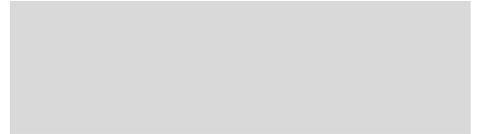


PRELIMINARY WATER REPORT

for the SKYLINE VILLAGE TTM 37691
in the City of Corona,
County of Riverside, California



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May, 2021

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Brandon M. Barnett, RCE 78472

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INTRODUCTION

1.1 PURPOSE OF STUDY

The purpose of this report is to discuss the water facility needs of the Skyline Village project as it relates to the City of Corona’s plans for the domestic water system. More specifically, this report will address: the existing water system, the estimated project water demands, proposed pipelines and planned pumping facilities needed to support the proposed project and adjacent developments. It will also identify the approximate water distribution line alignments and pipe sizes. The project water demands are based on the proposed land use and the City of Corona 2005 Water Master Plan. The analysis presented in this report is based on the Skyline Village (TTM 37691).

1.2 PROJECT DESCRIPTION

The Skyline Village (TTM 37691) project is comprised of 17-acre vacant land situated in the hills to the southwest of the City of Corona adjacent to Foothill Parkway. The site is located approximately 3.5 miles south of the 71 and 91 Freeways and approximately 4 miles west of Interstate 15 (I-15). Foothill Parkway will border the eastern portion of the project and will be the primary access to the site. **Figure 1-1** shows a location map of the general area.

The Skyline Village project is generally bounded to the north and east by single-family residences and on the south and west by the Cleveland National Forest and large privately-owned vacant parcels. The immediate surrounding area consists of Low Density Residential (3-6 du/ac) as well as undeveloped open space within the City of Corona.

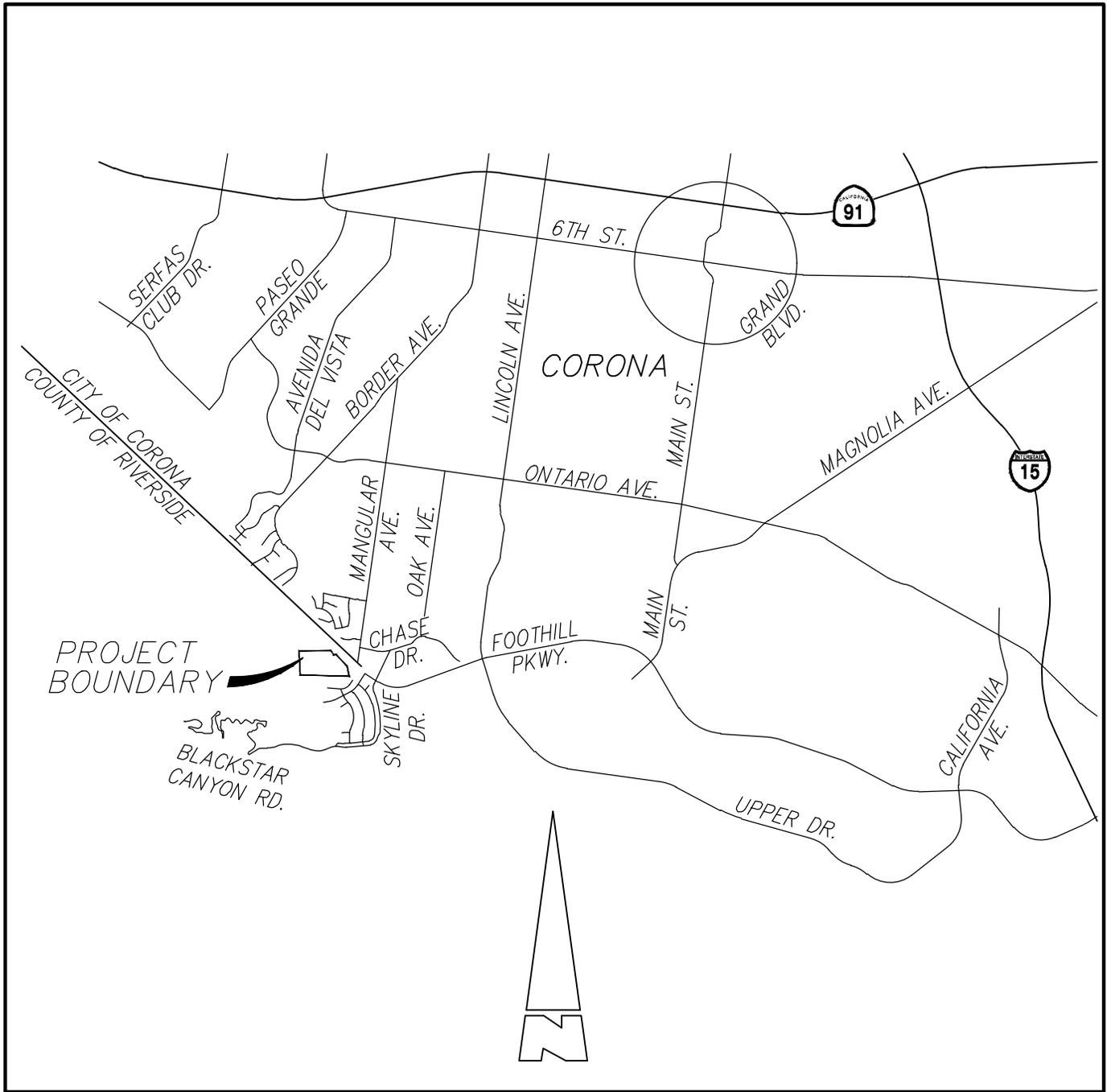
The project site seems to have been previously disturbed and graded back in 2006. The site currently consists of sparsely vegetated and otherwise undeveloped land with the exception of dirt roads. The site is characterized by steep topography, generally increasing in elevation from the southeast to the northwest. Several canyons and ravines are present which will convey natural drainage across the project site. **Figure 1-2** shows a vicinity map of the area illustrating the location of the project and the developments in the area.

1.3 RELATED STUDIES

The City of Corona Water Master Plan, prepared by AKM Consulting Engineers in September 2005, provides a regional study identifying existing and future proposed water supply, storage, and transmission facilities within the City’s ultimate service area. The study also presents design criteria to be utilized in water supply, system pressures, pipeline velocities, fire flow criteria, storage volumes, operational storage, fire protection storage, emergency storage, and pump

capacities. The report also provides information on the District's planning and evaluation criteria that can be applied to determine projected water demands.

In conjunction with the City's Westerly Extension of Foothill Parkway from Trudy Way to Green River Road, the City constructed a 16-inch Zone 5 transmission line in Foothill Parkway from Trudy Way to Paseo Grande, where it ties into the existing 16-inch Zone 5 transmission line constructed by Tract No. 36541-1. This newly constructed pipeline will provide the main source of connection for Tract No. 36544-1.



