**	0	0	0	0	4.9	5.9	A	A	*C*
16	Clementine Wy. / PA 1 & 2 Access	**CSS**	0	**1**	0	0	**1**	0	0	0	0	0	**1!**	0	12.4	13.3	B	B	*C*
17	Castlepeak Dr. / Eagle Glen Pkwy.	CSS	0	1!	0	0	0	0	0	2	0	1	2	0	10.7	10.4	B	B	*C*
18	Masters Dr. / Christopher Ln.																		
	- With Roundabout	**RDB**	0	1!	0	0	1!	0	0	1!	0	0	1!	0	8.9	9.3	A	A	*C*
	- With Traffic Signal	**TS**	1	1	0	1	1	0	0	1!	0	0	1!	0	5.1	5.3	A	A	*C*
19	Via Castilla St. / Masters Dr.																		
	- With Roundabout	**RDB**	0	0	0	0	1!	0	0	1	0	0	1	0	6.1	7.8	A	A	*C*
	- With CSS control	CSS	0	0	0	0	1!	0	1	1	0	0	1	0	14.7	19.6	B	C	*C*
20	Morales Wy. / Masters Dr.																		
	- With Roundabout	**RDB**	0	1!	0	0	1!	0	0	1!	0	0	1!	0	5.9	8.3	A	A	*C*
	- With Traffic Signal	**TS**	0	1!	0	0	1!	0	1	1	0	1	1	0	13.0	19.1	B	B	*C*
21	Bennett Av. / Eagle Glen Pkwy.	CSS	0	0	0	1	0	1	1	1	0	0	2	0	21.6	20.1	C	C	*C*

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; 1! = Shared Left-Through-Right turn lane; > = Right Turn Overlap; >> = Free-Right; ***1*** = Planned Interchange Improvement
1 = Improvement (Consistent with Arantine Hills Modified Project Traffic Study, prepared by Urban Crossroads, Inc. Sept. 2015)

[2] Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. Delay and level of service is calculated using Synchro 10.1 analysis software.

[3] TS = Traffic Signal; CSS = Cross-street Stop; AWS = All-Way Stop; RDB = Roundabout

[4] Per City of Corona staff, a 3rd EBT lane is recommended

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TABLE 6: ROADWAY VOLUME/CAPACITY ANALYSIS FOR 2035 WITH PROJECT CONDITIONS

Roadway	Segment	Through Travel Lanes[1]	LOS "E" Capacity[2]	ADT[3]	Volume/ Capacity Ratio
Masters Dr.	North of California Av.	2	13,000	8,200	0.63
	South of California Av.	2	13,000	9,600	0.74
	South of Christopher Ln.	2	13,000	9,200	0.71
	East of Via Castilla St.	2	13,000	8,500	0.65
	North of Bennett Av.	2	13,000	7,500	0.58
	North of Eagle Glen Pkwy.	2	13,000	7,300	0.56
Bennett Av.	East of Masters Dr.	2	13,000	1,500	0.12
	West of Masters Dr.	2	13,000	2,900	0.22
Bedford Cyn.	North of Eagle Glen Pkwy.	4	26,000	16,000	0.62
Temescal Canyon Rd.	North of Cajalco Rd.	4	35,900	26,800	0.75
	South of Cajalco Rd.	4	35,900	28,400	0.79
California Dr.	West of Masters Dr.	2	13,000	8,500	0.65
	East of Masters Dr.	2	13,000	11,100	0.85
Eagle Glen Pkwy./ Cajalco Rd.	West of Bennett Av.	3	19,400	4,700	0.24
	West of Masters Dr.	4	25,900	15,000	0.58
	West of Bedford Cyn.	***4***	25,900	**24,100**	**0.93**
	East of Bedford Cyn. - With Improvements[4]	**5**	44,900	35,800	0.80
	East of I-15 SB Ramps	***6***	53,900	33,700	0.63
	East of I-15 NB Ramps	***7***	62,800	33,100	0.53
	East of Grand Oaks	5	44,900	21,000	0.47
	East of Temescal Cyn. Rd.	4	35,900	31,100	0.87
Street "A"	South of Eagle Glen Pkwy.	4	26,000	12,200	0.47
Street "B"	West of Street "C"	2	13,000	3,800	0.29
	East of Street "C"	2	13,000	3,100	0.24
	West of Street "E"	2	13,000	6,800	0.52
Street "C"	South of Eagle Glen Pkwy.	2	13,000	6,400	0.49
Street "D"	South of Street "B"	2	13,000	1,400	0.11

[1] Number of Through lanes: 2 = Existing; ***2*** = Planned Interchange Improvement

[2] Source: County of Riverside General Plan, Figure C-2 Link Volume Capacities/Level of Service for Riverside County Roadways

[3] 2035 With Project Average Daily Traffic (ADT) expressed in vehicles per day

BOLD = Estimated to approach or exceed threshold daily LOS values and subject to further evaluation of peak hour performance at key intersections along these routes.

[4] Per City of Corona staff, a 3rd EBT lane is recommended.

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CONCLUSION

Arantine Hills was evaluated in a full Traffic Impact Analysis (TIA) in September 2015. This previous TIA evaluated 1,806 dwelling units (1,107 single-family detached dwelling units, 514 multi-family attached dwelling units, and 185 senior housing residential units) in combination with 80,000 square feet of retail.

The proposed Project land use plan (shown previously on Exhibit 2) would relocate some of the entitled units in the existing Arantine Hills land plan to the Lower McMillan parcel (an expansion of development area for Arantine Hills), without an increase in total residential units and commercial square footage.

Changes in traffic volumes associated with internal land use adjustments and transfers have been analyzed, and circulation improvements associated with the approved Arantine Hills Specific Plan provide adequate traffic service levels for long range future conditions. Based on the results presented in this traffic assessment, the proposed land use changes and residential unit transfers are not expected to cause new traffic impacts. The improvement recommendations in the September 2015 traffic study for the Arantine Hills project are still applicable to the study area with currently proposed Project changes.

If you have any questions regarding this traffic assessment, please contact John Kain at (949) 336-5990 or Marlie Whiteman at (949)336-5991.

Respectfully submitted,

URBAN CROSSROADS, INC.

John Kain

John Kain, AICP
Principal

Marlie Whiteman

Marlie Whiteman, P.E.
Senior Associate

JN: 11501 Arantine Hills Specific Plan Amendment No. 2 Traffic Assessment

ATTACHMENT 1:

TRAFFIC COUNT WORKSHEETS

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Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Corona
N/S: Valencia Road/Masters Drive
E/W: East Upper Drive/California Avenue
Weather: Clear

File Name : 01_COR_Valencia_Masters_Upper_California AM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 1

Groups Printed- Total Volume

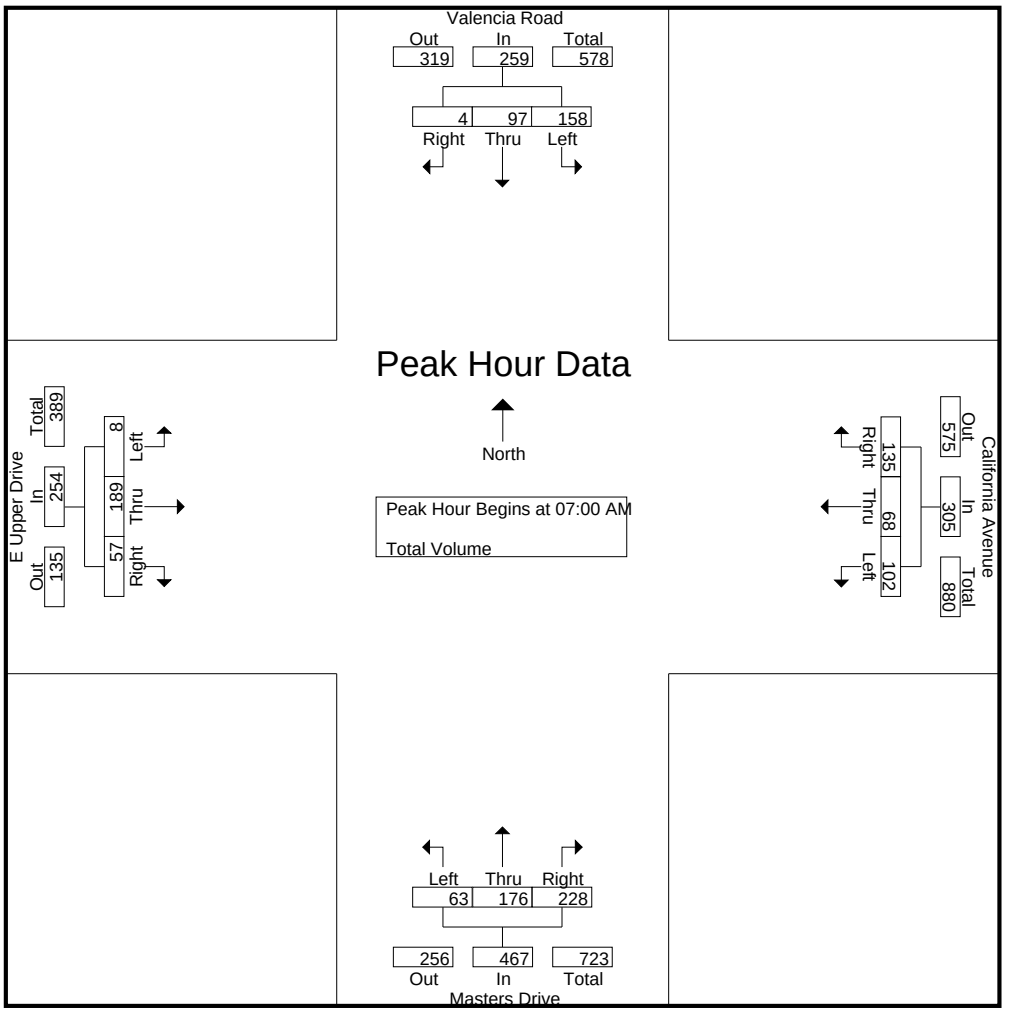
	Valencia Road Southbound				California Avenue Westbound				Masters Drive Northbound				E Upper Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	30	7	0	37	8	7	16	31	20	38	72	130	1	41	10	52	250
07:15 AM	53	27	0	80	16	15	41	72	12	52	80	144	2	71	7	80	376
07:30 AM	41	34	2	77	52	34	70	156	17	62	38	117	4	50	25	79	429
07:45 AM	34	29	2	65	26	12	8	46	14	24	38	76	1	27	15	43	230
Total	158	97	4	259	102	68	135	305	63	176	228	467	8	189	57	254	1285
08:00 AM	12	16	0	28	19	6	8	33	17	24	39	80	0	23	12	35	176
08:15 AM	7	11	0	18	14	11	2	27	10	32	37	79	0	23	11	34	158
08:30 AM	4	11	0	15	14	10	2	26	12	22	41	75	0	28	8	36	152
08:45 AM	8	9	0	17	9	16	2	27	17	11	37	65	0	20	5	25	134
Total	31	47	0	78	56	43	14	113	56	89	154	299	0	94	36	130	620
Grand Total	189	144	4	337	158	111	149	418	119	265	382	766	8	283	93	384	1905
Apprch %	56.1	42.7	1.2		37.8	26.6	35.6		15.5	34.6	49.9		2.1	73.7	24.2		
Total %	9.9	7.6	0.2	17.7	8.3	5.8	7.8	21.9	6.2	13.9	20.1	40.2	0.4	14.9	4.9	20.2	

	Valencia Road Southbound				California Avenue Westbound				Masters Drive Northbound				E Upper Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	30	7	0	37	8	7	16	31	**20**	38	72	130	1	41	10	52	250
07:15 AM	**53**	27	0	**80**	16	15	41	72	12	52	**80**	**144**	2	**71**	7	**80**	376
07:30 AM	41	**34**	**2**	77	**52**	**34**	**70**	**156**	17	**62**	38	117	**4**	50	**25**	79	**429**
07:45 AM	34	29	2	65	26	12	8	46	14	24	38	76	1	27	15	43	230
Total Volume	158	97	4	259	102	68	135	305	63	176	228	467	8	189	57	254	1285
% App. Total	61	37.5	1.5		33.4	22.3	44.3		13.5	37.7	48.8		3.1	74.4	22.4		
PHF	.745	.713	.500	.809	.490	.500	.482	.489	.788	.710	.713	.811	.500	.665	.570	.794	.749

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City of Corona
N/S: Valencia Road/Masters Drive
E/W: East Upper Drive/California Avenue
Weather: Clear

File Name : 01_COR_Valencia_Masters_Upper_California AM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:15 AM				07:00 AM				07:00 AM			
+0 mins.	30	7	0	37	16	15	41	72	**20**	38	72	130	1	41	10	52
+15 mins.	**53**	27	0	**80**	**52**	**34**	**70**	**156**	12	52	**80**	**144**	2	**71**	7	**80**
+30 mins.	41	**34**	**2**	77	26	12	8	46	17	**62**	38	117	**4**	50	**25**	79
+45 mins.	34	29	2	65	19	6	8	33	14	24	38	76	1	27	15	43
Total Volume	158	97	4	259	113	67	127	307	63	176	228	467	8	189	57	254
% App. Total	61	37.5	1.5		36.8	21.8	41.4		13.5	37.7	48.8		3.1	74.4	22.4	
PHF	.745	.713	.500	.809	.543	.493	.454	.492	.788	.710	.713	.811	.500	.665	.570	.794

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City of Corona
N/S: Valencia Road/Masters Drive
E/W: East Upper Drive/California Avenue
Weather: Clear

File Name : 01_COR_Valencia_Masters_Upper_California PM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 1

Groups Printed- Total Volume

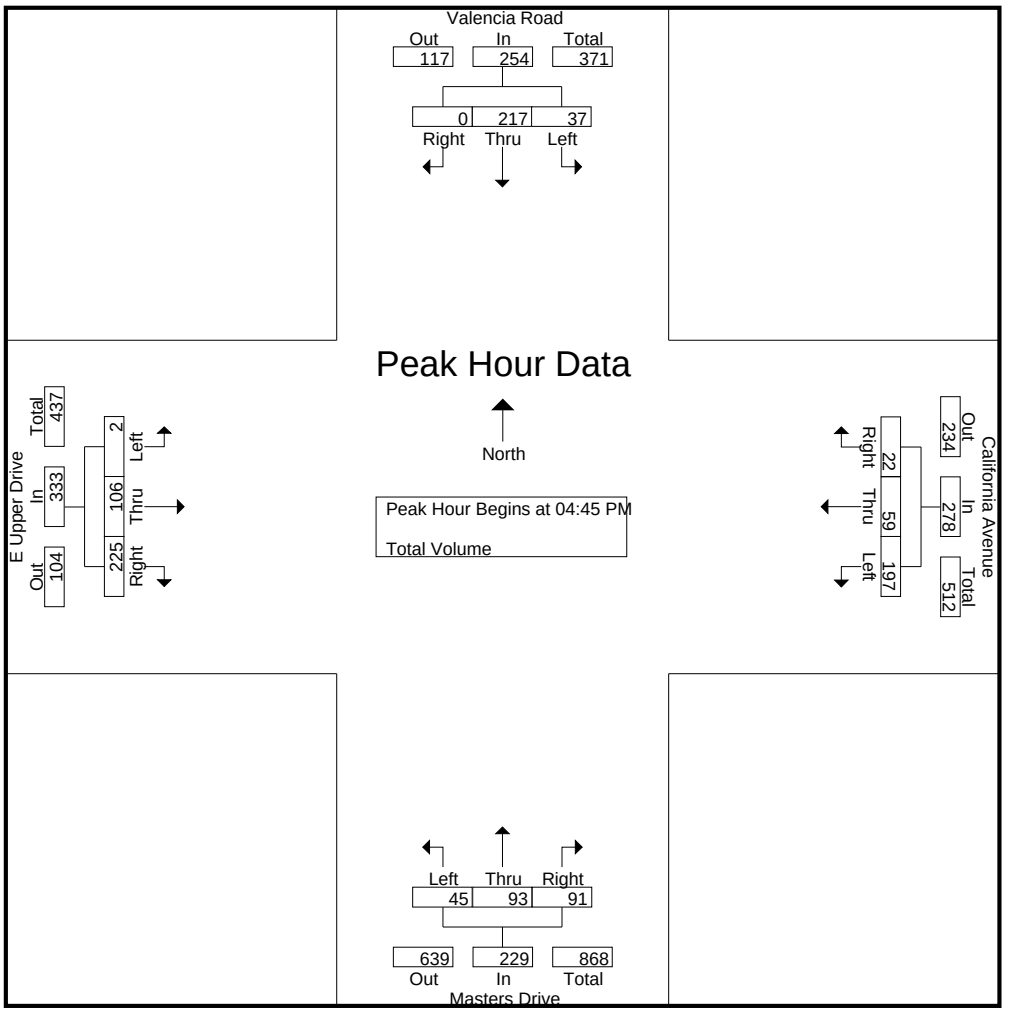
	Valencia Road Southbound				California Avenue Westbound				Masters Drive Northbound				E Upper Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	6	39	1	46	52	17	6	75	9	18	22	49	1	19	49	69	239
04:15 PM	5	37	0	42	49	25	5	79	11	21	17	49	0	23	48	71	241
04:30 PM	7	31	0	38	46	18	11	75	6	19	21	46	3	18	54	75	234
04:45 PM	8	60	0	68	42	16	6	64	9	25	32	66	0	25	55	80	278
Total	26	167	1	194	189	76	28	293	35	83	92	210	4	85	206	295	992
05:00 PM	6	37	0	43	59	14	4	77	8	27	25	60	1	32	54	87	267
05:15 PM	14	69	0	83	53	16	5	74	12	27	20	59	0	24	59	83	299
05:30 PM	9	51	0	60	43	13	7	63	16	14	14	44	1	25	57	83	250
05:45 PM	10	41	1	52	55	14	7	76	14	20	31	65	0	13	59	72	265
Total	39	198	1	238	210	57	23	290	50	88	90	228	2	94	229	325	1081
Grand Total	65	365	2	432	399	133	51	583	85	171	182	438	6	179	435	620	2073
Apprch %	15	84.5	0.5		68.4	22.8	8.7		19.4	39	41.6		1	28.9	70.2		
Total %	3.1	17.6	0.1	20.8	19.2	6.4	2.5	28.1	4.1	8.2	8.8	21.1	0.3	8.6	21	29.9	

	Valencia Road Southbound				California Avenue Westbound				Masters Drive Northbound				E Upper Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	8	60	0	68	42	**16**	6	64	9	25	**32**	**66**	0	25	55	80	278
05:00 PM	6	37	0	43	**59**	14	4	**77**	8	**27**	25	60	**1**	**32**	54	**87**	267
05:15 PM	**14**	**69**	0	**83**	53	16	5	74	12	27	20	59	0	24	**59**	83	**299**
05:30 PM	9	51	0	60	43	13	**7**	63	**16**	14	14	44	1	25	57	83	250
Total Volume	37	217	0	254	197	59	22	278	45	93	91	229	2	106	225	333	1094
% App. Total	14.6	85.4	0		70.9	21.2	7.9		19.7	40.6	39.7		0.6	31.8	67.6		
PHF	.661	.786	.000	.765	.835	.922	.786	.903	.703	.861	.711	.867	.500	.828	.953	.957	.915

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City of Corona
N/S: Valencia Road/Masters Drive
E/W: East Upper Drive/California Avenue
Weather: Clear

File Name : 01_COR_Valencia_Masters_Upper_California PM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:15 PM				04:30 PM				04:45 PM			
+0 mins.	8	60	0	68	49	**25**	5	**79**	6	19	21	46	0	25	55	80
+15 mins.	6	37	0	43	46	18	**11**	75	9	25	**32**	**66**	**1**	**32**	54	**87**
+30 mins.	**14**	**69**	0	**83**	42	16	6	64	8	**27**	25	60	0	24	**59**	83
+45 mins.	9	51	0	60	**59**	14	4	77	**12**	27	20	59	1	25	57	83
Total Volume	37	217	0	254	196	73	26	295	35	98	98	231	2	106	225	333
% App. Total	14.6	85.4	0		66.4	24.7	8.8		15.2	42.4	42.4		0.6	31.8	67.6	
PHF	.661	.786	.000	.765	.831	.730	.591	.934	.729	.907	.766	.875	.500	.828	.953	.957

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City of Corona
N/S: Bennett Avenue
E/W: Masters Drive
Weather: Clear

File Name : 135_COR_Bennett_Masters AM
Site Code : 05617610
Start Date : 10/4/2017
Page No : 1

Groups Printed- Total Volume

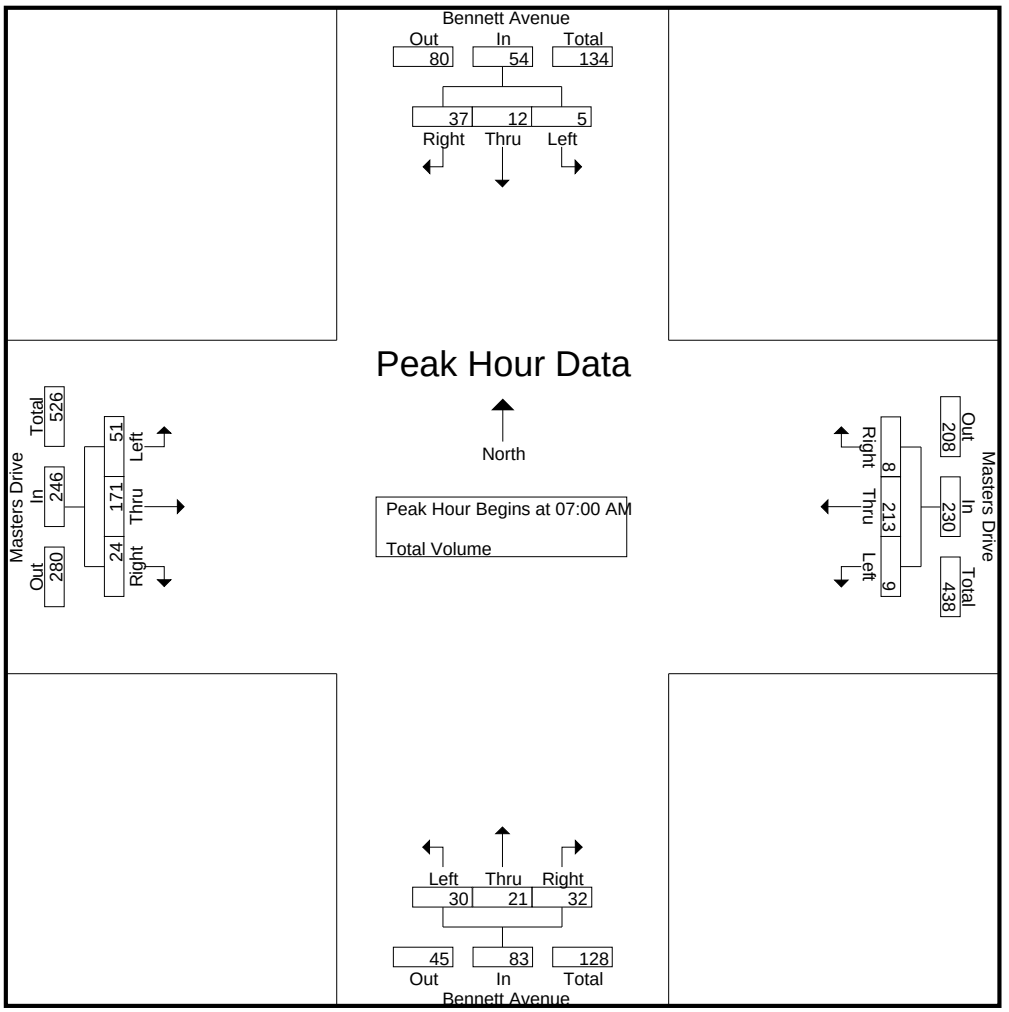
	Bennett Avenue Southbound				Masters Drive Westbound				Bennett Avenue Northbound				Masters Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	1	2	1	4	0	17	2	19	2	0	8	10	0	14	0	14	47
06:15 AM	1	0	1	2	3	18	0	21	4	4	5	13	1	13	0	14	50
06:30 AM	0	1	1	2	2	22	0	24	2	1	4	7	0	18	0	18	51
06:45 AM	3	3	3	9	0	48	1	49	4	6	5	15	4	34	0	38	111
Total	5	6	6	17	5	105	3	113	12	11	22	45	5	79	0	84	259
07:00 AM	1	1	10	12	1	64	1	66	17	6	5	28	20	35	1	56	162
07:15 AM	0	2	13	15	2	62	4	68	9	10	6	25	16	44	5	65	173
07:30 AM	2	3	12	17	1	48	2	51	1	3	12	16	12	51	6	69	153
07:45 AM	2	6	2	10	5	39	1	45	3	2	9	14	3	41	12	56	125
Total	5	12	37	54	9	213	8	230	30	21	32	83	51	171	24	246	613
Grand Total	10	18	43	71	14	318	11	343	42	32	54	128	56	250	24	330	872
Apprch %	14.1	25.4	60.6		4.1	92.7	3.2		32.8	25	42.2		17	75.8	7.3		
Total %	1.1	2.1	4.9	8.1	1.6	36.5	1.3	39.3	4.8	3.7	6.2	14.7	6.4	28.7	2.8	37.8	

	Bennett Avenue Southbound				Masters Drive Westbound				Bennett Avenue Northbound				Masters Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	1	10	12	1	**64**	1	66	**17**	6	5	**28**	**20**	35	1	56	162
07:15 AM	0	2	**13**	15	2	62	**4**	**68**	9	**10**	6	25	16	44	5	65	**173**
07:30 AM	**2**	3	12	**17**	1	48	2	51	1	3	**12**	16	12	**51**	6	**69**	153
07:45 AM	2	**6**	2	10	**5**	39	1	45	3	2	9	14	3	41	**12**	56	125
Total Volume	5	12	37	54	9	213	8	230	30	21	32	83	51	171	24	246	613
% App. Total	9.3	22.2	68.5		3.9	92.6	3.5		36.1	25.3	38.6		20.7	69.5	9.8		
PHF	.625	.500	.712	.794	.450	.832	.500	.846	.441	.525	.667	.741	.638	.838	.500	.891	.886

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City of Corona
N/S: Bennett Avenue
E/W: Masters Drive
Weather: Clear

File Name : 135_COR_Bennett_Masters AM
Site Code : 05617610
Start Date : 10/4/2017
Page No : 2



Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				06:45 AM				06:45 AM				07:00 AM			
+0 mins.	1	1	10	12	0	48	1	49	4	6	5	15	**20**	35	1	56
+15 mins.	0	2	**13**	15	1	**64**	1	66	**17**	6	5	**28**	16	44	5	65
+30 mins.	**2**	3	12	**17**	**2**	62	**4**	**68**	9	**10**	6	25	12	**51**	6	**69**
+45 mins.	2	**6**	2	10	1	48	2	51	1	3	**12**	16	3	41	**12**	56
Total Volume	5	12	37	54	4	222	8	234	31	25	28	84	51	171	24	246
% App. Total	9.3	22.2	68.5		1.7	94.9	3.4		36.9	29.8	33.3		20.7	69.5	9.8	
PHF	.625	.500	.712	.794	.500	.867	.500	.860	.456	.625	.583	.750	.638	.838	.500	.891

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City of Corona
N/S: Bennett Avenue
E/W: Masters Drive
Weather: Clear

File Name : 135_COR_Bennett_Masters PM
Site Code : 05617610
Start Date : 10/4/2017
Page No : 1

Groups Printed- Total Volume

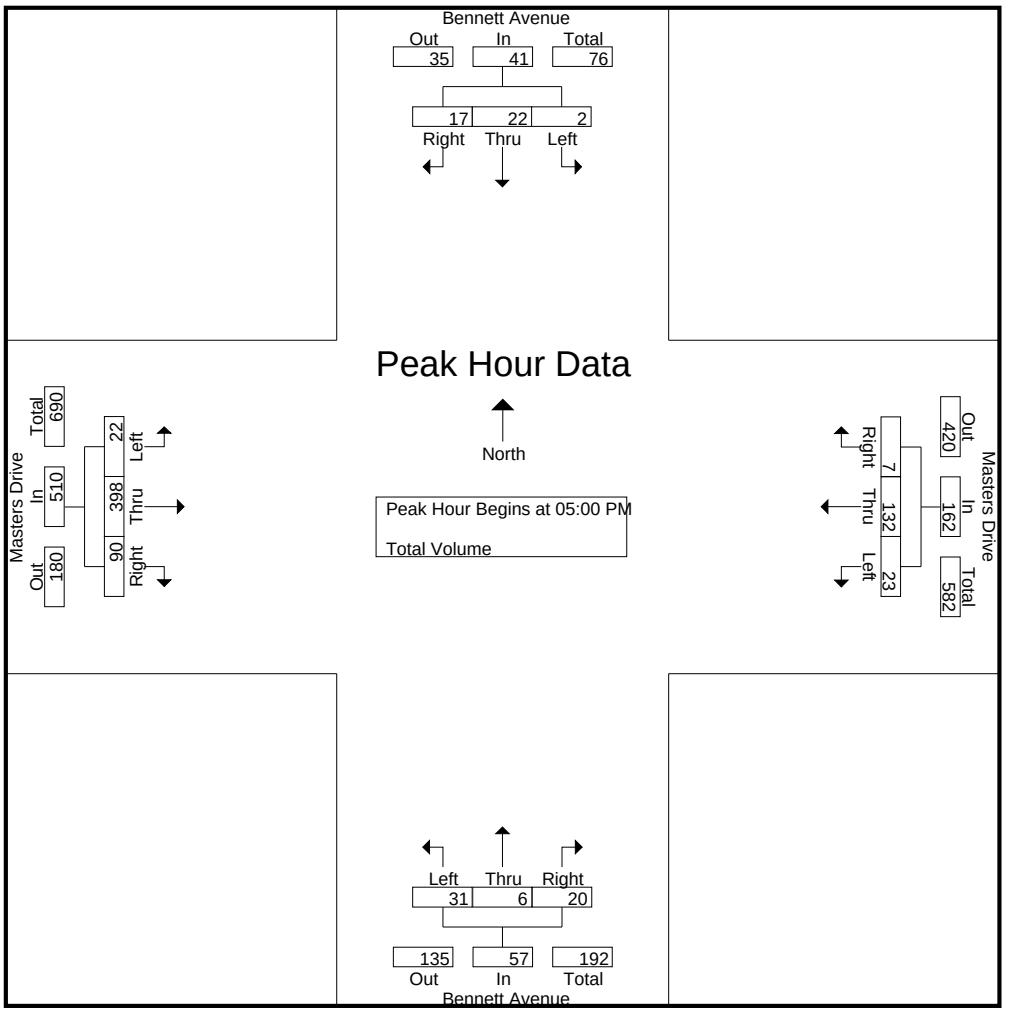
	Bennett Avenue Southbound				Masters Drive Westbound				Bennett Avenue Northbound				Masters Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	1	3	7	3	30	1	34	8	2	5	15	4	67	5	76	132
04:15 PM	3	4	2	9	5	36	2	43	3	0	4	7	3	99	8	110	169
04:30 PM	1	5	6	12	4	23	0	27	3	0	4	7	7	97	7	111	157
04:45 PM	0	2	6	8	5	27	1	33	1	2	7	10	5	96	11	112	163
Total	7	12	17	36	17	116	4	137	15	4	20	39	19	359	31	409	621
05:00 PM	0	0	2	2	3	30	2	35	10	1	8	19	4	88	28	120	176
05:15 PM	1	11	3	15	9	27	3	39	6	2	2	10	4	114	25	143	207
05:30 PM	0	8	8	16	9	38	1	48	7	1	4	12	7	100	24	131	207
05:45 PM	1	3	4	8	2	37	1	40	8	2	6	16	7	96	13	116	180
Total	2	22	17	41	23	132	7	162	31	6	20	57	22	398	90	510	770
Grand Total	9	34	34	77	40	248	11	299	46	10	40	96	41	757	121	919	1391
Apprch %	11.7	44.2	44.2		13.4	82.9	3.7		47.9	10.4	41.7		4.5	82.4	13.2		
Total %	0.6	2.4	2.4	5.5	2.9	17.8	0.8	21.5	3.3	0.7	2.9	6.9	2.9	54.4	8.7	66.1	

	Bennett Avenue Southbound				Masters Drive Westbound				Bennett Avenue Northbound				Masters Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	2	2	3	30	2	35	**10**	1	**8**	**19**	4	88	**28**	120	176
05:15 PM	**1**	**11**	3	15	**9**	27	**3**	39	6	**2**	2	10	4	**114**	25	**143**	**207**
05:30 PM	0	8	**8**	**16**	9	**38**	1	**48**	7	1	4	12	**7**	100	24	131	207
05:45 PM	1	3	4	8	2	37	1	40	8	2	6	16	7	96	13	116	180
Total Volume	2	22	17	41	23	132	7	162	31	6	20	57	22	398	90	510	770
% App. Total	4.9	53.7	41.5		14.2	81.5	4.3		54.4	10.5	35.1		4.3	78	17.6		
PHF	.500	.500	.531	.641	.639	.868	.583	.844	.775	.750	.625	.750	.786	.873	.804	.892	.930

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City of Corona
N/S: Bennett Avenue
E/W: Masters Drive
Weather: Clear

File Name : 135_COR_Bennett_Masters PM
Site Code : 05617610
Start Date : 10/4/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	2	6	8	3	30	2	35	**10**	1	**8**	**19**	4	88	**28**	120
+15 mins.	0	0	2	2	**9**	27	**3**	39	6	**2**	2	10	4	**114**	25	**143**
+30 mins.	**1**	**11**	3	15	9	**38**	1	**48**	7	1	4	12	**7**	100	24	131
+45 mins.	0	8	**8**	**16**	2	37	1	40	8	2	6	16	7	96	13	116
Total Volume	1	21	19	41	23	132	7	162	31	6	20	57	22	398	90	510
% App. Total	2.4	51.2	46.3		14.2	81.5	4.3		54.4	10.5	35.1		4.3	78	17.6	
PHF	.250	.477	.594	.641	.639	.868	.583	.844	.775	.750	.625	.750	.786	.873	.804	.892

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City of Corona
N/S: Eagle Glen Parkway
E/W: Masters Drive
Weather: Clear

File Name : 19_COR_EG_Mast AM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 1

Groups Printed- Total Volume

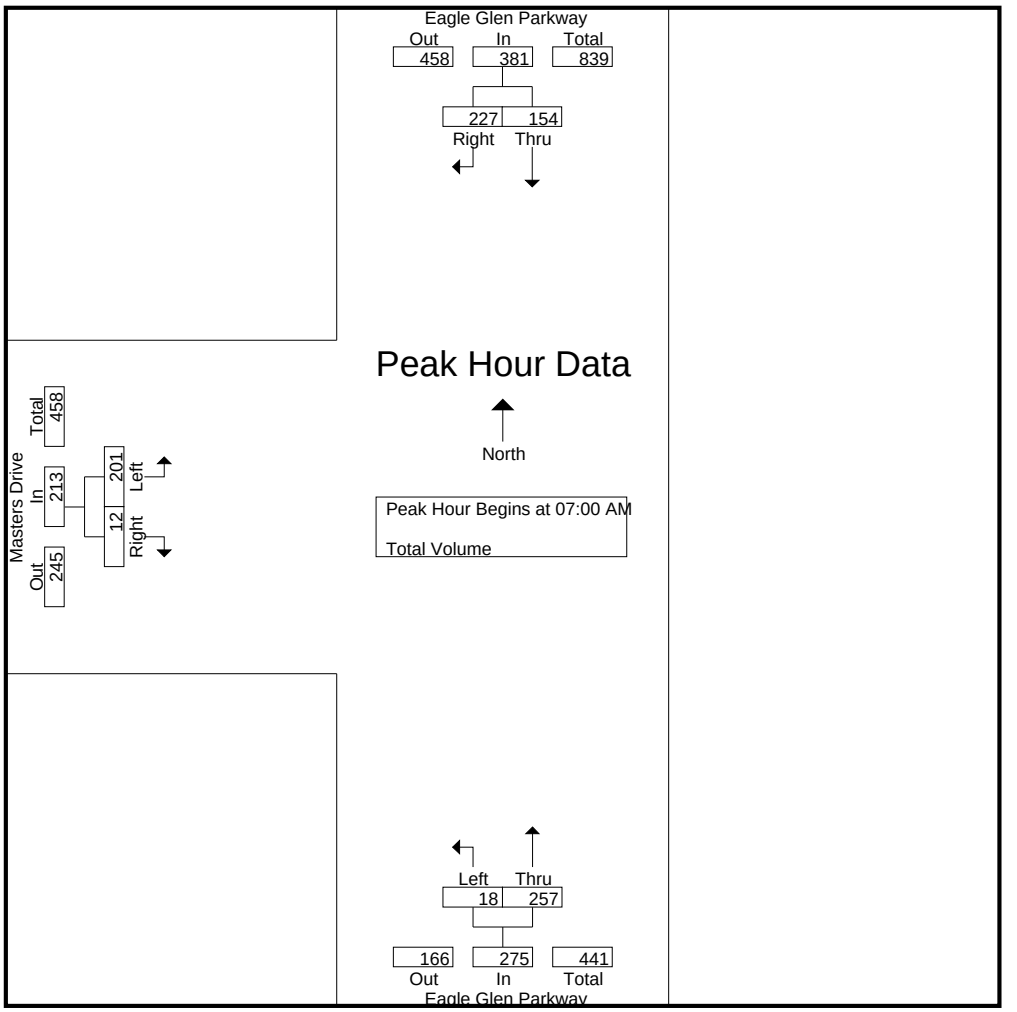
	Eagle Glen Parkway Southbound			Eagle Glen Parkway Northbound			Masters Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
06:00 AM	10	15	25	0	37	37	22	1	23	85
06:15 AM	18	18	36	1	33	34	20	0	20	90
06:30 AM	15	40	55	1	35	36	17	0	17	108
06:45 AM	25	37	62	6	34	40	43	0	43	145
Total	68	110	178	8	139	147	102	1	103	428
07:00 AM	12	51	63	10	59	69	37	2	39	171
07:15 AM	27	71	98	4	90	94	50	2	52	244
07:30 AM	42	68	110	2	58	60	60	6	66	236
07:45 AM	73	37	110	2	50	52	54	2	56	218
Total	154	227	381	18	257	275	201	12	213	869
Grand Total	222	337	559	26	396	422	303	13	316	1297
Apprch %	39.7	60.3		6.2	93.8		95.9	4.1		
Total %	17.1	26	43.1	2	30.5	32.5	23.4	1	24.4	

	Eagle Glen Parkway Southbound			Eagle Glen Parkway Northbound			Masters Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	12	51	63	**10**	59	69	37	2	39	171
07:15 AM	27	**71**	98	4	**90**	**94**	50	2	52	**244**
07:30 AM	42	68	**110**	2	58	60	**60**	**6**	**66**	236
07:45 AM	**73**	37	110	2	50	52	54	2	56	218
Total Volume	154	227	381	18	257	275	201	12	213	869
% App. Total	40.4	59.6		6.5	93.5		94.4	5.6		
PHF	.527	.799	.866	.450	.714	.731	.838	.500	.807	.890

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City of Corona
N/S: Eagle Glen Parkway
E/W: Masters Drive
Weather: Clear

File Name : 19_COR_EG_Mast AM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 2



Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	12	51	63	**10**	59	69	37	2	39
+15 mins.	27	**71**	98	4	**90**	**94**	50	2	52
+30 mins.	42	68	**110**	2	58	60	**60**	**6**	**66**
+45 mins.	**73**	37	110	2	50	52	54	2	56
Total Volume	154	227	381	18	257	275	201	12	213
% App. Total	40.4	59.6		6.5	93.5		94.4	5.6	
PHF	.527	.799	.866	.450	.714	.731	.838	.500	.807

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City of Corona
N/S: Eagle Glen Parkway
E/W: Masters Drive
Weather: Clear

File Name : 19_COR_EG_Mast PM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 1

Groups Printed- Total Volume

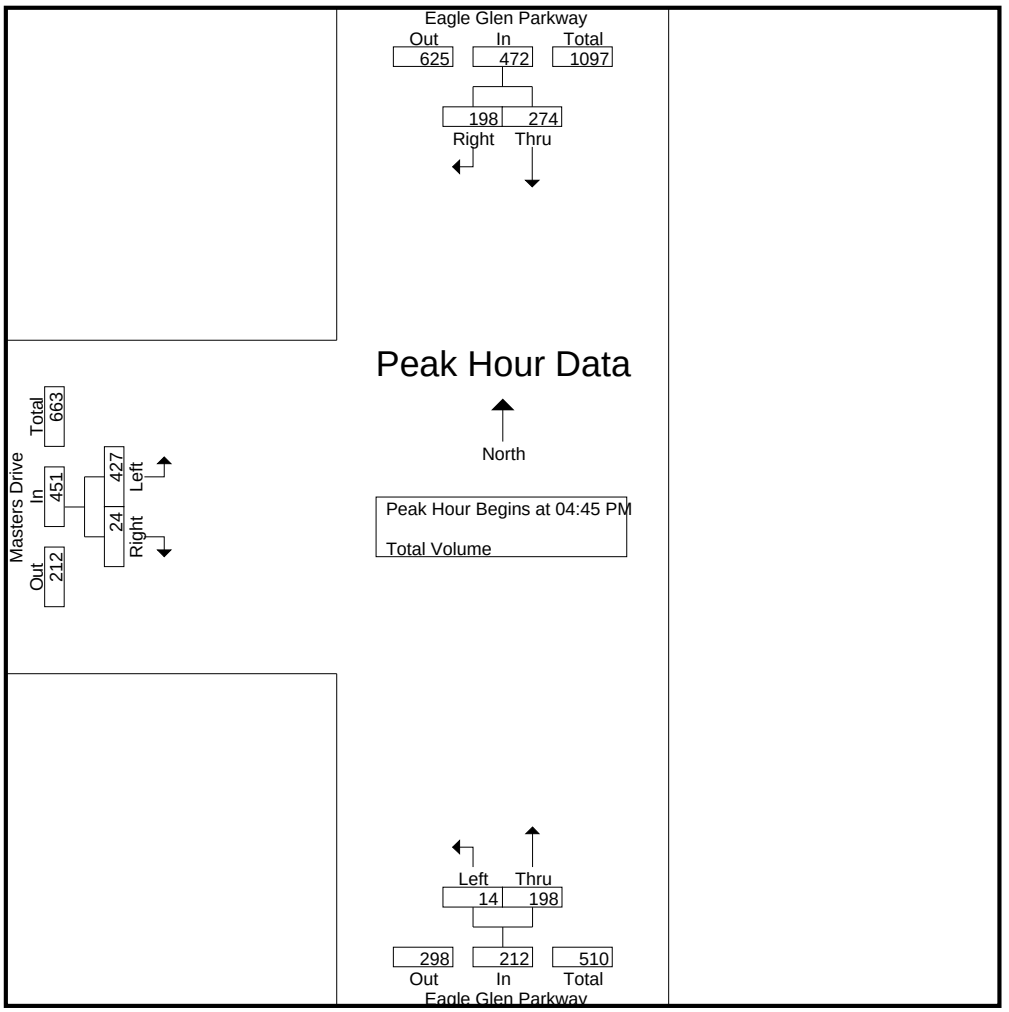
	Eagle Glen Parkway Southbound			Eagle Glen Parkway Northbound			Masters Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	36	34	70	4	39	43	92	2	94	207
04:15 PM	45	41	86	0	42	42	79	6	85	213
04:30 PM	56	51	107	2	44	46	86	7	93	246
04:45 PM	64	49	113	4	61	65	114	7	121	299
Total	201	175	376	10	186	196	371	22	393	965
05:00 PM	59	42	101	5	48	53	104	4	108	262
05:15 PM	76	64	140	1	45	46	105	7	112	298
05:30 PM	75	43	118	4	44	48	104	6	110	276
05:45 PM	57	47	104	3	46	49	95	4	99	252
Total	267	196	463	13	183	196	408	21	429	1088
Grand Total	468	371	839	23	369	392	779	43	822	2053
Apprch %	55.8	44.2		5.9	94.1		94.8	5.2		
Total %	22.8	18.1	40.9	1.1	18	19.1	37.9	2.1	40	

	Eagle Glen Parkway Southbound			Eagle Glen Parkway Northbound			Masters Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	64	49	113	4	**61**	**65**	**114**	**7**	**121**	**299**
05:00 PM	59	42	101	**5**	48	53	104	4	108	262
05:15 PM	**76**	**64**	**140**	1	45	46	105	7	112	298
05:30 PM	75	43	118	4	44	48	104	6	110	276
Total Volume	274	198	472	14	198	212	427	24	451	1135
% App. Total	58.1	41.9		6.6	93.4		94.7	5.3		
PHF	.901	.773	.843	.700	.811	.815	.936	.857	.932	.949

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City of Corona
N/S: Eagle Glen Parkway
E/W: Masters Drive
Weather: Clear

File Name : 19_COR_EG_Mast PM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	64	49	113	4	**61**	**65**	**114**	**7**	**121**
+15 mins.	59	42	101	**5**	48	53	104	4	108
+30 mins.	**76**	**64**	**140**	1	45	46	105	7	112
+45 mins.	75	43	118	4	44	48	104	6	110
Total Volume	274	198	472	14	198	212	427	24	451
% App. Total	58.1	41.9		6.6	93.4		94.7	5.3	
PHF	.901	.773	.843	.700	.811	.815	.936	.857	.932

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City of Corona
N/S: Bedford Canyon Road
E/W: Eagle Glen Parkway
Weather: Clear

File Name : 20_COR_Bed_EG AM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 1

Groups Printed- Total Volume

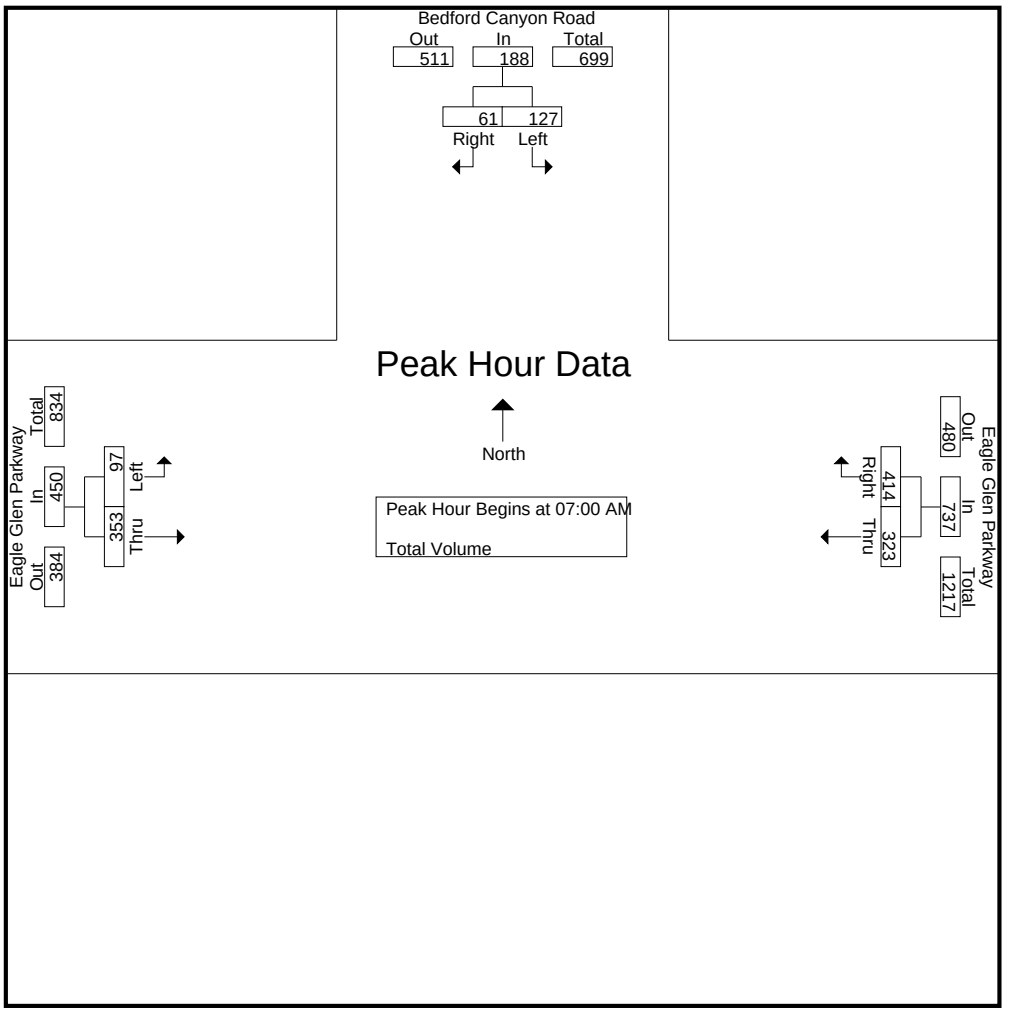
	Bedford Canyon Road Southbound			Eagle Glen Parkway Westbound			Eagle Glen Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
06:00 AM	8	4	12	22	78	100	14	48	62	174
06:15 AM	12	4	16	39	112	151	11	41	52	219
06:30 AM	18	6	24	57	160	217	14	38	52	293
06:45 AM	10	9	19	52	157	209	13	64	77	305
Total	48	23	71	170	507	677	52	191	243	991
07:00 AM	17	8	25	61	137	198	26	68	94	317
07:15 AM	33	9	42	89	117	206	37	99	136	384
07:30 AM	35	12	47	89	93	182	22	95	117	346
07:45 AM	42	32	74	84	67	151	12	91	103	328
Total	127	61	188	323	414	737	97	353	450	1375
Grand Total	175	84	259	493	921	1414	149	544	693	2366
Apprch %	67.6	32.4		34.9	65.1		21.5	78.5		
Total %	7.4	3.6	10.9	20.8	38.9	59.8	6.3	23	29.3	

	Bedford Canyon Road Southbound			Eagle Glen Parkway Westbound			Eagle Glen Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	17	8	25	61	**137**	198	26	68	94	317
07:15 AM	33	9	42	**89**	117	**206**	**37**	**99**	**136**	**384**
07:30 AM	35	12	47	89	93	182	22	95	117	346
07:45 AM	**42**	**32**	**74**	84	67	151	12	91	103	328
Total Volume	127	61	188	323	414	737	97	353	450	1375
% App. Total	67.6	32.4		43.8	56.2		21.6	78.4		
PHF	.756	.477	.635	.907	.755	.894	.655	.891	.827	.895

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City of Corona
N/S: Bedford Canyon Road
E/W: Eagle Glen Parkway
Weather: Clear

File Name : 20_COR_Bed_EG AM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 2



Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			06:30 AM			07:00 AM		
+0 mins.	17	8	25	57	**160**	**217**	26	68	94
+15 mins.	33	9	42	52	157	209	**37**	**99**	**136**
+30 mins.	35	12	47	61	137	198	22	95	117
+45 mins.	**42**	**32**	**74**	**89**	117	206	12	91	103
Total Volume	127	61	188	259	571	830	97	353	450
% App. Total	67.6	32.4		31.2	68.8		21.6	78.4	
PHF	.756	.477	.635	.728	.892	.956	.655	.891	.827

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City of Corona
N/S: Bedford Canyon Road
E/W: Eagle Glen Parkway
Weather: Clear

File Name : 20_COR_Bed_EG PM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 1

Groups Printed- Total Volume

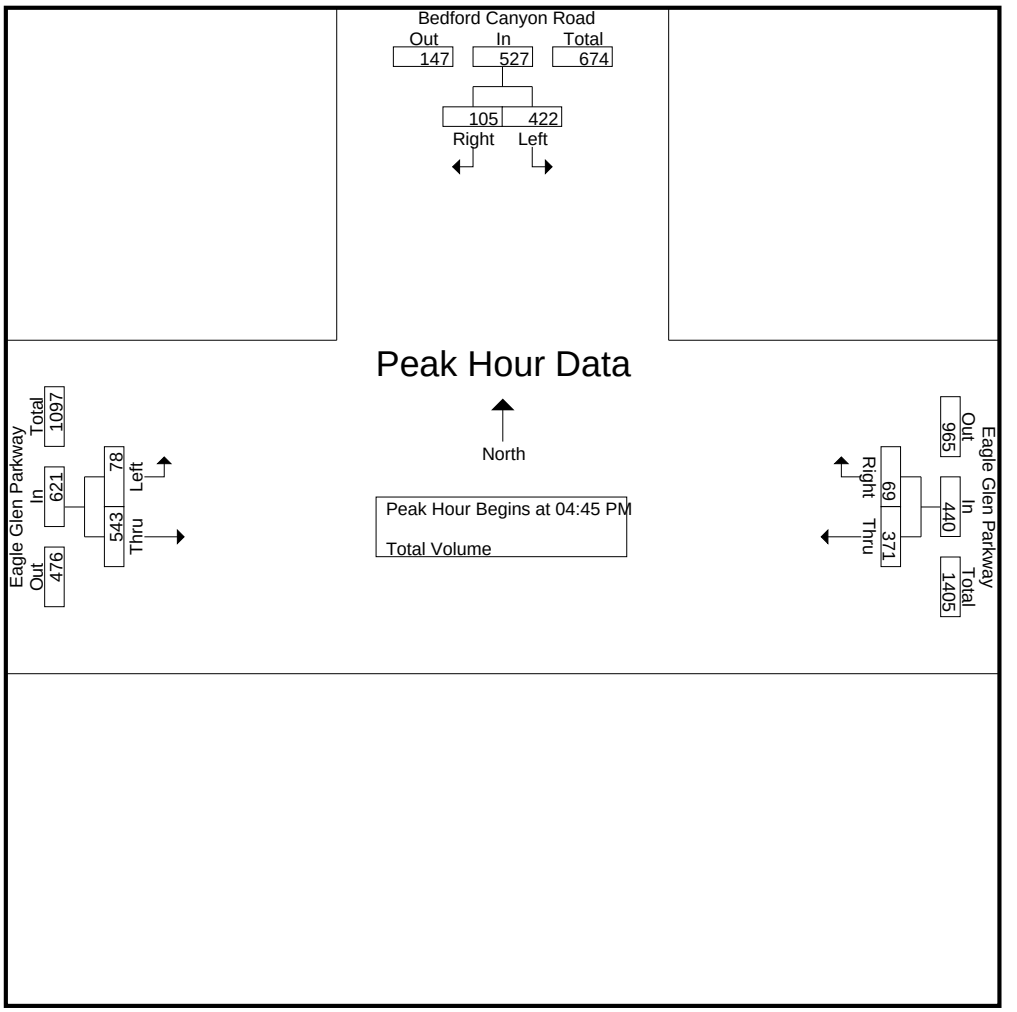
	Bedford Canyon Road Southbound			Eagle Glen Parkway Westbound			Eagle Glen Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	97	20	117	59	14	73	7	126	133	323
04:15 PM	98	21	119	66	9	75	6	121	127	321
04:30 PM	107	28	135	71	19	90	15	117	132	357
04:45 PM	113	26	139	88	18	106	24	145	169	414
Total	415	95	510	284	60	344	52	509	561	1415
05:00 PM	99	25	124	70	20	90	29	129	158	372
05:15 PM	126	29	155	111	19	130	11	132	143	428
05:30 PM	84	25	109	102	12	114	14	137	151	374
05:45 PM	94	25	119	70	19	89	16	128	144	352
Total	403	104	507	353	70	423	70	526	596	1526
Grand Total	818	199	1017	637	130	767	122	1035	1157	2941
Apprch %	80.4	19.6		83.1	16.9		10.5	89.5		
Total %	27.8	6.8	34.6	21.7	4.4	26.1	4.1	35.2	39.3	

	Bedford Canyon Road Southbound			Eagle Glen Parkway Westbound			Eagle Glen Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	113	26	139	88	18	106	24	**145**	**169**	414
05:00 PM	99	25	124	70	**20**	90	**29**	129	158	372
05:15 PM	**126**	**29**	**155**	**111**	19	**130**	11	132	143	**428**
05:30 PM	84	25	109	102	12	114	14	137	151	374
Total Volume	422	105	527	371	69	440	78	543	621	1588
% App. Total	80.1	19.9		84.3	15.7		12.6	87.4		
PHF	.837	.905	.850	.836	.863	.846	.672	.936	.919	.928

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City of Corona
N/S: Bedford Canyon Road
E/W: Eagle Glen Parkway
Weather: Clear

File Name : 20_COR_Bed_EG PM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:45 PM			04:45 PM		
+0 mins.	107	28	135	88	18	106	24	**145**	**169**
+15 mins.	113	26	139	70	**20**	90	**29**	129	158
+30 mins.	99	25	124	**111**	19	**130**	11	132	143
+45 mins.	**126**	**29**	**155**	102	12	114	14	137	151
Total Volume	445	108	553	371	69	440	78	543	621
% App. Total	80.5	19.5		84.3	15.7		12.6	87.4	
PHF	.883	.931	.892	.836	.863	.846	.672	.936	.919

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City of Corona
N/S: I-15 Southbound Ramps
E/W: Cajalco Road
Weather: Clear

File Name : 07_COR_15s_Cajalco AM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

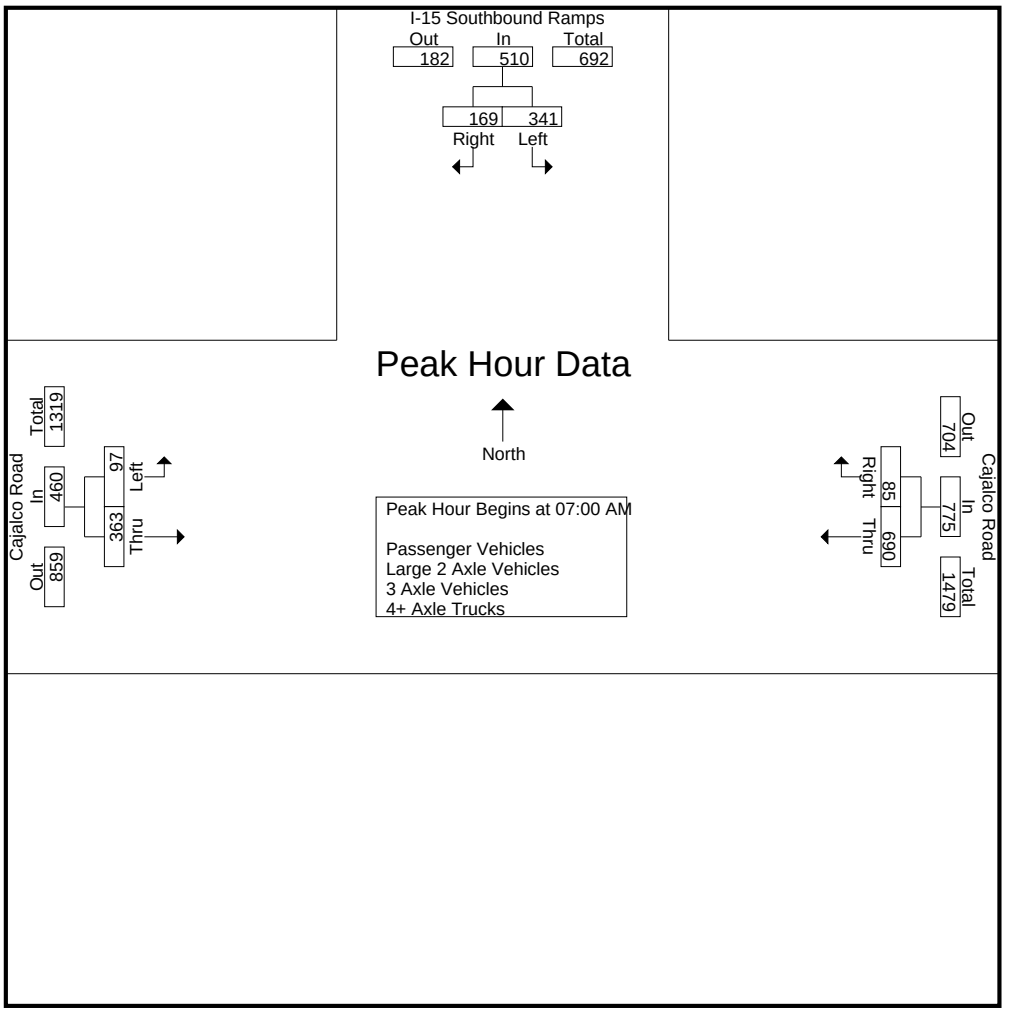
	I-15 Southbound Ramps Southbound			Cajalco Road Westbound			Cajalco Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
06:00 AM	56	25	81	97	12	109	9	42	51	241
06:15 AM	53	19	72	149	24	173	10	41	51	296
06:30 AM	67	30	97	201	19	220	8	43	51	368
06:45 AM	80	27	107	212	19	231	11	56	67	405
Total	256	101	357	659	74	733	38	182	220	1310
07:00 AM	70	23	93	203	18	221	21	61	82	396
07:15 AM	74	49	123	195	15	210	23	102	125	458
07:30 AM	71	44	115	166	27	193	30	99	129	437
07:45 AM	126	53	179	126	25	151	23	101	124	454
Total	341	169	510	690	85	775	97	363	460	1745
Grand Total	597	270	867	1349	159	1508	135	545	680	3055
Apprch %	68.9	31.1		89.5	10.5		19.9	80.1		
Total %	19.5	8.8	28.4	44.2	5.2	49.4	4.4	17.8	22.3	
Passenger Vehicles	486	249	735	1331	142	1473	130	530	660	2868
% Passenger Vehicles	81.4	92.2	84.8	98.7	89.3	97.7	96.3	97.2	97.1	93.9
Large 2 Axle Vehicles	33	16	49	12	6	18	4	12	16	83
% Large 2 Axle Vehicles	5.5	5.9	5.7	0.9	3.8	1.2	3	2.2	2.4	2.7
3 Axle Vehicles	5	0	5	1	1	2	0	0	0	7
% 3 Axle Vehicles	0.8	0	0.6	0.1	0.6	0.1	0	0	0	0.2
4+ Axle Trucks	73	5	78	5	10	15	1	3	4	97
% 4+ Axle Trucks	12.2	1.9	9	0.4	6.3	1	0.7	0.6	0.6	3.2

	I-15 Southbound Ramps Southbound			Cajalco Road Westbound			Cajalco Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	70	23	93	**203**	18	**221**	21	61	82	396
07:15 AM	74	49	123	195	15	210	23	**102**	125	**458**
07:30 AM	71	44	115	166	**27**	193	**30**	99	**129**	437
07:45 AM	**126**	**53**	**179**	126	25	151	23	101	124	454
Total Volume	341	169	510	690	85	775	97	363	460	1745
% App. Total	66.9	33.1		89	11		21.1	78.9		
PHF	.677	.797	.712	.850	.787	.877	.808	.890	.891	.953

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City of Corona
N/S: I-15 Southbound Ramps
E/W: Cajalco Road
Weather: Clear

File Name : 07_COR_15s_Cajalco AM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 2



Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			06:30 AM			07:00 AM		
+0 mins.	70	23	93	201	**19**	220	21	61	82
+15 mins.	74	49	123	**212**	19	**231**	23	**102**	125
+30 mins.	71	44	115	203	18	221	**30**	99	**129**
+45 mins.	**126**	**53**	**179**	195	15	210	23	101	124
Total Volume	341	169	510	811	71	882	97	363	460
% App. Total	66.9	33.1		92	8		21.1	78.9	
PHF	.677	.797	.712	.956	.934	.955	.808	.890	.891

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City of Corona
N/S: I-15 Southbound Ramps
E/W: Cajalco Road
Weather: Clear

File Name : 07_COR_15s_Cajalco PM
Site Code : 05617610
Start Date : 10/17/2017

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

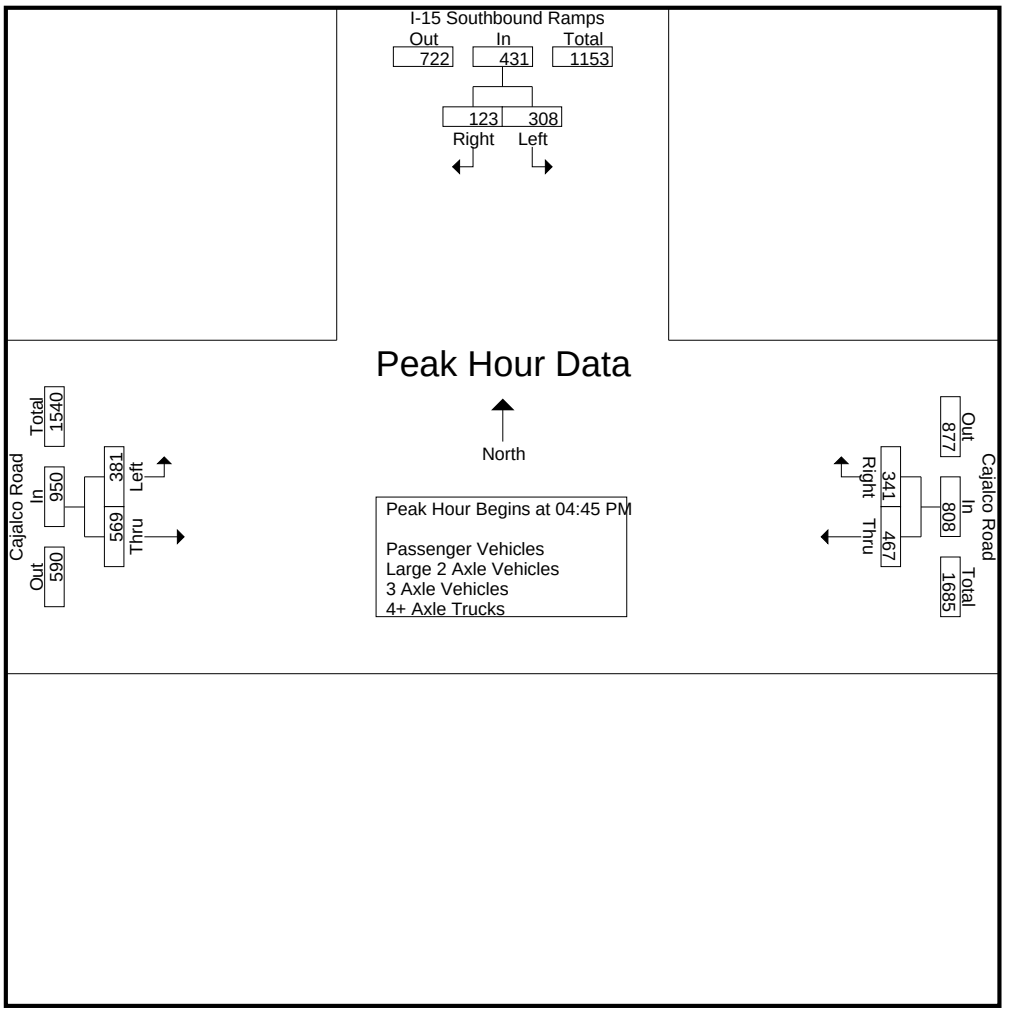
	I-15 Southbound Ramps Southbound			Cajalco Road Westbound			Cajalco Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	65	23	88	95	86	181	76	128	204	473
04:15 PM	58	29	87	98	76	174	88	121	209	470
04:30 PM	75	27	102	96	84	180	96	111	207	489
04:45 PM	62	33	95	117	82	199	89	150	239	533
Total	260	112	372	406	328	734	349	510	859	1965
05:00 PM	83	28	111	91	92	183	100	137	237	531
05:15 PM	83	33	116	141	67	208	96	138	234	558
05:30 PM	80	29	109	118	100	218	96	144	240	567
05:45 PM	108	29	137	105	90	195	67	132	199	531
Total	354	119	473	455	349	804	359	551	910	2187
Grand Total	614	231	845	861	677	1538	708	1061	1769	4152
Apprch %	72.7	27.3		56	44		40	60		
Total %	14.8	5.6	20.4	20.7	16.3	37	17.1	25.6	42.6	
Passenger Vehicles	570	226	796	851	663	1514	702	1044	1746	4056
% Passenger Vehicles	92.8	97.8	94.2	98.8	97.9	98.4	99.2	98.4	98.7	97.7
Large 2 Axle Vehicles	6	5	11	10	4	14	6	16	22	47
% Large 2 Axle Vehicles	1	2.2	1.3	1.2	0.6	0.9	0.8	1.5	1.2	1.1
3 Axle Vehicles	3	0	3	0	4	4	0	1	1	8
% 3 Axle Vehicles	0.5	0	0.4	0	0.6	0.3	0	0.1	0.1	0.2
4+ Axle Trucks	35	0	35	0	6	6	0	0	0	41
% 4+ Axle Trucks	5.7	0	4.1	0	0.9	0.4	0	0	0	1

	I-15 Southbound Ramps Southbound			Cajalco Road Westbound			Cajalco Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	62	**33**	95	117	82	199	89	**150**	239	533
05:00 PM	**83**	28	111	91	92	183	**100**	137	237	531
05:15 PM	83	33	**116**	**141**	67	208	96	138	234	558
05:30 PM	80	29	109	118	**100**	**218**	96	144	**240**	**567**
Total Volume	308	123	431	467	341	808	381	569	950	2189
% App. Total	71.5	28.5		57.8	42.2		40.1	59.9		
PHF	.928	.932	.929	.828	.853	.927	.953	.948	.990	.965

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City of Corona
N/S: I-15 Southbound Ramps
E/W: Cajalco Road
Weather: Clear

File Name : 07_COR_15s_Cajalco PM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:45 PM			04:45 PM		
+0 mins.	83	28	111	117	82	199	89	**150**	239
+15 mins.	83	**33**	116	91	92	183	**100**	137	237
+30 mins.	80	29	109	**141**	67	208	96	138	234
+45 mins.	**108**	29	**137**	118	**100**	**218**	96	144	**240**
Total Volume	354	119	473	467	341	808	381	569	950
% App. Total	74.8	25.2		57.8	42.2		40.1	59.9	
PHF	.819	.902	.863	.828	.853	.927	.953	.948	.990

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City of Corona
N/S: I-15 Northbound Ramps
E/W: Cajalco Road
Weather: Clear

File Name : 08_COR_15N_Cajalco AM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

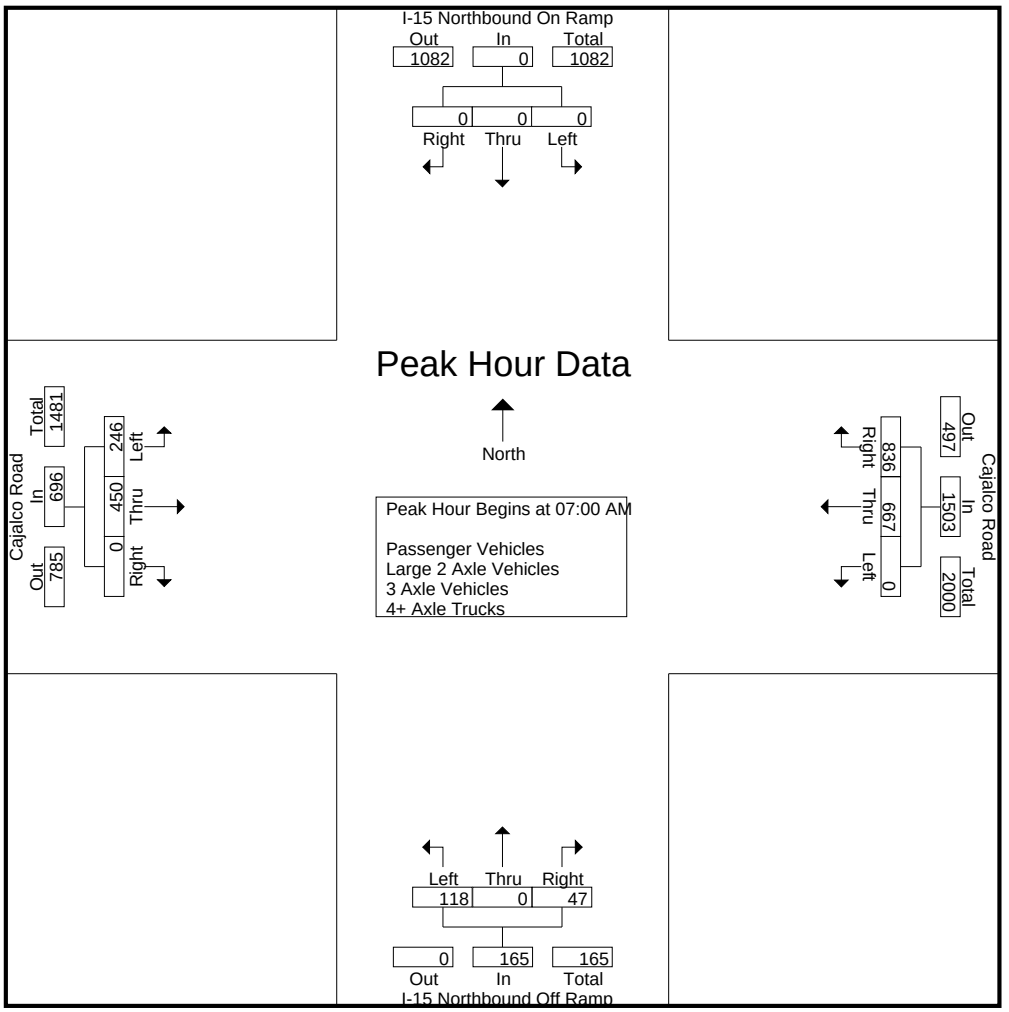
	I-15 Northbound On Ramp Southbound				Cajalco Road Westbound				I-15 Northbound Off Ramp Northbound				Cajalco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	82	155	237	28	2	12	42	34	62	0	96	375
06:15 AM	0	0	0	0	0	129	113	242	44	1	14	59	27	71	0	98	399
06:30 AM	0	0	0	0	0	209	139	348	29	0	11	40	20	83	0	103	491
06:45 AM	0	0	0	0	0	164	145	309	57	0	9	66	35	104	0	139	514
Total	0	0	0	0	0	584	552	1136	158	3	46	207	116	320	0	436	1779
07:00 AM	0	0	0	0	0	181	182	363	42	0	9	51	47	85	0	132	546
07:15 AM	0	0	0	0	0	185	214	399	29	0	9	38	71	99	0	170	607
07:30 AM	0	0	0	0	0	160	194	354	26	0	21	47	69	103	0	172	573
07:45 AM	0	0	0	0	0	141	246	387	21	0	8	29	59	163	0	222	638
Total	0	0	0	0	0	667	836	1503	118	0	47	165	246	450	0	696	2364
Grand Total	0	0	0	0	0	1251	1388	2639	276	3	93	372	362	770	0	1132	4143
Apprch %	0	0	0		0	47.4	52.6		74.2	0.8	25		32	68	0		
Total %	0	0	0	0	0	30.2	33.5	63.7	6.7	0.1	2.2	9	8.7	18.6	0	27.3	
Passenger Vehicles	0	0	0	0	0	1211	1243	2454	269	2	76	347	354	648	0	1002	3803
% Passenger Vehicles	0	0	0	0	0	96.8	89.6	93	97.5	66.7	81.7	93.3	97.8	84.2	0	88.5	91.8
Large 2 Axle Vehicles	0	0	0	0	0	24	41	65	5	1	2	8	5	43	0	48	121
% Large 2 Axle Vehicles	0	0	0	0	0	1.9	3	2.5	1.8	33.3	2.2	2.2	1.4	5.6	0	4.2	2.9
3 Axle Vehicles	0	0	0	0	0	1	14	15	1	0	2	3	1	6	0	7	25
% 3 Axle Vehicles	0	0	0	0	0	0.1	1	0.6	0.4	0	2.2	0.8	0.3	0.8	0	0.6	0.6
4+ Axle Trucks	0	0	0	0	0	15	90	105	1	0	13	14	2	73	0	75	194
% 4+ Axle Trucks	0	0	0	0	0	1.2	6.5	4	0.4	0	14	3.8	0.6	9.5	0	6.6	4.7

	I-15 Northbound On Ramp Southbound				Cajalco Road Westbound				I-15 Northbound Off Ramp Northbound				Cajalco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	181	182	363	**42**	0	9	**51**	47	85	0	132	546
07:15 AM	0	0	0	0	0	**185**	214	**399**	29	0	9	38	**71**	99	0	170	607
07:30 AM	0	0	0	0	0	160	194	354	26	0	**21**	47	69	103	0	172	573
07:45 AM	0	0	0	0	0	141	**246**	387	21	0	8	29	59	**163**	0	**222**	**638**
Total Volume	0	0	0	0	0	667	836	1503	118	0	47	165	246	450	0	696	2364
% App. Total	0	0	0		0	44.4	55.6		71.5	0	28.5		35.3	64.7	0		
PHF	.000	.000	.000	.000	.000	.901	.850	.942	.702	.000	.560	.809	.866	.690	.000	.784	.926

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City of Corona
N/S: I-15 Northbound Ramps
E/W: Cajalco Road
Weather: Clear

File Name : 08_COR_15N_Cajalco AM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 2



Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 AM				07:00 AM				06:15 AM				07:00 AM			
+0 mins.	0	0	0	0	0	181	182	363	44	**1**	**14**	59	47	85	0	132
+15 mins.	0	0	0	0	0	**185**	214	**399**	29	0	11	40	**71**	99	0	170
+30 mins.	0	0	0	0	0	160	194	354	**57**	0	9	**66**	69	103	0	172
+45 mins.	0	0	0	0	0	141	**246**	387	42	0	9	51	59	**163**	0	**222**
Total Volume	0	0	0	0	0	667	836	1503	172	1	43	216	246	450	0	696
% App. Total	0	0	0		0	44.4	55.6		79.6	0.5	19.9		35.3	64.7	0	
PHF	.000	.000	.000	.000	.000	.901	.850	.942	.754	.250	.768	.818	.866	.690	.000	.784

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(951) 268-6268

City of Corona
N/S: I-15 Northbound Ramps
E/W: Cajalco Road
Weather: Clear

File Name : 08_COR_15N_Cajalco PM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

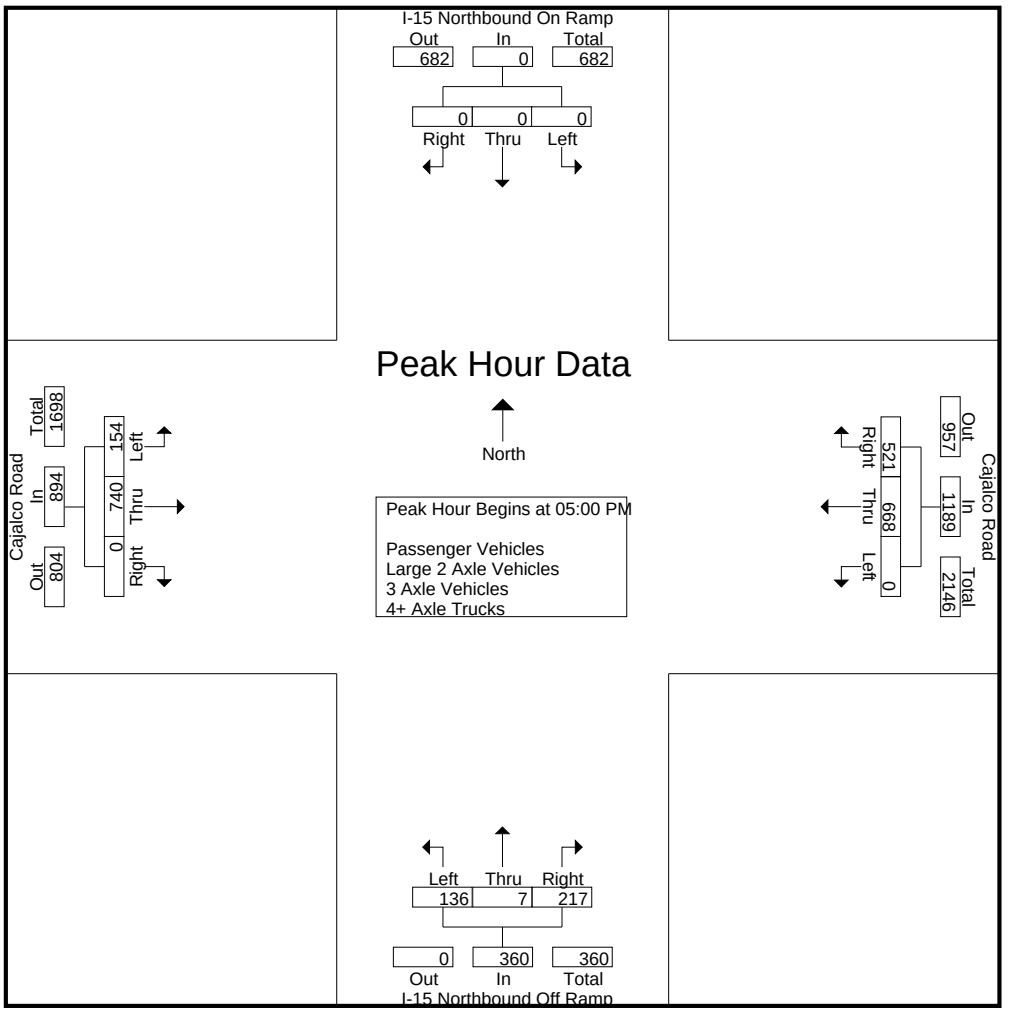
	I-15 Northbound On Ramp Southbound				Cajalco Road Westbound				I-15 Northbound Off Ramp Northbound				Cajalco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	150	146	296	28	0	50	78	49	137	0	186	560
04:15 PM	0	0	0	0	0	145	108	253	34	0	56	90	52	124	0	176	519
04:30 PM	0	0	0	0	0	148	141	289	36	0	50	86	32	147	0	179	554
04:45 PM	0	0	0	0	0	159	123	282	34	1	52	87	40	164	0	204	573
Total	0	0	0	0	0	602	518	1120	132	1	208	341	173	572	0	745	2206
05:00 PM	0	0	0	0	0	149	139	288	28	1	58	87	45	165	0	210	585
05:15 PM	0	0	0	0	0	165	145	310	49	1	56	106	37	186	0	223	639
05:30 PM	0	0	0	0	0	185	125	310	28	3	49	80	36	189	0	225	615
05:45 PM	0	0	0	0	0	169	112	281	31	2	54	87	36	200	0	236	604
Total	0	0	0	0	0	668	521	1189	136	7	217	360	154	740	0	894	2443
Grand Total	0	0	0	0	0	1270	1039	2309	268	8	425	701	327	1312	0	1639	4649
Apprch %	0	0	0		0	55	45		38.2	1.1	60.6		20	80	0		
Total %	0	0	0	0	0	27.3	22.3	49.7	5.8	0.2	9.1	15.1	7	28.2	0	35.3	
Passenger Vehicles	0	0	0	0	0	1248	977	2225	263	6	401	670	316	1266	0	1582	4477
% Passenger Vehicles	0	0	0	0	0	98.3	94	96.4	98.1	75	94.4	95.6	96.6	96.5	0	96.5	96.3
Large 2 Axle Vehicles	0	0	0	0	0	11	25	36	5	2	12	19	10	9	0	19	74
% Large 2 Axle Vehicles	0	0	0	0	0	0.9	2.4	1.6	1.9	25	2.8	2.7	3.1	0.7	0	1.2	1.6
3 Axle Vehicles	0	0	0	0	0	4	7	11	0	0	2	2	1	4	0	5	18
% 3 Axle Vehicles	0	0	0	0	0	0.3	0.7	0.5	0	0	0.5	0.3	0.3	0.3	0	0.3	0.4
4+ Axle Trucks	0	0	0	0	0	7	30	37	0	0	10	10	0	33	0	33	80
% 4+ Axle Trucks	0	0	0	0	0	0.6	2.9	1.6	0	0	2.4	1.4	0	2.5	0	2	1.7

	I-15 Northbound On Ramp Southbound				Cajalco Road Westbound				I-15 Northbound Off Ramp Northbound				Cajalco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	149	139	288	28	1	**58**	87	**45**	165	0	210	585
05:15 PM	0	0	0	0	0	165	**145**	**310**	**49**	1	56	**106**	37	186	0	223	**639**
05:30 PM	0	0	0	0	0	**185**	125	310	28	**3**	49	80	36	189	0	225	615
05:45 PM	0	0	0	0	0	169	112	281	31	2	54	87	36	**200**	0	**236**	604
Total Volume	0	0	0	0	0	668	521	1189	136	7	217	360	154	740	0	894	2443
% App. Total	0	0	0		0	56.2	43.8		37.8	1.9	60.3		17.2	82.8	0		
PHF	.000	.000	.000	.000	.000	.903	.898	.959	.694	.583	.935	.849	.856	.925	.000	.947	.956

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City of Corona
N/S: I-15 Northbound Ramps
E/W: Cajalco Road
Weather: Clear

File Name : 08_COR_15N_Cajalco PM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				04:30 PM				05:00 PM			
+0 mins.	0	0	0	0	0	159	123	282	36	0	50	86	**45**	165	0	210
+15 mins.	0	0	0	0	0	149	139	288	34	**1**	52	87	37	186	0	223
+30 mins.	0	0	0	0	0	165	**145**	**310**	28	1	**58**	87	36	189	0	225
+45 mins.	0	0	0	0	0	**185**	125	310	**49**	1	56	**106**	36	**200**	0	**236**
Total Volume	0	0	0	0	0	658	532	1190	147	3	216	366	154	740	0	894
% App. Total	0	0	0		0	55.3	44.7		40.2	0.8	59		17.2	82.8	0	
PHF	.000	.000	.000	.000	.000	.889	.917	.960	.750	.750	.931	.863	.856	.925	.000	.947

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City of Corona
N/S: Grand Oaks
E/W: Cajalco Road
Weather: Clear

File Name : 09_COR_Gr Oaks_Cajalco AM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