LOCATION MAP

NOT TO SCALE



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 1880 COMPTON AVENUE, SUITE 100 • CORONA, CA. 92881-3370 • 951-734-2130

FIGURE 1-1

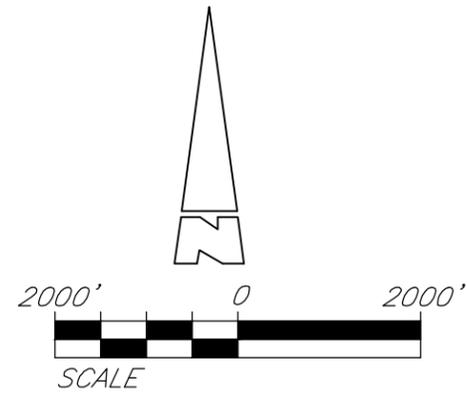


FIGURE 1-2
VICINITY MAP
KUC ENGINEERS
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4000 COUNTY ROAD 100, SUITE 100 • DALLAS, TEXAS 75244 • 972-754-2100

2

DESIGN CRITERIA

This section presents the design criteria used to evaluate recommended water system improvements required for the Skyline Village project. The criteria utilized in this study are in accordance with the City of Corona 2005 Water Master Plan, and the 2012 City’s Department of Water and Power Design Policy.

2.1 WATER DUTY FACTORS

The water duty factor (WDF) used in projecting average day water demands for the project is based on a 4160 gpd/ac for high density residential designation and 1610 gpd/ac for commercial land use. To convert Average Day Demand flows (ADD) to Maximum Day Demand flows (MDD) a factor of 1.8 was used. Similarly, for Peak Hour Demand flows (PHD) a factor of 3.0 was used as described in the 2005 Water Master Plan.

2.2 PLANNING CRITERIA

The planning criteria are used to evaluate the proposed water system hydraulic models. They are utilized as a check to confirm that the values being developed are reasonable. A list of planning criteria used in the evaluation of this project is shown in **Table 2-1**.

TABLE 2-1

PLANNING CRITERIA		
Description	Value	Unit
Maximum Pressure	120	psi
Minimum Pressure		
Average Day	60	psi
Maximum Day and Peak Hour	60	psi
MDD + Fire Flow	20	psi
Maximum Pipeline Velocity		
Average Day Analysis	5	fps
Maximum Day and Peak Hour Analysis	7	fps
Fire Flow Analysis	12	fps
Fire Fighting Capabilities		
Commercial – 4 hours duration	3500	gpm
Multi-Family Residential – 2 hours duration	2500	gpm
Operational Reservoir Storage Volume	0.5 MDD	-
Fire Suppression Storage Volume	0.84 MG	-
Terminal Storage Volume	10% Reservoir Storage Volume	-

2.3 SYSTEM PRESSURES

The water distribution system has been designed to maintain static pressures between 60 psi and 120 psi as much as possible. The criteria are used to initially divide a project between water service zones. **Appendix C** presents the City’s 2011 Water System Atlas, which illustrates the general pressure zone boundaries within the City’s service area. The Skyline Village project will be served by the existing Zone 5 (1380’ HWL) water. **Figure 2-1** presents a Proposed Water System Pressure Zone Map, which identifies the proposed pressure zone boundaries for the Skyline Village project.

Computer modeling is then performed to ensure that adequate residual pressures are obtained under all demand conditions. The system has been designed to yield minimum residual pressures of approximately 60 psi during maximum day and peak hour demands and a minimum of 20 psi during maximum day demand plus fire flow conditions. Headloss in water lines is calculated using the Hazen-Williams equation with a “C” value of 110. Only locations where customers are served need to meet such pressure requirements. Nodes with pressures that could not be brought within acceptable parameters are identified and are presented as part of the analysis of the ultimate build-out condition scenario in Section 4.

2.4 PIPELINE VELOCITIES

Distribution pipelines are designed for a maximum velocity of 5 fps for the ADD non-fire scenarios. The maximum velocity can increase to 7 fps for Maximum Day and Peak Hour non-fire scenarios. For fire flow scenarios, the pipe cannot exceed a maximum velocity of 12 fps.

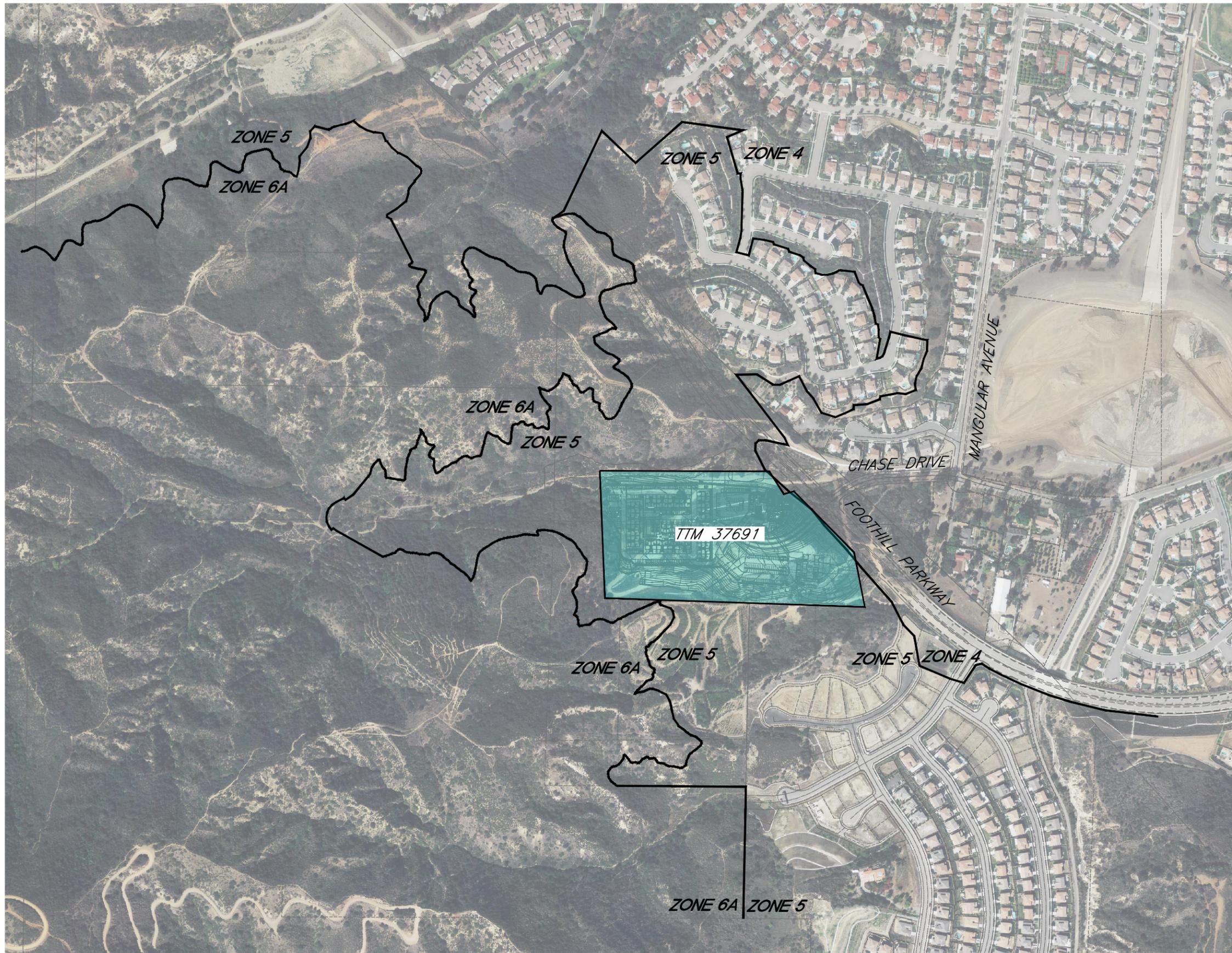
2.5 STORAGE VOLUMES

The total required volume of storage in a water system consists of water for operational storage, fire flow storage and terminal storage. As per the 2005 Water Master Plan, the Skyline Village project’s operational storage and terminal storage is required to be equivalent to 50 percent of the maximum day demand and 10% of the reservoir storage volume, respectively. Fire flow and duration requirements were assumed to be 3500 gpm for 4-hour duration for commercial developments which equals 0.84 MG. Water reservoir storage requirements are evaluated on a zone-by-zone basis.

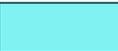
2.6 PUMP CAPACITY

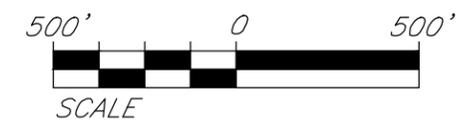
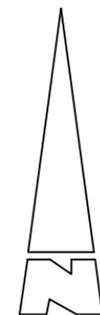
Booster Pump Stations are typically sized to deliver the maximum day demands of the service areas, except in service areas supplied by a hydro-pneumatic pumping system (where the booster pumps must meet maximum day demands plus fire flow requirements and have fire-rated pumps). All booster stations shall incorporate a standby pump of the same size as the largest duty pump in case the largest unit is taken out of service. The pump station shall be design so that the duty pump and standby pump switches on in alternating cycles. This will reduce the maintenance issues on the pumps and extend the life of the pumps. The pump stations should be equipped with modern pump controllers, flow meters, suction and discharge pressure gauges,

proper isolation valves, and telemetry equipment. The booster station should also be equipped with emergency standby generators and automatic transfer switches in case of power outages.



LEGEND

 PRESSURE ZONE 5



SKYLINE VILLAGE
FIGURE 2-1
TTM 37691
PRESSURE ZONE MAP
KWC ENGINEERS
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3

EXISTING AND PROPOSED MASTER PLAN FACILITIES

This section discusses the existing and proposed master plan water facilities as identified in City of Corona 2005 Water Master Plan report. The 17-acre Skyline Village project development (Skyline West as previously identified in the 2005 Water Master Plan for Skyline Heights development on the North) was included in the 2005 Water Master Plan and this section further validates the details of the proposed water facilities reflecting current development conditions.

3.1 EXISTING FACILITIES

The Skyline Village project is located in the hills adjacent to the Cleveland National Forest and Foothill Parkway near the Chase Drive area in the City of Corona. The project is in the City's southwestern water service area. The existing water facilities in the vicinity of the project are located within the City's Zone 4 (1220' HWL), Zone 5B (1345' HWL), and Zone 5 (1380' HWL) water service zones. **Figure 3-1** presents a map showing the boundaries of the project and the regional water facilities in the vicinity of the project.

3.1.1 FOOTHILL EXTENSION

New transmission pipelines have been recently completed as part of the Foothill Parkway Extension. There is now a 16-inch Zone 4 main in Foothill Parkway between Chase Drive and Mabey Canyon Road, and a 16-inch Zone 5 main in Foothill Parkway between Trudy Way and Green River Road.

3.1.2 ZONE 5 CONSOLIDATION (1380' HWL)

The existing Zone 5 system serves elevations between 1100 ft to 1260 ft AMSL. Water for this zone is stored in the Eagle Glen and Gilbert Reservoirs having capacities of 2.0 MG and 4.7 MG, respectively. Zone 5 is served by the Lester Booster Station, the Border Booster Station, and the Eagle Glen Booster Station.

In efforts to consolidate the existing water system, the City has connected Sub-Zone 5A to the Zone 5 main in Foothill Parkway via a 16-inch cross-country pipeline in the vicinity of Bonnyview Circle. The Harlan Hydropneumatic Booster Pump Station which previously served the sub-zone has been decommissioned.

KWC understands the City has connected Sub Zone 5B to the Zone 5 main in Foothill Parkway via a 12-inch pipeline in Mabey Canyon Road. The Mabey Hyropneumatic Booster Pump

Station which previously served this sub-zone is scheduled to be decommissioned. Additional Zone 5 demands in the area include the Sierra Bella project to the north-west of Tract No. 36544.

3.1.3 ZONE 4 (1220' HWL)

A new 16-inch Zone 4 water line was constructed as part of the City's Foothill Parkway Westerly Extension Improvements and is located in Trudy Way from Foothill Parkway to the proposed Skyline Heights Development. The City may, at some point in time, build a Zone 4 reservoir in the vicinity of the project, however there are no plans to build a Zone 4 reservoir with Tract No. 36544 project site.

The Zone 4 system pressure is supplied by the Mills Connection, Chase Booster Station, Border Booster Station, Lester Zone 4 Booster Station, and Zone 5 Pressure Reducing Stations. The zone serves elevations between 900 ft to 1100 ft AMSL. Water is stored in the Hayden Reservoir, Upper & Main Reservoir, and Avenida Del Vista Reservoirs having capacities of 1.6 MG, 4.0 MG, and 1.6 MG, respectively. The Zone 4 hydraulic gradient in the vicinity of the project is provided by the Avenida Del Vista Tank.