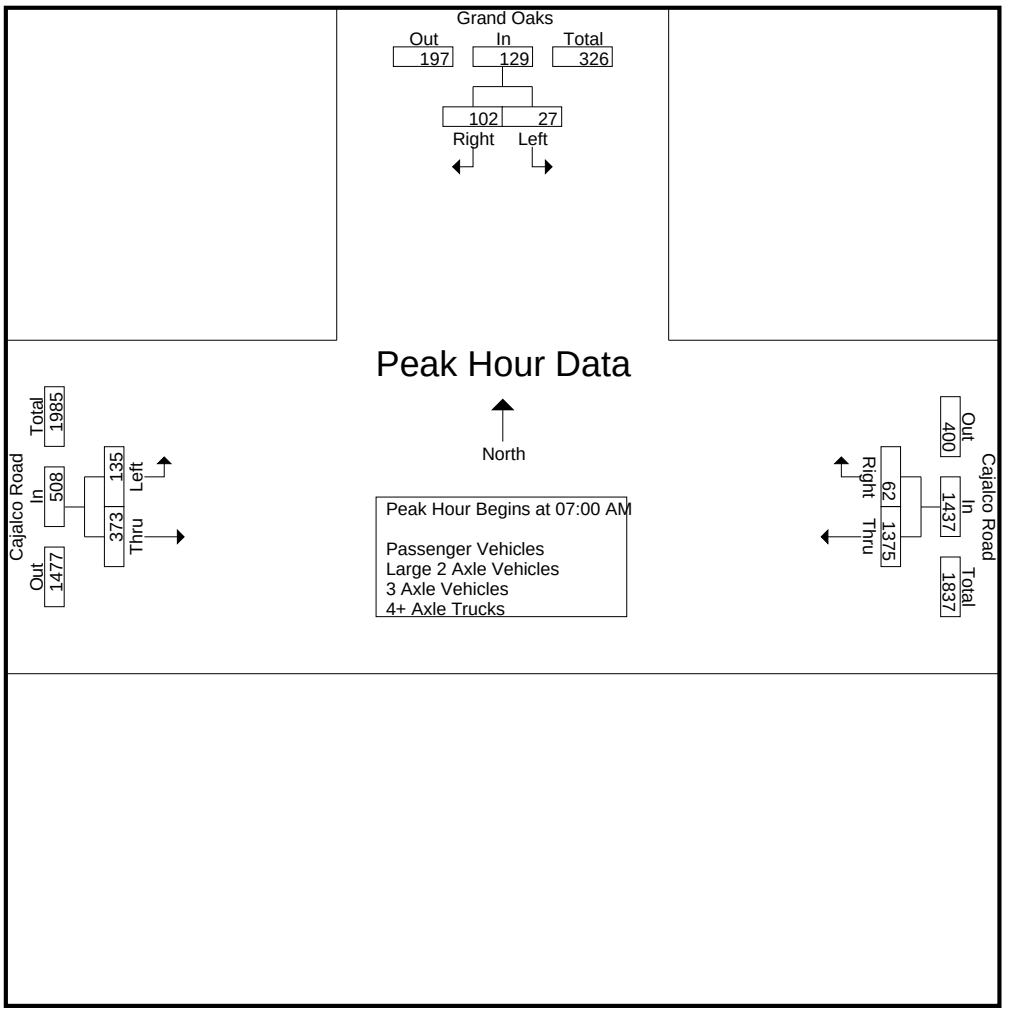
	Grand Oaks Southbound			Cajalco Road Westbound			Cajalco Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
06:00 AM	5	19	24	207	9	216	19	60	79	319
06:15 AM	3	6	9	265	10	275	18	58	76	360
06:30 AM	5	17	22	335	18	353	8	86	94	469
06:45 AM	8	10	18	271	15	286	16	92	108	412
Total	21	52	73	1078	52	1130	61	296	357	1560
07:00 AM	3	20	23	362	11	373	23	84	107	503
07:15 AM	11	24	35	363	6	369	23	81	104	508
07:30 AM	6	23	29	318	19	337	36	96	132	498
07:45 AM	7	35	42	332	26	358	53	112	165	565
Total	27	102	129	1375	62	1437	135	373	508	2074
Grand Total	48	154	202	2453	114	2567	196	669	865	3634
Apprch %	23.8	76.2		95.6	4.4		22.7	77.3		
Total %	1.3	4.2	5.6	67.5	3.1	70.6	5.4	18.4	23.8	
Passenger Vehicles	47	147	194	2291	110	2401	190	542	732	3327
% Passenger Vehicles	97.9	95.5	96	93.4	96.5	93.5	96.9	81	84.6	91.6
Large 2 Axle Vehicles	1	4	5	46	2	48	5	36	41	94
% Large 2 Axle Vehicles	2.1	2.6	2.5	1.9	1.8	1.9	2.6	5.4	4.7	2.6
3 Axle Vehicles	0	0	0	16	0	16	0	8	8	24
% 3 Axle Vehicles	0	0	0	0.7	0	0.6	0	1.2	0.9	0.7
4+ Axle Trucks	0	3	3	100	2	102	1	83	84	189
% 4+ Axle Trucks	0	1.9	1.5	4.1	1.8	4	0.5	12.4	9.7	5.2

	Grand Oaks Southbound			Cajalco Road Westbound			Cajalco Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	3	20	23	362	11	**373**	23	84	107	503
07:15 AM	**11**	24	35	**363**	6	369	23	81	104	508
07:30 AM	6	23	29	318	19	337	36	96	132	498
07:45 AM	7	**35**	**42**	332	**26**	358	**53**	**112**	**165**	**565**
Total Volume	27	102	129	1375	62	1437	135	373	508	2074
% App. Total	20.9	79.1		95.7	4.3		26.6	73.4		
PHF	.614	.729	.768	.947	.596	.963	.637	.833	.770	.918

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City of Corona
N/S: Grand Oaks
E/W: Cajalco Road
Weather: Clear

File Name : 09_COR_Gr Oaks_Cajalco AM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 2



Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	3	20	23	362	11	**373**	23	84	107
+15 mins.	**11**	24	35	**363**	6	369	23	81	104
+30 mins.	6	23	29	318	19	337	36	96	132
+45 mins.	7	**35**	**42**	332	**26**	358	**53**	**112**	**165**
Total Volume	27	102	129	1375	62	1437	135	373	508
% App. Total	20.9	79.1		95.7	4.3		26.6	73.4	
PHF	.614	.729	.768	.947	.596	.963	.637	.833	.770

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City of Corona
N/S: Grand Oaks
E/W: Cajalco Road
Weather: Clear

File Name : 09_COR_Gr Oaks_Cajalco PM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

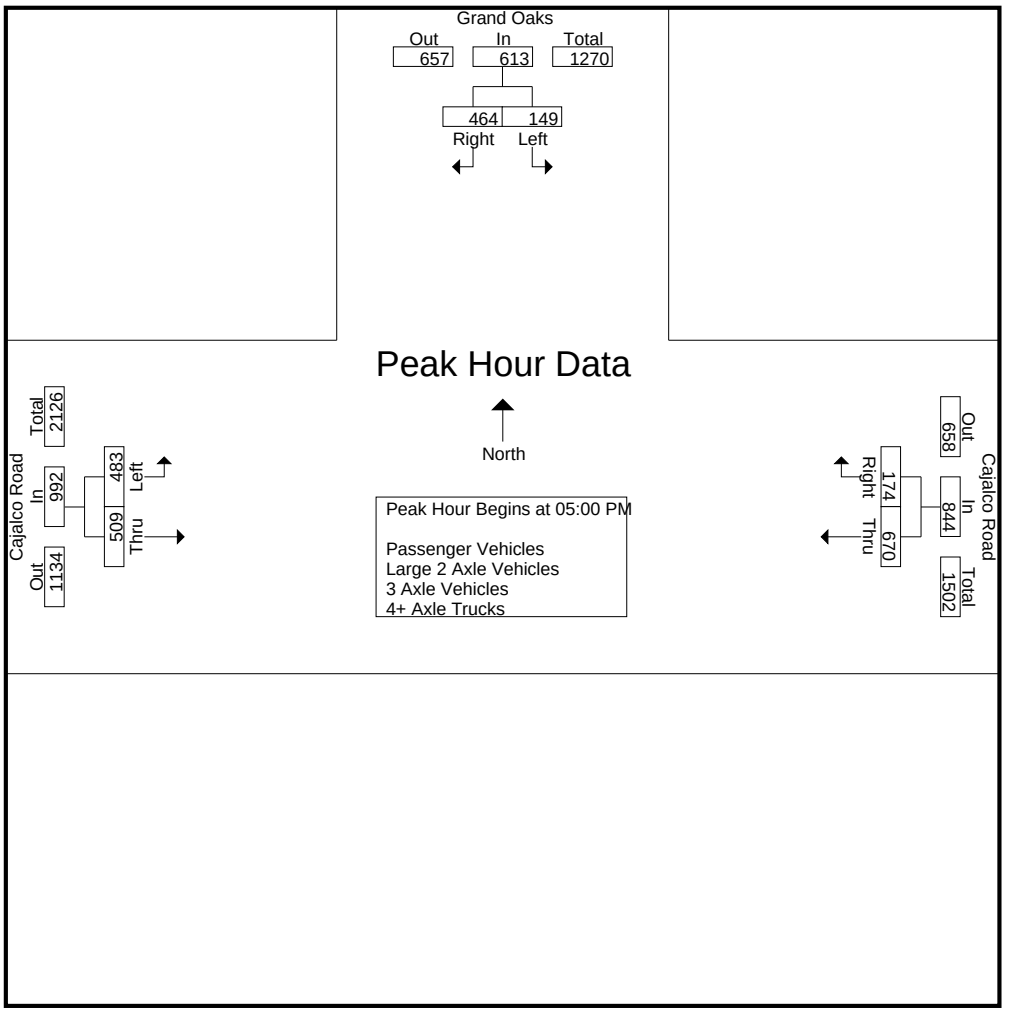
	Grand Oaks Southbound			Cajalco Road Westbound			Cajalco Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	35	91	126	191	45	236	90	105	195	557
04:15 PM	36	115	151	134	28	162	89	103	192	505
04:30 PM	29	107	136	166	40	206	94	112	206	548
04:45 PM	29	107	136	158	52	210	97	116	213	559
Total	129	420	549	649	165	814	370	436	806	2169
05:00 PM	37	123	160	172	46	218	117	127	244	622
05:15 PM	46	111	157	175	44	219	126	125	251	627
05:30 PM	29	110	139	182	50	232	108	125	233	604
05:45 PM	37	120	157	141	34	175	132	132	264	596
Total	149	464	613	670	174	844	483	509	992	2449
Grand Total	278	884	1162	1319	339	1658	853	945	1798	4618
Apprch %	23.9	76.1		79.6	20.4		47.4	52.6		
Total %	6	19.1	25.2	28.6	7.3	35.9	18.5	20.5	38.9	
Passenger Vehicles	276	876	1152	1250	335	1585	846	881	1727	4464
% Passenger Vehicles	99.3	99.1	99.1	94.8	98.8	95.6	99.2	93.2	96.1	96.7
Large 2 Axle Vehicles	2	6	8	25	4	29	4	19	23	60
% Large 2 Axle Vehicles	0.7	0.7	0.7	1.9	1.2	1.7	0.5	2	1.3	1.3
3 Axle Vehicles	0	2	2	11	0	11	2	3	5	18
% 3 Axle Vehicles	0	0.2	0.2	0.8	0	0.7	0.2	0.3	0.3	0.4
4+ Axle Trucks	0	0	0	33	0	33	1	42	43	76
% 4+ Axle Trucks	0	0	0	2.5	0	2	0.1	4.4	2.4	1.6

	Grand Oaks Southbound			Cajalco Road Westbound			Cajalco Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	37	**123**	**160**	172	46	218	117	127	244	622
05:15 PM	**46**	111	157	175	44	219	126	125	251	**627**
05:30 PM	29	110	139	**182**	**50**	**232**	108	125	233	604
05:45 PM	37	120	157	141	34	175	**132**	**132**	**264**	596
Total Volume	149	464	613	670	174	844	483	509	992	2449
% App. Total	24.3	75.7		79.4	20.6		48.7	51.3		
PHF	.810	.943	.958	.920	.870	.909	.915	.964	.939	.976

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City of Corona
N/S: Grand Oaks
E/W: Cajalco Road
Weather: Clear

File Name : 09_COR_Gr Oaks_Cajalco PM
Site Code : 05617610
Start Date : 10/17/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:45 PM			05:00 PM		
+0 mins.	37	**123**	**160**	158	**52**	210	117	127	244
+15 mins.	**46**	111	157	172	46	218	126	125	251
+30 mins.	29	110	139	175	44	219	108	125	233
+45 mins.	37	120	157	**182**	50	**232**	**132**	**132**	**264**
Total Volume	149	464	613	687	192	879	483	509	992
% App. Total	24.3	75.7		78.2	21.8		48.7	51.3	
PHF	.810	.943	.958	.944	.923	.947	.915	.964	.939

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City of Corona
N/S: Temescal Canyon Road
E/W: Cajalco Road
Weather: Clear

File Name : 10_COR_Tem Cyn_Cajalco AM
Site Code : 05617610
Start Date : 10/3/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

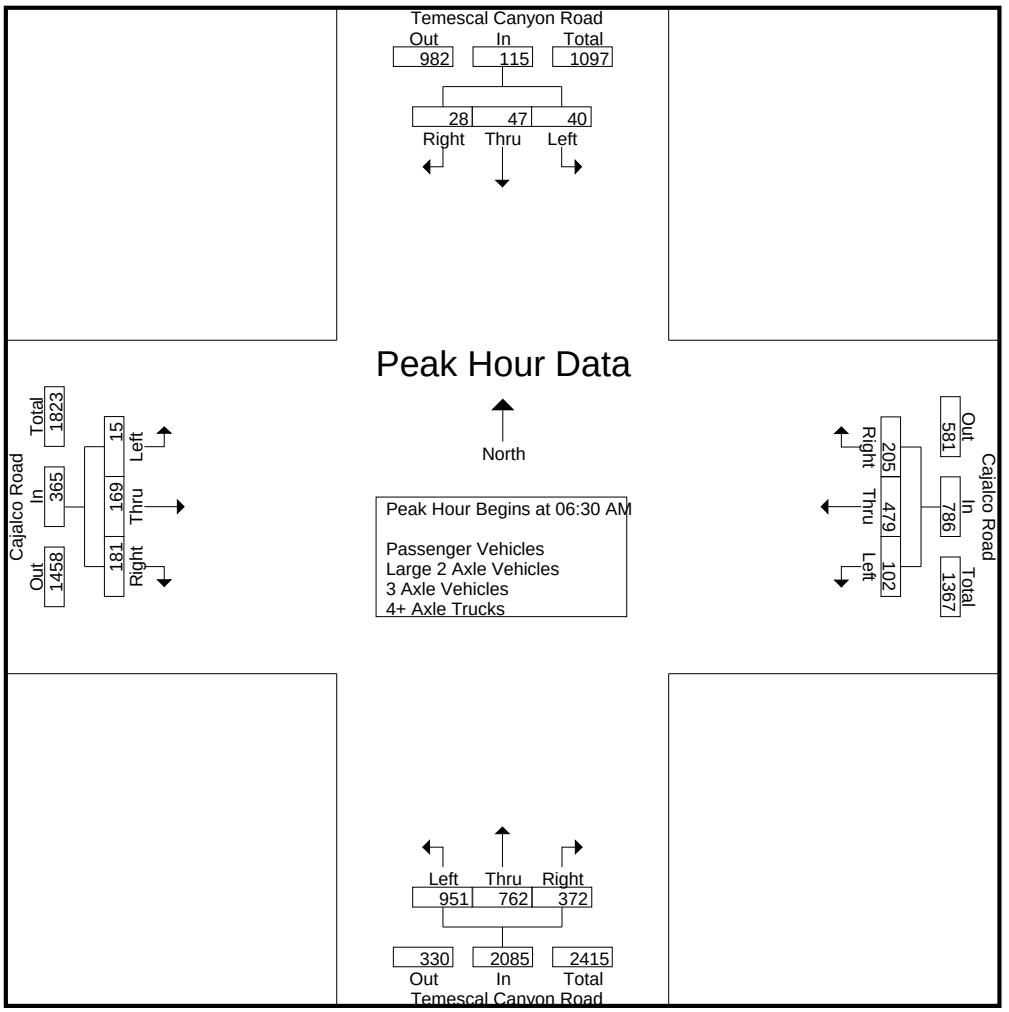
	Temescal Canyon Road Southbound				Cajalco Road Westbound				Temescal Canyon Road Northbound				Cajalco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	5	6	0	11	13	95	41	149	158	223	47	428	2	37	19	58	646
06:15 AM	6	3	3	12	16	130	50	196	179	222	79	480	7	43	26	76	764
06:30 AM	10	5	4	19	23	120	57	200	195	203	115	513	3	42	32	77	809
06:45 AM	6	8	1	15	34	117	46	197	252	194	93	539	7	44	59	110	861
Total	27	22	8	57	86	462	194	742	784	842	334	1960	19	166	136	321	3080
07:00 AM	8	11	3	22	22	137	63	222	264	203	71	538	0	37	41	78	860
07:15 AM	16	23	20	59	23	105	39	167	240	162	93	495	5	46	49	100	821
07:30 AM	14	22	16	52	22	127	35	184	193	148	66	407	8	53	55	116	759
07:45 AM	8	21	8	37	27	127	43	197	153	133	65	351	2	62	77	141	726
Total	46	77	47	170	94	496	180	770	850	646	295	1791	15	198	222	435	3166
Grand Total	73	99	55	227	180	958	374	1512	1634	1488	629	3751	34	364	358	756	6246
Apprch %	32.2	43.6	24.2		11.9	63.4	24.7		43.6	39.7	16.8		4.5	48.1	47.4		
Total %	1.2	1.6	0.9	3.6	2.9	15.3	6	24.2	26.2	23.8	10.1	60.1	0.5	5.8	5.7	12.1	
Passenger Vehicles	72	95	51	218	174	818	358	1350	1609	1455	615	3679	28	276	335	639	5886
% Passenger Vehicles	98.6	96	92.7	96	96.7	85.4	95.7	89.3	98.5	97.8	97.8	98.1	82.4	75.8	93.6	84.5	94.2
Large 2 Axle Vehicles	1	3	3	7	4	27	14	45	12	32	9	53	3	19	12	34	139
% Large 2 Axle Vehicles	1.4	3	5.5	3.1	2.2	2.8	3.7	3	0.7	2.2	1.4	1.4	8.8	5.2	3.4	4.5	2.2
3 Axle Vehicles	0	0	0	0	2	14	0	16	1	0	1	2	2	4	2	8	26
% 3 Axle Vehicles	0	0	0	0	1.1	1.5	0	1.1	0.1	0	0.2	0.1	5.9	1.1	0.6	1.1	0.4
4+ Axle Trucks	0	1	1	2	0	99	2	101	12	1	4	17	1	65	9	75	195
% 4+ Axle Trucks	0	1	1.8	0.9	0	10.3	0.5	6.7	0.7	0.1	0.6	0.5	2.9	17.9	2.5	9.9	3.1

	Temescal Canyon Road Southbound				Cajalco Road Westbound				Temescal Canyon Road Northbound				Cajalco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	10	5	4	19	23	120	57	200	195	**203**	**115**	513	3	42	32	77	809
06:45 AM	6	8	1	15	**34**	117	46	197	252	194	93	**539**	**7**	44	**59**	**110**	**861**
07:00 AM	8	11	3	22	22	**137**	**63**	**222**	**264**	203	71	538	0	37	41	78	860
07:15 AM	**16**	**23**	**20**	**59**	23	105	39	167	240	162	93	495	5	**46**	49	100	821
Total Volume	40	47	28	115	102	479	205	786	951	762	372	2085	15	169	181	365	3351
% App. Total	34.8	40.9	24.3		13	60.9	26.1		45.6	36.5	17.8		4.1	46.3	49.6		
PHF	.625	.511	.350	.487	.750	.874	.813	.885	.901	.938	.809	.967	.536	.918	.767	.830	.973

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City of Corona
N/S: Temescal Canyon Road
E/W: Cajalco Road
Weather: Clear

File Name : 10_COR_Tem Cyn_Cajalco AM
Site Code : 05617610
Start Date : 10/3/2017



Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				06:15 AM				06:30 AM				07:00 AM			
+0 mins.	8	11	3	22	16	130	50	196	195	**203**	**115**	513	0	37	41	78
+15 mins.	**16**	**23**	**20**	**59**	23	120	57	200	252	194	93	**539**	5	46	49	100
+30 mins.	14	22	16	52	**34**	117	46	197	**264**	203	71	538	**8**	53	55	116
+45 mins.	8	21	8	37	22	**137**	**63**	**222**	240	162	93	495	2	**62**	**77**	**141**
Total Volume	46	77	47	170	95	504	216	815	951	762	372	2085	15	198	222	435
% App. Total	27.1	45.3	27.6		11.7	61.8	26.5		45.6	36.5	17.8		3.4	45.5	51	
PHF	.719	.837	.588	.720	.699	.920	.857	.918	.901	.938	.809	.967	.469	.798	.721	.771

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City of Corona
N/S: Temescal Canyon Road
E/W: Cajalco Road
Weather: Clear

File Name : 10_COR_Tem Cyn_Cajalco PM
Site Code : 05617610
Start Date : 10/3/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

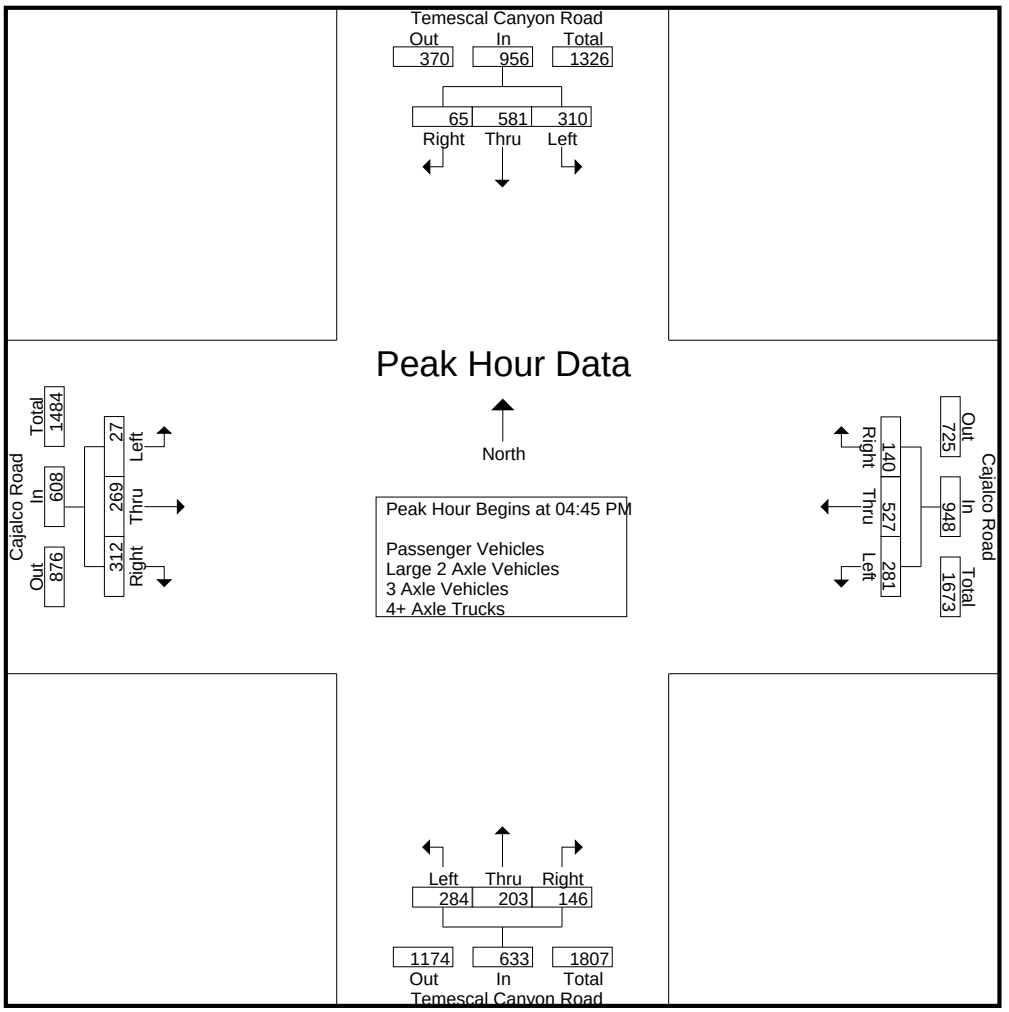
	Temescal Canyon Road Southbound				Cajalco Road Westbound				Temescal Canyon Road Northbound				Cajalco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	82	111	10	203	50	104	31	185	78	55	41	174	0	50	74	124	686
04:15 PM	66	138	18	222	57	122	33	212	47	50	38	135	5	68	79	152	721
04:30 PM	54	151	15	220	41	126	30	197	87	53	41	181	4	68	72	144	742
04:45 PM	77	138	14	229	62	130	29	221	61	56	35	152	9	78	79	166	768
Total	279	538	57	874	210	482	123	815	273	214	155	642	18	264	304	586	2917
05:00 PM	75	141	20	236	71	134	30	235	71	61	46	178	7	53	62	122	771
05:15 PM	90	156	11	257	70	122	37	229	81	47	37	165	6	71	76	153	804
05:30 PM	68	146	20	234	78	141	44	263	71	39	28	138	5	67	95	167	802
05:45 PM	60	138	16	214	73	149	29	251	65	46	20	131	4	54	114	172	768
Total	293	581	67	941	292	546	140	978	288	193	131	612	22	245	347	614	3145
Grand Total	572	1119	124	1815	502	1028	263	1793	561	407	286	1254	40	509	651	1200	6062
Apprch %	31.5	61.7	6.8		28	57.3	14.7		44.7	32.5	22.8		3.3	42.4	54.2		
Total %	9.4	18.5	2	29.9	8.3	17	4.3	29.6	9.3	6.7	4.7	20.7	0.7	8.4	10.7	19.8	
Passenger Vehicles	536	1105	123	1764	492	981	258	1731	546	401	283	1230	37	477	631	1145	5870
% Passenger Vehicles	93.7	98.7	99.2	97.2	98	95.4	98.1	96.5	97.3	98.5	99	98.1	92.5	93.7	96.9	95.4	96.8
Large 2 Axle Vehicles	15	13	1	29	5	18	3	26	14	5	3	22	3	11	4	18	95
% Large 2 Axle Vehicles	2.6	1.2	0.8	1.6	1	1.8	1.1	1.5	2.5	1.2	1	1.8	7.5	2.2	0.6	1.5	1.6
3 Axle Vehicles	1	0	0	1	1	2	1	4	0	0	0	0	0	4	1	5	10
% 3 Axle Vehicles	0.2	0	0	0.1	0.2	0.2	0.4	0.2	0	0	0	0	0	0.8	0.2	0.4	0.2
4+ Axle Trucks	20	1	0	21	4	27	1	32	1	1	0	2	0	17	15	32	87
% 4+ Axle Trucks	3.5	0.1	0	1.2	0.8	2.6	0.4	1.8	0.2	0.2	0	0.2	0	3.3	2.3	2.7	1.4

	Temescal Canyon Road Southbound				Cajalco Road Westbound				Temescal Canyon Road Northbound				Cajalco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	77	138	14	229	62	130	29	221	61	56	35	152	**9**	**78**	79	166	768
05:00 PM	75	141	**20**	236	71	134	30	235	71	**61**	**46**	**178**	7	53	62	122	771
05:15 PM	**90**	**156**	11	**257**	70	122	37	229	**81**	47	37	165	6	71	76	153	**804**
05:30 PM	68	146	20	234	**78**	**141**	**44**	**263**	71	39	28	138	5	67	**95**	**167**	802
Total Volume	310	581	65	956	281	527	140	948	284	203	146	633	27	269	312	608	3145
% App. Total	32.4	60.8	6.8		29.6	55.6	14.8		44.9	32.1	23.1		4.4	44.2	51.3		
PHF	.861	.931	.813	.930	.901	.934	.795	.901	.877	.832	.793	.889	.750	.862	.821	.910	.978

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City of Corona
N/S: Temescal Canyon Road
E/W: Cajalco Road
Weather: Clear

File Name : 10_COR_Tem Cyn_Cajalco PM
Site Code : 05617610
Start Date : 10/3/2017



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				04:30 PM				05:00 PM			
+0 mins.	77	138	14	229	71	134	30	235	**87**	53	41	**181**	**7**	53	62	122
+15 mins.	75	141	**20**	236	70	122	37	229	61	56	35	152	6	**71**	76	153
+30 mins.	**90**	**156**	11	**257**	**78**	141	**44**	**263**	71	**61**	**46**	178	5	67	95	167
+45 mins.	68	146	20	234	73	**149**	29	251	81	47	37	165	4	54	**114**	**172**
Total Volume	310	581	65	956	292	546	140	978	300	217	159	676	22	245	347	614
% App. Total	32.4	60.8	6.8		29.9	55.8	14.3		44.4	32.1	23.5		3.6	39.9	56.5	
PHF	.861	.931	.813	.930	.936	.916	.795	.930	.862	.889	.864	.934	.786	.863	.761	.892

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City of Corona
N/S: Castlepeak Drive
E/W: Eagle Glen Parkway
Weather: Clear

File Name : 04_COR_Castlepeak_Eagle Glen AM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 1

Groups Printed- Total Volume

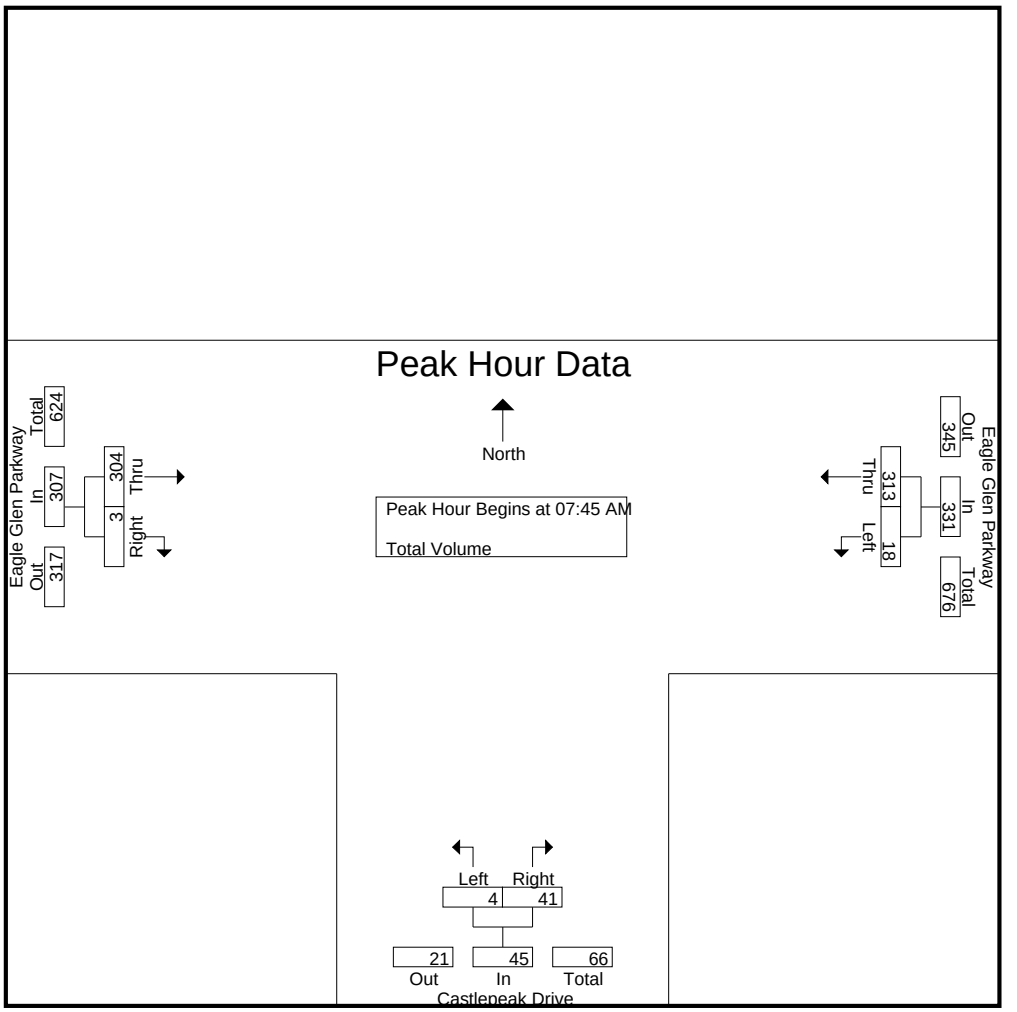
	Eagle Glen Parkway Westbound			Castlepeak Drive Northbound			Eagle Glen Parkway Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	3	19	22	6	20	26	49	0	49	97
07:15 AM	8	28	36	0	21	21	63	0	63	120
07:30 AM	6	35	41	1	10	11	59	0	59	111
07:45 AM	8	68	76	1	8	9	48	2	50	135
Total	25	150	175	8	59	67	219	2	221	463
08:00 AM	2	72	74	0	9	9	80	0	80	163
08:15 AM	1	78	79	1	9	10	72	0	72	161
08:30 AM	7	95	102	2	15	17	104	1	105	224
08:45 AM	7	33	40	0	7	7	88	0	88	135
Total	17	278	295	3	40	43	344	1	345	683
Grand Total	42	428	470	11	99	110	563	3	566	1146
Apprch %	8.9	91.1		10	90		99.5	0.5		
Total %	3.7	37.3	41	1	8.6	9.6	49.1	0.3	49.4	

	Eagle Glen Parkway Westbound			Castlepeak Drive Northbound			Eagle Glen Parkway Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	**8**	68	76	1	8	9	48	**2**	50	135
08:00 AM	2	72	74	0	9	9	80	0	80	163
08:15 AM	1	78	79	1	9	10	72	0	72	161
08:30 AM	7	**95**	**102**	**2**	**15**	**17**	**104**	1	**105**	**224**
Total Volume	18	313	331	4	41	45	304	3	307	683
% App. Total	5.4	94.6		8.9	91.1		99	1		
PHF	.563	.824	.811	.500	.683	.662	.731	.375	.731	.762

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City of Corona
N/S: Castlepeak Drive
E/W: Eagle Glen Parkway
Weather: Clear

File Name : 04_COR_Castlepeak_Eagle Glen AM
Site Code : 05118203
Start Date : 3/27/2018



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:00 AM			08:00 AM		
+0 mins.	**8**	68	76	**6**	20	**26**	80	0	80
+15 mins.	2	72	74	0	**21**	21	72	0	72
+30 mins.	1	78	79	1	10	11	**104**	**1**	**105**
+45 mins.	7	**95**	**102**	1	8	9	88	0	88
Total Volume	18	313	331	8	59	67	344	1	345
% App. Total	5.4	94.6		11.9	88.1		99.7	0.3	
PHF	.563	.824	.811	.333	.702	.644	.827	.250	.821

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City of Corona
N/S: Castlepeak Drive
E/W: Eagle Glen Parkway
Weather: Clear

File Name : 04_COR_Castlepeak_Eagle Glen PM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 1

Groups Printed- Total Volume

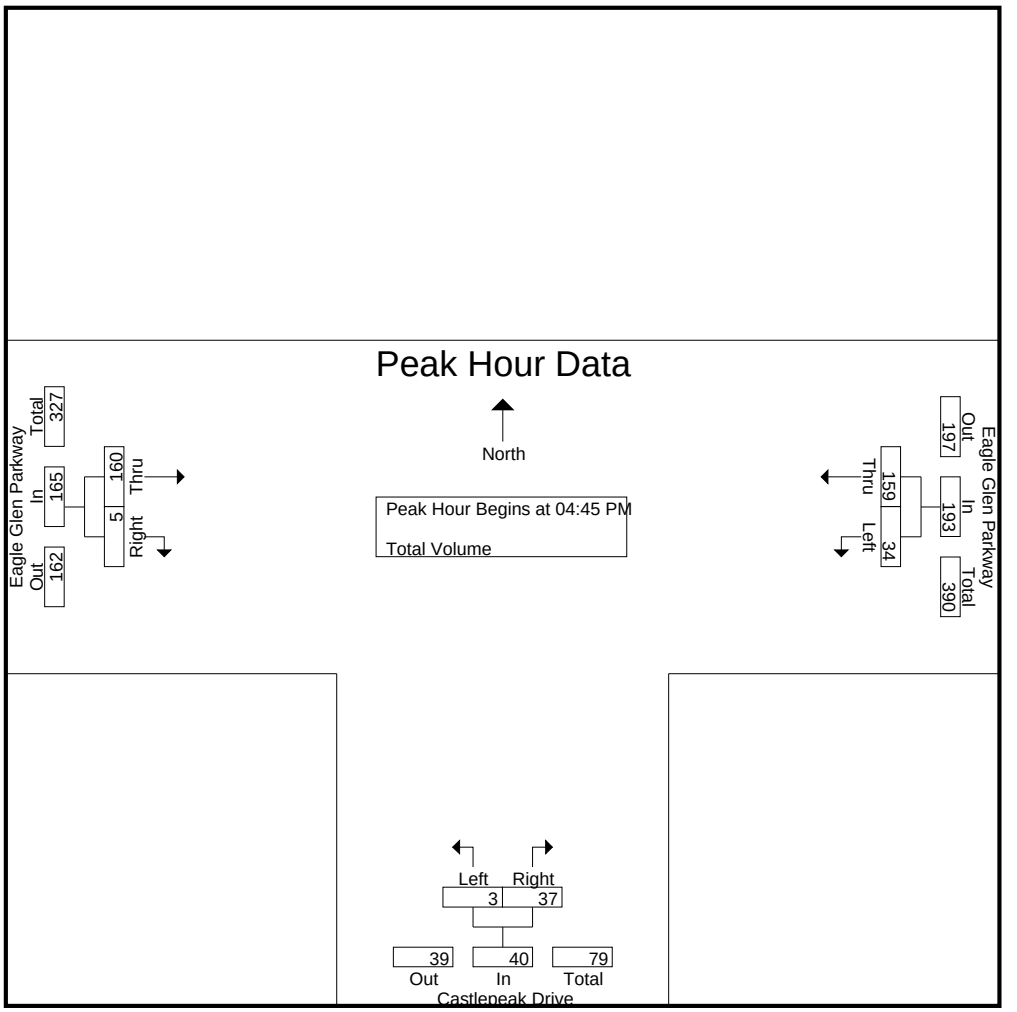
	Eagle Glen Parkway Westbound			Castlepeak Drive Northbound			Eagle Glen Parkway Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	10	41	51	1	9	10	37	2	39	100
04:15 PM	6	31	37	0	6	6	30	2	32	75
04:30 PM	13	34	47	1	5	6	35	1	36	89
04:45 PM	6	47	53	2	14	16	44	1	45	114
Total	35	153	188	4	34	38	146	6	152	378
05:00 PM	9	50	59	0	9	9	40	1	41	109
05:15 PM	6	34	40	1	7	8	36	1	37	85
05:30 PM	13	28	41	0	7	7	40	2	42	90
05:45 PM	8	49	57	1	7	8	39	2	41	106
Total	36	161	197	2	30	32	155	6	161	390
Grand Total	71	314	385	6	64	70	301	12	313	768
Apprch %	18.4	81.6		8.6	91.4		96.2	3.8		
Total %	9.2	40.9	50.1	0.8	8.3	9.1	39.2	1.6	40.8	

	Eagle Glen Parkway Westbound			Castlepeak Drive Northbound			Eagle Glen Parkway Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	6	47	53	**2**	**14**	**16**	**44**	1	**45**	**114**
05:00 PM	9	**50**	**59**	0	9	9	40	1	41	109
05:15 PM	6	34	40	1	7	8	36	1	37	85
05:30 PM	**13**	28	41	0	7	7	40	**2**	42	90
Total Volume	34	159	193	3	37	40	160	5	165	398
% App. Total	17.6	82.4		7.5	92.5		97	3		
PHF	.654	.795	.818	.375	.661	.625	.909	.625	.917	.873

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City of Corona
N/S: Castlepeak Drive
E/W: Eagle Glen Parkway
Weather: Clear

File Name : 04_COR_Castlepeak_Eagle Glen PM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:45 PM			04:45 PM		
+0 mins.	**13**	34	47	**2**	**14**	**16**	**44**	1	**45**
+15 mins.	6	47	53	0	9	9	40	1	41
+30 mins.	9	**50**	**59**	1	7	8	36	1	37
+45 mins.	6	34	40	0	7	7	40	**2**	42
Total Volume	34	165	199	3	37	40	160	5	165
% App. Total	17.1	82.9		7.5	92.5		97	3	
PHF	.654	.825	.843	.375	.661	.625	.909	.625	.917

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City of Corona
N/S: Masters Drive
E/W: Christopher Lane
Weather: Clear

File Name : 02_COR_Masters_Christopher AM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 1

Groups Printed- Total Volume

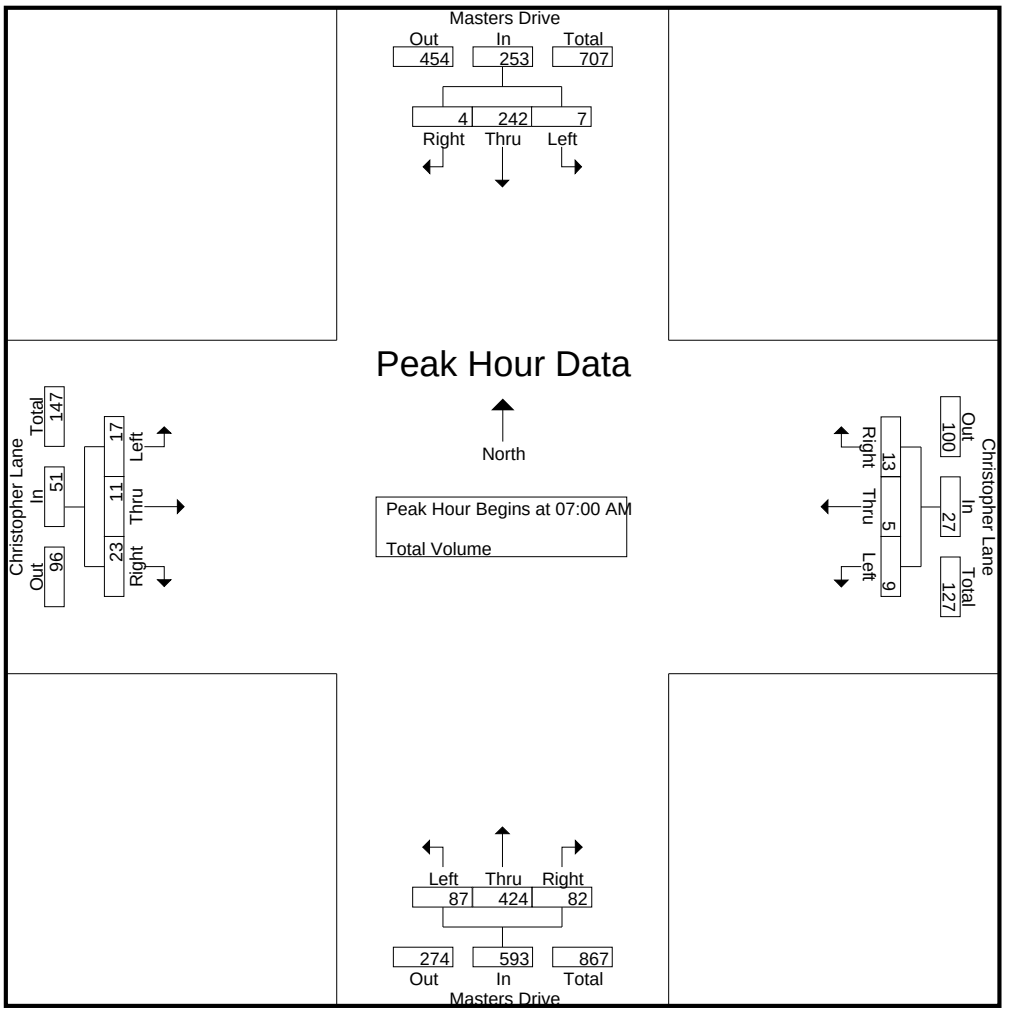
	Masters Drive Southbound				Christopher Lane Westbound				Masters Drive Northbound				Christopher Lane Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	24	0	25	1	0	4	5	9	129	9	147	4	4	3	11	188
07:15 AM	2	46	2	50	2	3	3	8	52	131	55	238	6	5	3	14	310
07:30 AM	2	104	2	108	4	2	4	10	22	97	16	135	1	2	9	12	265
07:45 AM	2	68	0	70	2	0	2	4	4	67	2	73	6	0	8	14	161
Total	7	242	4	253	9	5	13	27	87	424	82	593	17	11	23	51	924
08:00 AM	2	43	0	45	2	0	2	4	0	73	2	75	3	1	1	5	129
08:15 AM	1	33	0	34	2	0	1	3	3	64	3	70	3	0	1	4	111
08:30 AM	0	32	1	33	1	0	0	1	2	61	2	65	2	0	1	3	102
08:45 AM	1	21	0	22	2	1	2	5	0	52	1	53	0	1	0	1	81
Total	4	129	1	134	7	1	5	13	5	250	8	263	8	2	3	13	423
Grand Total	11	371	5	387	16	6	18	40	92	674	90	856	25	13	26	64	1347
Apprch %	2.8	95.9	1.3		40	15	45		10.7	78.7	10.5		39.1	20.3	40.6		
Total %	0.8	27.5	0.4	28.7	1.2	0.4	1.3	3	6.8	50	6.7	63.5	1.9	1	1.9	4.8	