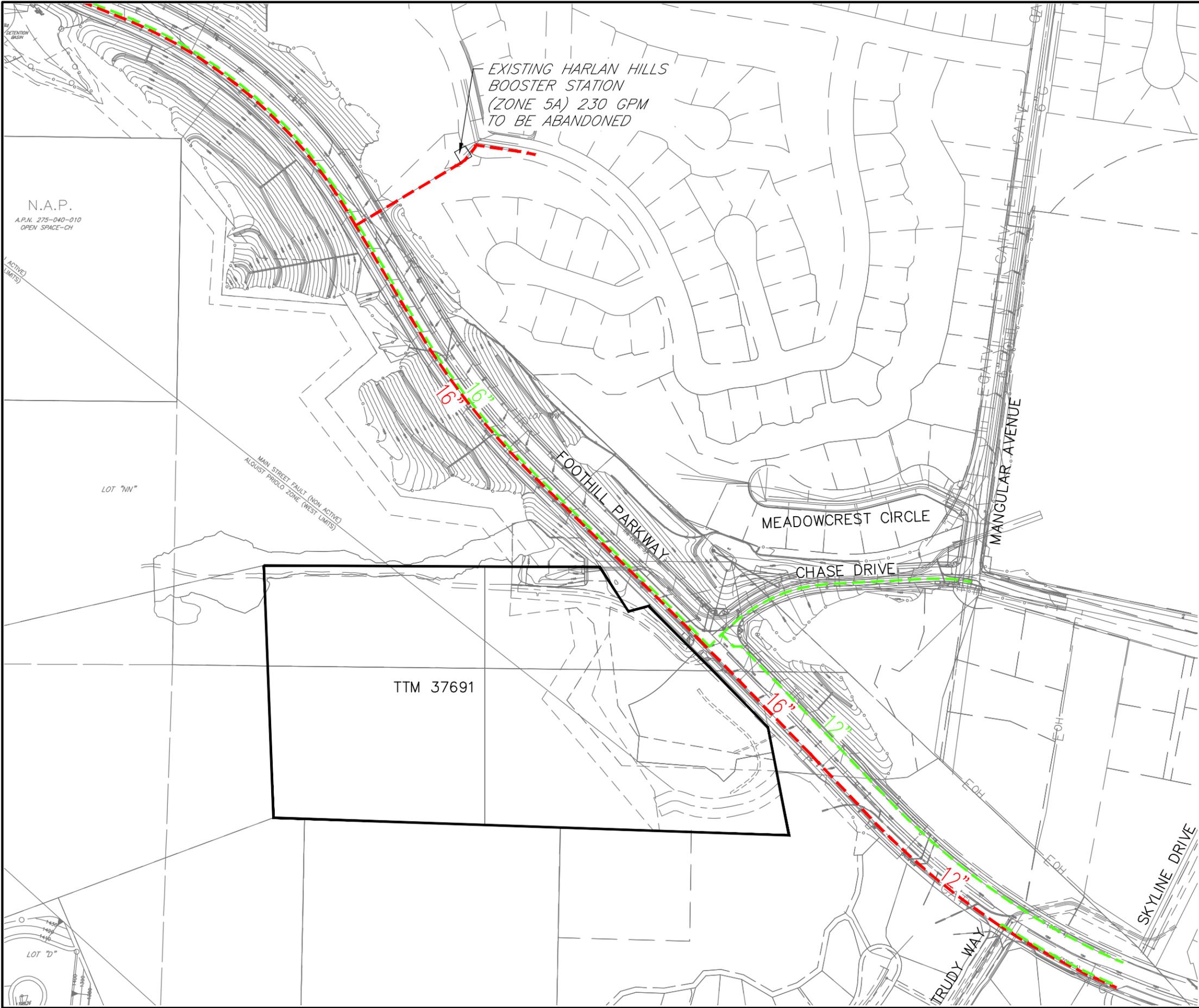
3.2 PROPOSED FACILITIES

According to the City of Corona 2005 Water Master Plan, there is no master plan water facilities planned for within the Skyline Village project. However, the Skyline Village project will be constructing water facilities in the new Zone 5 (1380' HWL) service area to supply the necessary system pressures.

3.2.1 ZONE 5 (1380' HWL)

There are no master plan water facilities proposed for the Skyline Village project. However, the 16-inch transmission pipeline in Foothill Parkway will be a critical source of supply to the project which will be served by the Zone 5 water system.

SKYLINE VILLAGE PROJECT EXISTING WATER FACILITIES PLAN



LEGEND

- EXISTING ZONE 4
- EXISTING ZONE 5

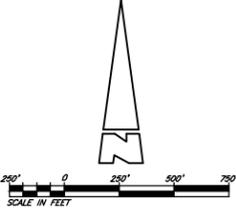


FIGURE 3-1



07/23/2020 13:57
 \\1721\1721\PROJECTS\PROJECTS\MM\1721\EXISTING\FIGURE 3-1 EXISTING.DWG

4

WATER DEMANDS AND SIZING OF FACILITIES

This section provides the projected water demand for the Skyline Village project, as well as determines the relative pipe sizes, reservoir storage requirements and booster pump station capacities.

4.1 PROJECTED WATER DEMANDS

The projected water demand factor of 4,160 gpd/ac for a high-density residential land use and 1,610 gpd/ac for a commercial designation was used to determine the Average Day Demands, Maximum Day Demands, and Peak Hour Demand for the project. **Table 4-1** summarizes the projected Average Day, Maximum Day, and Peak Hour Demands for service zone 5 within the project. As shown below the total estimated water demand generated by the Skyline Village project is approximately 0.036 MGD Average Day Demand, 0.065 MGD Maximum Day Demand, and 0.108 MGD Peak Hour Demand.

TABLE 4-1

Skyline Village Water Demand Summary					
Land Use	Tributary Lots (DU)	Area (acres)	Average Day Demand (MGD)	Maximum Day Demand (MGD)	Peak Hour Demand (MGD)
Residential	82	8.0	0.022	0.040	0.067
Commercial	--	9.0	0.014	0.025	0.041
Total	82	17.0	0.036	0.065	0.108

4.2 RESERVOIR STORAGE

Using the projected water demands, **Table 4-2** summarizes the required reservoir storage for each water service zone based upon the design criteria outlined in Section 2. The sizing presented in **Table 4-2** is for the Skyline Village project only and does not include oversizing to accommodate other neighboring developments.

TABLE 4-2

SKYLINE VILLAGE Reservoir Storage Requirements					
Water Zone ID	Maximum Day Demand (mgd)	Required Operational Storage (MG)	Required Fire Flow Storage (MG)	Required Terminal Storage (MG)	Total Required Storage (MG)
Zone 5 (1380' HWL)	0.065	0.032	0.84	0.010	0.991

Note: Operational Storage is based on 0.5xMDD. Terminal Storage is based on 10% of Reservoir Storage Volume. Fire Flow Demand is based on 3500 GPM for 4 hours.

The water storage required for the homes within the proposed Zone 5 pressure system will be supplied from the existing excess storage capacities from the City of Corona’s Zone 5 Reservoirs. According to Table 7-1 in the 2005 Water Master Plan, there is 1.7 MG of excess storage in the existing Zone 5 System.

4.3 BOOSTER PUMP STATION

The proposed Zone 5 Booster Pump Station (BPS) is located near the intersection of Foothill Parkway and Border Avenue within the Skyline Heights development site. Currently the zone 5 pumps are sized for the max day demands including one (1) duty supply pump at 1500 gpm and one (1) standby/fire flow pump at 1500 gpm. With the addition of Skyline Village development, the 1500 gpm duty pump can still meet the demand for the max day. However, the commercial area fire flow requirement of 3500 gpm in 4-hour duration will require two (2) pumps at 1750 gpm to be installed. Therefore, the upgraded Zone 5 BPS will include one (1) duty supply pump and two (2) standby/fire flow pumps which the proposed BPS was anticipated. The pump station shall be designed so that the three pumps switch on in alternating cycles. This will reduce the maintenance issues on the pumps and extend the life of the pumps. The pump station is situated on a pad elevation of 1160 feet, and will draw suction from the existing 16-inch Zone 4 line in Foothill Parkway. The total dynamic head for the Zone 5 pump is 195 feet.

4.4 WATER SYSTEM MODEL AND RESULTS

The analysis performed to determine the recommended onsite water system for the Skyline Village project consists of computer modeling that utilizes the Innovyze InfoWater 12.4 program. The solution to the computer model is based upon the design criteria as shown in Section 2. The main scenario was created to model the proposed water system conditions. Within each scenario, numerous demand conditions were calculated to determine the proposed system pressures and recommended line sizes within each of the proposed service zones.