	Masters Drive Southbound				Christopher Lane Westbound				Masters Drive Northbound				Christopher Lane Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	24	0	25	1	0	**4**	5	9	129	9	147	4	4	3	11	188
07:15 AM	**2**	46	**2**	50	2	**3**	3	8	**52**	**131**	**55**	**238**	**6**	**5**	3	**14**	**310**
07:30 AM	2	**104**	2	**108**	**4**	2	4	**10**	22	97	16	135	1	2	**9**	12	265
07:45 AM	2	68	0	70	2	0	2	4	4	67	2	73	6	0	8	14	161
Total Volume	7	242	4	253	9	5	13	27	87	424	82	593	17	11	23	51	924
% App. Total	2.8	95.7	1.6		33.3	18.5	48.1		14.7	71.5	13.8		33.3	21.6	45.1		
PHF	.875	.582	.500	.586	.563	.417	.813	.675	.418	.809	.373	.623	.708	.550	.639	.911	.745

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City of Corona
N/S: Masters Drive
E/W: Christopher Lane
Weather: Clear

File Name : 02_COR_Masters_Christopher AM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	**2**	46	**2**	50	1	0	**4**	5	9	129	9	147	4	4	3	11
+15 mins.	2	**104**	2	**108**	2	**3**	3	8	**52**	**131**	**55**	**238**	**6**	**5**	3	**14**
+30 mins.	2	68	0	70	**4**	2	4	**10**	22	97	16	135	1	2	**9**	12
+45 mins.	2	43	0	45	2	0	2	4	4	67	2	73	6	0	8	14
Total Volume	8	261	4	273	9	5	13	27	87	424	82	593	17	11	23	51
% App. Total	2.9	95.6	1.5		33.3	18.5	48.1		14.7	71.5	13.8		33.3	21.6	45.1	
PHF	1.000	.627	.500	.632	.563	.417	.813	.675	.418	.809	.373	.623	.708	.550	.639	.911

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City of Corona
N/S: Masters Drive
E/W: Christopher Lane
Weather: Clear

File Name : 02_COR_Masters_Christopher PM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 1

Groups Printed- Total Volume

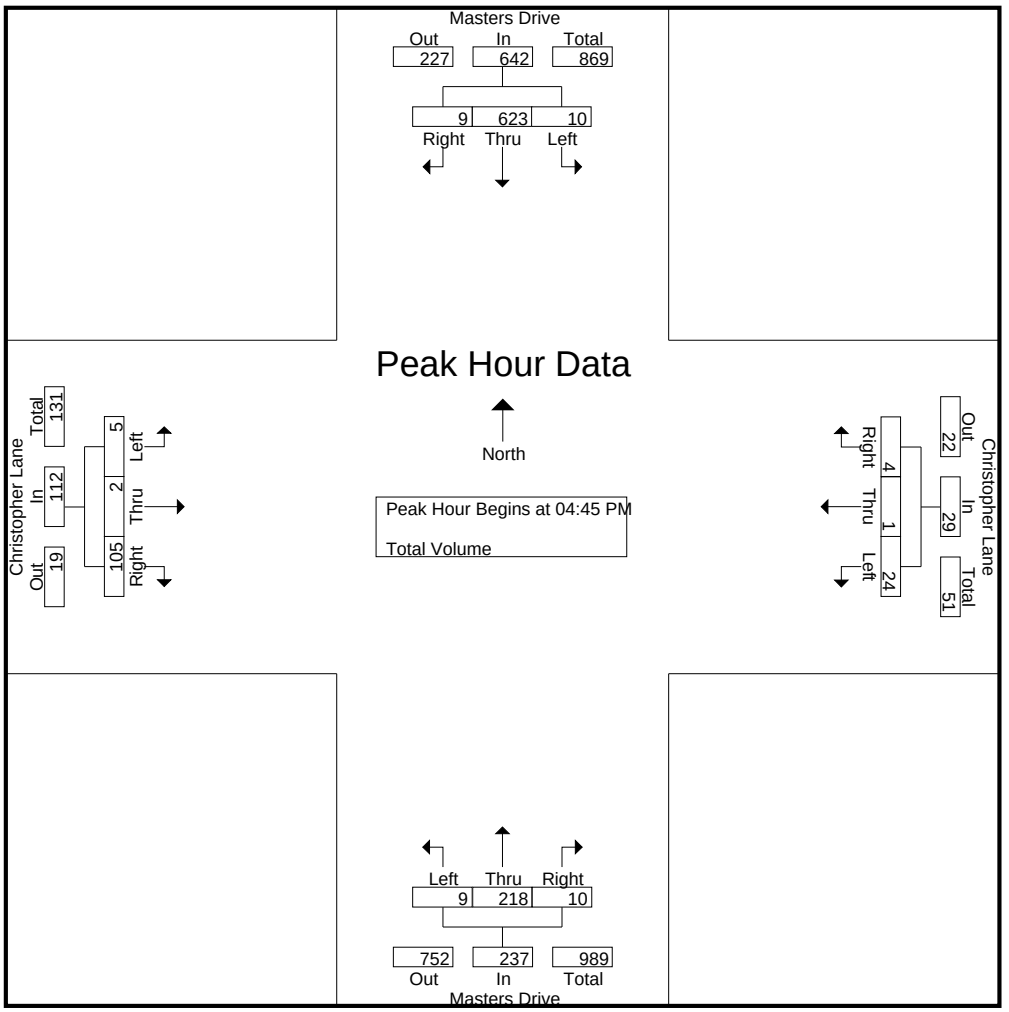
	Masters Drive Southbound				Christopher Lane Westbound				Masters Drive Northbound				Christopher Lane Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	129	3	135	0	0	1	1	0	43	3	46	3	0	15	18	200
04:15 PM	1	136	2	139	4	0	2	6	5	46	3	54	2	0	15	17	216
04:30 PM	2	125	2	129	6	0	1	7	3	42	4	49	1	0	17	18	203
04:45 PM	3	154	2	159	5	0	1	6	2	61	7	70	2	0	19	21	256
Total	9	544	9	562	15	0	5	20	10	192	17	219	8	0	66	74	875
05:00 PM	2	142	2	146	7	1	1	9	6	56	1	63	2	0	24	26	244
05:15 PM	3	172	2	177	4	0	1	5	1	60	0	61	1	1	30	32	275
05:30 PM	2	155	3	160	8	0	1	9	0	41	2	43	0	1	32	33	245
05:45 PM	2	151	5	158	6	1	1	8	1	67	1	69	3	0	14	17	252
Total	9	620	12	641	25	2	4	31	8	224	4	236	6	2	100	108	1016
Grand Total	18	1164	21	1203	40	2	9	51	18	416	21	455	14	2	166	182	1891
Apprch %	1.5	96.8	1.7		78.4	3.9	17.6		4	91.4	4.6		7.7	1.1	91.2		
Total %	1	61.6	1.1	63.6	2.1	0.1	0.5	2.7	1	22	1.1	24.1	0.7	0.1	8.8	9.6	

	Masters Drive Southbound				Christopher Lane Westbound				Masters Drive Northbound				Christopher Lane Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**3**	154	2	159	5	0	**1**	6	2	**61**	**7**	**70**	**2**	0	19	21	256
05:00 PM	2	142	2	146	7	**1**	1	**9**	**6**	56	1	63	2	0	24	26	244
05:15 PM	3	**172**	2	**177**	4	0	1	5	1	60	0	61	1	**1**	30	32	**275**
05:30 PM	2	155	**3**	160	**8**	0	1	9	0	41	2	43	0	1	**32**	**33**	245
Total Volume	10	623	9	642	24	1	4	29	9	218	10	237	5	2	105	112	1020
% App. Total	1.6	97	1.4		82.8	3.4	13.8		3.8	92	4.2		4.5	1.8	93.8		
PHF	.833	.906	.750	.907	.750	.250	1.00	.806	.375	.893	.357	.846	.625	.500	.820	.848	.927

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City of Corona
N/S: Masters Drive
E/W: Christopher Lane
Weather: Clear

File Name : 02_COR_Masters_Christopher PM
Site Code : 05118203
Start Date : 3/27/2018
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				04:30 PM				04:45 PM			
+0 mins.	**3**	154	2	159	7	**1**	**1**	**9**	3	42	4	49	**2**	0	19	21
+15 mins.	2	142	2	146	4	0	1	5	2	**61**	**7**	**70**	2	0	24	26
+30 mins.	3	**172**	2	**177**	**8**	0	1	9	**6**	56	1	63	1	**1**	30	32
+45 mins.	2	155	**3**	160	6	1	1	8	1	60	0	61	0	1	**32**	**33**
Total Volume	10	623	9	642	25	2	4	31	12	219	12	243	5	2	105	112
% App. Total	1.6	97	1.4		80.6	6.5	12.9		4.9	90.1	4.9		4.5	1.8	93.8	
PHF	.833	.906	.750	.907	.781	.500	1.000	.861	.500	.898	.429	.868	.625	.500	.820	.848

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City of Corona
N/S: Via Castilla Street
E/W: Masters Drive
Weather: Clear

File Name : 132_COR_Castilla_Masters AM
Site Code : 05617610
Start Date : 10/3/2017
Page No : 1

Groups Printed- Total Volume

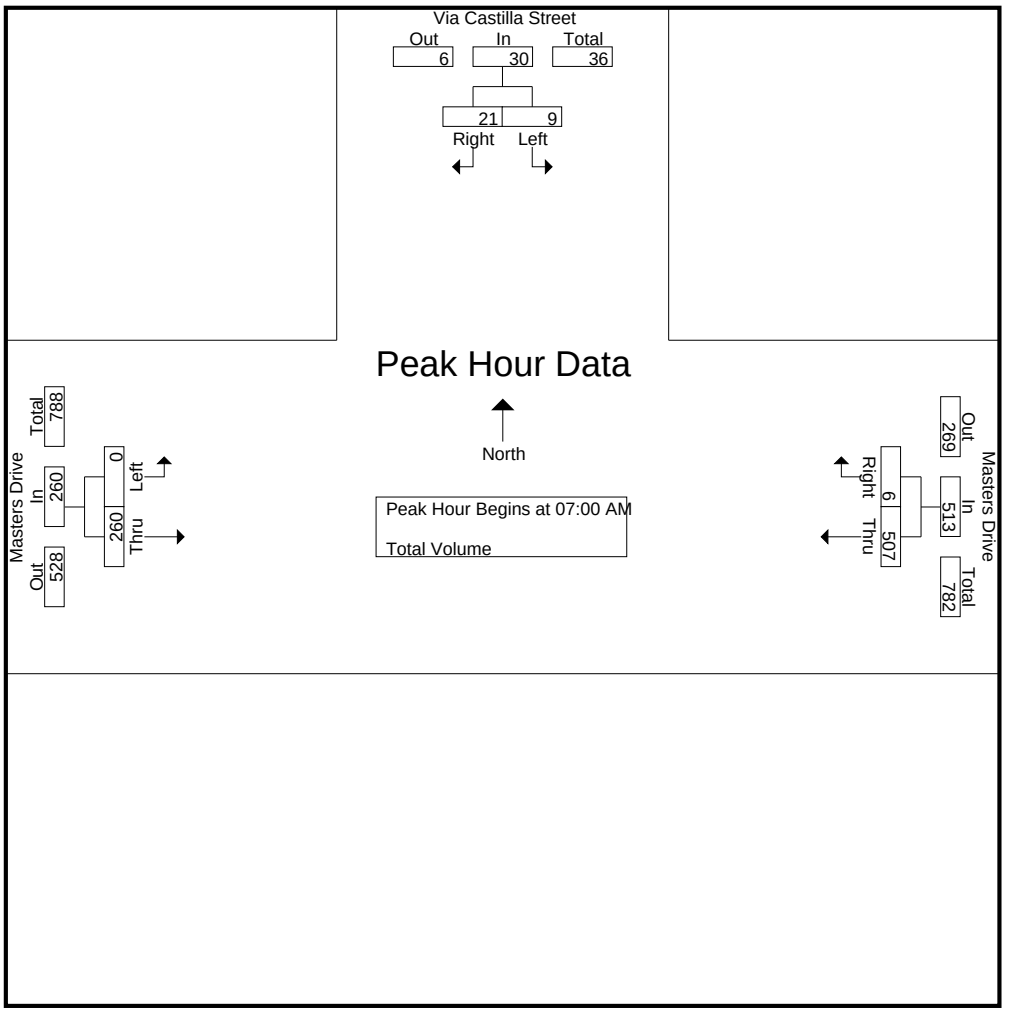
	Via Castilla Street Southbound			Masters Drive Westbound			Masters Drive Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
06:00 AM	1	1	2	25	1	26	0	5	5	33
06:15 AM	0	2	2	39	0	39	0	5	5	46
06:30 AM	1	1	2	43	1	44	0	10	10	56
06:45 AM	2	2	4	84	1	85	0	22	22	111
Total	4	6	10	191	3	194	0	42	42	246
07:00 AM	2	8	10	141	0	141	0	29	29	180
07:15 AM	1	7	8	189	1	190	0	60	60	258
07:30 AM	3	2	5	112	3	115	0	84	84	204
07:45 AM	3	4	7	65	2	67	0	87	87	161
Total	9	21	30	507	6	513	0	260	260	803
Grand Total	13	27	40	698	9	707	0	302	302	1049
Apprch %	32.5	67.5		98.7	1.3		0	100		
Total %	1.2	2.6	3.8	66.5	0.9	67.4	0	28.8	28.8	

	Via Castilla Street Southbound			Masters Drive Westbound			Masters Drive Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	2	**8**	**10**	141	0	141	0	29	29	180
07:15 AM	1	7	8	**189**	1	**190**	0	60	60	**258**
07:30 AM	**3**	2	5	112	**3**	115	0	84	84	204
07:45 AM	3	4	7	65	2	67	0	**87**	**87**	161
Total Volume	9	21	30	507	6	513	0	260	260	803
% App. Total	30	70		98.8	1.2		0	100		
PHF	.750	.656	.750	.671	.500	.675	.000	.747	.747	.778

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City of Corona
N/S: Via Castilla Street
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Weather: Clear

File Name : 132_COR_Castilla_Masters AM
Site Code : 05617610
Start Date : 10/3/2017
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Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			06:45 AM			07:00 AM		
+0 mins.	2	**8**	**10**	84	1	85	0	29	29
+15 mins.	1	7	8	141	0	141	0	60	60
+30 mins.	**3**	2	5	**189**	1	**190**	0	84	84
+45 mins.	3	4	7	112	**3**	115	0	**87**	**87**
Total Volume	9	21	30	526	5	531	0	260	260
% App. Total	30	70		99.1	0.9		0	100	
PHF	.750	.656	.750	.696	.417	.699	.000	.747	.747

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City of Corona
N/S: Via Castilla Street
E/W: Masters Drive
Weather: Clear

File Name : 132_COR_Castilla_Masters PM
Site Code : 05617610
Start Date : 10/3/2017
Page No : 1

Groups Printed- Total Volume

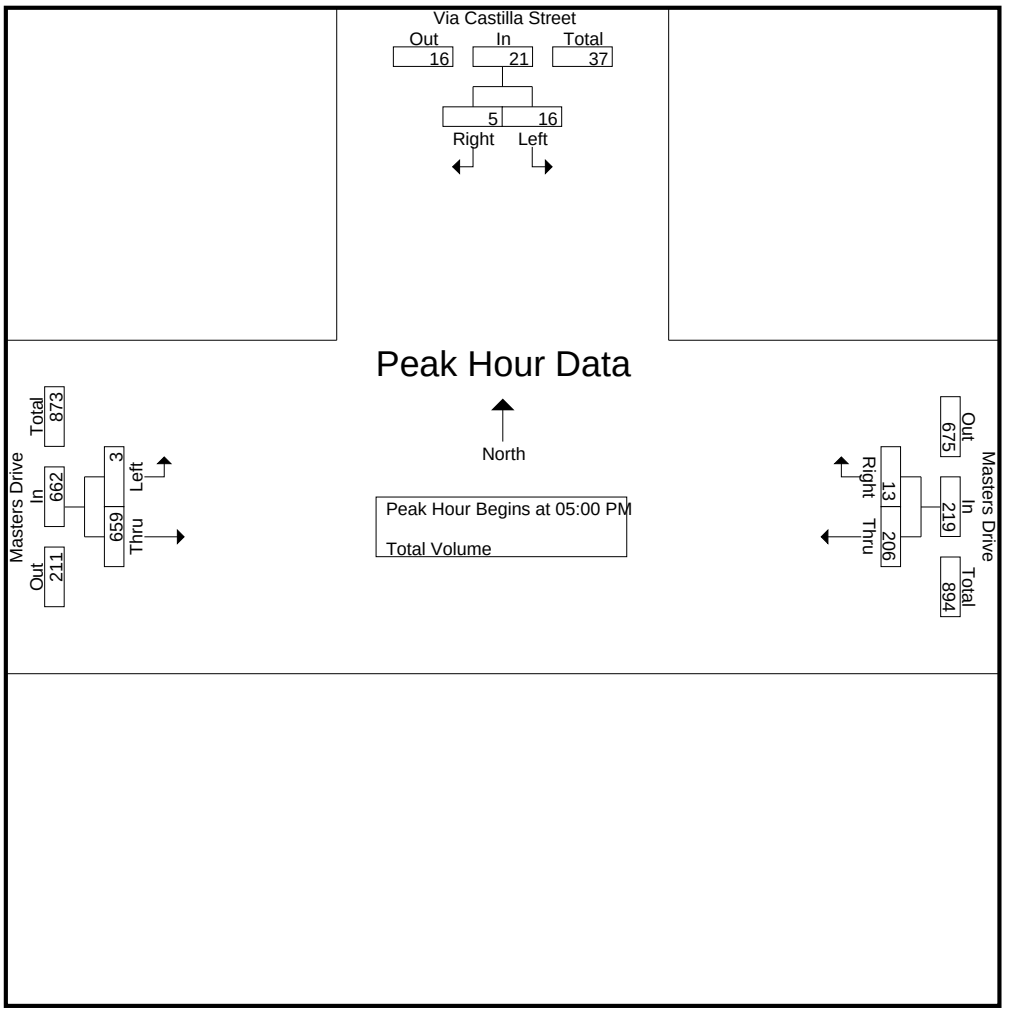
	Via Castilla Street Southbound			Masters Drive Westbound			Masters Drive Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	36	2	38	0	103	103	141
04:15 PM	3	0	3	39	7	46	2	132	134	183
04:30 PM	1	1	2	32	0	32	3	131	134	168
04:45 PM	0	1	1	42	2	44	2	137	139	184
Total	4	2	6	149	11	160	7	503	510	676
05:00 PM	5	1	6	53	2	55	2	163	165	226
05:15 PM	4	2	6	60	2	62	1	195	196	264
05:30 PM	4	0	4	43	5	48	0	165	165	217
05:45 PM	3	2	5	50	4	54	0	136	136	195
Total	16	5	21	206	13	219	3	659	662	902
Grand Total	20	7	27	355	24	379	10	1162	1172	1578
Apprch %	74.1	25.9		93.7	6.3		0.9	99.1		
Total %	1.3	0.4	1.7	22.5	1.5	24	0.6	73.6	74.3	

	Via Castilla Street Southbound			Masters Drive Westbound			Masters Drive Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**5**	1	**6**	53	2	55	**2**	163	165	226
05:15 PM	4	**2**	6	**60**	2	**62**	1	**195**	**196**	**264**
05:30 PM	4	0	4	43	**5**	48	0	165	165	217
05:45 PM	3	2	5	50	4	54	0	136	136	195
Total Volume	16	5	21	206	13	219	3	659	662	902
% App. Total	76.2	23.8		94.1	5.9		0.5	99.5		
PHF	.800	.625	.875	.858	.650	.883	.375	.845	.844	.854

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City of Corona
N/S: Via Castilla Street
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Weather: Clear

File Name : 132_COR_Castilla_Masters PM
Site Code : 05617610
Start Date : 10/3/2017
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			04:45 PM		
+0 mins.	**5**	1	**6**	53	2	55	**2**	137	139
+15 mins.	4	**2**	6	**60**	2	**62**	2	163	165
+30 mins.	4	0	4	43	**5**	48	1	**195**	**196**
+45 mins.	3	2	5	50	4	54	0	165	165
Total Volume	16	5	21	206	13	219	5	660	665
% App. Total	76.2	23.8		94.1	5.9		0.8	99.2	
PHF	.800	.625	.875	.858	.650	.883	.625	.846	.848

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City of Corona
N/S: Morales Way
E/W: Masters Drive
Weather: Clear

File Name : 134_COR_Morales_Masters AM
Site Code : 05617610
Start Date : 10/4/2017
Page No : 1

Groups Printed- Total Volume

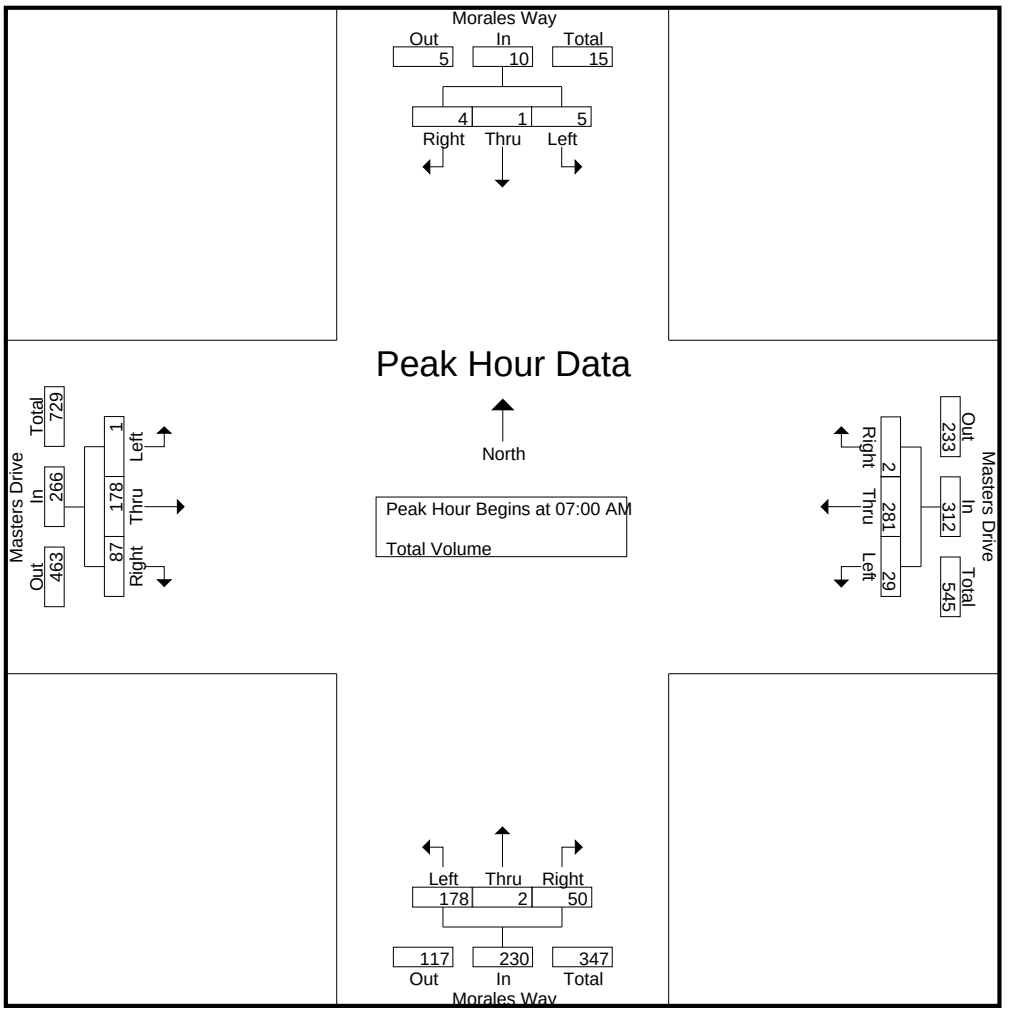
	Morales Way Southbound				Masters Drive Westbound				Morales Way Northbound				Masters Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	3	18	0	21	8	0	4	12	0	7	2	9	42
06:15 AM	0	0	0	0	1	24	0	25	10	0	8	18	0	4	2	6	49
06:30 AM	0	0	0	0	2	24	0	26	20	0	6	26	0	13	2	15	67
06:45 AM	1	0	2	3	8	68	1	77	26	0	12	38	0	20	8	28	146
Total	1	0	2	3	14	134	1	149	64	0	30	94	0	44	14	58	304
07:00 AM	1	0	1	2	2	87	1	90	70	0	18	88	0	30	10	40	220
07:15 AM	1	0	2	3	7	90	0	97	67	0	15	82	0	46	15	61	243
07:30 AM	2	1	1	4	13	63	0	76	22	2	12	36	0	50	31	81	197
07:45 AM	1	0	0	1	7	41	1	49	19	0	5	24	1	52	31	84	158
Total	5	1	4	10	29	281	2	312	178	2	50	230	1	178	87	266	818
Grand Total	6	1	6	13	43	415	3	461	242	2	80	324	1	222	101	324	1122
Apprch %	46.2	7.7	46.2		9.3	90	0.7		74.7	0.6	24.7		0.3	68.5	31.2		
Total %	0.5	0.1	0.5	1.2	3.8	37	0.3	41.1	21.6	0.2	7.1	28.9	0.1	19.8	9	28.9	

	Morales Way Southbound				Masters Drive Westbound				Morales Way Northbound				Masters Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	0	1	2	2	87	**1**	90	**70**	0	**18**	**88**	0	30	10	40	220
07:15 AM	1	0	**2**	3	7	**90**	0	**97**	67	0	15	82	0	46	15	61	**243**
07:30 AM	**2**	**1**	1	**4**	**13**	63	0	76	22	**2**	12	36	0	50	**31**	81	197
07:45 AM	1	0	0	1	7	41	1	49	19	0	5	24	**1**	**52**	31	**84**	158
Total Volume	5	1	4	10	29	281	2	312	178	2	50	230	1	178	87	266	818
% App. Total	50	10	40		9.3	90.1	0.6		77.4	0.9	21.7		0.4	66.9	32.7		
PHF	.625	.250	.500	.625	.558	.781	.500	.804	.636	.250	.694	.653	.250	.856	.702	.792	.842

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City of Corona
N/S: Morales Way
E/W: Masters Drive
Weather: Clear

File Name : 134_COR_Morales_Masters AM
Site Code : 05617610
Start Date : 10/4/2017
Page No : 2



Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:45 AM				06:45 AM				06:45 AM				07:00 AM			
+0 mins.	1	0	**2**	3	8	68	**1**	77	26	0	12	38	0	30	10	40
+15 mins.	1	0	1	2	2	87	1	90	**70**	0	**18**	**88**	0	46	15	61
+30 mins.	1	0	2	3	7	**90**	0	**97**	67	0	15	82	0	50	**31**	81
+45 mins.	**2**	**1**	1	**4**	**13**	63	0	76	22	**2**	12	36	**1**	**52**	31	**84**
Total Volume	5	1	6	12	30	308	2	340	185	2	57	244	1	178	87	266
% App. Total	41.7	8.3	50		8.8	90.6	0.6		75.8	0.8	23.4		0.4	66.9	32.7	
PHF	.625	.250	.750	.750	.577	.856	.500	.876	.661	.250	.792	.693	.250	.856	.702	.792

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City of Corona
N/S: Morales Way
E/W: Masters Drive
Weather: Clear

File Name : 134_COR_Morales_Masters PM
Site Code : 05617610
Start Date : 10/4/2017
Page No : 1

Groups Printed- Total Volume

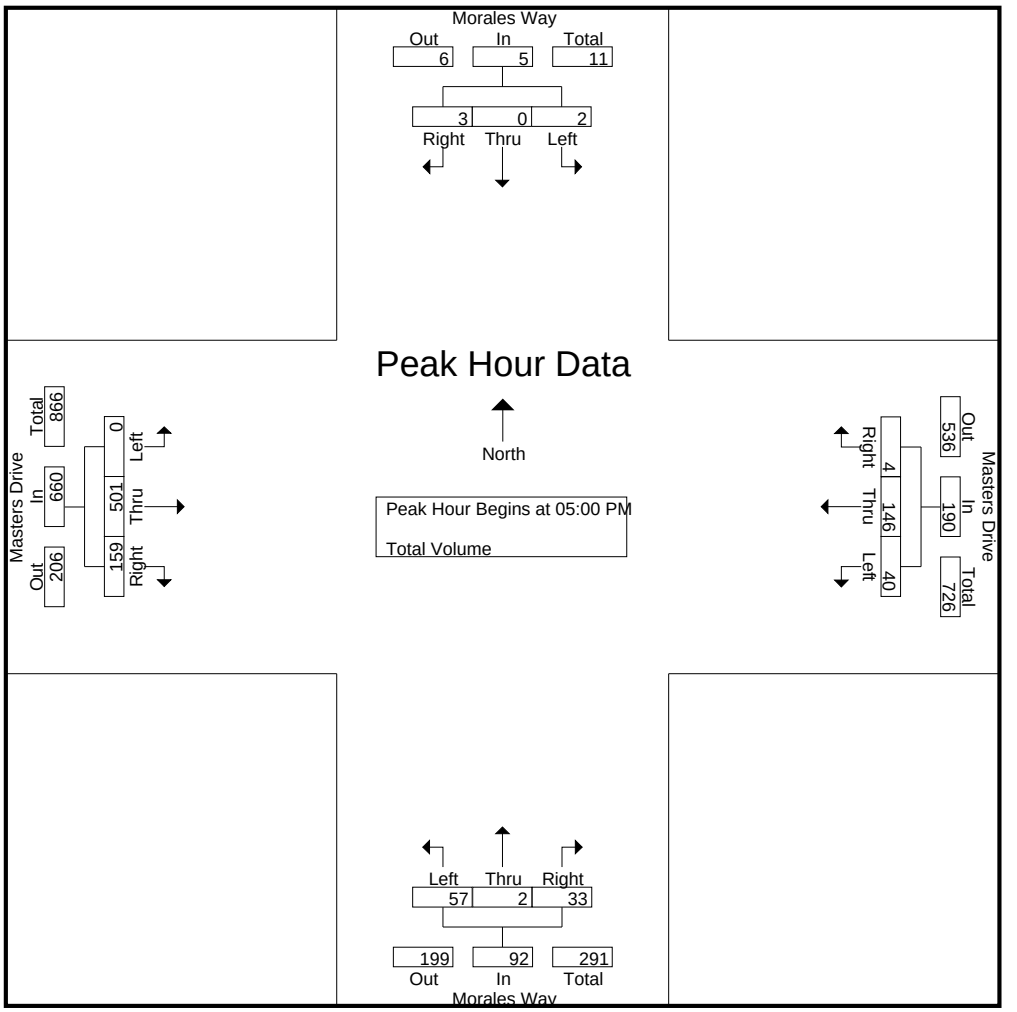
	Morales Way Southbound				Masters Drive Westbound				Morales Way Northbound				Masters Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	0	1	12	26	2	40	12	0	11	23	0	67	32	99	163
04:15 PM	0	1	0	1	12	27	0	39	7	0	15	22	0	96	39	135	197
04:30 PM	1	0	0	1	14	22	0	36	13	0	12	25	1	96	26	123	185
04:45 PM	0	0	1	1	11	22	1	34	20	0	10	30	1	108	30	139	204
Total	2	1	1	4	49	97	3	149	52	0	48	100	2	367	127	496	749
05:00 PM	0	0	1	1	9	41	0	50	13	0	12	25	0	125	35	160	236
05:15 PM	1	0	2	3	8	32	1	41	17	0	8	25	0	147	48	195	264
05:30 PM	1	0	0	1	14	36	1	51	12	1	4	17	0	126	36	162	231
05:45 PM	0	0	0	0	9	37	2	48	15	1	9	25	0	103	40	143	216
Total	2	0	3	5	40	146	4	190	57	2	33	92	0	501	159	660	947
Grand Total	4	1	4	9	89	243	7	339	109	2	81	192	2	868	286	1156	1696
Apprch %	44.4	11.1	44.4		26.3	71.7	2.1		56.8	1	42.2		0.2	75.1	24.7		
Total %	0.2	0.1	0.2	0.5	5.2	14.3	0.4	20	6.4	0.1	4.8	11.3	0.1	51.2	16.9	68.2	

	Morales Way Southbound				Masters Drive Westbound				Morales Way Northbound				Masters Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	1	1	9	**41**	0	50	13	0	**12**	**25**	0	125	35	160	236
05:15 PM	**1**	0	**2**	**3**	8	32	1	41	**17**	0	8	25	0	**147**	**48**	**195**	**264**
05:30 PM	1	0	0	1	**14**	36	1	**51**	12	**1**	4	17	0	126	36	162	231
05:45 PM	0	0	0	0	9	37	**2**	48	15	1	9	25	0	103	40	143	216
Total Volume	2	0	3	5	40	146	4	190	57	2	33	92	0	501	159	660	947
% App. Total	40	0	60		21.1	76.8	2.1		62	2.2	35.9		0	75.9	24.1		
PHF	.500	.000	.375	.417	.714	.890	.500	.931	.838	.500	.688	.920	.000	.852	.828	.846	.897

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City of Corona
N/S: Morales Way
E/W: Masters Drive
Weather: Clear

File Name : 134_COR_Morales_Masters PM
Site Code : 05617610
Start Date : 10/4/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				05:00 PM				04:30 PM				05:00 PM			
+0 mins.	**1**	0	0	1	9	**41**	0	50	13	0	**12**	25	0	125	35	160
+15 mins.	0	0	1	1	8	32	1	41	**20**	0	10	**30**	0	**147**	**48**	**195**
+30 mins.	0	0	1	1	**14**	36	1	**51**	13	0	12	25	0	126	36	162
+45 mins.	1	0	**2**	**3**	9	37	**2**	48	17	0	8	25	0	103	40	143
Total Volume	2	0	4	6	40	146	4	190	63	0	42	105	0	501	159	660
% App. Total	33.3	0	66.7		21.1	76.8	2.1		60	0	40		0	75.9	24.1	
PHF	.500	.000	.500	.500	.714	.890	.500	.931	.788	.000	.875	.875	.000	.852	.828	.846

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City of Corona
N/S: Bennett Avenue
E/W: Eagle Glen Parkway
Weather: Clear

File Name : 03_COR_Bennet_Eagle Glen AM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 1

Groups Printed- Total Volume

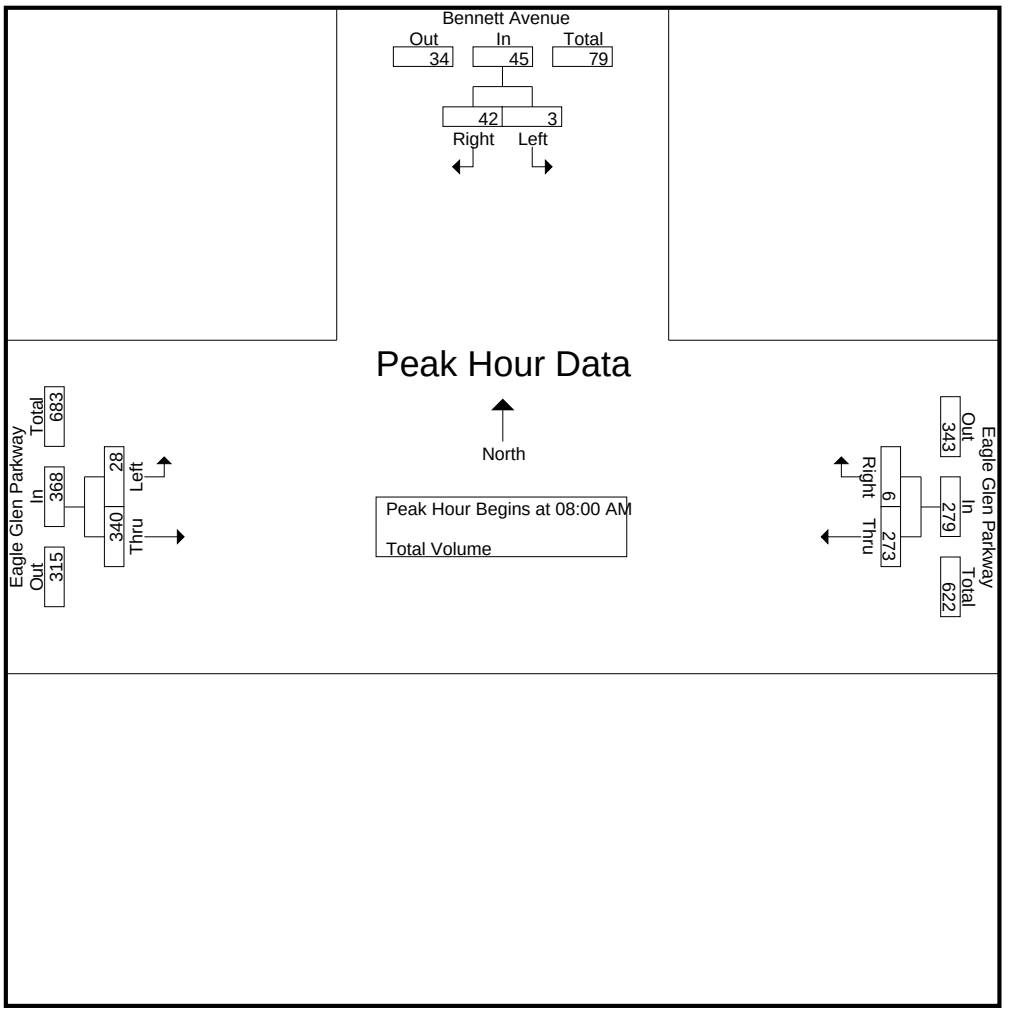
	Bennett Avenue Southbound			Eagle Glen Parkway Westbound			Eagle Glen Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	3	3	17	7	24	3	47	50	77
07:15 AM	1	4	5	22	4	26	5	66	71	102
07:30 AM	0	1	1	34	2	36	4	55	59	96
07:45 AM	1	9	10	65	1	66	0	47	47	123
Total	2	17	19	138	14	152	12	215	227	398
08:00 AM	1	8	9	71	0	71	6	79	85	165
08:15 AM	1	18	19	79	3	82	5	71	76	177
08:30 AM	1	13	14	90	2	92	13	102	115	221
08:45 AM	0	3	3	33	1	34	4	88	92	129
Total	3	42	45	273	6	279	28	340	368	692
Grand Total	5	59	64	411	20	431	40	555	595	1090
Apprch %	7.8	92.2		95.4	4.6		6.7	93.3		
Total %	0.5	5.4	5.9	37.7	1.8	39.5	3.7	50.9	54.6	

	Bennett Avenue Southbound			Eagle Glen Parkway Westbound			Eagle Glen Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**1**	8	9	71	0	71	6	79	85	165
08:15 AM	1	**18**	**19**	79	**3**	82	5	71	76	177
08:30 AM	1	13	14	**90**	2	**92**	**13**	**102**	**115**	**221**
08:45 AM	0	3	3	33	1	34	4	88	92	129
Total Volume	3	42	45	273	6	279	28	340	368	692
% App. Total	6.7	93.3		97.8	2.2		7.6	92.4		
PHF	.750	.583	.592	.758	.500	.758	.538	.833	.800	.783

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City of Corona
N/S: Bennett Avenue
E/W: Eagle Glen Parkway
Weather: Clear

File Name : 03_COR_Bennet_Eagle Glen AM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			08:00 AM		
+0 mins.	**1**	9	10	65	1	66	6	79	85
+15 mins.	1	8	9	71	0	71	5	71	76
+30 mins.	1	**18**	**19**	79	**3**	82	**13**	**102**	**115**
+45 mins.	1	13	14	**90**	2	**92**	4	88	92
Total Volume	4	48	52	305	6	311	28	340	368
% App. Total	7.7	92.3		98.1	1.9		7.6	92.4	
PHF	1.000	.667	.684	.847	.500	.845	.538	.833	.800

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City of Corona
N/S: Bennett Avenue
E/W: Eagle Glen Parkway
Weather: Clear

File Name : 03_COR_Bennet_Eagle Glen PM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 1

Groups Printed- Total Volume

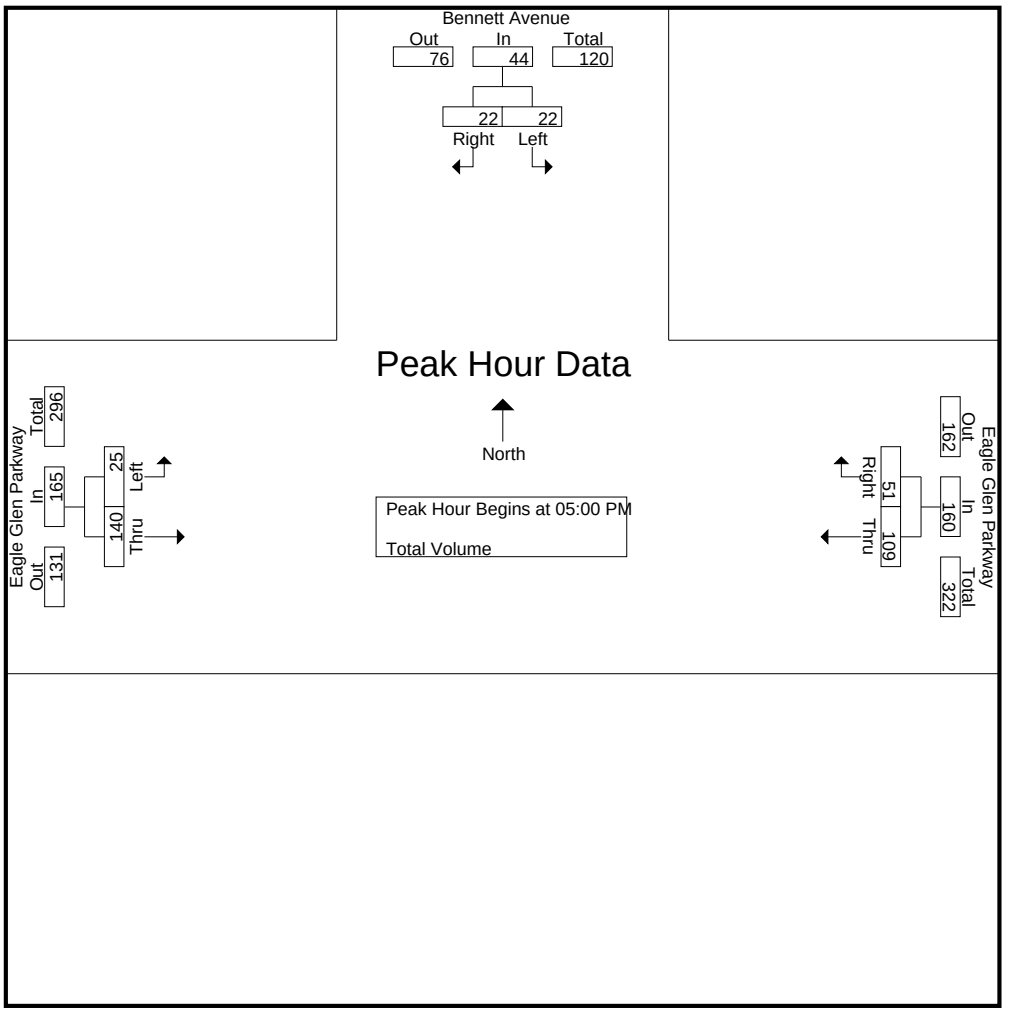
	Bennett Avenue Southbound			Eagle Glen Parkway Westbound			Eagle Glen Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	2	2	4	32	7	39	4	35	39	82
04:15 PM	3	4	7	25	5	30	3	28	31	68
04:30 PM	2	6	8	24	10	34	3	35	38	80
04:45 PM	4	3	7	33	14	47	5	39	44	98
Total	11	15	26	114	36	150	15	137	152	328
05:00 PM	5	9	14	33	14	47	8	36	44	105
05:15 PM	6	3	9	20	16	36	4	32	36	81
05:30 PM	5	7	12	21	8	29	6	37	43	84
05:45 PM	6	3	9	35	13	48	7	35	42	99
Total	22	22	44	109	51	160	25	140	165	369
Grand Total	33	37	70	223	87	310	40	277	317	697
Apprch %	47.1	52.9		71.9	28.1		12.6	87.4		
Total %	4.7	5.3	10	32	12.5	44.5	5.7	39.7	45.5	