A summary of the assumptions and settings for the ultimate condition steady-state Zone 5 water system model are as follows:

Scenario 1:

Zone 5

- 1) Per fire flow test provided by the City, assume fixed grade nodes in Zone 4 water system at the intersection of Amethyst Street and Elysia Street and at the Avenida Del Vista Tank are 1190’.
- 2) A demand of 2087 gpm, based on the fire flow test, was added in addition to proposed project demands in order to replicate demands associated with the existing Zone 4 system for the ADD, MDD, and PHD scenarios.
- 3) Per data logger test provided by the City, assume fixed grade node in Zone 5 water system at the intersection of Foothill Parkway and Border Avenue is 1280’.
- 4) A demand of 1250 gpm was added in addition to proposed project demands in order to replicate demands associated with the existing Zone 5B system for the ADD, MDD, and PHD scenarios.
- 5) Assumes Zone 5 Pump Station is not operating. All Zone 5 areas within the project site are served by the existing Zone 5 system.

The demand conditions modeled for Scenario 1 are as follows:

- 1) Average Day Demand
- 2) Maximum Day Demand
- 3) Peak Hour Demand

Scenario 2:

Zone 5

- 1) Per fire flow test provided by the City, assume fixed grade nodes in Zone 4 water system at the intersection of Amethyst Street and Elysia Street and at the Avenida Del Vista Tank are 1190’.
- 2) A demand of 2087 gpm, based on the fire flow test, was added in addition to proposed project demands in order to replicate demands associated with the existing Zone 4 system for the ADD, MDD, and PHD scenarios.
- 3) Per data logger test provided by the City, assume fixed grade node in Zone 5 water system at the intersection of Foothill Parkway and Border Avenue is 1280’.
- 4) A demand of 1250 gpm was added in addition to proposed project demands in order to replicate demands associated with the existing Zone 5B system for the ADD, MDD, and PHD scenarios.
- 5) Assumes Zone 5 Pump Station is operating in order to increase pressures in the existing and proposed Zone 5 system.

The demand conditions modeled for Scenario 2 are as follows:

- 1) Average Day Demand
- 2) Maximum Day Demand
- 3) Maximum Day Demand plus 3,500 gpm fire flow at Node J-219.
- 4) Maximum Day Demand plus 3,500 gpm fire flow at Node J-210.
- 5) Maximum Day Demand plus 2,500 gpm fire flow at Node J-206.

Notes: Critical fire flow model nodes are chosen based on highest elevation and distant from supply source.

Figure 4-1 presents the Proposed Water Facilities Plan, which illustrates the proposed water facility improvements and their relative sizes based on the water system model results.

4.4.1 ZONE 5 (1380' HWL)

The Zone 5 system will serve the entire area of the Skyline Village project. **Table 4-3** summarizes the anticipated static pressures within this zone. Due to headloss within the existing Zone 5 system, adequate pressures cannot be met at the project site without the use of a booster pump. The computer modeling results for the Zone 5 analysis is provided in **Appendix E**.

For all demand scenarios, we assumed that the water surface elevation at a point in the Zone 5 water system located at the intersection of Border Avenue and Foothill Parkway is 1280 feet. The results of the computer analysis indicate that the recommended piping has been sized to adequately serve the project. Residual pressures in excess of 20 psi are obtained during maximum day demand plus fire flow scenarios when the fire flow booster pump is running. The proposed pipeline velocities are below the 5-fps requirement during the Average Day scenario and below 7-fps during Max Day and Peak Hour scenarios. In addition, the velocities in the lines do not exceed 12-fps during a Max Day plus Fire Flow condition.

The major proposed piping in this pressure zone will consist of 12-inch and 8-inch distribution lines provided within the development areas. The computer modeling in **Appendix E** verifies that adequate service can be provided to the project during the demand scenarios considered.

TABLE 4-3

Skyline Village Water Service Zone Static Pressure Summary						
Water Zone ID	Lot Elevation (ft)		Static Pressure 100% Tank Level (psi)		Static Pressure 25% Tank Level (psi)	
	Min	Max	Min.	Max.	Min.	Max.
Zone 5 (1380' HWL)	1105	1215	71	119	61	109

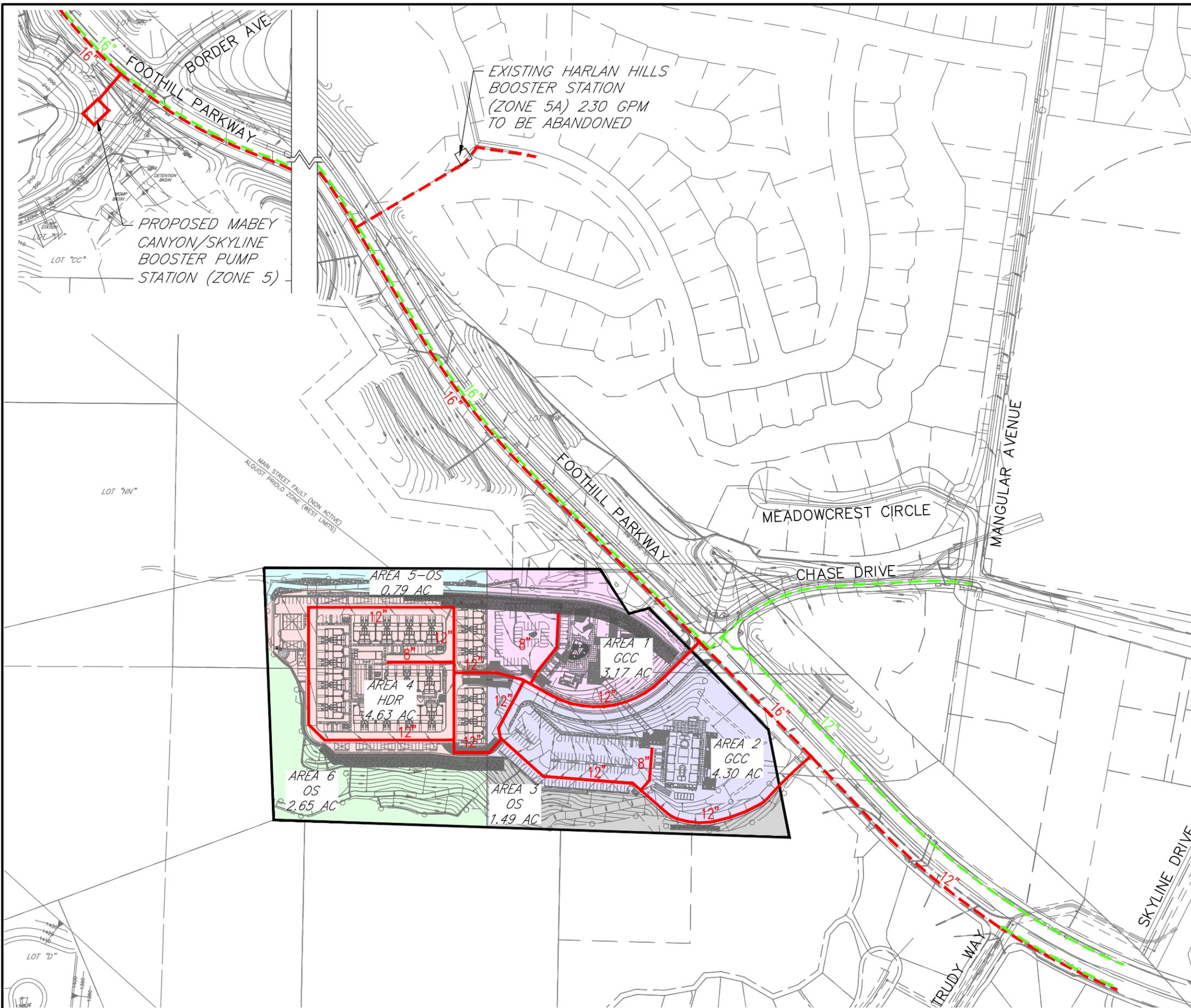
Note: The above values have been calculated assuming that the reservoirs are at 100% and 25% tank levels.