	Bennett Avenue Southbound			Eagle Glen Parkway Westbound			Eagle Glen Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	5	**9**	**14**	33	14	47	**8**	36	**44**	**105**
05:15 PM	**6**	3	9	20	**16**	36	4	32	36	81
05:30 PM	5	7	12	21	8	29	6	**37**	43	84
05:45 PM	6	3	9	**35**	13	**48**	7	35	42	99
Total Volume	22	22	44	109	51	160	25	140	165	369
% App. Total	50	50		68.1	31.9		15.2	84.8		
PHF	.917	.611	.786	.779	.797	.833	.781	.946	.938	.879

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City of Corona
N/S: Bennett Avenue
E/W: Eagle Glen Parkway
Weather: Clear

File Name : 03_COR_Bennet_Eagle Glen PM
Site Code : 05118203
Start Date : 3/27/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:30 PM			04:45 PM		
+0 mins.	5	**9**	**14**	24	10	34	5	**39**	**44**
+15 mins.	**6**	3	9	**33**	14	**47**	**8**	36	44
+30 mins.	5	7	12	33	14	47	4	32	36
+45 mins.	6	3	9	20	**16**	36	6	37	43
Total Volume	22	22	44	110	54	164	23	144	167
% App. Total	50	50		67.1	32.9		13.8	86.2	
PHF	.917	.611	.786	.833	.844	.872	.719	.923	.949

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City of Corona
Masters Drive
B/ California Avenue - Christopher Lane
24 Hour Directional Volume Count

COR001
Site Code: 051-18203

Start Time	27-Mar-18 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		3	29			5	73				
12:15		5	49			3	58				
12:30		2	59			6	69				
12:45		2	35	12	172	1	57	15	257	27	429
01:00		0	45			1	50				
01:15		2	50			0	74				
01:30		1	79			0	39				
01:45		0	78	3	252	1	50	2	213	5	465
02:00		0	70			0	116				
02:15		0	63			2	107				
02:30		0	**76**			0	87				
02:45		1	**75**	1	284	0	121	2	431	3	715
03:00		0	**98**			1	158				
03:15		1	**85**			0	136				
03:30		2	52			1	115				
03:45		8	60	11	295	1	145	3	554	14	849
04:00		8	49			0	136				
04:15		14	51			2	133				
04:30		19	47			1	129				
04:45		14	62	55	209	5	158	8	556	63	765
05:00		21	60			0	**151**				
05:15		21	60			1	**180**				
05:30		32	40			0	**158**				
05:45		30	74	104	234	6	**160**	7	649	111	883
06:00		27	50			6	125				
06:15		42	57			10	131				
06:30		48	53			10	120				
06:45		66	62	183	222	10	114	36	490	219	712
07:00		**141**	38			31	83				
07:15		**134**	41			**49**	79				
07:30		**101**	51			**114**	66				
07:45		**82**	46	458	176	**67**	59	261	287	719	463
08:00		76	40			**48**	68				
08:15		83	39			41	61				
08:30		74	30			36	58				
08:45		64	24	297	133	21	56	146	243	443	376
09:00		39	34			21	49				
09:15		42	21			32	29				
09:30		57	10			33	23				
09:45		44	17	182	82	29	20	115	121	297	203
10:00		41	12			32	20				
10:15		41	9			35	14				
10:30		33	8			30	17				
10:45		47	5	162	34	40	11	137	62	299	96
11:00		50	7			40	12				
11:15		55	5			38	6				
11:30		45	9			49	6				
11:45		47	5	197	26	41	7	168	31	365	57
Total		1665	2119	1665	2119	900	3894	900	3894	2565	6013
Combined Total		3784		3784		4794		4794		8578	
AM Peak	-	07:00	-	-	-	07:15	-	-	-	-	-
Vol.	-	458	-	-	-	278	-	-	-	-	-
P.H.F.		0.812				0.610					
PM Peak	-	-	02:30	-	-	-	05:00	-	-	-	-
Vol.	-	-	334	-	-	-	649	-	-	-	-
P.H.F.			0.852				0.901				
Percentage		44.0%	56.0%			18.8%	81.2%				
ADT/AADT		ADT 8,578		AADT 8,578							

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City of Corona
Masters Drive
N/ Eagle Glen Parkway
24 Hour Directional Volume Count

COR002
Site Code: 051-18203

Start Time	27-Mar-18 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		5	38			3	38				
12:15		4	29			0	44				
12:30		1	27			1	31				
12:45		3	29	13	123	1	32	5	145	18	268
01:00		3	41			0	36				
01:15		3	45			1	37				
01:30		1	52			1	45				
01:45		0	25	7	163	0	60	2	178	9	341
02:00		0	34			0	62				
02:15		0	42			0	56				
02:30		2	31			1	58				
02:45		3	42	5	149	2	68	3	244	8	393
03:00		2	38			3	85				
03:15		0	49			3	78				
03:30		0	34			3	102				
03:45		1	37	3	158	4	90	13	355	16	513
04:00		3	44			10	100				
04:15		4	35			8	98				
04:30		1	34			14	102				
04:45		3	43	11	156	3	**110**	35	410	46	566
05:00		3	38			7	**121**				
05:15		4	35			16	**102**				
05:30		13	39			14	**109**				
05:45		4	**35**	24	147	22	92	59	424	83	571
06:00		13	**58**			17	73				
06:15		15	**36**			21	70				
06:30		28	**44**			29	65				
06:45		**40**	24	96	162	22	39	89	247	185	409
07:00		**69**	34			**45**	35				
07:15		**50**	44			**49**	32				
07:30		**39**	53			**52**	29				
07:45		30	36	188	167	**32**	28	178	124	366	291
08:00		29	28			33	28				
08:15		33	27			37	28				
08:30		29	28			38	19				
08:45		19	21	110	104	21	24	129	99	239	203
09:00		24	23			30	12				
09:15		18	14			41	7				
09:30		17	15			31	11				
09:45		24	13	83	65	38	9	140	39	223	104
10:00		25	17			40	6				
10:15		24	15			32	5				
10:30		26	8			29	5				
10:45		25	6	100	46	29	6	130	22	230	68
11:00		35	8			38	2				
11:15		29	7			42	6				
11:30		28	7			30	4				
11:45		26	4	118	26	49	1	159	13	277	39
Total		758	1466	758	1466	942	2300	942	2300	1700	3766
Combined Total		2224		2224		3242		3242		5466	
AM Peak	-	06:45	-	-	-	07:00	-	-	-	-	-
Vol.	-	198	-	-	-	178	-	-	-	-	-
P.H.F.		0.717				0.856					
PM Peak	-	-	05:45	-	-	-	04:45	-	-	-	-
Vol.	-	-	173	-	-	-	442	-	-	-	-
P.H.F.			0.746				0.913				
Percentage		34.1%	65.9%			29.1%	70.9%				
ADT/AADT		ADT 5,466		AADT 5,466							

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City of Corona
Eagle Glen Parkway
B/ Bennett Avenue - Masters Drive
24 Hour Directional Volume Count

COR003
Site Code: 056-17801

Start Time	30-Nov-17 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		6	33			4	54				
12:15		2	55			7	48				
12:30		4	73			11	55				
12:45		1	47	13	208	4	47	26	204	39	412
01:00		2	50			5	56				
01:15		1	32			4	49				
01:30		1	47			0	46				
01:45		0	54	4	183	2	48	11	199	15	382
02:00		2	53			1	58				
02:15		4	44			0	**71**				
02:30		1	**53**			4	**94**				
02:45		1	**42**	8	192	0	**95**	5	318	13	510
03:00		2	**133**			5	**76**				
03:15		2	**102**			1	46				
03:30		5	41			1	60				
03:45		13	43	22	319	2	46	9	228	31	547
04:00		17	40			2	54				
04:15		14	49			2	61				
04:30		11	64			2	46				
04:45		15	48	57	201	9	58	15	219	72	420
05:00		17	74			4	49				
05:15		12	43			3	57				
05:30		19	56			9	69				
05:45		17	38	65	211	13	53	29	228	94	439
06:00		37	43			12	59				
06:15		38	36			8	58				
06:30		22	58			21	49				
06:45		53	50	150	187	27	44	68	210	218	397
07:00		64	42			27	50				
07:15		76	26			38	64				
07:30		68	42			61	51				
07:45		51	23	259	133	**55**	63	181	228	440	361
08:00		56	46			**62**	41				
08:15		**90**	23			**92**	47				
08:30		**128**	23			**100**	29				
08:45		**111**	17	385	109	55	31	309	148	694	257
09:00		**58**	14			37	32				
09:15		70	13			30	29				
09:30		50	12			25	28				
09:45		62	10	240	49	30	34	122	123	362	172
10:00		49	9			34	42				
10:15		32	12			35	25				
10:30		45	5			37	19				
10:45		41	15	167	41	47	25	153	111	320	152
11:00		53	12			47	23				
11:15		48	5			46	15				
11:30		47	3			38	11				
11:45		58	2	206	22	42	6	173	55	379	77
Total		1576	1855	1576	1855	1101	2271	1101	2271	2677	4126
Combined Total		3431		3431		3372		3372		6803	
AM Peak	-	08:15	-	-	-	07:45	-	-	-	-	-
Vol.	-	387	-	-	-	309	-	-	-	-	-
P.H.F.		0.756				0.773					
PM Peak	-	-	02:30	-	-	-	02:15	-	-	-	-
Vol.	-	-	330	-	-	-	336	-	-	-	-
P.H.F.			0.620				0.884				
Percentage		45.9%	54.1%			32.7%	67.3%				
ADT/AADT		ADT 6,803		AADT 6,803							

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City of Corona
Eagle Glen Parkway
B/ Masters Drive - Bedford Canyon Road
24 Hour Directional Volume Count

COR004
Site Code: 056-17801

Start Time	30-Nov-17 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		8	90			16	72				
12:15		11	76			10	93				
12:30		7	100			11	80				
12:45		6	110	32	376	18	89	55	334	87	710
01:00		1	102			7	84				
01:15		1	79			8	99				
01:30		0	73			8	94				
01:45		3	88	5	342	1	103	24	380	29	722
02:00		0	94			3	91				
02:15		3	111			3	**104**				
02:30		3	89			2	**110**				
02:45		3	95	9	389	6	**129**	14	434	23	823
03:00		2	105			3	**122**				
03:15		3	166			6	102				
03:30		5	234			1	90				
03:45		9	131	19	636	2	102	12	416	31	1052
04:00		16	123			3	89				
04:15		24	128			5	92				
04:30		18	**158**			6	103				
04:45		24	**178**	82	587	5	102	19	386	101	973
05:00		38	**157**			15	95				
05:15		32	**180**			10	91				
05:30		33	153			13	108				
05:45		33	183	136	673	13	114	51	408	187	1081
06:00		36	155			31	101				
06:15		63	138			37	100				
06:30		67	102			46	87				
06:45		58	142	224	537	58	87	172	375	396	912
07:00		81	106			74	83				
07:15		109	88			85	91				
07:30		113	58			99	93				
07:45		130	62	433	314	92	85	350	352	783	666
08:00		90	53			**95**	86				
08:15		**106**	75			**96**	80				
08:30		**125**	41			**106**	77				
08:45		**163**	47	484	216	**126**	56	423	299	907	515
09:00		**158**	29			89	70				
09:15		103	36			50	61				
09:30		108	55			53	73				
09:45		87	52	456	172	45	62	237	266	693	438
10:00		104	33			64	59				
10:15		84	20			61	56				
10:30		69	43			59	64				
10:45		96	26	353	122	73	48	257	227	610	349
11:00		75	35			80	37				
11:15		79	29			75	36				
11:30		104	19			75	22				
11:45		83	18	341	101	62	27	292	122	633	223
Total		2574	4465	2574	4465	1906	3999	1906	3999	4480	8464
Combined Total		7039		7039		5905		5905		12944	
AM Peak	-	08:15	-	-	-	08:00	-	-	-	-	-
Vol.	-	552	-	-	-	423	-	-	-	-	-
P.H.F.		0.847				0.839					
PM Peak	-	-	04:30	-	-	-	02:15	-	-	-	-
Vol.	-	-	673	-	-	-	465	-	-	-	-
P.H.F.			0.719				0.901				
Percentage		36.6%	63.4%			32.3%	67.7%				
ADT/AADT		ADT 12,944		AADT 12,944							

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Corona
Cajalco Road
B/ Interstate 15 Northbound - Grand Oaks
24 Hour Directional Volume Count

COR003
Site Code: 051-18203

Start	27-Mar-18	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Tue	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		17	**272**			23	243				
12:15		18	**275**			23	222				
12:30		8	**235**			33	249				
12:45		20	**228**	63	1010	19	274	98	988	161	1998
01:00		5	244			17	287				
01:15		19	229			11	262				
01:30		18	249			18	279				
01:45		13	233	55	955	18	268	64	1096	119	2051
02:00		24	221			12	267				
02:15		22	211			15	302				
02:30		25	194			29	294				
02:45		11	158	82	784	28	274	84	1137	166	1921
03:00		15	242			29	265				
03:15		20	247			52	248				
03:30		35	205			70	276				
03:45		58	189	128	883	103	256	254	1045	382	1928
04:00		39	180			120	274				
04:15		54	163			121	**294**				
04:30		49	196			120	**268**				
04:45		67	202	209	741	132	**279**	493	1115	702	1856
05:00		65	201			144	**308**				
05:15		59	211			120	236				
05:30		66	224			125	294				
05:45		81	211	271	847	155	263	544	1101	815	1948
06:00		78	200			184	264				
06:15		85	213			163	214				
06:30		127	205			203	215				
06:45		102	209	392	827	266	202	816	895	1208	1722
07:00		88	193			**310**	198				
07:15		99	238			**339**	205				
07:30		150	194			**331**	226				
07:45		154	208	491	833	**289**	228	1269	857	1760	1690
08:00		153	154			288	194				
08:15		157	117			308	206				
08:30		168	83			262	232				
08:45		177	73	655	427	309	169	1167	801	1822	1228
09:00		157	69			250	200				
09:15		194	70			237	155				
09:30		197	65			250	146				
09:45		200	84	748	288	221	101	958	602	1706	890
10:00		208	74			216	84				
10:15		190	46			210	57				
10:30		**197**	52			198	72				
10:45		**201**	41	796	213	196	54	820	267	1616	480
11:00		**272**	40			215	72				
11:15		**270**	23			228	56				
11:30		170	22			225	45				
11:45		205	22	917	107	235	45	903	218	1820	325
Total		4807	7915	4807	7915	7470	10122	7470	10122	12277	18037
Combined Total		12722		12722		17592		17592		30314	
AM Peak	-	10:30	-	-	-	07:00	-	-	-	-	-
Vol.	-	940	-	-	-	1269	-	-	-	-	-
P.H.F.		0.864				0.936					
PM Peak	-	-	12:00	-	-	-	04:15	-	-	-	-
Vol.	-	-	1010	-	-	-	1149	-	-	-	-
P.H.F.			0.918				0.933				
Percentage		37.8%	62.2%			42.5%	57.5%				
ADT/AADT		ADT 30,314		AADT 30,314							

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City of Corona
Temescal Canyon Road
B/ Tom Barnes Street - Cajalco Road
24 Hour Directional Volume Count

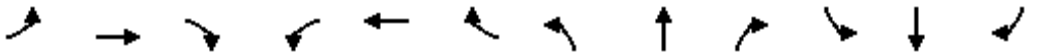
COR154
Site Code: 056-17543

Start Time	02-Nov-17 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		5	118			2	85				
12:15		8	80			7	71				
12:30		7	83			10	88				
12:45		11	69	31	350	4	72	23	316	54	666
01:00		3	73			3	91				
01:15		4	93			2	77				
01:30		7	83			1	102				
01:45		5	91	19	340	4	72	10	342	29	682
02:00		4	100			5	106				
02:15		6	95			4	138				
02:30		5	94			6	179				
02:45		5	88	20	377	6	146	21	569	41	946
03:00		4	91			6	148				
03:15		7	94			1	166				
03:30		3	99			1	191				
03:45		6	80	20	364	8	204	16	709	36	1073
04:00		4	95			2	205				
04:15		20	98			10	237				
04:30		29	**104**			4	257				
04:45		56	**123**	109	420	7	245	23	944	132	1364
05:00		60	**93**			6	**263**				
05:15		99	**102**			6	**256**				
05:30		181	94			7	**278**				
05:45		243	95	583	384	17	**263**	36	1060	619	1444
06:00		**302**	81			7	223				
06:15		**363**	72			26	209				
06:30		**257**	76			32	208				
06:45		**295**	50	1217	279	25	202	90	842	1307	1121
07:00		255	62			31	160				
07:15		219	54			32	167				
07:30		220	55			55	148				
07:45		230	33	924	204	59	119	177	594	1101	798
08:00		186	43			35	70				
08:15		242	45			41	49				
08:30		216	42			39	57				
08:45		162	27	806	157	37	56	152	232	958	389
09:00		151	38			30	40				
09:15		134	26			36	38				
09:30		119	51			43	34				
09:45		101	29	505	144	29	27	138	139	643	283
10:00		112	33			35	21				
10:15		122	36			42	32				
10:30		107	31			56	23				
10:45		111	17	452	117	66	17	199	93	651	210
11:00		102	23			**60**	24				
11:15		116	19			**104**	15				
11:30		147	37			**113**	10				
11:45		143	14	508	93	**116**	9	393	58	901	151
Total		5194	3229	5194	3229	1278	5898	1278	5898	6472	9127
Combined Total		8423		8423		7176		7176		15599	
AM Peak	-	06:00	-	-	-	11:00	-	-	-	-	-
Vol.	-	1217	-	-	-	393	-	-	-	-	-
P.H.F.		0.838				0.847					
PM Peak	-	-	04:30	-	-	-	05:00	-	-	-	-
Vol.	-	-	422	-	-	-	1060	-	-	-	-
P.H.F.			0.858				0.953				
Percentage		61.7%	38.3%			17.8%	82.2%				
ADT/AADT		ADT 15,599		AADT 15,599							

ATTACHMENT 2:

EXISTING (2017 AND 2018) INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	189	57	102	68	135	63	176	228	158	97	4
Future Volume (vph)	8	189	57	102	68	135	63	176	228	158	97	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	135		0	130		200	100		0	150		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			90			60			65		
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		495			683			680			695	
Travel Time (s)		7.5			10.3			13.2			13.5	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

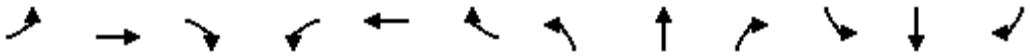
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	82.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	189	57	102	68	135	63	176	228	158	97	4
Future Vol, veh/h	8	189	57	102	68	135	63	176	228	158	97	4
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	252	76	136	91	180	84	235	304	211	129	5
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	50.6	19.4	172	24.9
HCM LOS	F	C	F	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	44%	0%	77%	0%	100%	0%	0%	96%
Vol Right, %	0%	56%	0%	23%	0%	0%	100%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	63	404	8	246	102	68	135	158	101
LT Vol	63	0	8	0	102	0	0	158	0
Through Vol	0	176	0	189	0	68	0	0	97
RT Vol	0	228	0	57	0	0	135	0	4
Lane Flow Rate	84	539	11	328	136	91	180	211	135
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.231	1.345	0.03	0.857	0.382	0.242	0.445	0.594	0.36
Departure Headway (Hd)	9.918	8.992	11.064	10.365	11.065	10.539	9.802	11.037	10.484
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	365	409	326	351	328	343	371	329	345
Service Time	7.618	6.692	8.764	8.065	8.765	8.239	7.502	8.737	8.184
HCM Lane V/C Ratio	0.23	1.318	0.034	0.934	0.415	0.265	0.485	0.641	0.391
HCM Control Delay	15.6	196.4	14.1	51.8	20.4	16.6	20.1	28.7	19
HCM Lane LOS	C	F	B	F	C	C	C	D	C
HCM 95th-tile Q	0.9	25.3	0.1	7.9	1.7	0.9	2.2	3.6	1.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	21	32	5	12	37	9	213	8	51	171	24
Future Volume (vph)	30	21	32	5	12	37	9	213	8	51	171	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			60			60		
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		655			663			936			638	
Travel Time (s)		12.8			12.9			18.2			12.4	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

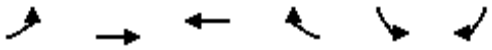
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	21	32	5	12	37	9	213	8	51	171	24
Future Vol, veh/h	30	21	32	5	12	37	9	213	8	51	171	24
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	24	36	6	13	42	10	239	9	57	192	27
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9	8.5	10.7	9.9
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	36%	9%	100%	0%
Vol Thru, %	0%	96%	25%	22%	0%	88%
Vol Right, %	0%	4%	39%	69%	0%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	221	83	54	51	195
LT Vol	9	0	30	5	51	0
Through Vol	0	213	21	12	0	171
RT Vol	0	8	32	37	0	24
Lane Flow Rate	10	248	93	61	57	219
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.016	0.356	0.133	0.084	0.09	0.309
Departure Headway (Hd)	5.689	5.16	5.146	4.968	5.663	5.073
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	627	695	693	715	630	706
Service Time	3.444	2.915	3.209	3.037	3.419	2.828
HCM Lane V/C Ratio	0.016	0.357	0.134	0.085	0.09	0.31
HCM Control Delay	8.5	10.8	9	8.5	9	10.1
HCM Lane LOS	A	B	A	A	A	B
HCM 95th-tile Q	0	1.6	0.5	0.3	0.3	1.3



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	18	257	154	227	201	12
Future Volume (vph)	18	257	154	227	201	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			0	130	0
Storage Lanes	1			0	1	1
Taper Length (ft)	120				60	
Link Speed (mph)		45	45		35	
Link Distance (ft)		1281	546		936	
Travel Time (s)		19.4	8.3		18.2	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Sign Control		Stop	Stop		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	257	154	227	201	12
Future Vol, veh/h	18	257	154	227	201	12
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	289	173	255	226	13
Number of Lanes	1	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	3
HCM Control Delay	10	12.8	14.9
HCM LOS	A	B	B

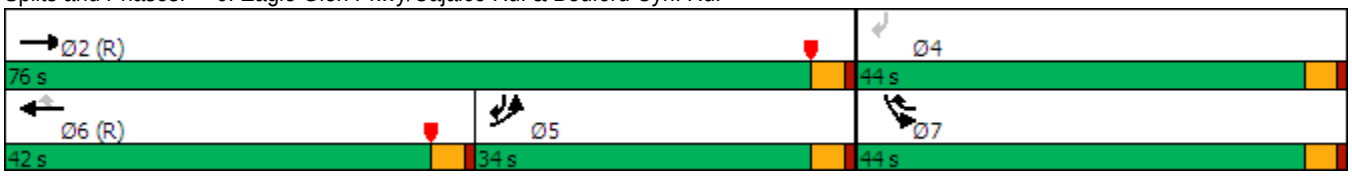
Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	100%	100%	18%	0%	0%
Vol Right, %	0%	0%	0%	0%	82%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	18	129	129	103	278	201	12
LT Vol	18	0	0	0	0	201	0
Through Vol	0	129	129	103	51	0	0
RT Vol	0	0	0	0	227	0	12
Lane Flow Rate	20	144	144	115	313	226	13
Geometry Grp	8	8	8	8	8	8	8
Degree of Util (X)	0.039	0.259	0.188	0.198	0.487	0.443	0.022
Departure Headway (Hd)	6.966	6.459	4.7	6.189	5.61	7.061	5.853
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	513	554	759	579	641	510	610
Service Time	4.721	4.214	2.454	3.939	3.36	4.813	3.606
HCM Lane V/C Ratio	0.039	0.26	0.19	0.199	0.488	0.443	0.021
HCM Control Delay	10	11.5	8.6	10.5	13.6	15.3	8.7
HCM Lane LOS	A	B	A	B	B	C	A
HCM 95th-tile Q	0.1	1	0.7	0.7	2.7	2.2	0.1

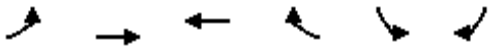
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø4
Lane Configurations							
Traffic Volume (vph)	97	353	323	414	127	61	
Future Volume (vph)	97	353	323	414	127	61	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	180			200	450	0	
Storage Lanes	1			2	0	1	
Taper Length (ft)	100				180		
Right Turn on Red				Yes		Yes	
Link Speed (mph)		45	45		45		
Link Distance (ft)		755	792		716		
Travel Time (s)		11.4	12.0		10.8		
Confl. Peds. (#/hr)				5		5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Shared Lane Traffic (%)							
Turn Type	Prot	NA	NA	pm+ov	Prot	pm+ov	
Protected Phases	5	2	6	7	7	5	4
Permitted Phases				6		4	
Detector Phase	5	2	6	7	7	5	
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	30.7	30.7	8.5	8.5	26.0	36.7
Total Split (s)	34.0	76.0	42.0	44.0	44.0	34.0	44.0
Total Split (%)	28.3%	63.3%	35.0%	36.7%	36.7%	28.3%	37%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lag		Lead			Lag	
Lead-Lag Optimize?	Yes		Yes			Yes	
Recall Mode	None	C-Max	C-Max	Max	Max	None	Max

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 6: Eagle Glen Pkwy/Cajalco Rd. & Bedford Cyn. Rd.





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	97	353	323	414	127	61
Future Volume (veh/h)	97	353	323	414	127	61
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	392	359	460	141	68
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	445	1122	1125	1026	594	925
Arrive On Green	0.25	0.60	0.10	0.10	0.33	0.33
Sat Flow, veh/h	1781	1870	3647	1573	1781	1585
Grp Volume(v), veh/h	108	392	359	460	141	68
Grp Sat Flow(s),veh/h/ln	1781	1870	1777	1573	1781	1585
Q Serve(g_s), s	5.8	12.7	11.2	0.0	6.9	0.0
Cycle Q Clear(g_c), s	5.8	12.7	11.2	0.0	6.9	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	445	1122	1125	1026	594	925
V/C Ratio(X)	0.24	0.35	0.32	0.45	0.24	0.07
Avail Cap(c_a), veh/h	445	1122	1125	1026	594	925
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.69	0.69	1.00	1.00
Uniform Delay (d), s/veh	35.9	12.1	41.7	10.2	29.0	10.9
Incr Delay (d2), s/veh	0.3	0.9	0.5	1.0	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	5.1	5.3	15.6	3.0	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.2	13.0	42.3	11.2	29.9	11.0
LnGrp LOS	D	B	D	B	C	B
Approach Vol, veh/h		500	819		209	
Approach Delay, s/veh		18.0	24.8		23.8	
Approach LOS		B	C		C	

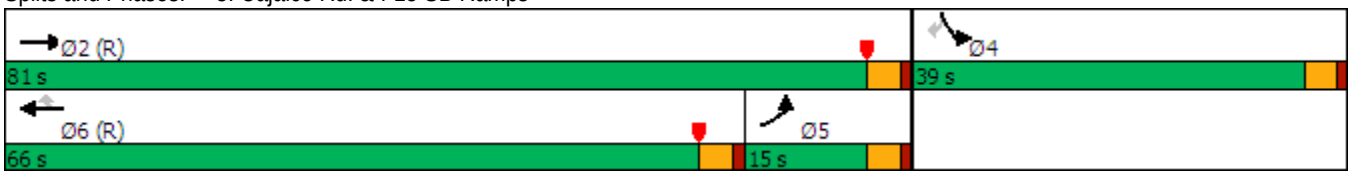
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		76.0		44.0	34.0	42.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		72.0		40.0	30.0	38.0
Max Q Clear Time (g_c+I1), s		14.7		8.9	7.8	13.2
Green Ext Time (p_c), s		1.5		0.8	0.3	3.8

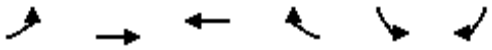
Intersection Summary	
HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	97	363	690	85	341	169
Future Volume (vph)	97	363	690	85	341	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290			200	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	90				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		45	45		45	
Link Distance (ft)		792	1297		282	
Travel Time (s)		12.0	19.7		4.3	
Confl. Peds. (#/hr)						5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	23.7	30.7	30.7	8.5	8.5
Total Split (s)	15.0	81.0	66.0	66.0	39.0	39.0
Total Split (%)	12.5%	67.5%	55.0%	55.0%	32.5%	32.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 97 (81%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 8: Cajalco Rd. & I-15 SB Ramps





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	97	363	690	85	341	169
Future Volume (veh/h)	97	363	690	85	341	169
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	382	726	89	359	178
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	163	1200	966	819	520	462
Arrive On Green	0.09	0.64	0.35	0.35	0.29	0.29
Sat Flow, veh/h	1781	1870	1870	1585	1781	1585
Grp Volume(v), veh/h	102	382	726	89	359	178
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1585	1781	1585
Q Serve(g_s), s	6.6	11.0	41.2	4.6	21.5	10.8
Cycle Q Clear(g_c), s	6.6	11.0	41.2	4.6	21.5	10.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	163	1200	966	819	520	462
V/C Ratio(X)	0.62	0.32	0.75	0.11	0.69	0.39
Avail Cap(c_a), veh/h	163	1200	966	819	520	462
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.74	0.74	1.00	1.00
Uniform Delay (d), s/veh	52.5	9.7	32.4	20.5	37.7	33.9
Incr Delay (d2), s/veh	7.0	0.7	4.0	0.2	7.4	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	4.2	20.1	1.7	10.1	10.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	59.5	10.4	36.4	20.7	45.1	36.3
LnGrp LOS	E	B	D	C	D	D
Approach Vol, veh/h		484	815		537	
Approach Delay, s/veh		20.7	34.7		42.2	
Approach LOS		C	C		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		81.0		39.0	15.0	66.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		77.0		35.0	11.0	62.0
Max Q Clear Time (g_c+I1), s		13.0		23.5	8.6	43.2
Green Ext Time (p_c), s		1.5		1.7	0.1	3.4

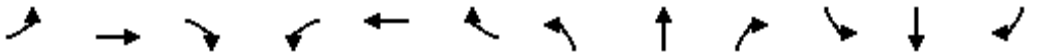
Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	450	0	0	667	836	118	0	47	0	0	0
Future Volume (vph)	246	450	0	0	667	836	118	0	47	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	575		300	0		0	300		175	0		0
Storage Lanes	1		0	0		1	0		1	0		0
Taper Length (ft)	50			25			180			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1297			527			714			1440	
Travel Time (s)		19.7			8.0			10.8			21.8	
Confl. Peds. (#/hr)									5			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	0%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Detector Phase	5	2			6	6	8	8	8			
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	8.0	23.7			30.7	30.7	8.5	8.5	8.5			
Total Split (s)	28.0	103.0			75.0	75.0	17.0	17.0	17.0			
Total Split (%)	23.3%	85.8%			62.5%	62.5%	14.2%	14.2%	14.2%			
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0			
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max			C-Max	C-Max	Max	Max	Max			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 54 (45%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

Splits and Phases: 10: I-15 NB Ramps & Cajalco Rd.





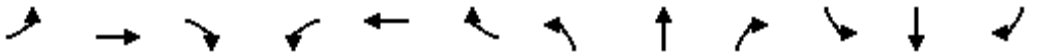
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	450	0	0	667	836	118	0	47	0	0	0
Future Volume (veh/h)	246	450	0	0	667	836	118	0	47	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	265	484	0	0	717	899	127	0	51			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	293	1543	0	0	1174	995	193	0	168			
Arrive On Green	0.22	1.00	0.00	0.00	0.63	0.63	0.11	0.00	0.11			
Sat Flow, veh/h	1781	1870	0	0	1870	1585	1781	0	1548			
Grp Volume(v), veh/h	265	484	0	0	717	899	127	0	51			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	1781	0	1548			
Q Serve(g_s), s	17.4	0.0	0.0	0.0	27.8	58.6	8.2	0.0	3.6			
Cycle Q Clear(g_c), s	17.4	0.0	0.0	0.0	27.8	58.6	8.2	0.0	3.6			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	293	1543	0	0	1174	995	193	0	168			
V/C Ratio(X)	0.91	0.31	0.00	0.00	0.61	0.90	0.66	0.00	0.30			
Avail Cap(c_a), veh/h	356	1543	0	0	1174	995	193	0	168			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.86	0.86	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	46.0	0.0	0.0	0.0	13.5	19.2	51.4	0.0	49.3			
Incr Delay (d2), s/veh	20.5	0.5	0.0	0.0	2.4	13.1	16.2	0.0	4.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.7	0.2	0.0	0.0	11.1	22.1	4.4	0.0	1.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.5	0.5	0.0	0.0	15.9	32.3	67.6	0.0	53.9			
LnGrp LOS	E	A	A	A	B	C	E	A	D			
Approach Vol, veh/h		749			1616			178				
Approach Delay, s/veh		23.8			25.0			63.7				
Approach LOS		C			C			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		103.0			23.7	79.3		17.0				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		99.0			24.0	71.0		13.0				
Max Q Clear Time (g_c+I1), s		2.0			19.4	60.6		10.2				
Green Ext Time (p_c), s		2.0			0.3	5.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			27.4									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	373	0	0	1375	62	0	0	0	27	0	102
Future Volume (vph)	135	373	0	0	1375	62	0	0	0	27	0	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	130		130	0		0	200		0
Storage Lanes	2		0	1		1	0		0	1		2
Taper Length (ft)	180			110			100			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		627			570			544			904	
Travel Time (s)		9.5			8.6			8.2			13.7	
Confl. Peds. (#/hr)						5				5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm				Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		4	4	5
Permitted Phases						6						4
Detector Phase	5	2		1	6	6	8	8		4	4	5
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.5	23.2		8.0	30.7	30.7	26.0	26.0		8.0	8.0	8.5
Total Split (s)	14.0	76.0		8.0	70.0	70.0	26.0	26.0		10.0	10.0	14.0
Total Split (%)	11.7%	63.3%		6.7%	58.3%	58.3%	21.7%	21.7%		8.3%	8.3%	11.7%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						Yes
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		Max	Max	None

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 43 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	

Splits and Phases: 11: Cajalco Rd. & Grand Oaks





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	373	0	0	1375	62	0	0	0	27	0	102
Future Volume (veh/h)	135	373	0	0	1375	62	0	0	0	27	0	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	405	0	0	1495	67	0	0	0	29	0	111
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	3139	0	1	2810	1251	0	2	0	89	0	297
Arrive On Green	0.06	0.88	0.00	0.00	0.79	0.79	0.00	0.00	0.00	0.05	0.00	0.05
Sat Flow, veh/h	3456	3647	0	1781	3554	1582	0	1870	0	1781	0	2650
Grp Volume(v), veh/h	147	405	0	0	1495	67	0	0	0	29	0	111
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1777	1582	0	1870	0	1781	0	1325
Q Serve(g_s), s	5.0	1.8	0.0	0.0	18.2	1.1	0.0	0.0	0.0	1.9	0.0	4.7
Cycle Q Clear(g_c), s	5.0	1.8	0.0	0.0	18.2	1.1	0.0	0.0	0.0	1.9	0.0	4.7
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	3139	0	1	2810	1251	0	2	0	89	0	297
V/C Ratio(X)	0.72	0.13	0.00	0.00	0.53	0.05	0.00	0.00	0.00	0.33	0.00	0.37
Avail Cap(c_a), veh/h	288	3139	0	59	2810	1251	0	343	0	89	0	297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.5	0.9	0.0	0.0	4.5	2.7	0.0	0.0	0.0	55.0	0.0	49.7
Incr Delay (d2), s/veh	5.0	0.1	0.0	0.0	0.7	0.1	0.0	0.0	0.0	9.5	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.1	0.0	0.0	4.7	0.3	0.0	0.0	0.0	1.1	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	1.0	0.0	0.0	5.3	2.8	0.0	0.0	0.0	64.5	0.0	53.3
LnGrp LOS	E	A	A	A	A	A	A	A	A	E	A	D
Approach Vol, veh/h		552			1562			0			140	
Approach Delay, s/veh		16.9			5.2			0.0			55.6	
Approach LOS		B			A						E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	110.0		10.0	11.1	98.9		0.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	72.0		6.0	10.0	66.0		22.0				
Max Q Clear Time (g_c+I1), s	0.0	3.8		6.7	7.0	20.2		0.0				
Green Ext Time (p_c), s	0.0	1.8		0.0	0.1	10.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		11.1	
HCM 6th LOS		B	

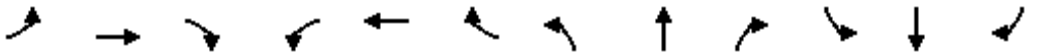
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	169	181	102	479	205	951	762	372	40	47	28
Future Volume (vph)	15	169	181	102	479	205	951	762	372	40	47	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	16	12	12	16	12	12	12
Storage Length (ft)	300		200	100		200	160		160	185		200
Storage Lanes	1		0	1		0	2		1	1		0
Taper Length (ft)	180			115			90			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		464			939			1196			475	
Travel Time (s)		7.0			14.2			18.1			7.2	
Confl. Peds. (#/hr)			5			5						5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Detector Phase	5	2	2	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.5	26.0	26.0	8.5	30.7		8.5	26.0	26.0	35.5	26.0	
Total Split (s)	9.3	26.4	26.4	18.6	35.7		49.0	39.5	39.5	35.5	26.0	
Total Split (%)	7.8%	22.0%	22.0%	15.5%	29.8%		40.8%	32.9%	32.9%	29.6%	21.7%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	Max	Max	None	Max	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 12: Temescal Cyn Rd. & Cajalco Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	169	181	102	479	205	951	762	372	40	47	28
Future Volume (veh/h)	15	169	181	102	479	205	951	762	372	40	47	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870	1870	1870
Adj Flow Rate, veh/h	15	174	187	105	494	211	980	786	384	41	48	29
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	23	548	462	131	1252	515	1096	1672	776	53	403	223
Arrive On Green	0.01	0.29	0.29	0.07	0.35	0.35	0.32	0.47	0.47	0.03	0.18	0.18
Sat Flow, veh/h	1781	1870	1577	1781	3546	1459	3456	3554	1648	1781	2200	1217
Grp Volume(v), veh/h	15	174	187	105	473	232	980	786	384	41	38	39
Grp Sat Flow(s),veh/h/ln	1781	1870	1577	1781	1702	1600	1728	1777	1648	1781	1777	1640
Q Serve(g_s), s	1.0	8.7	11.4	7.0	12.5	13.1	32.4	18.0	19.3	2.7	2.1	2.4
Cycle Q Clear(g_c), s	1.0	8.7	11.4	7.0	12.5	13.1	32.4	18.0	19.3	2.7	2.1	2.4
Prop In Lane	1.00		1.00	1.00		0.91	1.00		1.00	1.00		0.74
Lane Grp Cap(c), veh/h	23	548	462	131	1202	565	1096	1672	776	53	326	301
V/C Ratio(X)	0.64	0.32	0.41	0.80	0.39	0.41	0.89	0.47	0.50	0.77	0.12	0.13
Avail Cap(c_a), veh/h	79	548	462	217	1202	565	1296	1672	776	468	326	301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	33.1	34.0	54.7	29.2	29.4	39.1	21.6	21.9	57.8	40.9	41.0
Incr Delay (d2), s/veh	25.7	1.5	2.6	10.8	1.0	2.2	7.4	1.0	2.3	20.1	0.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.1	4.6	3.4	5.1	5.2	14.3	7.3	7.5	1.5	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.7	34.6	36.7	65.5	30.1	31.6	46.5	22.6	24.2	77.9	41.6	41.9
LnGrp LOS	F	C	D	E	C	C	D	C	C	E	D	D
Approach Vol, veh/h		376			810			2150			118	
Approach Delay, s/veh		37.6			35.1			33.7			54.3	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	39.1	42.1	26.0	5.6	46.4	7.6	60.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	14.6	22.4	45.0	22.0	5.3	31.7	31.5	35.5
Max Q Clear Time (g_c+I1), s	9.0	13.4	34.4	4.4	3.0	15.1	4.7	21.3
Green Ext Time (p_c), s	0.1	0.9	3.6	0.2	0.0	2.8	0.1	4.7

Intersection Summary	
HCM 6th Ctrl Delay	35.2
HCM 6th LOS	D



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	304	3	18	313	4	41
Future Volume (vph)	304	3	18	313	4	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	105		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			90		100	
Link Speed (mph)	45			30	45	
Link Distance (ft)	223			354	689	
Travel Time (s)	3.4			8.0	10.4	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

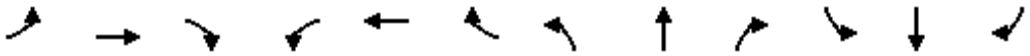
Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	304	3	18	313	4	41
Future Vol, veh/h	304	3	18	313	4	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	105	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	400	4	24	412	5	54

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	404	0	656	202
Stage 1	-	-	-	-	402	-
Stage 2	-	-	-	-	254	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1151	-	398	805
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	765	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1151	-	390	805
Mov Cap-2 Maneuver	-	-	-	-	390	-
Stage 1	-	-	-	-	630	-
Stage 2	-	-	-	-	765	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	735	-	-	1151	-
HCM Lane V/C Ratio	0.081	-	-	0.021	-
HCM Control Delay (s)	10.3	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	11	23	9	5	13	87	424	82	7	242	4
Future Volume (vph)	17	11	23	9	5	13	87	424	82	7	242	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			60			60		
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		237			740			929			680	
Travel Time (s)		5.4			16.8			18.1			13.2	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

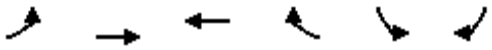
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	29.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	11	23	9	5	13	87	424	82	7	242	4
Future Vol, veh/h	17	11	23	9	5	13	87	424	82	7	242	4
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	15	31	12	7	17	116	565	109	9	323	5
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.2	9.9	38.8	14.2
HCM LOS	B	A	E	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	33%	33%	100%	0%
Vol Thru, %	0%	84%	22%	19%	0%	98%
Vol Right, %	0%	16%	45%	48%	0%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	87	506	51	27	7	246
LT Vol	87	0	17	9	7	0
Through Vol	0	424	11	5	0	242
RT Vol	0	82	23	13	0	4
Lane Flow Rate	116	675	68	36	9	328
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.182	0.945	0.12	0.065	0.016	0.518
Departure Headway (Hd)	5.661	5.044	6.363	6.453	6.201	5.684
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	628	708	565	557	580	636
Service Time	3.457	2.839	4.379	4.47	3.911	3.394
HCM Lane V/C Ratio	0.185	0.953	0.12	0.065	0.016	0.516
HCM Control Delay	9.7	43.8	10.2	9.9	9	14.3
HCM Lane LOS	A	E	B	A	A	B
HCM 95th-tile Q	0.7	13.5	0.4	0.2	0	3



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	260	507	6	9	21
Future Volume (vph)	0	260	507	6	9	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	60				100	
Link Speed (mph)		35	35		30	
Link Distance (ft)		1222	796		251	
Travel Time (s)		23.8	15.5		5.7	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Shared Lane Traffic (%)						
Sign Control		Stop	Stop		Stop	

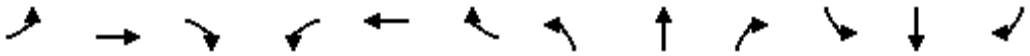
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	20.5
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	260	507	6	9	21
Future Vol, veh/h	0	260	507	6	9	21
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	333	650	8	12	27
Number of Lanes	1	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	12.3	25.3	9.2
HCM LOS	B	D	A

Lane	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	30%
Vol Thru, %	100%	100%	99%	0%
Vol Right, %	0%	0%	1%	70%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	260	513	30
LT Vol	0	0	0	9
Through Vol	0	260	507	0
RT Vol	0	0	6	21
Lane Flow Rate	0	333	658	38
Geometry Grp	7	7	5	2
Degree of Util (X)	0	0.472	0.827	0.062
Departure Headway (Hd)	5.102	5.102	4.527	5.763
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	707	802	617
Service Time	2.839	2.839	2.555	3.838
HCM Lane V/C Ratio	0	0.471	0.82	0.062
HCM Control Delay	7.8	12.3	25.3	9.2
HCM Lane LOS	N	B	D	A
HCM 95th-tile Q	0	2.5	9.3	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	178	87	29	281	2	178	2	50	5	1	4
Future Volume (vph)	1	178	87	29	281	2	178	2	50	5	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	60			60			100			100		
Link Speed (mph)		35			35			30			45	
Link Distance (ft)		1243			910			626			548	
Travel Time (s)		24.2			17.7			14.2			8.3	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

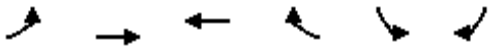
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	178	87	29	281	2	178	2	50	5	1	4
Future Vol, veh/h	1	178	87	29	281	2	178	2	50	5	1	4
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	212	104	35	335	2	212	2	60	6	1	5
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	14	14.9	13.5	9.5
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	77%	100%	0%	100%	0%	50%
Vol Thru, %	1%	0%	67%	0%	99%	10%
Vol Right, %	22%	0%	33%	0%	1%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	1	265	29	283	10
LT Vol	178	1	0	29	0	5
Through Vol	2	0	178	0	281	1
RT Vol	50	0	87	0	2	4
Lane Flow Rate	274	1	315	35	337	12
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.443	0.002	0.5	0.061	0.547	0.021
Departure Headway (Hd)	5.826	6.443	5.703	6.356	5.844	6.308
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	616	555	631	563	617	564
Service Time	3.872	4.186	3.444	4.096	3.584	4.382
HCM Lane V/C Ratio	0.445	0.002	0.499	0.062	0.546	0.021
HCM Control Delay	13.5	9.2	14	9.5	15.5	9.5
HCM Lane LOS	B	A	B	A	C	A
HCM 95th-tile Q	2.3	0	2.8	0.2	3.3	0.1



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	28	340	273	6	3	42
Future Volume (vph)	28	340	273	6	3	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12
Storage Length (ft)	75			0	125	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				100	
Link Speed (mph)		45	30		35	
Link Distance (ft)		367	783		737	
Travel Time (s)		5.6	17.8		14.4	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

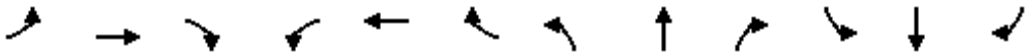
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	340	273	6	3	42
Future Vol, veh/h	28	340	273	6	3	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	125	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	436	350	8	4	54

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	358	0	-	0	862	179
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	508	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1199	-	-	-	309	834
Stage 1	-	-	-	-	682	-
Stage 2	-	-	-	-	603	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1199	-	-	-	300	834
Mov Cap-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	603	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1199	-	-	-	300	834
HCM Lane V/C Ratio	0.03	-	-	-	0.013	0.065
HCM Control Delay (s)	8.1	-	-	-	17.2	9.6
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	106	225	197	59	22	45	93	91	37	217	0
Future Volume (vph)	2	106	225	197	59	22	45	93	91	37	217	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	135		0	130		200	100		0	150		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			90			60			65		
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		495			683			680			695	
Travel Time (s)		7.5			10.3			13.2			13.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	19.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	106	225	197	59	22	45	93	91	37	217	0
Future Vol, veh/h	2	106	225	197	59	22	45	93	91	37	217	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	115	245	214	64	24	49	101	99	40	236	0
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	26.6	17	15.5	18.1
HCM LOS	D	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	51%	0%	32%	0%	100%	0%	0%	100%
Vol Right, %	0%	49%	0%	68%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	184	2	331	197	59	22	37	217
LT Vol	45	0	2	0	197	0	0	37	0
Through Vol	0	93	0	106	0	59	0	0	217
RT Vol	0	91	0	225	0	0	22	0	0
Lane Flow Rate	49	200	2	360	214	64	24	40	236
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.117	0.428	0.005	0.721	0.498	0.14	0.047	0.094	0.52
Departure Headway (Hd)	8.576	7.71	8.22	7.218	8.371	7.857	7.139	8.452	7.941
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	416	464	434	500	428	454	498	422	451
Service Time	6.372	5.505	6.005	5.002	6.164	5.65	4.931	6.245	5.734
HCM Lane V/C Ratio	0.118	0.431	0.005	0.72	0.5	0.141	0.048	0.095	0.523
HCM Control Delay	12.5	16.2	11	26.7	19.3	11.9	10.3	12.1	19.1
HCM Lane LOS	B	C	B	D	C	B	B	B	C
HCM 95th-tile Q	0.4	2.1	0	5.8	2.7	0.5	0.1	0.3	2.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	6	20	2	22	17	23	132	7	22	398	90
Future Volume (vph)	31	6	20	2	22	17	23	132	7	22	398	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			60			60		
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		655			663			936			638	
Travel Time (s)		12.8			12.9			18.2			12.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

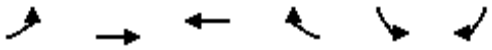
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	15.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	6	20	2	22	17	23	132	7	22	398	90
Future Vol, veh/h	31	6	20	2	22	17	23	132	7	22	398	90
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	6	22	2	24	18	25	142	8	24	428	97
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.3	9	9.4	18.1
HCM LOS	A	A	A	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	54%	5%	100%	0%
Vol Thru, %	0%	95%	11%	54%	0%	82%
Vol Right, %	0%	5%	35%	41%	0%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	139	57	41	22	488
LT Vol	23	0	31	2	22	0
Through Vol	0	132	6	22	0	398
RT Vol	0	7	20	17	0	90
Lane Flow Rate	25	149	61	44	24	525
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.04	0.218	0.095	0.067	0.036	0.707
Departure Headway (Hd)	5.789	5.25	5.594	5.492	5.481	4.849
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	616	680	636	647	652	745
Service Time	3.546	3.006	3.667	3.568	3.224	2.592
HCM Lane V/C Ratio	0.041	0.219	0.096	0.068	0.037	0.705
HCM Control Delay	8.8	9.5	9.3	9	8.4	18.5
HCM Lane LOS	A	A	A	A	A	C
HCM 95th-tile Q	0.1	0.8	0.3	0.2	0.1	5.9



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	14	198	274	198	427	24
Future Volume (vph)	14	198	274	198	427	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			0	130	0
Storage Lanes	1			0	1	1
Taper Length (ft)	120				60	
Link Speed (mph)		45	45		35	
Link Distance (ft)		1281	546		936	
Travel Time (s)		19.4	8.3		18.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control		Stop	Stop		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	28.4
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	198	274	198	427	24
Future Vol, veh/h	14	198	274	198	427	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	208	288	208	449	25
Number of Lanes	1	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	3
HCM Control Delay	11.5	16.6	48.6
HCM LOS	B	C	E

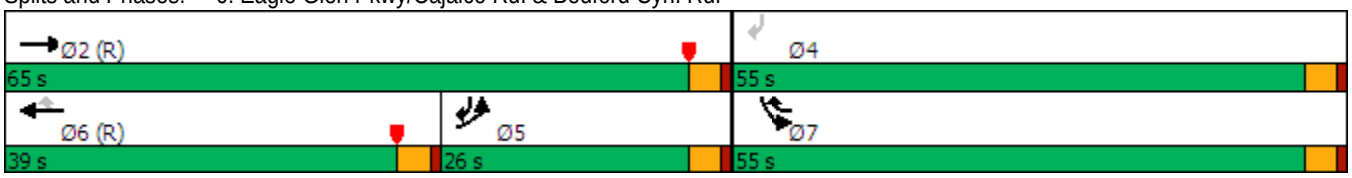
Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	100%	100%	32%	0%	0%
Vol Right, %	0%	0%	0%	0%	68%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	99	99	183	289	427	24
LT Vol	14	0	0	0	0	427	0
Through Vol	0	99	99	183	91	0	0
RT Vol	0	0	0	0	198	0	24
Lane Flow Rate	15	104	104	192	305	449	25
Geometry Grp	8	8	8	8	8	8	8
Degree of Util (X)	0.034	0.227	0.175	0.385	0.568	0.923	0.043
Departure Headway (Hd)	8.341	7.826	6.041	7.205	6.713	7.396	6.187
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	429	459	592	500	536	494	582
Service Time	6.095	5.58	3.794	4.951	4.458	5.096	3.887
HCM Lane V/C Ratio	0.035	0.227	0.176	0.384	0.569	0.909	0.043
HCM Control Delay	11.4	12.9	10.1	14.4	18	50.8	9.2
HCM Lane LOS	B	B	B	B	C	F	A
HCM 95th-tile Q	0.1	0.9	0.6	1.8	3.5	10.8	0.1

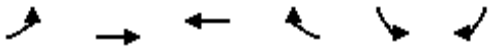
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø4
Lane Configurations							
Traffic Volume (vph)	78	543	371	69	422	105	
Future Volume (vph)	78	543	371	69	422	105	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	180			200	450	0	
Storage Lanes	1			2	0	1	
Taper Length (ft)	100				180		
Right Turn on Red				Yes		Yes	
Link Speed (mph)		45	45		45		
Link Distance (ft)		755	792		716		
Travel Time (s)		11.4	12.0		10.8		
Confl. Peds. (#/hr)				5		5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Shared Lane Traffic (%)							
Turn Type	Prot	NA	NA	pm+ov	Prot	pm+ov	
Protected Phases	5	2	6	7	7	5	4
Permitted Phases				6		4	
Detector Phase	5	2	6	7	7	5	
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	30.7	30.7	8.5	8.5	26.0	36.7
Total Split (s)	26.0	65.0	39.0	55.0	55.0	26.0	55.0
Total Split (%)	21.7%	54.2%	32.5%	45.8%	45.8%	21.7%	46%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lag		Lead			Lag	
Lead-Lag Optimize?	Yes		Yes			Yes	
Recall Mode	None	C-Max	C-Max	Max	Max	None	Max

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 6: Eagle Glen Pkwy/Cajalco Rd. & Bedford Cyn. Rd.





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	78	543	371	69	422	105
Future Volume (veh/h)	78	543	371	69	422	105
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	584	399	74	454	113
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	327	951	1036	1132	757	964
Arrive On Green	0.18	0.51	0.10	0.10	0.43	0.43
Sat Flow, veh/h	1781	1870	3647	1571	1781	1585
Grp Volume(v), veh/h	84	584	399	74	454	113
Grp Sat Flow(s),veh/h/ln	1781	1870	1777	1571	1781	1585
Q Serve(g_s), s	4.9	26.8	12.6	0.0	23.6	0.0
Cycle Q Clear(g_c), s	4.9	26.8	12.6	0.0	23.6	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	327	951	1036	1132	757	964
V/C Ratio(X)	0.26	0.61	0.38	0.07	0.60	0.12
Avail Cap(c_a), veh/h	327	951	1036	1132	757	964
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.74	0.74	1.00	1.00
Uniform Delay (d), s/veh	42.0	21.1	44.1	3.8	26.6	9.9
Incr Delay (d2), s/veh	0.4	3.0	0.8	0.1	3.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	11.7	6.1	2.5	10.2	3.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.4	24.1	44.9	3.9	30.1	10.2
LnGrp LOS	D	C	D	A	C	B
Approach Vol, veh/h		668	473		567	
Approach Delay, s/veh		26.4	38.5		26.1	
Approach LOS		C	D		C	

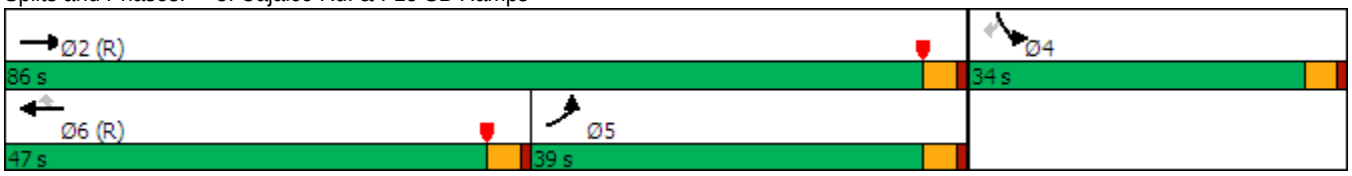
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.0		55.0	26.0	39.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		61.0		51.0	22.0	35.0
Max Q Clear Time (g_c+I1), s		28.8		25.6	6.9	14.6
Green Ext Time (p_c), s		2.5		2.3	0.2	1.9

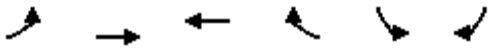
Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	381	569	467	341	308	123
Future Volume (vph)	381	569	467	341	308	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290			200	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	90				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		45	45		45	
Link Distance (ft)		792	1297		282	
Travel Time (s)		12.0	19.7		4.3	
Confl. Peds. (#/hr)						5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	23.7	30.7	30.7	8.5	8.5
Total Split (s)	39.0	86.0	47.0	47.0	34.0	34.0
Total Split (%)	32.5%	71.7%	39.2%	39.2%	28.3%	28.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 97 (81%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	

Splits and Phases: 8: Cajalco Rd. & I-15 SB Ramps





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	381	569	467	341	308	123
Future Volume (veh/h)	381	569	467	341	308	123
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	393	587	481	352	318	127
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	520	1278	670	568	445	396
Arrive On Green	0.29	0.68	0.12	0.12	0.25	0.25
Sat Flow, veh/h	1781	1870	1870	1585	1781	1585
Grp Volume(v), veh/h	393	587	481	352	318	127
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1585	1781	1585
Q Serve(g_s), s	24.1	17.4	29.7	25.4	19.6	7.8
Cycle Q Clear(g_c), s	24.1	17.4	29.7	25.4	19.6	7.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	520	1278	670	568	445	396
V/C Ratio(X)	0.76	0.46	0.72	0.62	0.71	0.32
Avail Cap(c_a), veh/h	520	1278	670	568	445	396
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.75	0.75	1.00	1.00
Uniform Delay (d), s/veh	38.6	8.8	47.1	45.1	41.1	36.7
Incr Delay (d2), s/veh	4.8	0.9	4.9	3.8	9.4	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	6.3	15.7	11.3	9.4	7.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.5	9.7	52.0	48.9	50.5	38.8
LnGrp LOS	D	A	D	D	D	D
Approach Vol, veh/h		980	833		445	
Approach Delay, s/veh		23.2	50.7		47.2	
Approach LOS		C	D		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		86.0		34.0	39.0	47.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		82.0		30.0	35.0	43.0
Max Q Clear Time (g_c+I1), s		19.4		21.6	26.1	31.7
Green Ext Time (p_c), s		2.5		1.2	1.0	2.8

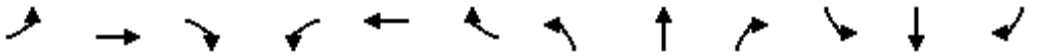
Intersection Summary	
HCM 6th Ctrl Delay	38.1
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	740	0	0	668	521	136	7	217	0	0	0
Future Volume (vph)	154	740	0	0	668	521	136	7	217	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	575		300	0		0	300		175	0		0
Storage Lanes	1		0	0		1	0		1	0		0
Taper Length (ft)	50			25			180			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1297			527			714			1440	
Travel Time (s)		19.7			8.0			10.8			21.8	
Confl. Peds. (#/hr)									5			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	2%	2%	0%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Detector Phase	5	2			6	6	8	8	8			
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	8.0	23.7			30.7	30.7	8.5	8.5	8.5			
Total Split (s)	24.0	96.0			72.0	72.0	24.0	24.0	24.0			
Total Split (%)	20.0%	80.0%			60.0%	60.0%	20.0%	20.0%	20.0%			
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0			
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max			C-Max	C-Max	Max	Max	Max			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 54 (45%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 10: I-15 NB Ramps & Cajalco Rd.





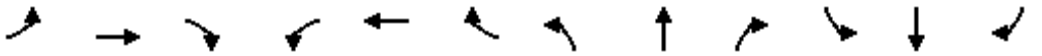
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	740	0	0	668	521	136	7	217	0	0	0
Future Volume (veh/h)	154	740	0	0	668	521	136	7	217	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	160	771	0	0	696	543	142	7	226			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	186	1434	0	0	1176	997	284	14	260			
Arrive On Green	0.21	1.00	0.00	0.00	0.63	0.63	0.17	0.17	0.17			
Sat Flow, veh/h	1781	1870	0	0	1870	1585	1701	84	1561			
Grp Volume(v), veh/h	160	771	0	0	696	543	149	0	226			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	1785	0	1561			
Q Serve(g_s), s	10.4	0.0	0.0	0.0	26.4	23.2	9.1	0.0	16.9			
Cycle Q Clear(g_c), s	10.4	0.0	0.0	0.0	26.4	23.2	9.1	0.0	16.9			
Prop In Lane	1.00		0.00	0.00		1.00	0.95		1.00			
Lane Grp Cap(c), veh/h	186	1434	0	0	1176	997	298	0	260			
V/C Ratio(X)	0.86	0.54	0.00	0.00	0.59	0.54	0.50	0.00	0.87			
Avail Cap(c_a), veh/h	297	1434	0	0	1176	997	298	0	260			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.81	0.81	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	46.6	0.0	0.0	0.0	13.2	12.6	45.5	0.0	48.7			
Incr Delay (d2), s/veh	11.2	1.2	0.0	0.0	2.2	2.1	5.9	0.0	30.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.6	0.5	0.0	0.0	10.5	7.9	4.4	0.0	8.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	1.2	0.0	0.0	15.4	14.7	51.4	0.0	79.0			
LnGrp LOS	E	A	A	A	B	B	D	A	E			
Approach Vol, veh/h		931			1239			375				
Approach Delay, s/veh		10.9			15.1			68.0				
Approach LOS		B			B			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		96.0			16.6	79.4		24.0				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		92.0			20.0	68.0		20.0				
Max Q Clear Time (g_c+I1), s		2.0			12.4	28.4		18.9				
Green Ext Time (p_c), s		3.7			0.2	5.8		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	483	509	0	0	670	174	0	0	0	149	0	464
Future Volume (vph)	483	509	0	0	670	174	0	0	0	149	0	464
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	130		130	0		0	200		0
Storage Lanes	2		0	1		1	0		0	1		2
Taper Length (ft)	180			110			100			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		627			570			544			904	
Travel Time (s)		9.5			8.6			8.2			13.7	
Confl. Peds. (#/hr)						5				5		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm				Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		4	4	5
Permitted Phases						6						4
Detector Phase	5	2		1	6	6	8	8		4	4	5
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.5	23.2		8.0	30.7	30.7	26.0	26.0		8.0	8.0	8.5
Total Split (s)	31.0	63.0		8.0	40.0	40.0	26.0	26.0		23.0	23.0	31.0
Total Split (%)	25.8%	52.5%		6.7%	33.3%	33.3%	21.7%	21.7%		19.2%	19.2%	25.8%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						Yes
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		Max	Max	None

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 43 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	

Splits and Phases: 11: Cajalco Rd. & Grand Oaks





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	483	509	0	0	670	174	0	0	0	149	0	464
Future Volume (veh/h)	483	509	0	0	670	174	0	0	0	149	0	464
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	493	519	0	0	684	178	0	0	0	152	0	473
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	578	2754	0	1	2041	908	0	2	0	282	0	902
Arrive On Green	0.17	0.77	0.00	0.00	0.57	0.57	0.00	0.00	0.00	0.16	0.00	0.16
Sat Flow, veh/h	3456	3647	0	1781	3554	1581	0	1870	0	1781	0	2746
Grp Volume(v), veh/h	493	519	0	0	684	178	0	0	0	152	0	473
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1777	1581	0	1870	0	1781	0	1373
Q Serve(g_s), s	16.6	4.6	0.0	0.0	12.2	6.5	0.0	0.0	0.0	9.4	0.0	16.8
Cycle Q Clear(g_c), s	16.6	4.6	0.0	0.0	12.2	6.5	0.0	0.0	0.0	9.4	0.0	16.8
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	578	2754	0	1	2041	908	0	2	0	282	0	902
V/C Ratio(X)	0.85	0.19	0.00	0.00	0.34	0.20	0.00	0.00	0.00	0.54	0.00	0.52
Avail Cap(c_a), veh/h	778	2754	0	59	2041	908	0	343	0	282	0	902
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.5	3.6	0.0	0.0	13.5	12.3	0.0	0.0	0.0	46.5	0.0	33.0
Incr Delay (d2), s/veh	6.9	0.2	0.0	0.0	0.4	0.5	0.0	0.0	0.0	7.2	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	1.2	0.0	0.0	4.6	2.3	0.0	0.0	0.0	4.6	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	3.7	0.0	0.0	13.9	12.7	0.0	0.0	0.0	53.7	0.0	35.1
LnGrp LOS	E	A	A	A	B	B	A	A	A	D	A	D
Approach Vol, veh/h		1012			862			0			625	
Approach Delay, s/veh		28.9			13.7			0.0			39.7	
Approach LOS		C			B						D	

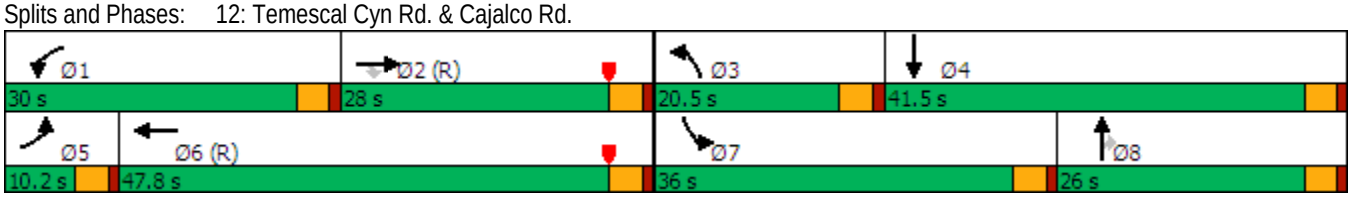
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	97.0		23.0	24.1	72.9		0.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	59.0		19.0	27.0	36.0		22.0				
Max Q Clear Time (g_c+I1), s	0.0	6.6		18.8	18.6	14.2		0.0				
Green Ext Time (p_c), s	0.0	2.3		0.1	1.5	3.8		0.0				

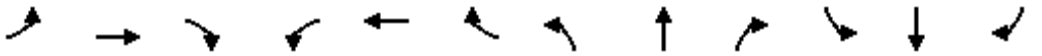
Intersection Summary			
HCM 6th Ctrl Delay		26.3	
HCM 6th LOS		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	269	312	281	527	140	284	203	146	310	581	65
Future Volume (vph)	27	269	312	281	527	140	284	203	146	310	581	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	16	12	12	16	12	12	12
Storage Length (ft)	300		200	100		200	160		160	185		200
Storage Lanes	1		0	1		0	2		1	1		0
Taper Length (ft)	180			115			90			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		464			939			1196			475	
Travel Time (s)		7.0			14.2			18.1			7.2	
Confl. Peds. (#/hr)			5			5						5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Detector Phase	5	2	2	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.5	26.0	26.0	8.5	30.7		8.5	26.0	26.0	35.5	26.0	
Total Split (s)	10.2	28.0	28.0	30.0	47.8		20.5	26.0	26.0	36.0	41.5	
Total Split (%)	8.5%	23.3%	23.3%	25.0%	39.8%		17.1%	21.7%	21.7%	30.0%	34.6%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	Max	Max	None	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 10 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	

Splits and Phases: 12: Temescal Cyn Rd. & Cajalco Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	269	312	281	527	140	284	203	146	310	581	65
Future Volume (veh/h)	27	269	312	281	527	140	284	203	146	310	581	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870	1870	1870
Adj Flow Rate, veh/h	28	274	318	287	538	143	290	207	149	316	593	66
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	510	430	318	1739	451	356	778	361	350	1007	112
Arrive On Green	0.02	0.27	0.27	0.18	0.43	0.43	0.10	0.22	0.22	0.20	0.31	0.31
Sat Flow, veh/h	1781	1870	1576	1781	4036	1046	3456	3554	1648	1781	3223	358
Grp Volume(v), veh/h	28	274	318	287	452	229	290	207	149	316	326	333
Grp Sat Flow(s),veh/h/ln	1781	1870	1576	1781	1702	1678	1728	1777	1648	1781	1777	1804
Q Serve(g_s), s	1.9	15.0	22.1	18.9	10.4	10.8	9.9	5.8	9.3	20.8	18.6	18.6
Cycle Q Clear(g_c), s	1.9	15.0	22.1	18.9	10.4	10.8	9.9	5.8	9.3	20.8	18.6	18.6
Prop In Lane	1.00		1.00	1.00		0.62	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	36	510	430	318	1467	723	356	778	361	350	555	564
V/C Ratio(X)	0.78	0.54	0.74	0.90	0.31	0.32	0.81	0.27	0.41	0.90	0.59	0.59
Avail Cap(c_a), veh/h	92	510	430	386	1467	723	475	778	361	475	555	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	37.2	39.8	48.3	22.4	22.5	52.7	38.9	40.2	47.1	34.7	34.8
Incr Delay (d2), s/veh	29.2	4.0	10.9	21.2	0.5	1.2	7.9	0.8	3.5	16.4	4.5	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.2	9.5	10.0	4.1	4.3	4.6	2.6	4.0	10.5	8.4	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.7	41.2	50.6	69.5	22.9	23.7	60.6	39.7	43.7	63.5	39.3	39.3
LnGrp LOS	F	D	D	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		620			968			646			975	
Approach Delay, s/veh		48.1			36.9			50.0			47.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.4	36.7	16.4	41.5	6.4	55.7	27.6	30.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	26.0	24.0	16.5	37.5	6.2	43.8	32.0	22.0
Max Q Clear Time (g_c+I1), s	20.9	24.1	11.9	20.6	3.9	12.8	22.8	11.3
Green Ext Time (p_c), s	0.5	0.0	0.5	2.3	0.0	3.0	0.8	1.1

Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	160	5	34	159	3	37
Future Volume (vph)	160	5	34	159	3	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	105		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			90		100	
Link Speed (mph)	45			30	45	
Link Distance (ft)	223			354	689	
Travel Time (s)	3.4			8.0	10.4	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

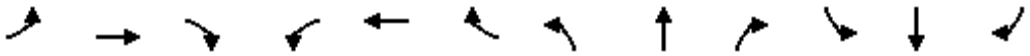
Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	160	5	34	159	3	37
Future Vol, veh/h	160	5	34	159	3	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	105	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	184	6	39	183	3	43

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	190	0	357	95
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	170	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1381	-	615	943
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	843	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1381	-	598	943
Mov Cap-2 Maneuver	-	-	-	-	598	-
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	843	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	904	-	-	1381	-
HCM Lane V/C Ratio	0.051	-	-	0.028	-
HCM Control Delay (s)	9.2	-	-	7.7	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	2	105	24	1	4	9	218	10	10	623	9
Future Volume (vph)	5	2	105	24	1	4	9	218	10	10	623	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			60			60		
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		237			740			929			680	
Travel Time (s)		5.4			16.8			18.1			13.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

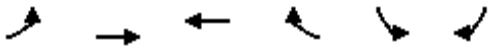
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	40
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	2	105	24	1	4	9	218	10	10	623	9
Future Vol, veh/h	5	2	105	24	1	4	9	218	10	10	623	9
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	2	113	26	1	4	10	234	11	11	670	10
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.4	10.2	11.9	56.9
HCM LOS	B	B	B	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	4%	83%	100%	0%
Vol Thru, %	0%	96%	2%	3%	0%	99%
Vol Right, %	0%	4%	94%	14%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	228	112	29	10	632
LT Vol	9	0	5	24	10	0
Through Vol	0	218	2	1	0	623
RT Vol	0	10	105	4	0	9
Lane Flow Rate	10	245	120	31	11	680
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.017	0.388	0.196	0.059	0.017	1.003
Departure Headway (Hd)	6.241	5.703	5.862	6.755	5.829	5.315
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	574	630	611	529	618	686
Service Time	3.976	3.438	3.914	4.818	3.529	3.015
HCM Lane V/C Ratio	0.017	0.389	0.196	0.059	0.018	0.991
HCM Control Delay	9.1	12	10.4	10.2	8.6	57.7
HCM Lane LOS	A	B	B	B	A	F
HCM 95th-tile Q	0.1	1.8	0.7	0.2	0.1	16.1



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	3	659	206	13	16	5
Future Volume (vph)	3	659	206	13	16	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	60				100	
Link Speed (mph)		35	35		30	
Link Distance (ft)		1222	796		251	
Travel Time (s)		23.8	15.5		5.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)						
Sign Control		Stop	Stop		Stop	

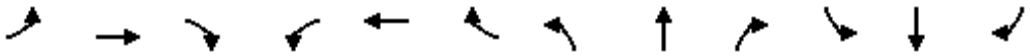
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	49.8
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	659	206	13	16	5
Future Vol, veh/h	3	659	206	13	16	5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	775	242	15	19	6
Number of Lanes	1	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	64	10.6	9.7
HCM LOS	F	B	A

Lane	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	76%
Vol Thru, %	0%	100%	94%	0%
Vol Right, %	0%	0%	6%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	659	219	21
LT Vol	3	0	0	16
Through Vol	0	659	206	0
RT Vol	0	0	13	5
Lane Flow Rate	4	775	258	25
Geometry Grp	7	7	5	2
Degree of Util (X)	0.005	1.038	0.349	0.043
Departure Headway (Hd)	5.32	4.818	4.876	6.39
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	677	760	732	564
Service Time	3.02	2.518	2.954	4.39
HCM Lane V/C Ratio	0.006	1.02	0.352	0.044
HCM Control Delay	8	64.3	10.6	9.7
HCM Lane LOS	A	F	B	A
HCM 95th-tile Q	0	18.9	1.6	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	501	159	40	146	4	57	2	33	2	0	3
Future Volume (vph)	0	501	159	40	146	4	57	2	33	2	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	60			60			100			100		
Link Speed (mph)		35			35			30			45	
Link Distance (ft)		1243			910			626			548	
Travel Time (s)		24.2			17.7			14.2			8.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

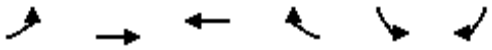
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	40.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	501	159	40	146	4	57	2	33	2	0	3
Future Vol, veh/h	0	501	159	40	146	4	57	2	33	2	0	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	557	177	44	162	4	63	2	37	2	0	3
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	53.7	9.9	10.5	9.3
HCM LOS	F	A	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	62%	0%	0%	100%	0%	40%
Vol Thru, %	2%	100%	76%	0%	97%	0%
Vol Right, %	36%	0%	24%	0%	3%	60%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	0	660	40	150	5
LT Vol	57	0	0	40	0	2
Through Vol	2	0	501	0	146	0
RT Vol	33	0	159	0	4	3
Lane Flow Rate	102	0	733	44	167	6
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.176	0	0.995	0.074	0.253	0.01
Departure Headway (Hd)	6.182	5.056	4.887	5.982	5.457	6.27
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	584	0	741	593	650	574
Service Time	4.183	2.826	2.656	3.779	3.253	4.275
HCM Lane V/C Ratio	0.175	0	0.989	0.074	0.257	0.01
HCM Control Delay	10.5	7.8	53.7	9.3	10.1	9.3
HCM Lane LOS	B	N	F	A	B	A
HCM 95th-tile Q	0.6	0	16.2	0.2	1	0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	140	109	51	22	22
Future Volume (vph)	25	140	109	51	22	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12
Storage Length (ft)	75			0	125	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				100	
Link Speed (mph)		45	30		35	
Link Distance (ft)		366	202		737	
Travel Time (s)		5.5	4.6		14.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	140	109	51	22	22
Future Vol, veh/h	25	140	109	51	22	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	125	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	159	124	58	25	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	182	0	-	0	368	91
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1392	-	-	-	618	949
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	820	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1392	-	-	-	606	949
Mov Cap-2 Maneuver	-	-	-	-	606	-
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	820	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1392	-	-	-	606	949
HCM Lane V/C Ratio	0.02	-	-	-	0.041	0.026
HCM Control Delay (s)	7.6	-	-	-	11.2	8.9
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.1

ATTACHMENT 3:

2035 WITH PROJECT INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

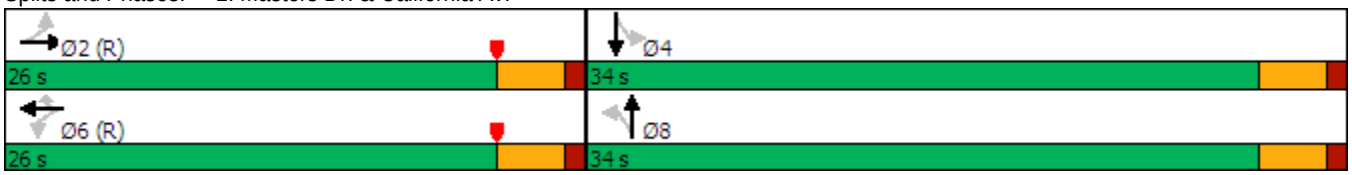
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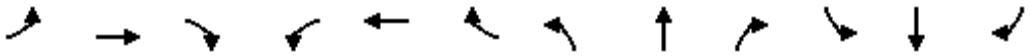
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	190	75	123	104	165	125	262	261	191	132	6
Future Volume (vph)	8	190	75	123	104	165	125	262	261	191	132	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	135		0	130		200	100		0	150		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			90			60			65		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		495			683			680			695	
Travel Time (s)		7.5			10.3			13.2			13.5	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		26.0	26.0	
Total Split (s)	26.0	26.0		26.0	26.0	26.0	34.0	34.0		34.0	34.0	
Total Split (%)	43.3%	43.3%		43.3%	43.3%	43.3%	56.7%	56.7%		56.7%	56.7%	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	Max	Max		Max	Max	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Masters Dr. & California Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	190	75	123	104	165	125	262	261	191	132	6
Future Volume (veh/h)	8	190	75	123	104	165	125	262	261	191	132	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	253	100	164	139	220	167	349	348	255	176	8
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	443	468	185	336	686	581	654	430	428	216	888	40
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.34	0.34	0.34	0.50	0.50	0.50
Sat Flow, veh/h	1022	1275	504	1028	1870	1585	1200	859	857	748	1775	81
Grp Volume(v), veh/h	11	0	353	164	139	220	167	0	697	255	0	184
Grp Sat Flow(s),veh/h/ln	1022	0	1780	1028	1870	1585	1200	0	1716	748	0	1856
Q Serve(g_s), s	0.4	0.0	9.4	9.0	3.1	6.1	6.5	0.0	22.3	7.7	0.0	3.3
Cycle Q Clear(g_c), s	3.5	0.0	9.4	18.4	3.1	6.1	9.8	0.0	22.3	30.0	0.0	3.3
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.50	1.00		0.04
Lane Grp Cap(c), veh/h	443	0	653	336	686	581	654	0	858	216	0	928
V/C Ratio(X)	0.02	0.00	0.54	0.49	0.20	0.38	0.26	0.00	0.81	1.18	0.00	0.20
Avail Cap(c_a), veh/h	443	0	653	336	686	581	654	0	858	216	0	928
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.86	0.00	0.86	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.2	0.0	15.0	22.3	13.0	14.0	14.5	0.0	17.4	28.3	0.0	8.3
Incr Delay (d2), s/veh	0.1	0.0	3.2	5.0	0.7	1.9	0.8	0.0	7.2	117.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	3.7	2.3	1.2	2.1	1.8	0.0	10.3	10.0	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	0.0	18.2	27.3	13.7	15.8	15.3	0.0	24.6	145.8	0.0	8.8
LnGrp LOS	B	A	B	C	B	B	B	A	C	F	A	A
Approach Vol, veh/h		364			523			864			439	
Approach Delay, s/veh		18.1			18.9			22.8			88.4	
Approach LOS		B			B			C			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		34.0		26.0		34.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		22.0		30.0		22.0		30.0				
Max Q Clear Time (g_c+I1), s		11.4		32.0		20.4		24.3				
Green Ext Time (p_c), s		1.4		0.0		0.4		2.7				

Intersection Summary												
HCM 6th Ctrl Delay			34.2									
HCM 6th LOS			C									

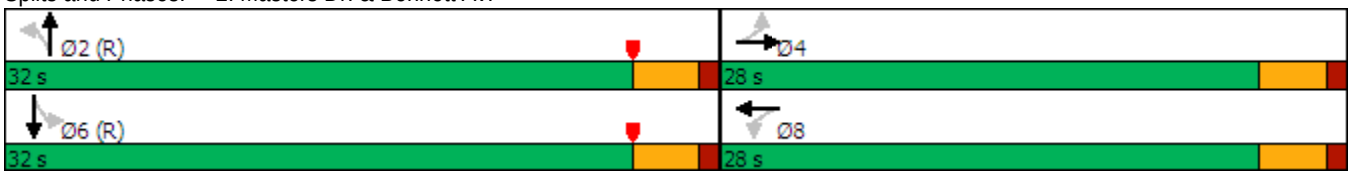
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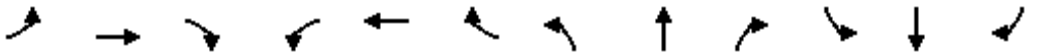
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	21	33	18	12	38	9	258	15	52	192	24
Future Volume (vph)	44	21	33	18	12	38	9	258	15	52	192	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		537			564			936			637	
Travel Time (s)		10.5			11.0			18.2			12.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	28.0	28.0		28.0	28.0		32.0	32.0		32.0	32.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	

Splits and Phases: 2: Masters Dr. & Bennett Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	21	33	18	12	38	9	258	15	52	192	24
Future Volume (veh/h)	44	21	33	18	12	38	9	258	15	52	192	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	22	35	19	13	40	9	272	16	55	202	25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	42	52	105	41	88	975	1353	80	919	1262	156
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.77	0.77	0.77	0.77	0.77	0.77
Sat Flow, veh/h	634	449	557	312	441	940	1154	1749	103	1091	1632	202
Grp Volume(v), veh/h	103	0	0	72	0	0	9	0	288	55	0	227
Grp Sat Flow(s),veh/h/ln	1640	0	0	1692	0	0	1154	0	1852	1091	0	1834
Q Serve(g_s), s	1.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	2.5	0.9	0.0	1.9
Cycle Q Clear(g_c), s	3.5	0.0	0.0	2.3	0.0	0.0	2.0	0.0	2.5	3.4	0.0	1.9
Prop In Lane	0.45		0.34	0.26		0.56	1.00		0.06	1.00		0.11
Lane Grp Cap(c), veh/h	240	0	0	233	0	0	975	0	1432	919	0	1419
V/C Ratio(X)	0.43	0.00	0.00	0.31	0.00	0.00	0.01	0.00	0.20	0.06	0.00	0.16
Avail Cap(c_a), veh/h	705	0	0	711	0	0	975	0	1432	919	0	1419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.90	0.00	0.90	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.2	0.0	0.0	25.8	0.0	0.0	2.0	0.0	1.8	2.3	0.0	1.8
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	0.0	0.0	26.5	0.0	0.0	2.0	0.0	2.1	2.4	0.0	2.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		103			72			297			282	
Approach Delay, s/veh		27.4			26.5			2.1			2.1	
Approach LOS		C			C			A			A	

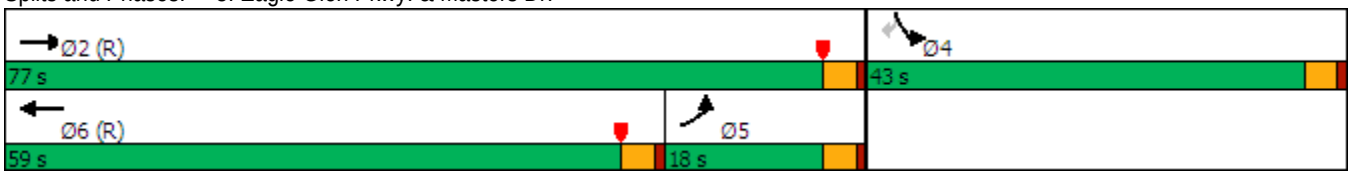
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		50.4		9.6		50.4		9.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		28.0		24.0		28.0		24.0				
Max Q Clear Time (g_c+I1), s		4.5		5.5		5.4		4.3				
Green Ext Time (p_c), s		1.6		0.4		1.4		0.3				

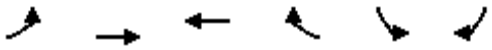
Intersection Summary												
HCM 6th Ctrl Delay			7.9									
HCM 6th LOS			A									

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	78	882	541	240	214	29
Future Volume (vph)	78	882	541	240	214	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	130	0
Storage Lanes	1			0	1	1
Taper Length (ft)	120				60	
Right Turn on Red				Yes		Yes
Link Speed (mph)		45	45		35	
Link Distance (ft)		1267	546		936	
Travel Time (s)		19.2	8.3		18.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.0	26.0	26.0		26.0	26.0
Total Split (s)	18.0	77.0	59.0		43.0	43.0
Total Split (%)	15.0%	64.2%	49.2%		35.8%	35.8%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max		None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Eagle Glen Pkwy. & Masters Dr.