Table 4-4 TTM 37691 Computer Analysis Hydraulic Summary

Scenario	Description	Minimum Pressure		Minimum Design Pressure (PSI)	Maximum Velocity		Maximum Velocity (FPS)
		PSI	Junction		FPS	Pipe	
1 (Zone 5 Pump Off)	ADD	13.99	J-176	60	7.98	P-9	5
	MDD	13.99	J-176	60	7.98	P-9	7
	PHD	13.99	J-176	60	7.98	P-9	7
2 (Zone 5 Pump On)	ADD	13.43	J-176	60	7.98	P-9	5
	MDD	13.24	J-176	60	7.98	P-9	7
	MDD + 3500 GPM FF @ J-219	7.65	J-176	20	9.95	P-207, 252, 256	12
	MDD + 3500 GPM FF @ J-210	7.65	J-176	20	9.95	P-207 & P-248	12
	MDD + 2500 GPM FF @ J-206	9.84	J-176	20	9.12	P-207	12

Note: 1) J-170, 176, 180, & 192 are the junctions to the future BPS.
 2) P-9 is the existing 8-inch pipe line on Mabey Canyon Road.

SKYLINE VILLAGE PROJECT PRELIMINARY WATER FACILITIES PLAN



LEGEND

- EXISTING ZONE 4
- EXISTING ZONE 5
- PROPOSED ZONE 5

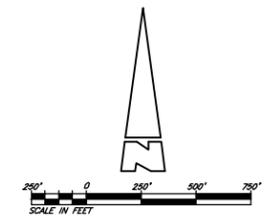


FIGURE 4-1

DATE: 12/28/2020 PROJECT: SKYLINE VILLAGE PROJECT SHEET: PRELIMINARY WATER FACILITIES PLAN

PHASING & CONCLUSIONS

This section discusses the anticipated construction of the proposed water infrastructure needed to support the Skyline Village project. It also identifies and summarizes the water infrastructure required.

5.1 PROJECT PHASING

The Skyline Village project will be developed in three parcels. The domestic water infrastructure facilities will be constructed based on the needs for the commercial and condominium of the project site. Two independent connection of water supply will be provided to each parcel as required by the City of Corona DWP. **Figure 4-1** shows the proposed water improvements for each parcels phase.

5.2 CONCLUSIONS

The Skyline Village project will require the following Water Infrastructure to be constructed for the build-out condition:

Booster Pump Station

- The Skyline Village commercial area fire flow requirements demand 3500 gpm in 4-hour duration. As a result, the Booster Pump Station (BPS) currently proposed by the Skyline Heights development will need to install one additional pump rated at 1750 gpm in order to provide adequate Skyline Village fire flow. The user agreements for the BPS fair share cost will need to be established between the owners from Skyline Village and Skyline Heights base on flow requirement.

Skyline Village Infrastructure Improvements

Proposed Skyline Village Infrastructure Improvements					
Project No.	Project Description	Facility Location	Zone	Proposed Pipe Size (inches)	Approx. Length (LF)
1	Distribution Waterlines	Onsite	5	12	3,158
2	Distribution Waterlines	Onsite	5	8	525

These proposed water infrastructure facilities with respect to their proximate locations, alignments, and sizes are consistent with the City's 2005 Water Master Plan and related water system studies in the City's service area. The proposed Skyline Heights project onsite water facilities presented in this report are preliminary estimates of the anticipated water facilities necessary to service the project needs. Detailed water facilities report shall be prepared during final design to confirm actual required sizes of pipelines, valving, pumps, and other related appurtenances.

A

REFERENCES

City of Corona General Plan – Land Use and Zoning Map, City of Corona, adopted in December 6, 1993, maps updated in June 2010.

City of Corona Water Master Plan, AKM Consulting Engineers, September 2005.

City of Corona Department of Water and Power Design Policy, November 2012.

TTM 36544 Final Water Report by KWC Engineering, September 2018

Preliminary BPS Design Report by Dexter Wilson Engineering, May 2019

Appendix

B

SKYLINE VILLAGE

TTM 37691

SEE SHEET 4

ENVIRONMENTALLY SENSITIVE/JURISDICTIONAL DRAINAGE AREA PER MSHRP CONSISTENCY ANALYSIS PREPARED BY SEAN BIOLOGICAL SERVICES DATED MAY 2020



OFFSITE SEWER CONNECTION DETAIL AT FOOTHILL PKWY/TRUDY WAY
SCALE: 1"=30'

SEE ABOVE FOR SEWER CONNECTION LOCATION AT FOOTHILL PARKWAY/TRUDY WAY



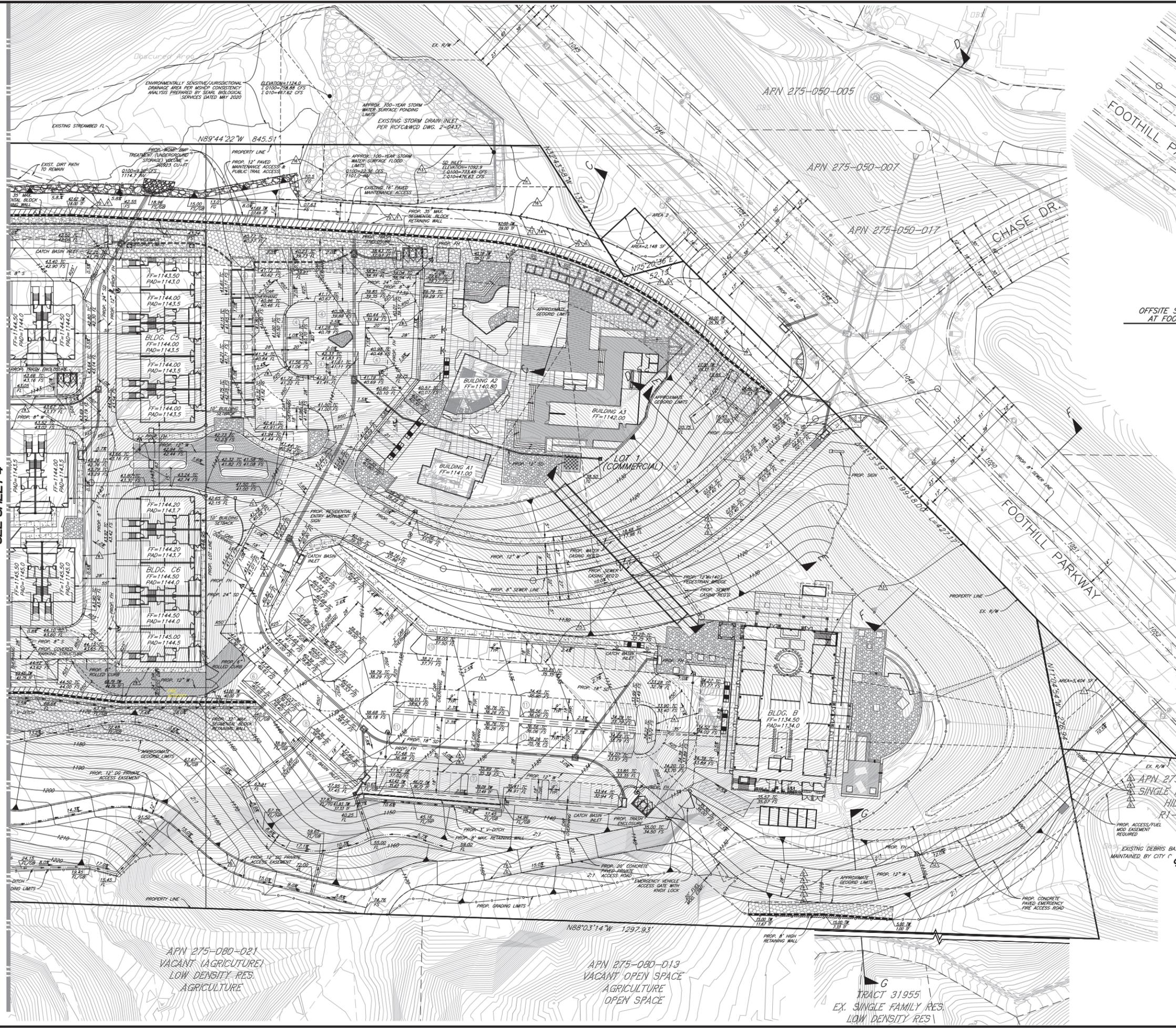
PRECISE PLAN
SKYLINE VILLAGE - TTM 37691
CITY OF CORONA