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	78	882	541	240	214	29
Future Volume (veh/h)	78	882	541	240	214	29
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	928	569	253	225	31
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	527	2798	1097	487	260	231
Arrive On Green	0.59	1.00	0.46	0.46	0.15	0.15
Sat Flow, veh/h	1781	3647	2487	1062	1781	1585
Grp Volume(v), veh/h	82	928	422	400	225	31
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1679	1781	1585
Q Serve(g_s), s	2.5	0.0	20.3	20.3	14.8	2.0
Cycle Q Clear(g_c), s	2.5	0.0	20.3	20.3	14.8	2.0
Prop In Lane	1.00			0.63	1.00	1.00
Lane Grp Cap(c), veh/h	527	2798	814	770	260	231
V/C Ratio(X)	0.16	0.33	0.52	0.52	0.87	0.13
Avail Cap(c_a), veh/h	527	2798	814	770	579	515
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	1.00	1.00	0.99	0.99
Uniform Delay (d), s/veh	17.8	0.0	23.1	23.1	50.1	44.6
Incr Delay (d2), s/veh	0.1	0.3	2.4	2.5	8.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.1	8.6	8.1	7.1	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.9	0.3	25.4	25.6	58.4	44.9
LnGrp LOS	B	A	C	C	E	D
Approach Vol, veh/h		1010	822		256	
Approach Delay, s/veh		1.7	25.5		56.8	
Approach LOS		A	C		E	

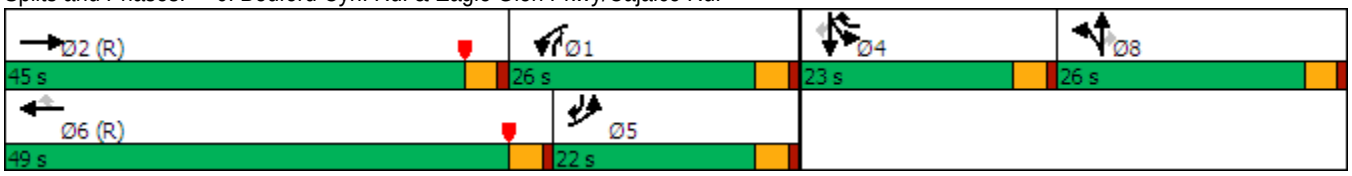
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		98.5		21.5	39.5	59.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		73.0		39.0	14.0	55.0
Max Q Clear Time (g_c+I1), s		2.0		16.8	4.5	22.3
Green Ext Time (p_c), s		7.3		0.7	0.1	5.3

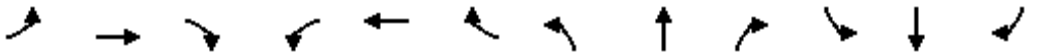
Intersection Summary		
HCM 6th Ctrl Delay	17.8	
HCM 6th LOS	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	938	15	170	510	422	11	61	415	161	28	259
Future Volume (vph)	143	938	15	170	510	422	11	61	415	161	28	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		100	200		200	150		0	450		0
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	90			120			90			180		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		756			737			351			716	
Travel Time (s)		11.5			11.2			5.3			10.8	
Confl. Peds. (#/hr)						5						5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)										42%		
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	1	4	4	5
Permitted Phases						6			8			4
Detector Phase	5	2		1	6	4	8	8	1	4	4	5
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	23.0		8.0	23.0	23.0	26.0	26.0	8.0	23.0	23.0	8.0
Total Split (s)	22.0	45.0		26.0	49.0	23.0	26.0	26.0	26.0	23.0	23.0	22.0
Total Split (%)	18.3%	37.5%		21.7%	40.8%	19.2%	21.7%	21.7%	21.7%	19.2%	19.2%	18.3%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lead		Lag	Lead				Lag			Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			Yes
Recall Mode	None	C-Max		None	C-Max	Max	None	None	None	Max	Max	None

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	

Splits and Phases: 6: Bedford Cyn. Rd. & Eagle Glen Pkwy/Cajalco Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	938	15	170	510	422	11	61	415	161	28	259
Future Volume (veh/h)	143	938	15	170	510	422	11	61	415	161	28	259
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	151	987	16	179	537	444	12	64	437	190	0	273
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	480	1223	20	1046	1333	843	114	120	581	564	0	675
Arrive On Green	0.27	0.34	0.34	0.10	0.12	0.12	0.06	0.06	0.06	0.16	0.00	0.16
Sat Flow, veh/h	1781	3579	58	3456	3554	1579	1781	1870	1585	3563	0	1570
Grp Volume(v), veh/h	151	490	513	179	537	444	12	64	437	190	0	273
Grp Sat Flow(s),veh/h/ln	1781	1777	1860	1728	1777	1579	1781	1870	1585	1781	0	1570
Q Serve(g_s), s	8.1	30.1	30.1	5.7	16.7	24.3	0.8	4.0	0.0	5.7	0.0	0.0
Cycle Q Clear(g_c), s	8.1	30.1	30.1	5.7	16.7	24.3	0.8	4.0	0.0	5.7	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	480	607	635	1046	1333	843	114	120	581	564	0	675
V/C Ratio(X)	0.31	0.81	0.81	0.17	0.40	0.53	0.11	0.53	0.75	0.34	0.00	0.40
Avail Cap(c_a), veh/h	480	607	635	1046	1333	843	327	343	770	564	0	675
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.0	35.9	35.9	40.2	40.2	26.3	52.9	54.4	33.2	44.9	0.0	23.7
Incr Delay (d2), s/veh	0.4	11.0	10.6	0.1	0.8	2.1	0.4	3.7	2.9	1.6	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	14.3	14.9	2.4	8.1	14.2	0.3	2.0	11.1	2.6	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	46.9	46.5	40.3	41.0	28.4	53.3	58.1	36.2	46.5	0.0	25.5
LnGrp LOS	D	D	D	D	D	C	D	E	D	D	A	C
Approach Vol, veh/h		1154			1160			513			463	
Approach Delay, s/veh		45.2			36.1			39.3			34.1	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	40.3	45.0		23.0	36.3	49.0		11.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	22.0	41.0		19.0	18.0	45.0		22.0				
Max Q Clear Time (g_c+I1), s	7.7	32.1		7.7	10.1	26.3		6.0				
Green Ext Time (p_c), s	0.4	2.9		1.5	0.3	4.3		1.7				

Intersection Summary			
HCM 6th Ctrl Delay		39.5	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

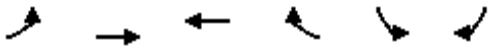
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	386	1129	805	190	381	387
Future Volume (vph)	386	1129	805	190	381	387
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290			250	0	0
Storage Lanes	2			0	2	2
Taper Length (ft)	120				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		45	45		45	
Link Distance (ft)		737	285		302	
Travel Time (s)		11.2	4.3		4.6	
Confl. Peds. (#/hr)						5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	23.7	30.7	30.7	8.5	8.5
Total Split (s)	31.0	88.0	57.0	57.0	32.0	32.0
Total Split (%)	25.8%	73.3%	47.5%	47.5%	26.7%	26.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 8: Cajalco Rd. & I-15 SB Ramps





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	386	1129	805	190	381	387
Future Volume (veh/h)	386	1129	805	190	381	387
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	406	1188	847	200	401	407
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	480	3574	1875	836	806	651
Arrive On Green	0.28	1.00	0.53	0.53	0.23	0.23
Sat Flow, veh/h	3456	5274	3647	1585	3456	2790
Grp Volume(v), veh/h	406	1188	847	200	401	407
Grp Sat Flow(s),veh/h/ln	1728	1702	1777	1585	1728	1395
Q Serve(g_s), s	13.3	0.0	17.7	8.2	12.1	15.7
Cycle Q Clear(g_c), s	13.3	0.0	17.7	8.2	12.1	15.7
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	480	3574	1875	836	806	651
V/C Ratio(X)	0.85	0.33	0.45	0.24	0.50	0.63
Avail Cap(c_a), veh/h	778	3574	1875	836	806	651
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.1	0.0	17.6	15.3	39.9	41.3
Incr Delay (d2), s/veh	3.2	0.2	0.8	0.7	2.2	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.1	7.0	2.9	5.2	12.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.3	0.2	18.4	16.0	42.1	45.8
LnGrp LOS	D	A	B	B	D	D
Approach Vol, veh/h		1594	1047		808	
Approach Delay, s/veh		11.7	17.9		43.9	
Approach LOS		B	B		D	

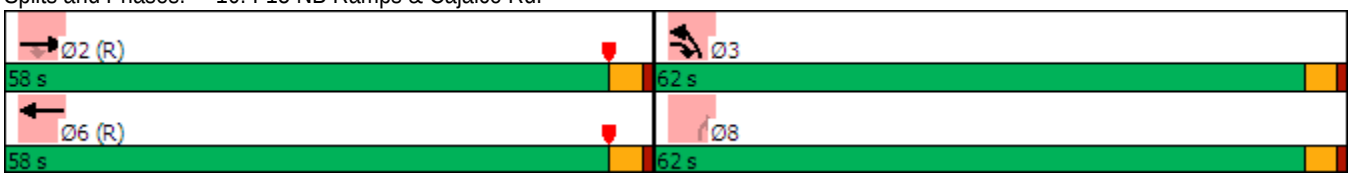
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		88.0		32.0	20.7	67.3
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		84.0		28.0	27.0	53.0
Max Q Clear Time (g_c+I1), s		2.0		17.7	15.3	19.7
Green Ext Time (p_c), s		6.7		2.9	1.4	5.2

Intersection Summary		
HCM 6th Ctrl Delay	21.1	
HCM 6th LOS	C	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	636	874	0	1855	273	132
Future Volume (vph)	636	874	0	1855	273	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		330	0		500	500
Storage Lanes		0	0		0	0
Taper Length (ft)			25		130	
Right Turn on Red		Yes				Yes
Link Speed (mph)	45			45	45	
Link Distance (ft)	293			191	332	
Travel Time (s)	4.4			2.9	5.0	
Confl. Peds. (#/hr)						5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	0%	2%	2%	2%
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov		NA	Prot	Perm
Protected Phases	2	3		6	3	
Permitted Phases		2				8
Detector Phase	2	3		6	3	8
Switch Phase						
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	23.7	8.5		30.7	8.5	8.5
Total Split (s)	58.0	62.0		58.0	62.0	62.0
Total Split (%)	48.3%	51.7%		48.3%	51.7%	51.7%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	Max		C-Max	Max	Max

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 95 (79%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	

Splits and Phases: 10: I-15 NB Ramps & Cajalco Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	636	874	0	1855	273	132
Future Volume (veh/h)	636	874	0	1855	273	132
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	669	920	0	1953	287	139
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	2298	1479	0	2895	1670	1348
Arrive On Green	0.45	0.45	0.00	0.45	0.48	0.48
Sat Flow, veh/h	5274	1585	0	6958	3456	2790
Grp Volume(v), veh/h	669	920	0	1953	287	139
Grp Sat Flow(s),veh/h/ln	1702	1585	0	1609	1728	1395
Q Serve(g_s), s	10.0	11.1	0.0	28.8	5.6	3.3
Cycle Q Clear(g_c), s	10.0	11.1	0.0	28.8	5.6	3.3
Prop In Lane		1.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2298	1479	0	2895	1670	1348
V/C Ratio(X)	0.29	0.62	0.00	0.67	0.17	0.10
Avail Cap(c_a), veh/h	2298	1479	0	2895	1670	1348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	0.6	0.0	26.1	17.5	16.9
Incr Delay (d2), s/veh	0.3	2.0	0.0	1.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.8	0.0	10.6	2.2	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.2	2.6	0.0	27.3	17.7	17.0
LnGrp LOS	C	A	A	C	B	B
Approach Vol, veh/h	1589			1953	426	
Approach Delay, s/veh	10.4			27.3	17.5	
Approach LOS	B			C	B	

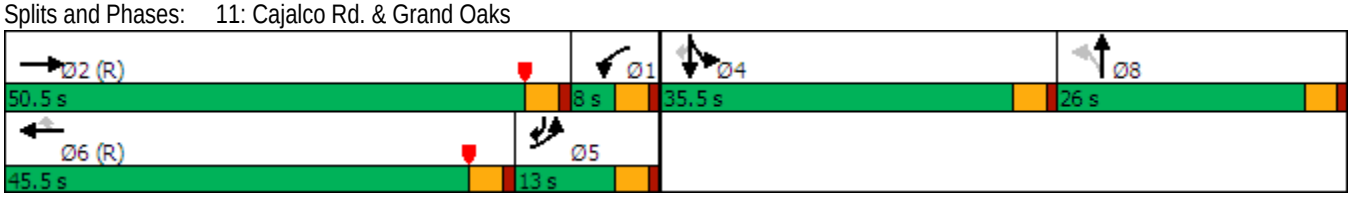
Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	58.0				58.0	62.0
Change Period (Y+Rc), s	4.0				4.0	4.0
Max Green Setting (Gmax), s	54.0				54.0	58.0
Max Q Clear Time (g_c+I1), s	13.1				30.8	7.6
Green Ext Time (p_c), s	11.0				11.5	2.0

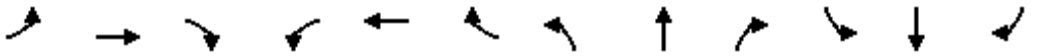
Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	555	0	0	1527	111	0	0	0	68	0	137
Future Volume (vph)	213	555	0	0	1527	111	0	0	0	68	0	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	130		130	0		0	200		0
Storage Lanes	2		0	1		1	0		0	1		2
Taper Length (ft)	180			110			100			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		602			570			544			904	
Travel Time (s)		9.1			8.6			8.2			13.7	
Confl. Peds. (#/hr)						5				5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm				Split	NA	pm+ov
Protected Phases	5	2		1	6			8		4	4	5
Permitted Phases						6	8					4
Detector Phase	5	2		1	6	6	8	8		4	4	5
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.5	23.2		8.0	30.7	30.7	26.0	26.0		35.5	35.5	8.5
Total Split (s)	13.0	50.5		8.0	45.5	45.5	26.0	26.0		35.5	35.5	13.0
Total Split (%)	10.8%	42.1%		6.7%	37.9%	37.9%	21.7%	21.7%		29.6%	29.6%	10.8%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lead/Lag	Lag	Lead		Lag	Lead	Lead						Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						Yes
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		Max	Max	None

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 91 (76%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	

Splits and Phases: 11: Cajalco Rd. & Grand Oaks





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	555	0	0	1527	111	0	0	0	68	0	137
Future Volume (veh/h)	213	555	0	0	1527	111	0	0	0	68	0	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	584	0	0	1607	117	0	0	0	72	0	144
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1008	1979	0	445	1766	546	0	2	0	468	0	1542
Arrive On Green	0.29	0.39	0.00	0.00	0.35	0.35	0.00	0.00	0.00	0.26	0.00	0.26
Sat Flow, veh/h	3456	5274	0	1781	5106	1578	0	1870	0	1781	0	2774
Grp Volume(v), veh/h	224	584	0	0	1607	117	0	0	0	72	0	144
Grp Sat Flow(s),veh/h/ln	1728	1702	0	1781	1702	1578	0	1870	0	1781	0	1387
Q Serve(g_s), s	5.9	9.5	0.0	0.0	36.1	6.3	0.0	0.0	0.0	3.7	0.0	0.0
Cycle Q Clear(g_c), s	5.9	9.5	0.0	0.0	36.1	6.3	0.0	0.0	0.0	3.7	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1008	1979	0	445	1766	546	0	2	0	468	0	1542
V/C Ratio(X)	0.22	0.30	0.00	0.00	0.91	0.21	0.00	0.00	0.00	0.15	0.00	0.09
Avail Cap(c_a), veh/h	1008	1979	0	445	1766	546	0	343	0	468	0	1542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.2	25.4	0.0	0.0	37.5	27.7	0.0	0.0	0.0	34.0	0.0	12.6
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.0	8.5	0.9	0.0	0.0	0.0	0.7	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	3.8	0.0	0.0	15.6	2.4	0.0	0.0	0.0	1.7	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	25.8	0.0	0.0	46.0	28.6	0.0	0.0	0.0	34.7	0.0	12.7
LnGrp LOS	C	C	A	A	D	C	A	A	A	C	A	B
Approach Vol, veh/h		808			1724			0			216	
Approach Delay, s/veh		27.6			44.8			0.0			20.0	
Approach LOS		C			D						C	

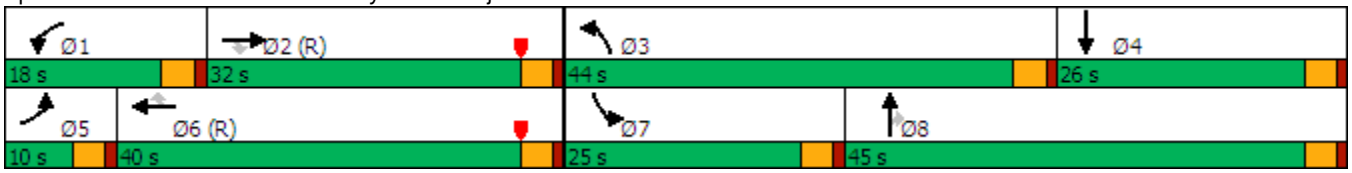
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.0	50.5		35.5	39.0	45.5		0.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	46.5		31.5	9.0	41.5		22.0				
Max Q Clear Time (g_c+I1), s	0.0	11.5		5.7	7.9	38.1		0.0				
Green Ext Time (p_c), s	0.0	2.7		1.0	0.1	2.5		0.0				

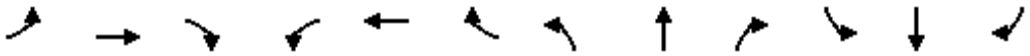
Intersection Summary												
HCM 6th Ctrl Delay			37.8									
HCM 6th LOS			D									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	375	211	104	583	621	980	858	379	233	138	75
Future Volume (vph)	37	375	211	104	583	621	980	858	379	233	138	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	16	12	12	16	12	12	12
Storage Length (ft)	300		200	450		200	300		325	200		200
Storage Lanes	1		0	1		1	2		1	2		0
Taper Length (ft)	180			180			180			180		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		464			943			1167			1000	
Travel Time (s)		7.0			14.3			17.7			15.2	
Confl. Peds. (#/hr)			5			5						5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	26.0	26.0	10.0	40.0	40.0	10.0	26.0	26.0	25.0	26.0	
Total Split (s)	10.0	32.0	32.0	18.0	40.0	40.0	44.0	45.0	45.0	25.0	26.0	
Total Split (%)	8.3%	26.7%	26.7%	15.0%	33.3%	33.3%	36.7%	37.5%	37.5%	20.8%	21.7%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	

Splits and Phases: 12: Temescal Cyn Rd. & Cajalco Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	375	211	104	583	621	980	858	379	233	138	75
Future Volume (veh/h)	37	375	211	104	583	621	980	858	379	233	138	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870	1870	1870
Adj Flow Rate, veh/h	39	395	222	109	614	654	1032	903	399	245	145	79
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	50	1022	454	135	1713	551	1105	1462	678	317	415	213
Arrive On Green	0.03	0.29	0.29	0.08	0.34	0.34	0.32	0.41	0.41	0.09	0.18	0.18
Sat Flow, veh/h	1781	3554	1577	1781	5106	1641	3456	3554	1648	3456	2262	1165
Grp Volume(v), veh/h	39	395	222	109	614	654	1032	903	399	245	112	112
Grp Sat Flow(s),veh/h/ln	1781	1777	1577	1781	1702	1641	1728	1777	1648	1728	1777	1649
Q Serve(g_s), s	2.6	10.7	14.0	7.2	10.9	40.3	34.8	24.1	22.6	8.3	6.6	7.1
Cycle Q Clear(g_c), s	2.6	10.7	14.0	7.2	10.9	40.3	34.8	24.1	22.6	8.3	6.6	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.71
Lane Grp Cap(c), veh/h	50	1022	454	135	1713	551	1105	1462	678	317	326	302
V/C Ratio(X)	0.78	0.39	0.49	0.81	0.36	1.19	0.93	0.62	0.59	0.77	0.34	0.37
Avail Cap(c_a), veh/h	89	1022	454	208	1713	551	1152	1462	678	605	326	302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.0	34.3	35.4	54.6	30.1	39.9	39.6	27.9	27.4	53.3	42.7	42.9
Incr Delay (d2), s/veh	22.7	1.1	3.7	12.4	0.6	101.7	13.3	2.0	3.7	4.0	2.9	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.6	5.7	3.6	4.4	31.0	16.1	10.1	9.2	3.7	3.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.7	35.4	39.2	67.0	30.7	141.6	52.8	29.8	31.2	57.2	45.6	46.4
LnGrp LOS	F	D	D	E	C	F	D	C	C	E	D	D
Approach Vol, veh/h		656			1377			2334			469	
Approach Delay, s/veh		39.3			86.3			40.2			51.9	
Approach LOS		D			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	38.5	42.4	26.0	7.4	44.3	15.0	53.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	14.0	28.0	40.0	22.0	6.0	36.0	21.0	41.0
Max Q Clear Time (g_c+I1), s	9.2	16.0	36.8	9.1	4.6	42.3	10.3	26.1
Green Ext Time (p_c), s	0.1	2.1	1.6	0.6	0.0	0.0	0.7	5.5

Intersection Summary	
HCM 6th Ctrl Delay	54.3
HCM 6th LOS	D

Notes

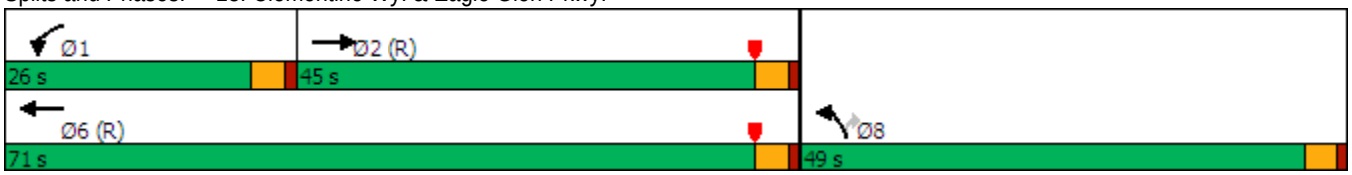
User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	567	10	120	450	10	393
Future Volume (vph)	567	10	120	450	10	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		150	0
Storage Lanes		0	1		1	1
Taper Length (ft)			60		90	
Right Turn on Red		Yes				Yes
Link Speed (mph)	45			45	45	
Link Distance (ft)	366			1267	734	
Travel Time (s)	5.5			19.2	11.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phase	2		1	6	8	8
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	26.0		8.0	26.0	26.0	26.0
Total Split (s)	45.0		26.0	71.0	49.0	49.0
Total Split (%)	37.5%		21.7%	59.2%	40.8%	40.8%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max	Max	Max

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 58 (48%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 13: Clementine Wy. & Eagle Glen Pkwy.

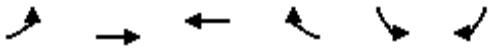




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	567	10	120	450	10	393
Future Volume (veh/h)	567	10	120	450	10	393
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	597	11	126	474	11	414
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1565	29	154	1984	668	594
Arrive On Green	0.44	0.44	0.09	0.56	0.38	0.38
Sat Flow, veh/h	3663	66	1781	3647	1781	1585
Grp Volume(v), veh/h	297	311	126	474	11	414
Grp Sat Flow(s),veh/h/ln	1777	1859	1781	1777	1781	1585
Q Serve(g_s), s	13.5	13.5	8.3	8.2	0.5	26.5
Cycle Q Clear(g_c), s	13.5	13.5	8.3	8.2	0.5	26.5
Prop In Lane		0.04	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	779	815	154	1984	668	594
V/C Ratio(X)	0.38	0.38	0.82	0.24	0.02	0.70
Avail Cap(c_a), veh/h	779	815	327	1984	668	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.94	0.94	1.00	1.00
Uniform Delay (d), s/veh	22.7	22.7	53.9	13.5	23.6	31.7
Incr Delay (d2), s/veh	1.4	1.4	9.5	0.3	0.0	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	6.0	4.0	3.1	0.2	10.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.1	24.1	63.3	13.8	23.6	38.4
LnGrp LOS	C	C	E	B	C	D
Approach Vol, veh/h	608			600	425	
Approach Delay, s/veh	24.1			24.2	38.0	
Approach LOS	C			C	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	14.4	56.6				71.0	49.0
Change Period (Y+Rc), s	4.0	4.0				4.0	4.0
Max Green Setting (Gmax), s	22.0	41.0				67.0	45.0
Max Q Clear Time (g_c+I1), s	10.3	15.5				10.2	28.5
Green Ext Time (p_c), s	0.2	3.4				3.1	1.3

Intersection Summary			
HCM 6th Ctrl Delay		27.7	
HCM 6th LOS		C	



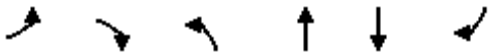
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	189	33	11	141	46	57
Future Volume (vph)	189	33	11	141	46	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		45	45		45	
Link Distance (ft)		1018	1281		838	
Travel Time (s)		15.4	19.4		12.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control		Yield	Yield		Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Intersection	
Intersection Delay, s/veh	4.2
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	234	160	108
Demand Flow Rate, veh/h	239	163	110
Vehicles Circulating, veh/h	49	203	12
Vehicles Exiting, veh/h	73	85	354
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.3	4.6	3.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	239	163	110
Cap Entry Lane, veh/h	1313	1122	1363
Entry HV Adj Factor	0.980	0.980	0.982
Flow Entry, veh/h	234	160	108
Cap Entry, veh/h	1287	1100	1338
V/C Ratio	0.182	0.145	0.081
Control Delay, s/veh	4.3	4.6	3.3
LOS	A	A	A
95th %tile Queue, veh	1	1	0



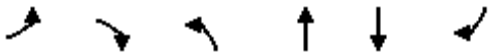
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	375	1	1	83	28	124
Future Volume (vph)	375	1	1	83	28	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			100
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	45			45	45	
Link Distance (ft)	1253			542	608	
Travel Time (s)	19.0			8.2	9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Yield			Yield	Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Intersection	
Intersection Delay, s/veh	4.9
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	396	88	160
Demand Flow Rate, veh/h	404	90	164
Vehicles Circulating, veh/h	30	403	1
Vehicles Exiting, veh/h	135	31	492
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.4	4.9	3.6
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	404	90	164
Cap Entry Lane, veh/h	1338	915	1378
Entry HV Adj Factor	0.980	0.981	0.978
Flow Entry, veh/h	396	88	160
Cap Entry, veh/h	1312	897	1348
V/C Ratio	0.302	0.098	0.119
Control Delay, s/veh	5.4	4.9	3.6
LOS	A	A	A
95th %tile Queue, veh	1	0	0



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	1	1	330	102	18
Future Volume (vph)	64	1	1	330	102	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	45			45	45	
Link Distance (ft)	371			838	709	
Travel Time (s)	5.6			12.7	10.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	64	1	1	330	102	18
Future Vol, veh/h	64	1	1	330	102	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	1	1	347	107	19

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	466	117	126	0	-	0
Stage 1	117	-	-	-	-	-
Stage 2	349	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	555	935	1460	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	714	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	554	935	1460	-	-	-
Mov Cap-2 Maneuver	554	-	-	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	714	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1460	-	557	-	-
HCM Lane V/C Ratio	0.001	-	0.123	-	-
HCM Control Delay (s)	7.5	0	12.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	525	3	18	432	4	42
Future Volume (vph)	525	3	18	432	4	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	105		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			90		100	
Link Speed (mph)	45			30	35	
Link Distance (ft)	223			366	690	
Travel Time (s)	3.4			8.3	13.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

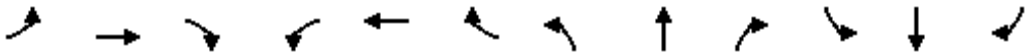
Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	525	3	18	432	4	42
Future Vol, veh/h	525	3	18	432	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	105	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	553	3	19	455	4	44

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	556	0	821	278
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	266	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1011	-	313	719
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	754	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1011	-	307	719
Mov Cap-2 Maneuver	-	-	-	-	414	-
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	754	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	676	-	-	1011	-
HCM Lane V/C Ratio	0.072	-	-	0.019	-
HCM Control Delay (s)	10.7	-	-	8.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	11	24	10	6	19	89	612	84	11	310	9
Future Volume (vph)	17	11	24	10	6	19	89	612	84	11	310	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			60			60		
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		237			740			933			680	
Travel Time (s)		5.4			16.8			18.2			13.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	55	37	826	347
Demand Flow Rate, veh/h	56	37	843	354
Vehicles Circulating, veh/h	356	771	42	113
Vehicles Exiting, veh/h	111	114	369	695
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.4	6.4	10.7	5.6
Approach LOS	A	A	B	A

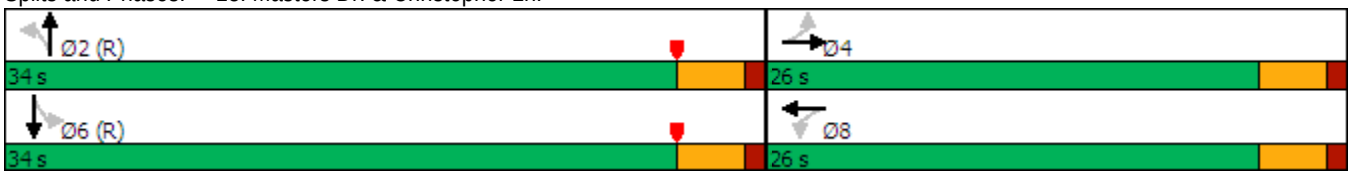
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	56	37	843	354
Cap Entry Lane, veh/h	960	629	1322	1230
Entry HV Adj Factor	0.978	0.997	0.980	0.982
Flow Entry, veh/h	55	37	826	347
Cap Entry, veh/h	939	627	1296	1207
V/C Ratio	0.058	0.059	0.638	0.288
Control Delay, s/veh	4.4	6.4	10.7	5.6
LOS	A	A	B	A
95th %tile Queue, veh	0	0	5	1

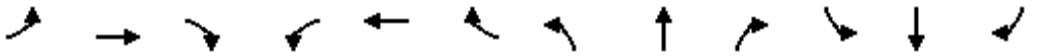
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	11	24	10	6	19	89	612	84	11	310	9
Future Volume (vph)	17	11	24	10	6	19	89	612	84	11	310	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		237			740			933			680	
Travel Time (s)		5.4			16.8			18.2			13.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	26.0	26.0		26.0	26.0		34.0	34.0		34.0	34.0	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.7%	56.7%		56.7%	56.7%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 18: Masters Dr. & Christopher Ln.

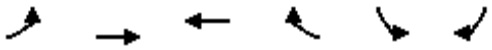




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	11	24	10	6	19	89	612	84	11	310	9
Future Volume (veh/h)	17	11	24	10	6	19	89	612	84	11	310	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	12	25	11	6	20	94	644	88	12	326	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	20	40	102	18	49	873	1311	179	619	1474	41
Arrive On Green	0.05	0.05	0.05	0.05	0.05	0.05	0.81	0.81	0.81	0.55	0.55	0.55
Sat Flow, veh/h	523	384	756	450	335	922	1045	1611	220	724	1811	50
Grp Volume(v), veh/h	55	0	0	37	0	0	94	0	732	12	0	335
Grp Sat Flow(s),veh/h/ln	1663	0	0	1707	0	0	1045	0	1831	724	0	1861
Q Serve(g_s), s	0.7	0.0	0.0	0.0	0.0	0.0	1.7	0.0	7.4	0.5	0.0	5.6
Cycle Q Clear(g_c), s	1.9	0.0	0.0	1.2	0.0	0.0	7.2	0.0	7.4	8.0	0.0	5.6
Prop In Lane	0.33		0.45	0.30		0.54	1.00		0.12	1.00		0.03
Lane Grp Cap(c), veh/h	168	0	0	168	0	0	873	0	1490	619	0	1515
V/C Ratio(X)	0.33	0.00	0.00	0.22	0.00	0.00	0.11	0.00	0.49	0.02	0.00	0.22
Avail Cap(c_a), veh/h	658	0	0	655	0	0	873	0	1490	619	0	1515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.93	0.00	0.93
Uniform Delay (d), s/veh	27.8	0.0	0.0	27.5	0.0	0.0	2.6	0.0	1.7	6.4	0.0	3.8
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.7	0.0	0.0	0.2	0.0	1.2	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.5	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	0.0	0.0	28.1	0.0	0.0	2.8	0.0	2.9	6.4	0.0	4.1
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		55			37			826			347	
Approach Delay, s/veh		28.9			28.1			2.9			4.2	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.8		7.2		52.8		7.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		30.0		22.0		30.0		22.0				
Max Q Clear Time (g_c+I1), s		9.4		3.9		10.0		3.2				
Green Ext Time (p_c), s		5.6		0.2		1.9		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	5.1
HCM 6th LOS	A



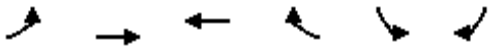
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	281	556	6	14	24
Future Volume (vph)	7	281	556	6	14	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	60				100	
Link Speed (mph)		35	35		30	
Link Distance (ft)		1212	796		251	
Travel Time (s)		23.6	15.5		5.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control		Yield	Yield		Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Intersection	
Intersection Delay, s/veh	6.1
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	303	591	40
Demand Flow Rate, veh/h	309	603	41
Vehicles Circulating, veh/h	15	7	597
Vehicles Exiting, veh/h	622	317	13
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.6	7.0	5.5
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	309	603	41
Cap Entry Lane, veh/h	1359	1370	751
Entry HV Adj Factor	0.981	0.981	0.976
Flow Entry, veh/h	303	591	40
Cap Entry, veh/h	1333	1343	732
V/C Ratio	0.227	0.440	0.055
Control Delay, s/veh	4.6	7.0	5.5
LOS	A	A	A
95th %tile Queue, veh	1	2	0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	281	556	6	14	24
Future Volume (vph)	7	281	556	6	14	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	60				100	
Link Speed (mph)		35	35		30	
Link Distance (ft)		1212	796		251	
Travel Time (s)		23.6	15.5		5.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

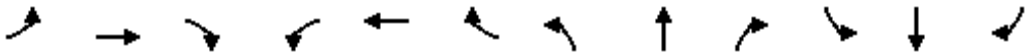
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	281	556	6	14	24
Future Vol, veh/h	7	281	556	6	14	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	120	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	296	585	6	15	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	591	0	-	0	898	588
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	310	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	985	-	-	-	310	509
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	744	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	985	-	-	-	308	509
Mov Cap-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	744	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	14.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	985	-	-	-	410
HCM Lane V/C Ratio	0.007	-	-	-	0.098
HCM Control Delay (s)	8.7	-	-	-	14.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	199	89	36	327	4	182	2	76	5	1	5
Future Volume (vph)	3	199	89	36	327	4	182	2	76	5	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			100			100		
Link Speed (mph)		35			35			30			45	
Link Distance (ft)		1243			906			626			709	
Travel Time (s)		24.2			17.6			14.2			10.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Intersection	
Intersection Delay, s/veh	5.9
Intersection LOS	A

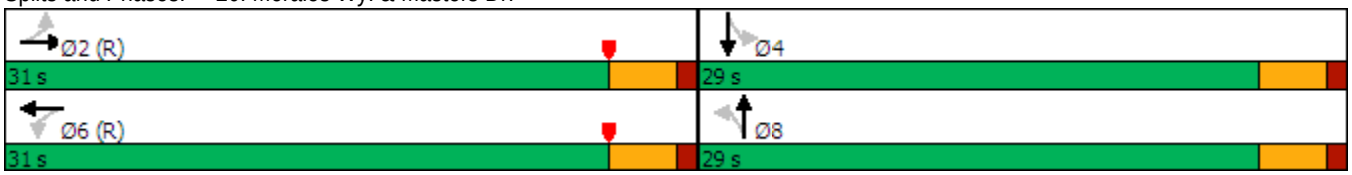
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	306	386	274	11
Demand Flow Rate, veh/h	312	394	280	11
Vehicles Circulating, veh/h	45	201	221	586
Vehicles Exiting, veh/h	552	300	136	9
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.8	6.8	5.7	4.9
Approach LOS	A	A	A	A

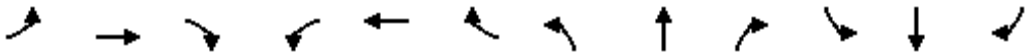
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	312	394	280	11
Cap Entry Lane, veh/h	1318	1124	1101	759
Entry HV Adj Factor	0.980	0.980	0.978	0.998
Flow Entry, veh/h	306	386	274	11
Cap Entry, veh/h	1292	1102	1078	758
V/C Ratio	0.237	0.351	0.254	0.014
Control Delay, s/veh	4.8	6.8	5.7	4.9
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	199	89	36	327	4	182	2	76	5	1	5
Future Volume (vph)	3	199	89	36	327	4	182	2	76	5	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	60			60			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			45	
Link Distance (ft)		1243			906			626			709	
Travel Time (s)		24.2			17.6			14.2			10.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	31.0	31.0		31.0	31.0		29.0	29.0		29.0	29.0	
Total Split (%)	51.7%	51.7%		51.7%	51.7%		48.3%	48.3%		48.3%	48.3%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	

Splits and Phases: 20: Morales Wy. & Masters Dr.

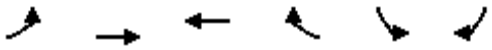




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	199	89	36	327	4	182	2	76	5	1	5
Future Volume (veh/h)	3	199	89	36	327	4	182	2	76	5	1	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	209	94	38	344	4	192	2	80	5	1	5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	455	550	247	482	830	10	514	22	179	349	90	293
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1033	1222	550	1076	1845	21	988	53	429	628	216	704
Grp Volume(v), veh/h	3	0	303	38	0	348	274	0	0	11	0	0
Grp Sat Flow(s),veh/h/ln	1033	0	1771	1076	0	1866	1470	0	0	1548	0	0
Q Serve(g_s), s	0.1	0.0	6.8	1.5	0.0	7.6	7.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.7	0.0	6.8	8.3	0.0	7.6	7.9	0.0	0.0	0.2	0.0	0.0
Prop In Lane	1.00		0.31	1.00		0.01	0.70		0.29	0.45		0.45
Lane Grp Cap(c), veh/h	455	0	797	482	0	840	715	0	0	732	0	0
V/C Ratio(X)	0.01	0.00	0.38	0.08	0.00	0.41	0.38	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	455	0	797	482	0	840	715	0	0	732	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	10.9	13.7	0.0	11.2	12.4	0.0	0.0	10.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.4	0.3	0.0	1.5	1.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.5	0.4	0.0	2.9	2.6	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	0.0	12.3	14.0	0.0	12.7	14.0	0.0	0.0	10.3	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		306			386			274			11	
Approach Delay, s/veh		12.3			12.8			14.0			10.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		31.0		29.0		31.0		29.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		27.0		25.0		27.0		25.0				
Max Q Clear Time (g_c+I1), s		9.7		2.2		10.3		9.9				
Green Ext Time (p_c), s		1.6		0.0		2.0		1.4				

Intersection Summary												
HCM 6th Ctrl Delay			13.0									
HCM 6th LOS			B									



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	31	521	429	7	6	43
Future Volume (vph)	31	521	429	7	6	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	125	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				100	
Link Speed (mph)		45	45		45	
Link Distance (ft)		369	199		727	
Travel Time (s)		5.6	3.0		11.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	521	429	7	6	43
Future Vol, veh/h	31	521	429	7	6	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	125	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	548	452	7	6	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	459	0	-	0	1070	230
Stage 1	-	-	-	-	456	-
Stage 2	-	-	-	-	614	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1100	-	-	-	230	773
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	539	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1100	-	-	-	223	773
Mov Cap-2 Maneuver	-	-	-	-	223	-
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	539	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11.3
HCM LOS			B

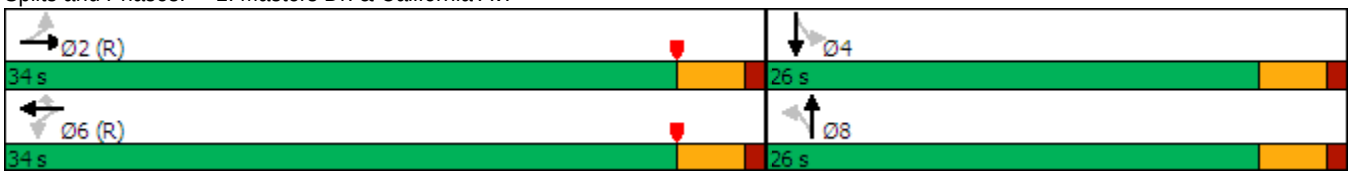
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1100	-	-	-	223	773
HCM Lane V/C Ratio	0.03	-	-	-	0.028	0.059
HCM Control Delay (s)	8.4	-	-	-	21.6	9.9
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.2

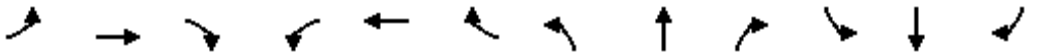
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	108	330	237	135	28	103	150	145	38	234	2
Future Volume (vph)	4	108	330	237	135	28	103	150	145	38	234	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	135		0	130		200	100		0	150		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			90			60			65		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		495			683			680			695	
Travel Time (s)		7.5			10.3			13.2			13.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		26.0	26.0	
Total Split (s)	34.0	34.0		34.0	34.0	34.0	26.0	26.0		26.0	26.0	
Total Split (%)	56.7%	56.7%		56.7%	56.7%	56.7%	43.3%	43.3%		43.3%	43.3%	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	Max	Max		Max	Max	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 1: Masters Dr. & California Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	108	330	237	135	28	103	150	145	38	234	2
Future Volume (veh/h)	4	108	330	237	135	28	103	150	145	38	234	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	114	347	249	142	29	108	158	153	40	246	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	677	204	620	405	935	793	425	320	310	331	679	6
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.12	0.12	0.12	0.37	0.37	0.37
Sat Flow, veh/h	1214	407	1240	931	1870	1585	1132	873	845	1068	1853	15
Grp Volume(v), veh/h	4	0	461	249	142	29	108	0	311	40	0	248
Grp Sat Flow(s),veh/h/ln	1214	0	1647	931	1870	1585	1132	0	1718	1068	0	1868
Q Serve(g_s), s	0.1	0.0	11.7	15.2	2.5	0.6	5.4	0.0	10.2	1.9	0.0	5.8
Cycle Q Clear(g_c), s	2.6	0.0	11.7	26.9	2.5	0.6	11.2	0.0	10.2	12.0	0.0	5.8
Prop In Lane	1.00		0.75	1.00		1.00	1.00		0.49	1.00		0.01
Lane Grp Cap(c), veh/h	677	0	824	405	935	793	425	0	630	331	0	685
V/C Ratio(X)	0.01	0.00	0.56	0.62	0.15	0.04	0.25	0.00	0.49	0.12	0.00	0.36
Avail Cap(c_a), veh/h	677	0	824	405	935	793	425	0	630	331	0	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.97	0.00	0.97	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	0.0	10.4	19.7	8.1	7.6	24.4	0.0	21.2	20.1	0.0	13.9
Incr Delay (d2), s/veh	0.0	0.0	2.7	6.8	0.3	0.1	1.4	0.0	2.7	0.7	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.7	3.5	0.8	0.2	1.7	0.0	4.7	0.5	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.8	0.0	13.2	26.6	8.5	7.7	25.8	0.0	23.8	20.8	0.0	15.4
LnGrp LOS	A	A	B	C	A	A	C	A	C	C	A	B
Approach Vol, veh/h		465			420			419			288	
Approach Delay, s/veh		13.1			19.2			24.3			16.1	
Approach LOS		B			B			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.0		26.0		34.0		26.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		30.0		22.0		30.0		22.0				
Max Q Clear Time (g_c+I1), s		13.7		14.0		28.9		13.2				
Green Ext Time (p_c), s		2.6		0.9		0.3		1.5				

Intersection Summary												
HCM 6th Ctrl Delay			18.2									
HCM 6th LOS			B									

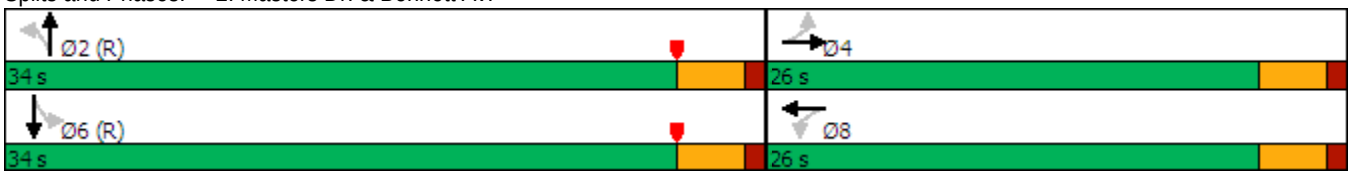
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	7	37	15	22	152	49	209	150	22	464	92
Future Volume (vph)	32	7	37	15	22	152	49	209	150	22	464	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		537			564			936			637	
Travel Time (s)		10.5			11.0			18.2			12.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	26.0	26.0		26.0	26.0		34.0	34.0		34.0	34.0	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.7%	56.7%		56.7%	56.7%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	

Splits and Phases: 2: Masters Dr. & Bennett Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	7	37	15	22	152	49	209	150	22	464	92
Future Volume (veh/h)	32	7	37	15	22	152	49	209	150	22	464	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	7	39	16	23	160	52	220	158	23	488	97
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	54	129	76	41	212	587	712	511	744	1065	212
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.70	0.70	0.70	0.70	0.70	0.70
Sat Flow, veh/h	501	330	791	66	250	1296	830	1012	727	1005	1515	301
Grp Volume(v), veh/h	80	0	0	199	0	0	52	0	378	23	0	585
Grp Sat Flow(s),veh/h/ln	1623	0	0	1612	0	0	830	0	1739	1005	0	1816
Q Serve(g_s), s	0.0	0.0	0.0	2.3	0.0	0.0	1.8	0.0	4.9	0.5	0.0	8.5
Cycle Q Clear(g_c), s	2.4	0.0	0.0	7.0	0.0	0.0	10.2	0.0	4.9	5.5	0.0	8.5
Prop In Lane	0.42		0.49	0.08		0.80	1.00		0.42	1.00		0.17
Lane Grp Cap(c), veh/h	351	0	0	328	0	0	587	0	1223	744	0	1277
V/C Ratio(X)	0.23	0.00	0.00	0.61	0.00	0.00	0.09	0.00	0.31	0.03	0.00	0.46
Avail Cap(c_a), veh/h	638	0	0	652	0	0	587	0	1223	744	0	1277
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.78	0.00	0.78	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	0.0	23.9	0.0	0.0	6.1	0.0	3.4	4.4	0.0	3.9
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.8	0.0	0.0	0.2	0.0	0.5	0.1	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	2.6	0.0	0.0	0.3	0.0	1.1	0.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	0.0	0.0	25.7	0.0	0.0	6.4	0.0	3.9	4.5	0.0	5.1
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		80			199			430			608	
Approach Delay, s/veh		22.3			25.7			4.2			5.1	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.2		13.8		46.2		13.8				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		30.0		22.0		30.0		22.0				
Max Q Clear Time (g_c+I1), s		12.2		4.4		10.5		9.0				
Green Ext Time (p_c), s		2.5		0.3		3.9		0.9				

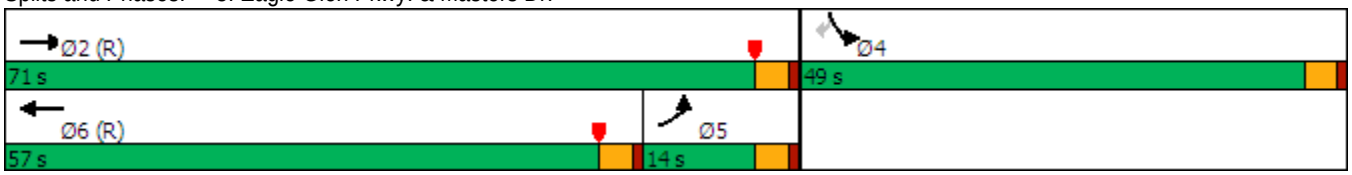
Intersection Summary												
HCM 6th Ctrl Delay			8.9									
HCM 6th LOS			A									

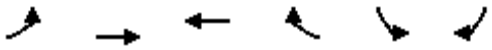
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	76	607	841	352	464	63
Future Volume (vph)	76	607	841	352	464	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	130	0
Storage Lanes	1			0	1	1
Taper Length (ft)	120				60	
Right Turn on Red				Yes		Yes
Link Speed (mph)		45	45		35	
Link Distance (ft)		1267	546		936	
Travel Time (s)		19.2	8.3		18.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.0	26.0	26.0		26.0	26.0
Total Split (s)	14.0	71.0	57.0		49.0	49.0
Total Split (%)	11.7%	59.2%	47.5%		40.8%	40.8%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max		None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 3: Eagle Glen Pkwy. & Masters Dr.





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	76	607	841	352	464	63
Future Volume (veh/h)	76	607	841	352	464	63
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	639	885	371	488	66
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	291	2269	1080	450	525	467
Arrive On Green	0.33	1.00	0.44	0.44	0.29	0.29
Sat Flow, veh/h	1781	3647	2539	1019	1781	1585
Grp Volume(v), veh/h	80	639	642	614	488	66
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1687	1781	1585
Q Serve(g_s), s	4.0	0.0	37.9	38.4	31.9	3.7
Cycle Q Clear(g_c), s	4.0	0.0	37.9	38.4	31.9	3.7
Prop In Lane	1.00			0.60	1.00	1.00
Lane Grp Cap(c), veh/h	291	2269	785	745	525	467
V/C Ratio(X)	0.27	0.28	0.82	0.82	0.93	0.14
Avail Cap(c_a), veh/h	291	2269	785	745	668	594
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	1.00	1.00	0.89	0.89
Uniform Delay (d), s/veh	35.1	0.0	29.3	29.4	41.1	31.1
Incr Delay (d2), s/veh	0.5	0.3	9.2	10.1	15.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.1	17.1	16.6	16.0	3.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.6	0.3	38.5	39.5	56.7	31.3
LnGrp LOS	D	A	D	D	E	C
Approach Vol, veh/h		719	1256		554	
Approach Delay, s/veh		4.2	39.0		53.6	
Approach LOS		A	D		D	

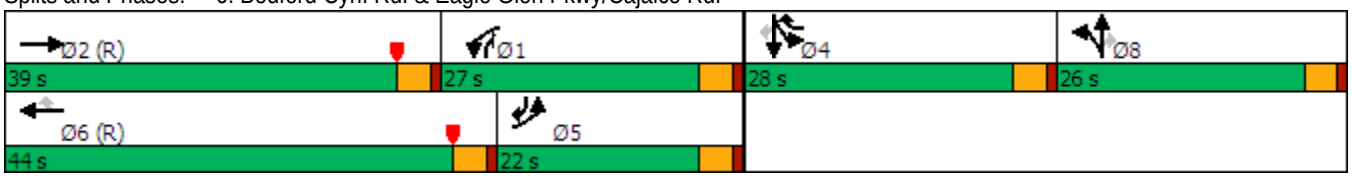
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		80.6		39.4	23.6	57.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		67.0		45.0	10.0	53.0
Max Q Clear Time (g_c+I1), s		2.0		33.9	6.0	40.4
Green Ext Time (p_c), s		4.5		1.4	0.0	6.3

Intersection Summary	
HCM 6th Ctrl Delay	32.3
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	203	823	45	529	1010	145	39	61	359	430	87	144
Future Volume (vph)	203	823	45	529	1010	145	39	61	359	430	87	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		100	200		200	150		0	450		0
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	90			120			90			180		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		756			737			351			716	
Travel Time (s)		11.5			11.2			5.3			10.8	
Confl. Peds. (#/hr)						5						5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)										40%		
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	1	4	4	5
Permitted Phases						6			8			4
Detector Phase	5	2		1	6	4	8	8	1	4	4	5
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	23.0		8.0	23.0	23.0	26.0	26.0	8.0	23.0	23.0	8.0
Total Split (s)	22.0	39.0		27.0	44.0	28.0	26.0	26.0	27.0	28.0	28.0	22.0
Total Split (%)	18.3%	32.5%		22.5%	36.7%	23.3%	21.7%	21.7%	22.5%	23.3%	23.3%	18.3%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lead		Lag	Lead				Lag			Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			Yes
Recall Mode	None	C-Max		None	C-Max	Max	None	None	None	Max	Max	None

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	

Splits and Phases: 6: Bedford Cyn. Rd. & Eagle Glen Pkwy/Cajalco Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	823	45	529	1010	145	39	61	359	430	87	144
Future Volume (veh/h)	203	823	45	529	1010	145	39	61	359	430	87	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	214	866	47	557	1063	153	41	64	378	519	0	152
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	482	1000	54	1079	1185	843	112	118	594	713	0	743
Arrive On Green	0.27	0.29	0.29	0.21	0.22	0.22	0.06	0.06	0.06	0.20	0.00	0.20
Sat Flow, veh/h	1781	3428	186	3456	3554	1578	1781	1870	1585	3563	0	1573
Grp Volume(v), veh/h	214	449	464	557	1063	153	41	64	378	519	0	152
Grp Sat Flow(s),veh/h/ln	1781	1777	1837	1728	1777	1578	1781	1870	1585	1781	0	1573
Q Serve(g_s), s	12.0	28.7	28.7	17.1	34.9	6.8	2.6	4.0	0.0	16.4	0.0	0.0
Cycle Q Clear(g_c), s	12.0	28.7	28.7	17.1	34.9	6.8	2.6	4.0	0.0	16.4	0.0	0.0
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	482	518	536	1079	1185	843	112	118	594	713	0	743
V/C Ratio(X)	0.44	0.87	0.87	0.52	0.90	0.18	0.37	0.54	0.64	0.73	0.00	0.20
Avail Cap(c_a), veh/h	482	518	536	1079	1185	843	327	343	785	713	0	743
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.70	0.70	0.70	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.3	40.3	40.3	39.4	44.6	17.1	53.9	54.6	30.8	44.9	0.0	18.6
Incr Delay (d2), s/veh	0.6	17.4	17.0	0.3	7.9	0.3	2.0	3.9	1.1	6.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	14.5	15.0	7.5	16.9	3.8	1.2	2.0	8.8	7.6	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	57.7	57.3	39.7	52.5	17.4	55.9	58.4	31.9	51.4	0.0	19.2
LnGrp LOS	D	E	E	D	D	B	E	E	C	D	A	B
Approach Vol, veh/h		1127			1773			483			671	
Approach Delay, s/veh		53.6			45.5			37.5			44.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	41.5	39.0		28.0	36.5	44.0		11.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	23.0	35.0		24.0	18.0	40.0		22.0				
Max Q Clear Time (g_c+I1), s	19.1	30.7		18.4	14.0	36.9		6.0				
Green Ext Time (p_c), s	0.8	1.6		1.6	0.3	1.8		1.6				

Intersection Summary			
HCM 6th Ctrl Delay		46.5	
HCM 6th LOS		D	

Notes

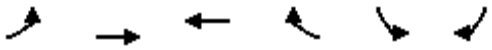
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	534	1078	930	350	638	820
Future Volume (vph)	534	1078	930	350	638	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290			250	0	0
Storage Lanes	2			0	2	2
Taper Length (ft)	120				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		45	45		45	
Link Distance (ft)		737	285		302	
Travel Time (s)		11.2	4.3		4.6	
Confl. Peds. (#/hr)						5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	23.7	30.7	30.7	8.5	8.5
Total Split (s)	32.0	83.0	51.0	51.0	37.0	37.0
Total Split (%)	26.7%	69.2%	42.5%	42.5%	30.8%	30.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	

Splits and Phases: 8: Cajalco Rd. & I-15 SB Ramps





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	534	1078	930	350	638	820
Future Volume (veh/h)	534	1078	930	350	638	820
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	562	1135	979	368	672	863
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	632	3362	1571	701	950	767
Arrive On Green	0.37	1.00	0.44	0.44	0.28	0.28
Sat Flow, veh/h	3456	5274	3647	1585	3456	2790
Grp Volume(v), veh/h	562	1135	979	368	672	863
Grp Sat Flow(s),veh/h/ln	1728	1702	1777	1585	1728	1395
Q Serve(g_s), s	18.3	0.0	25.5	20.2	21.0	33.0
Cycle Q Clear(g_c), s	18.3	0.0	25.5	20.2	21.0	33.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	632	3362	1571	701	950	767
V/C Ratio(X)	0.89	0.34	0.62	0.53	0.71	1.12
Avail Cap(c_a), veh/h	806	3362	1571	701	950	767
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	0.0	25.8	24.3	39.2	43.5
Incr Delay (d2), s/veh	6.7	0.2	1.9	2.8	4.4	72.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.1	10.6	7.8	9.2	29.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.6	0.2	27.6	27.1	43.6	116.1
LnGrp LOS	D	A	C	C	D	F
Approach Vol, veh/h		1697	1347		1535	
Approach Delay, s/veh		14.5	27.5		84.3	
Approach LOS		B	C		F	

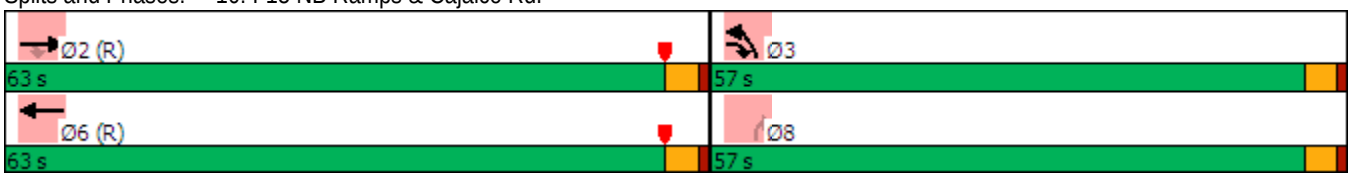
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		83.0		37.0	25.9	57.1
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		79.0		33.0	28.0	47.0
Max Q Clear Time (g_c+I1), s		2.0		35.0	20.3	27.5
Green Ext Time (p_c), s		6.3		0.0	1.6	6.4

Intersection Summary	
HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1123	593	0	1346	464	346
Future Volume (vph)	1123	593	0	1346	464	346
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		330	0		500	500
Storage Lanes		0	0		0	0
Taper Length (ft)			25		130	
Right Turn on Red		Yes				Yes
Link Speed (mph)	45			45	45	
Link Distance (ft)	293			191	332	
Travel Time (s)	4.4			2.9	5.0	
Confl. Peds. (#/hr)						5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	0%	2%	2%	2%
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov		NA	Prot	Perm
Protected Phases	2	3		6	3	
Permitted Phases		2				8
Detector Phase	2	3		6	3	8
Switch Phase						
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	23.7	8.5		30.7	8.5	8.5
Total Split (s)	63.0	57.0		63.0	57.0	57.0
Total Split (%)	52.5%	47.5%		52.5%	47.5%	47.5%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	Max		C-Max	Max	Max

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 95 (79%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	

Splits and Phases: 10: I-15 NB Ramps & Cajalco Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1123	593	0	1346	464	346
Future Volume (veh/h)	1123	593	0	1346	464	346
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	1182	624	0	1417	488	364
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	2510	1479	0	3163	1526	1232
Arrive On Green	0.49	0.49	0.00	0.49	0.44	0.44
Sat Flow, veh/h	5274	1585	0	6958	3456	2790
Grp Volume(v), veh/h	1182	624	0	1417	488	364
Grp Sat Flow(s),veh/h/ln	1702	1585	0	1609	1728	1395
Q Serve(g_s), s	18.4	5.2	0.0	17.2	11.0	10.1
Cycle Q Clear(g_c), s	18.4	5.2	0.0	17.2	11.0	10.1
Prop In Lane		1.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2510	1479	0	3163	1526	1232
V/C Ratio(X)	0.47	0.42	0.00	0.45	0.32	0.30
Avail Cap(c_a), veh/h	2510	1479	0	3163	1526	1232
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	0.4	0.0	19.9	21.8	21.5
Incr Delay (d2), s/veh	0.6	0.9	0.0	0.5	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.4	0.0	6.2	4.4	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.8	1.3	0.0	20.3	22.3	22.1
LnGrp LOS	C	A	A	C	C	C
Approach Vol, veh/h	1806			1417	852	
Approach Delay, s/veh	14.1			20.3	22.2	
Approach LOS	B			C	C	

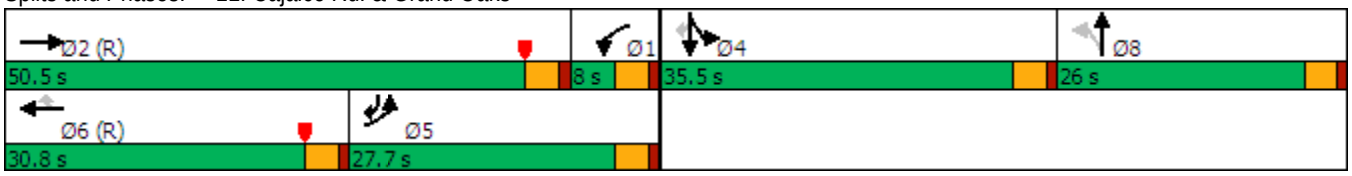
Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	63.0				63.0	57.0
Change Period (Y+Rc), s	4.0				4.0	4.0
Max Green Setting (Gmax), s	59.0				59.0	53.0
Max Q Clear Time (g_c+I1), s	20.4				19.2	13.0
Green Ext Time (p_c), s	11.7				8.5	4.4

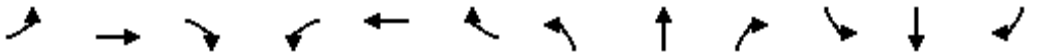
Intersection Summary	
HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	687	782	0	0	827	177	0	0	0	363	0	602
Future Volume (vph)	687	782	0	0	827	177	0	0	0	363	0	602
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	130		130	0		0	200		0
Storage Lanes	2		0	1		1	0		0	1		2
Taper Length (ft)	180			110			100			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		602			570			544			904	
Travel Time (s)		9.1			8.6			8.2			13.7	
Confl. Peds. (#/hr)						5				5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm				Split	NA	pm+ov
Protected Phases	5	2		1	6			8		4	4	5
Permitted Phases						6	8					4
Detector Phase	5	2		1	6	6	8	8		4	4	5
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.5	23.2		8.0	30.7	30.7	26.0	26.0		35.5	35.5	8.5
Total Split (s)	27.7	50.5		8.0	30.8	30.8	26.0	26.0		35.5	35.5	27.7
Total Split (%)	23.1%	42.1%		6.7%	25.7%	25.7%	21.7%	21.7%		29.6%	29.6%	23.1%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lead/Lag	Lag	Lead		Lag	Lead	Lead						Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						Yes
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		Max	Max	None

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 91 (76%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	

Splits and Phases: 11: Cajalco Rd. & Grand Oaks





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	687	782	0	0	827	177	0	0	0	363	0	602
Future Volume (veh/h)	687	782	0	0	827	177	0	0	0	363	0	602
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	723	823	0	0	871	186	0	0	0	382	0	634
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1431	1979	0	445	1140	352	0	2	0	468	0	1884
Arrive On Green	0.41	0.39	0.00	0.00	0.22	0.22	0.00	0.00	0.00	0.26	0.00	0.26
Sat Flow, veh/h	3456	5274	0	1781	5106	1574	0	1870	0	1781	0	2774
Grp Volume(v), veh/h	723	823	0	0	871	186	0	0	0	382	0	634
Grp Sat Flow(s),veh/h/ln	1728	1702	0	1781	1702	1574	0	1870	0	1781	0	1387
Q Serve(g_s), s	18.6	14.1	0.0	0.0	19.2	12.5	0.0	0.0	0.0	24.2	0.0	0.0
Cycle Q Clear(g_c), s	18.6	14.1	0.0	0.0	19.2	12.5	0.0	0.0	0.0	24.2	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1431	1979	0	445	1140	352	0	2	0	468	0	1884
V/C Ratio(X)	0.51	0.42	0.00	0.00	0.76	0.53	0.00	0.00	0.00	0.82	0.00	0.34
Avail Cap(c_a), veh/h	1431	1979	0	445	1140	352	0	343	0	468	0	1884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.0	26.8	0.0	0.0	43.6	41.0	0.0	0.0	0.0	41.5	0.0	8.1
Incr Delay (d2), s/veh	0.3	0.6	0.0	0.0	4.9	5.6	0.0	0.0	0.0	14.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	5.6	0.0	0.0	8.3	5.2	0.0	0.0	0.0	12.1	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	27.5	0.0	0.0	48.5	46.6	0.0	0.0	0.0	56.1	0.0	8.6
LnGrp LOS	C	C	A	A	D	D	A	A	A	E	A	A
Approach Vol, veh/h		1546			1057			0			1016	
Approach Delay, s/veh		26.9			48.2			0.0			26.5	
Approach LOS		C			D						C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.0	50.5		35.5	53.7	30.8		0.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	46.5		31.5	23.7	26.8		22.0				
Max Q Clear Time (g_c+I1), s	0.0	16.1		26.2	20.6	21.2		0.0				
Green Ext Time (p_c), s	0.0	4.0		2.6	1.1	2.5		0.0				

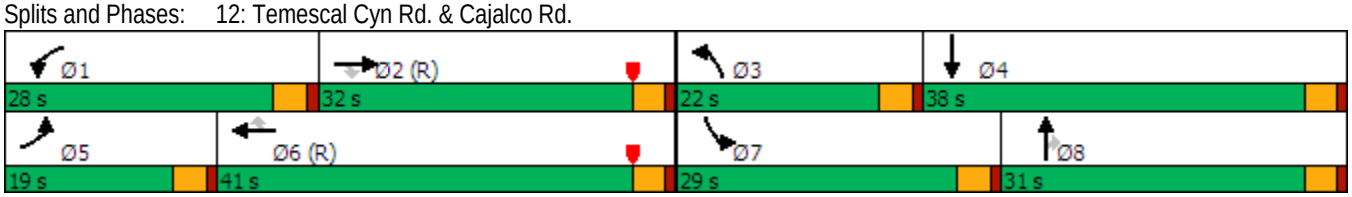
Intersection Summary			
HCM 6th Ctrl Delay		33.0	
HCM 6th LOS		C	

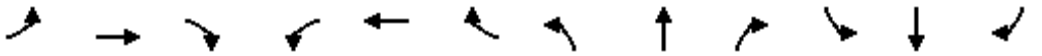
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	674	346	287	601	461	322	675	149	599	593	81
Future Volume (vph)	126	674	346	287	601	461	322	675	149	599	593	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	16	12	12	16	12	12	12
Storage Length (ft)	300		200	450		200	300		325	200		200
Storage Lanes	1		0	1		1	2		1	2		0
Taper Length (ft)	180			180			180			180		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		464			943			1167			1000	
Travel Time (s)		7.0			14.3			17.7			15.2	
Confl. Peds. (#/hr)			5			5						5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	26.0	26.0	10.0	40.0	40.0	10.0	26.0	26.0	25.0	26.0	
Total Split (s)	19.0	32.0	32.0	28.0	41.0	41.0	22.0	31.0	31.0	29.0	38.0	
Total Split (%)	15.8%	26.7%	26.7%	23.3%	34.2%	34.2%	18.3%	25.8%	25.8%	24.2%	31.7%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 12: Temescal Cyn Rd. & Cajalco Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	674	346	287	601	461	322	675	149	599	593	81
Future Volume (veh/h)	126	674	346	287	601	461	322	675	149	599	593	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870	1870	1870
Adj Flow Rate, veh/h	133	709	364	302	633	485	339	711	157	631	624	85
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	913	405	330	1796	578	406	800	371	690	965	131
Arrive On Green	0.09	0.26	0.26	0.19	0.35	0.35	0.12	0.23	0.23	0.20	0.31	0.31
Sat Flow, veh/h	1781	3554	1576	1781	5106	1641	3456	3554	1648	3456	3141	427
Grp Volume(v), veh/h	133	709	364	302	633	485	339	711	157	631	353	356
Grp Sat Flow(s),veh/h/ln	1781	1777	1576	1781	1702	1641	1728	1777	1648	1728	1777	1791
Q Serve(g_s), s	8.8	22.2	26.8	20.0	11.0	32.6	11.5	23.3	9.8	21.5	20.6	20.7
Cycle Q Clear(g_c), s	8.8	22.2	26.8	20.0	11.0	32.6	11.5	23.3	9.8	21.5	20.6	20.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	161	913	405	330	1796	578	406	800	371	690	546	550
V/C Ratio(X)	0.83	0.78	0.90	0.92	0.35	0.84	0.83	0.89	0.42	0.91	0.65	0.65
Avail Cap(c_a), veh/h	223	913	405	356	1796	578	518	800	371	720	546	550
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	41.4	43.1	48.0	28.8	35.8	51.8	45.1	39.8	47.0	35.9	36.0
Incr Delay (d2), s/veh	16.5	6.4	25.4	26.7	0.5	13.7	9.1	14.1	3.5	15.9	5.8	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	10.2	12.9	11.0	4.4	14.6	5.4	11.5	4.2	10.5	9.5	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	47.8	68.5	74.6	29.3	49.5	60.9	59.1	43.3	62.9	41.7	41.8
LnGrp LOS	E	D	E	E	C	D	E	E	D	E	D	D
Approach Vol, veh/h		1206			1420			1207			1340	
Approach Delay, s/veh		56.5			45.9			57.6			51.7	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.2	34.8	18.1	40.9	14.8	46.2	28.0	31.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	24.0	28.0	18.0	34.0	15.0	37.0	25.0	27.0
Max Q Clear Time (g_c+I1), s	22.0	28.8	13.5	22.7	10.8	34.6	23.5	25.3
Green Ext Time (p_c), s	0.2	0.0	0.6	2.2	0.1	1.3	0.5	0.8

Intersection Summary	
HCM 6th Ctrl Delay	52.6
HCM 6th LOS	D

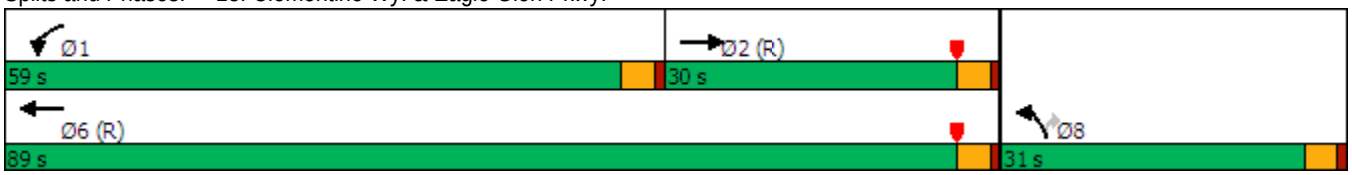
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	447	10	394	510	10	236
Future Volume (vph)	447	10	394	510	10	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		150	0
Storage Lanes		0	1		1	1
Taper Length (ft)			60		90	
Right Turn on Red		Yes				Yes
Link Speed (mph)	45			45	45	
Link Distance (ft)	366			1267	734	
Travel Time (s)	5.5			19.2	11.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phase	2		1	6	8	8
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	26.0		8.0	26.0	26.0	26.0
Total Split (s)	30.0		59.0	89.0	31.0	31.0
Total Split (%)	25.0%		49.2%	74.2%	25.8%	25.8%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max	Max	Max

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 58 (48%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	

Splits and Phases: 13: Clementine Wy. & Eagle Glen Pkwy.

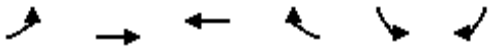




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	447	10	394	510	10	236
Future Volume (veh/h)	447	10	394	510	10	236
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	471	11	415	537	11	248
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1496	35	452	2517	401	357
Arrive On Green	0.42	0.42	0.25	0.71	0.22	0.22
Sat Flow, veh/h	3643	83	1781	3647	1781	1585
Grp Volume(v), veh/h	236	246	415	537	11	248
Grp Sat Flow(s),veh/h/ln	1777	1855	1781	1777	1781	1585
Q Serve(g_s), s	10.6	10.6	27.2	6.2	0.6	17.2
Cycle Q Clear(g_c), s	10.6	10.6	27.2	6.2	0.6	17.2
Prop In Lane		0.04	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	749	782	452	2517	401	357
V/C Ratio(X)	0.31	0.32	0.92	0.21	0.03	0.70
Avail Cap(c_a), veh/h	749	782	816	2517	401	357
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.69	0.69	1.00	1.00
Uniform Delay (d), s/veh	23.2	23.2	43.6	6.0	36.3	42.7
Incr Delay (d2), s/veh	1.1	1.1	6.1	0.1	0.1	10.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	4.7	12.3	2.0	0.3	7.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.3	24.2	49.7	6.1	36.4	53.4
LnGrp LOS	C	C	D	A	D	D
Approach Vol, veh/h	482			952	259	
Approach Delay, s/veh	24.2			25.1	52.7	
Approach LOS	C			C	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	34.4	54.6				89.0	31.0
Change Period (Y+Rc), s	4.0	4.0				4.0	4.0
Max Green Setting (Gmax), s	55.0	26.0				85.0	27.0
Max Q Clear Time (g_c+I1), s	29.2	12.6				8.2	19.2
Green Ext Time (p_c), s	1.2	2.1				3.6	0.5

Intersection Summary			
HCM 6th Ctrl Delay		29.1	
HCM 6th LOS		C	



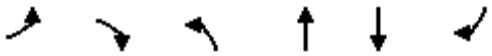
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	113	28	55	87	141	191
Future Volume (vph)	113	28	55	87	141	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		45	45		45	
Link Distance (ft)		1018	1281		838	
Travel Time (s)		15.4	19.4		12.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control		Yield	Yield		Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Intersection	
Intersection Delay, s/veh	4.7
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	148	150	349
Demand Flow Rate, veh/h	151	153	356
Vehicles Circulating, veh/h	151	121	59
Vehicles Exiting, veh/h	264	181	215
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.2	4.1	5.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	151	153	356
Cap Entry Lane, veh/h	1183	1220	1299
Entry HV Adj Factor	0.983	0.979	0.980
Flow Entry, veh/h	148	150	349
Cap Entry, veh/h	1163	1194	1274
V/C Ratio	0.128	0.125	0.274
Control Delay, s/veh	4.2	4.1	5.3
LOS	A	A	A
95th %tile Queue, veh	0	0	1



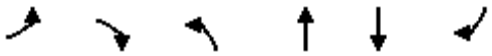
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	252	1	1	53	95	433
Future Volume (vph)	252	1	1	53	95	433
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			100
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	45			45	45	
Link Distance (ft)	1253			542	608	
Travel Time (s)	19.0			8.2	9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Yield			Yield	Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Intersection	
Intersection Delay, s/veh	5.9
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	266	57	556
Demand Flow Rate, veh/h	271	58	567
Vehicles Circulating, veh/h	102	270	1
Vehicles Exiting, veh/h	466	103	327
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.9	4.0	6.6
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	271	58	567
Cap Entry Lane, veh/h	1244	1048	1378
Entry HV Adj Factor	0.982	0.981	0.981
Flow Entry, veh/h	266	57	556
Cap Entry, veh/h	1221	1028	1352
V/C Ratio	0.218	0.055	0.411
Control Delay, s/veh	4.9	4.0	6.6
LOS	A	A	A
95th %tile Queue, veh	1	0	2



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	1	1	199	331	63
Future Volume (vph)	37	1	1	199	331	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	45			45	45	
Link Distance (ft)	371			838	709	
Travel Time (s)	5.6			12.7	10.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	1	1	199	331	63
Future Vol, veh/h	37	1	1	199	331	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	1	1	209	348	66

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	592	381	414	0	-	0
Stage 1	381	-	-	-	-	-
Stage 2	211	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	469	666	1145	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	824	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	469	666	1145	-	-	-
Mov Cap-2 Maneuver	469	-	-	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	824	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1145	-	473	-	-
HCM Lane V/C Ratio	0.001	-	0.085	-	-
HCM Control Delay (s)	8.1	0	13.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	409	5	35	475	3	38
Future Volume (vph)	409	5	35	475	3	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	105		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			90		100	
Link Speed (mph)	45			30	35	
Link Distance (ft)	223			366	690	
Travel Time (s)	3.4			8.3	13.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	409	5	35	475	3	38
Future Vol, veh/h	409	5	35	475	3	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	105	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	431	5	37	500	3	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	436	0	758	218
Stage 1	-	-	-	-	434	-
Stage 2	-	-	-	-	324	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1120	-	343	786
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1120	-	332	786
Mov Cap-2 Maneuver	-	-	-	-	332	-
Stage 1	-	-	-	-	601	-
Stage 2	-	-	-	-	705	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	715	-	-	1120	-
HCM Lane V/C Ratio	0.06	-	-	0.033	-
HCM Control Delay (s)	10.4	-	-	8.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	2	109	26	4	6	11	355	12	10	778	13
Future Volume (vph)	36	2	109	26	4	6	11	355	12	10	778	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			60			60		
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		237			740			933			680	
Travel Time (s)		5.4			16.8			18.2			13.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	155	37	399	844
Demand Flow Rate, veh/h	158	38	406	860
Vehicles Circulating, veh/h	874	432	52	44
Vehicles Exiting, veh/h	30	26	980	426
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.4	4.6	5.6	11.1
Approach LOS	B	A	A	B

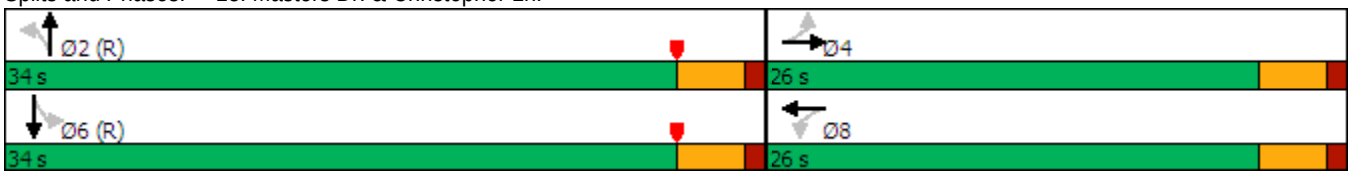
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	158	38	406	860
Cap Entry Lane, veh/h	566	888	1309	1319
Entry HV Adj Factor	0.981	0.972	0.982	0.981
Flow Entry, veh/h	155	37	399	844
Cap Entry, veh/h	555	863	1284	1294
V/C Ratio	0.279	0.043	0.310	0.652
Control Delay, s/veh	10.4	4.6	5.6	11.1
LOS	B	A	A	B
95th %tile Queue, veh	1	0	1	5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	2	109	26	4	6	11	355	12	10	778	13
Future Volume (vph)	36	2	109	26	4	6	11	355	12	10	778	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		237			740			933			680	
Travel Time (s)		5.4			16.8			18.2			13.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	26.0	26.0		26.0	26.0		34.0	34.0		34.0	34.0	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.7%	56.7%		56.7%	56.7%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

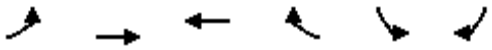
Splits and Phases: 18: Masters Dr. & Christopher Ln.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	2	109	26	4	6	11	355	12	10	778	13
Future Volume (veh/h)	36	2	109	26	4	6	11	355	12	10	778	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	2	115	27	4	6	12	374	13	11	819	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	18	155	234	38	33	603	1318	46	781	1345	23
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.73	0.73	0.73	1.00	1.00	1.00
Sat Flow, veh/h	274	131	1165	981	286	245	659	1797	62	997	1833	31
Grp Volume(v), veh/h	155	0	0	37	0	0	12	0	387	11	0	833
Grp Sat Flow(s),veh/h/ln	1570	0	0	1511	0	0	659	0	1859	997	0	1865
Q Serve(g_s), s	3.5	0.0	0.0	0.0	0.0	0.0	0.3	0.0	4.2	0.1	0.0	0.0
Cycle Q Clear(g_c), s	5.6	0.0	0.0	1.1	0.0	0.0	0.3	0.0	4.2	4.3	0.0	0.0
Prop In Lane	0.25		0.74	0.73		0.16	1.00		0.03	1.00		0.02
Lane Grp Cap(c), veh/h	284	0	0	305	0	0	603	0	1363	781	0	1368
V/C Ratio(X)	0.55	0.00	0.00	0.12	0.00	0.00	0.02	0.00	0.28	0.01	0.00	0.61
Avail Cap(c_a), veh/h	643	0	0	624	0	0	603	0	1363	781	0	1368
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.84	0.00	0.84
Uniform Delay (d), s/veh	24.9	0.0	0.0	23.0	0.0	0.0	2.2	0.0	2.7	0.2	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.5	0.0	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	0.0	0.0	23.2	0.0	0.0	2.2	0.0	3.2	0.2	0.0	1.7
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		155			37			399			844	
Approach Delay, s/veh		26.6			23.2			3.2			1.7	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.0		12.0		48.0		12.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		30.0		22.0		30.0		22.0				
Max Q Clear Time (g_c+I1), s		6.2		7.6		6.3		3.1				
Green Ext Time (p_c), s		2.4		0.7		6.5		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			5.3									
HCM 6th LOS			A									



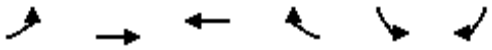
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	4	724	314	15	18	5
Future Volume (vph)	4	724	314	15	18	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	60				100	
Link Speed (mph)		35	35		30	
Link Distance (ft)		1212	796		251	
Travel Time (s)		23.6	15.5		5.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control		Yield	Yield		Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	766	347	24
Demand Flow Rate, veh/h	781	354	24
Vehicles Circulating, veh/h	19	4	338
Vehicles Exiting, veh/h	343	796	20
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	9.2	4.9	3.9
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	781	354	24
Cap Entry Lane, veh/h	1353	1374	978
Entry HV Adj Factor	0.980	0.981	1.000
Flow Entry, veh/h	766	347	24
Cap Entry, veh/h	1327	1348	978
V/C Ratio	0.577	0.258	0.025
Control Delay, s/veh	9.2	4.9	3.9
LOS	A	A	A
95th %tile Queue, veh	4	1	0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	4	724	314	15	18	5
Future Volume (vph)	4	724	314	15	18	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	60				100	
Link Speed (mph)		35	35		30	
Link Distance (ft)		1212	796		251	
Travel Time (s)		23.6	15.5		5.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

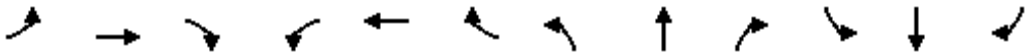
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	724	314	15	18	5
Future Vol, veh/h	4	724	314	15	18	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	120	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	762	331	16	19	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	347	0	-	0	1109	339
Stage 1	-	-	-	-	339	-
Stage 2	-	-	-	-	770	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1212	-	-	-	232	703
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	457	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1212	-	-	-	231	703
Mov Cap-2 Maneuver	-	-	-	-	231	-
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	457	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1212	-	-	-	270
HCM Lane V/C Ratio	0.003	-	-	-	0.09
HCM Control Delay (s)	8	-	-	-	19.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	565	162	45	272	4	58	3	40	3	1	3
Future Volume (vph)	3	565	162	45	272	4	58	3	40	3	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			100			100		
Link Speed (mph)		35			35			30			45	
Link Distance (ft)		1243			906			626			709	
Travel Time (s)		24.2			17.6			14.2			10.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

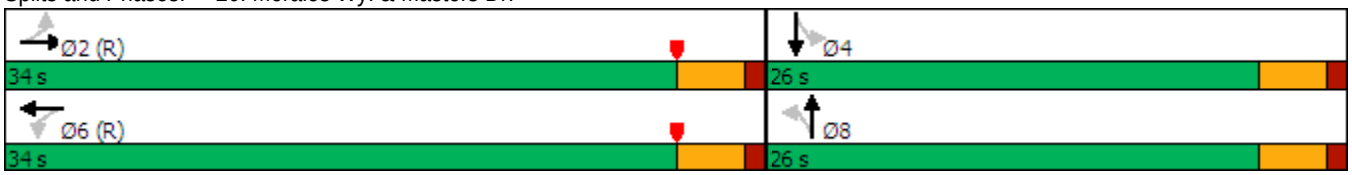
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	769	337	106	7
Demand Flow Rate, veh/h	784	344	108	7
Vehicles Circulating, veh/h	52	68	613	402
Vehicles Exiting, veh/h	357	653	223	10
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.9	5.2	6.6	4.0
Approach LOS	A	A	A	A

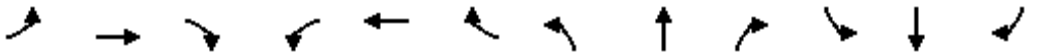
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	784	344	108	7
Cap Entry Lane, veh/h	1309	1287	738	916
Entry HV Adj Factor	0.981	0.980	0.981	0.997
Flow Entry, veh/h	769	337	106	7
Cap Entry, veh/h	1284	1262	724	913
V/C Ratio	0.599	0.267	0.146	0.008
Control Delay, s/veh	9.9	5.2	6.6	4.0
LOS	A	A	A	A
95th %tile Queue, veh	4	1	1	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	565	162	45	272	4	58	3	40	3	1	3
Future Volume (vph)	3	565	162	45	272	4	58	3	40	3	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	60			60			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			45	
Link Distance (ft)		1243			906			626			709	
Travel Time (s)		24.2			17.6			14.2			10.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	34.0	34.0		34.0	34.0		26.0	26.0		26.0	26.0	
Total Split (%)	56.7%	56.7%		56.7%	56.7%		43.3%	43.3%		43.3%	43.3%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 20: Morales Wy. & Masters Dr.

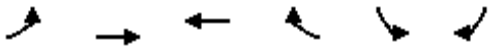




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	565	162	45	272	4	58	3	40	3	1	3
Future Volume (veh/h)	3	565	162	45	272	4	58	3	40	3	1	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	595	171	47	286	4	61	3	42	3	1	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	564	698	201	210	920	13	387	40	219	294	114	242
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1089	1397	401	702	1840	26	798	110	596	569	310	659
Grp Volume(v), veh/h	3	0	766	47	0	290	106	0	0	7	0	0
Grp Sat Flow(s),veh/h/ln	1089	0	1798	702	0	1866	1504	0	0	1539	0	0
Q Serve(g_s), s	0.1	0.0	22.3	3.8	0.0	5.5	1.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.6	0.0	22.3	26.0	0.0	5.5	2.6	0.0	0.0	0.2	0.0	0.0
Prop In Lane	1.00		0.22	1.00		0.01	0.58		0.40	0.43		0.43
Lane Grp Cap(c), veh/h	564	0	899	210	0	933	646	0	0	650	0	0
V/C Ratio(X)	0.01	0.00	0.85	0.22	0.00	0.31	0.16	0.00	0.00	0.01	0.00	0.00
Avail Cap(c_a), veh/h	564	0	899	210	0	933	646	0	0	650	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.5	0.0	13.1	24.4	0.0	8.9	12.8	0.0	0.0	12.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	10.0	2.4	0.0	0.9	0.5	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	9.5	0.7	0.0	2.0	1.0	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.6	0.0	23.1	26.8	0.0	9.7	13.4	0.0	0.0	12.1	0.0	0.0
LnGrp LOS	B	A	C	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		769			337			106			7	
Approach Delay, s/veh		23.0			12.1			13.4			12.1	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.0		26.0		34.0		26.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		30.0		22.0		30.0		22.0				
Max Q Clear Time (g_c+I1), s		24.3		2.2		28.0		4.6				
Green Ext Time (p_c), s		2.6		0.0		0.4		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			19.1									
HCM 6th LOS			B									



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	26	375	411	67	39	22
Future Volume (vph)	26	375	411	67	39	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	125	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				100	
Link Speed (mph)		45	45		45	
Link Distance (ft)		369	199		727	
Travel Time (s)		5.6	3.0		11.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	375	411	67	39	22
Future Vol, veh/h	26	375	411	67	39	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	125	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	395	433	71	41	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	504	0	-	0	918	252
Stage 1	-	-	-	-	469	-
Stage 2	-	-	-	-	449	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1059	-	-	-	286	748
Stage 1	-	-	-	-	597	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1059	-	-	-	279	748
Mov Cap-2 Maneuver	-	-	-	-	279	-
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	642	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	16.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1059	-	-	-	279	748
HCM Lane V/C Ratio	0.026	-	-	-	0.147	0.031
HCM Control Delay (s)	8.5	-	-	-	20.1	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5	0.1