PREPARED FOR: GF INVESTMENTS, LLC.
 110 N. LINCOLN AVE #202
 CORONA, CA 92882
 (951) 603-5042

PREPARED BY: **KUC ENGINEERS**

CIVIL ENGINEERS + PLANNERS + SURVEYORS
 1880 COMPTON AVENUE, SUITE 100 CORONA, CA 92881-3370 951-734-2130

SHEET 3 OF 4 SHEET



APN 275-080-021
VACANT (AGRICULTURE)
LOW DENSITY RES.
AGRICULTURE

APN 275-080-013
VACANT OPEN SPACE
AGRICULTURE
OPEN SPACE

TRACT 31955
EX. SINGLE FAMILY RES
LOW DENSITY RES

18.1847.03R 1/18/18 PRELIM/ISSUES PREC. PLAN/1847 PRECISE PLANNING

LEGAL DESCRIPTION:

THAT PATENTED PLACER MINING CLAIM KNOWN AS LOT NO. 4045, KNOWN AS THE MC KNIGHT CONSOLIDATED CLAY PLACER MINING CLAIM, CONSISTING OF THE MC KNIGHT LUCKY AND TRIO PLACER CLAIMS, AND LYING IN SECTIONS 3 AND 10 OF TOWNSHIP 4 SOUTH, RANGE 7 WEST, SAN BERNARDINO BASE AND MERIDIAN AND SHOWN BY MINERAL SURVEY NO. 4045, ON FILE IN THE GENERAL LAND OFFICE, WASHINGTON, D.C. DESCRIBED AS FOLLOWS:

BEGINNING FOR THE DESCRIPTION OF THE MC KNIGHT PLACER CLAIM AT CORNER NO. 1, A PINE POST 4 INCHES SQUARE, MARKED K, 1 S. 4045, WITH MOUND OF STONE, FROM WHICH STATION NO. 15 OF THE RANCHO LA SIERRA BEARS SOUTH 73° 16' EAST, 923.5 FEET DISTANT;

THENCE FIRST COURSE, NORTH 89° 05' WEST, 1299 FEET TO CORNER NO. 2, A PINE POST 4 INCHES SQUARE, MARKED K, 2 S. 4045, WITH MOUND OF ROCKS; THENCE SECOND COURSE, NORTH 02° 57' WEST, 633.5 FEET TO CORNER NO. 3, A PINE POST 4 INCHES SQUARE, MARKED K, 3 S. 4045, WITH MOUND OF ROCKS; THENCE THIRD COURSE, NORTH 89° 27' EAST, 1189 FEET TO CORNER NO. 4, A PINE POST 4 INCHES SQUARE MARKED K 4 S. 4045, WITH MOUND OF ROCKS; THENCE FOURTH COURSE, SOUTH 12° 06' EAST 679.7 FEET TO CORNER NO. 1, THE POINT OF BEGINNING.

EXCEPTING THEREFROM ANY VEINS OF LODES OF QUARTZ, OR OTHER ROCK IN PLACE BEARING GOLD, SILVER, CINNABAR, LEAD, TIN, COPPER OR OTHER VALUABLE DEPOSITS WITHIN THE LAND ABOVE DESCRIBED, WHICH MAY HAVE BEEN DISCOVERED OR KNOWN TO EXIST ON OR PRIOR TO THE 2ND DAY OF FEBRUARY, 1903.

ALSO EXCEPTING THEREFROM PARCEL 2070-105 AS SHOWN BY RECORD OF SURVEY RECORDED OCTOBER 23, 1978 IN BOOK 64, PAGES 75 TO 78, INCLUSIVE, OF RECORDS OF SURVEY, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

ALSO EXCEPTING SAID PORTION GRANTED TO THE CITY OF CORONA, A CALIFORNIA MUNICIPAL CORPORATION AS DESCRIBED IN DEED RECORDED JUNE 8, 2010 AS INSTRUMENT NO. 262206 OF OFFICIAL RECORDS.

UTILITY NOTES:

WATER: CITY OF CORONA DEPARTMENT OF WATER AND POWER
815 W. 6th STREET
CORONA, CA 91720
(909) 736-2321

SEWER: CITY OF CORONA DEPARTMENT OF WATER AND POWER
815 W. 6th STREET
CORONA, CA 91720
(909) 736-2321

POWER: SOUTHERN CALIFORNIA EDISON CO.
1351 E. FRANKS
ONTARIO, CA 91761
(800) 930-8591

GAS: SOUTHERN CALIFORNIA GAS CO.
P.O. BOX 3003
REZLANDS, CA 92373
(800) 427-2200

PHONE: AT&T 1285 N. VAN BUREN ST., #180
ANAHEIM, CA 92807
(714) 666-5423

CABLE TV: TIME WARNER CABLE
1500 AUTO CENTER DRIVE
ONTARIO, CA 91761
(909) 975-3396

LEGEND:

PROP. LOT LINE
EX. LOT LINE
EX. C/L
RECORD C/L
PROP. R/W
EX. R/W
EASEMENT
SETBACK
BOUNDARY

ASSESSOR'S PARCEL NUMBERS

275-050-014-6 AND 275-080-041-3

TENTATIVE TRACT MAP NO. 37691

IN THE CITY OF CORONA, COUNTY OF RIVERSIDE

AUGUST 2020

EASEMENTS:

ITEMS SHOWN HEREON WERE PLOTTED FROM RECORD DATA BASED ON SCHEDULE "B" DOCUMENTS FROM THE WESTERN RESOURCES TITLE COMPANY, REPORT NO. 153300, DATED AUGUST 27, 2018.

PLOTTABLE EASEMENTS ARE INDICATED BY A "△" NON-PLOTTABLE EASEMENTS ARE INDICATED BY A "□"

- △ AN EASEMENT FOR ACCESS AND INCIDENTAL PURPOSES, IN FAVOR OF THE CITY OF CORONA, RECORDED JUNE 8, 2010 AS INSTRUMENT NO 262207. **(TO BE ABANDONED & REDEDICATED)**
- △ AN EASEMENT FOR SLOPE, DRAINAGE, AND TEMPORARY CONSTRUCTION AND INCIDENTAL PURPOSES, IN FAVOR OF THE CITY OF CORONA, RECORDED JUNE 8, 2010 AS INSTRUMENT NO 262208. **(TO BE VACATED/ABANDONED)**
- △ VACATION OF A PORTION OF THE ACCESS EASEMENT (INSTRUMENT NO 262207) IN FAVOR OF THE PROPERTY OWNER, RECORDED JUNE 8, 2010 AS INSTRUMENT NO 487787. **(REMOVED)**
- △ AN EASEMENT FOR SLOPE PURPOSES, WHICH INCLUDE THE RIGHT TO FOREVER CONSTRUCT, MAINTAIN, IMPROVE, ALTER, RELOCATE, INSPECT, OCCUPY AND USE A SLOPE OVER, UNDER, AND ACROSS THE SLOPE EASEMENT PROPERTY, IN FAVOR OF THE CITY OF CORONA, RECORDED MARCH 9, 2015 AS INSTRUMENT NO 93403. **(TO BE VACATED/ABANDONED)**
- △ AN EASEMENT FOR DRAINAGE PURPOSES, WHICH INCLUDE THE RIGHT TO LOCATE AND MAINTAIN ON THE DRAINAGE EASEMENT PROPERTY BOTH SUBTERANEAN AND ABOVE-GROUND DRAINAGE IMPROVEMENTS AS MAY BE REQUIRED BY THE FOOTHILL PARKWAY WESTERLY EXTENSION PROJECT PLANS, IN FAVOR OF THE CITY OF CORONA, RECORDED MARCH 9, 2015 AS INSTRUMENT NO 93404. **(TO REMAIN)**
- △ AN EASEMENT FOR TEMPORARY CONSTRUCTION PURPOSES, WHICH INCLUDE THE RIGHT TO ENGAGE IN CONSTRUCTION, MAINTENANCE, AND RELATED ACTIVITIES OVER, UNDER, ALONG, AND ACROSS THE EASEMENT PROPERTY, IN FAVOR OF THE CITY OF CORONA, RECORDED MARCH 9, 2015 AS INSTRUMENT NO 93405. **(REMOVED)**
- △ A PROPOSED EASEMENT FOR PUBLIC UTILITY AND EMERGENCY INGRESS/EGRESS IN FAVOR OF CITY AND LOT 1 (PLOTTED HEREON)
- △ A PROPOSED EASEMENT FOR PUBLIC UTILITY AND EMERGENCY INGRESS/EGRESS IN FAVOR OF LOT 2 (PLOTTED HEREON)
- △ A PROPOSED EASEMENT FOR HOA MAINTENANCE IN FAVOR OF LOT 2 (PLOTTED HEREON)
- △ A PROPOSED EASEMENT FOR PRIVATE ACCESS IN FAVOR OF APN 275-050-009, 275-070-004, & 275-080-020 (PLOTTED HEREON)
- △ A PROPOSED EASEMENT FOR PUBLIC UTILITY AND INGRESS/EGRESS IN FAVOR OF APN 275-080-021 (PLOTTED HEREON)
- △ A PROPOSED EASEMENT FOR PUBLIC TRAIL ACCESS IN FAVOR OF CITY OF CORONA
- △ A PROPOSED EASEMENT FOR ACCESS AND FUEL MOD MAINTENANCE IN FAVOR OF LOT 1
- △ A PROPOSED EASEMENT FOR TRAIL ACCESS IN FAVOR OF LOT 1.
- △ CITY R/W PROPERTY TO BE ACQUIRED VIA A FUTURE LOT LINE ADJUSTMENT BY DEVELOPER PER AGREEMENT WITH CITY OF CORONA

OWNER

COREY A. ADDISON LIVING TRUST
10206 ELM AVE.
FONTANA, CA 92335
ATTN: COREY ADDISON

APPLICANT/DEVELOPER:

GF INVESTMENTS, LLC
110 N. LINCOLN AVE #202
CORONA, CA 92882
(951) 603-5042
ATTN: CHRIS BOWEN

ENGINEER:

KWC ENGINEERS
1880 COMPTON AVENUE, SUITE 100
CORONA, CA 92881-3370
(951) 734-2130
ATTN: MIKE C. TAING, P.E.

GENERAL NOTES:

1. PREPARED: AUGUST 2020
2. TOTAL PROJECT GROSS ACREAGE: 17.02 AC.
3. EXISTING GENERAL PLAN DESIGNATION: LOW DENSITY RESIDENTIAL (3-6 DU/AC)
4. PROPOSED GENERAL PLAN DESIGNATION: HDR (15-36 DU/AC), GC
5. EXISTING LAND USE: AGRICULTURE
6. PROPOSED LAND USE: HDR (15-36 DU/AC), GC
7. EXISTING ZONING: AGRICULTURAL
8. PROPOSED ZONING: R-3 MF RES., C-3 GC
9. PROPOSED DENSITY (LOT 2): 9.66 DU/AC

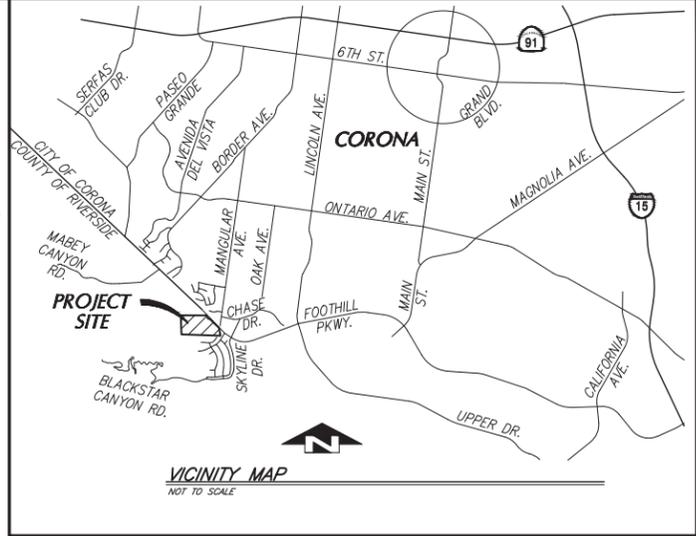
STREET FRONTAGE LENGTH

FOOTHILL PARKWAY = 560 LF

NUMBERED LOT:

LOT NUMBER	PROPOSED GROSS AREA	PROPOSED ZONING
1	8.95 AC	C-3 GC
2	8.07 AC	R-3 MF RES
TOTAL	17.02 AC	-

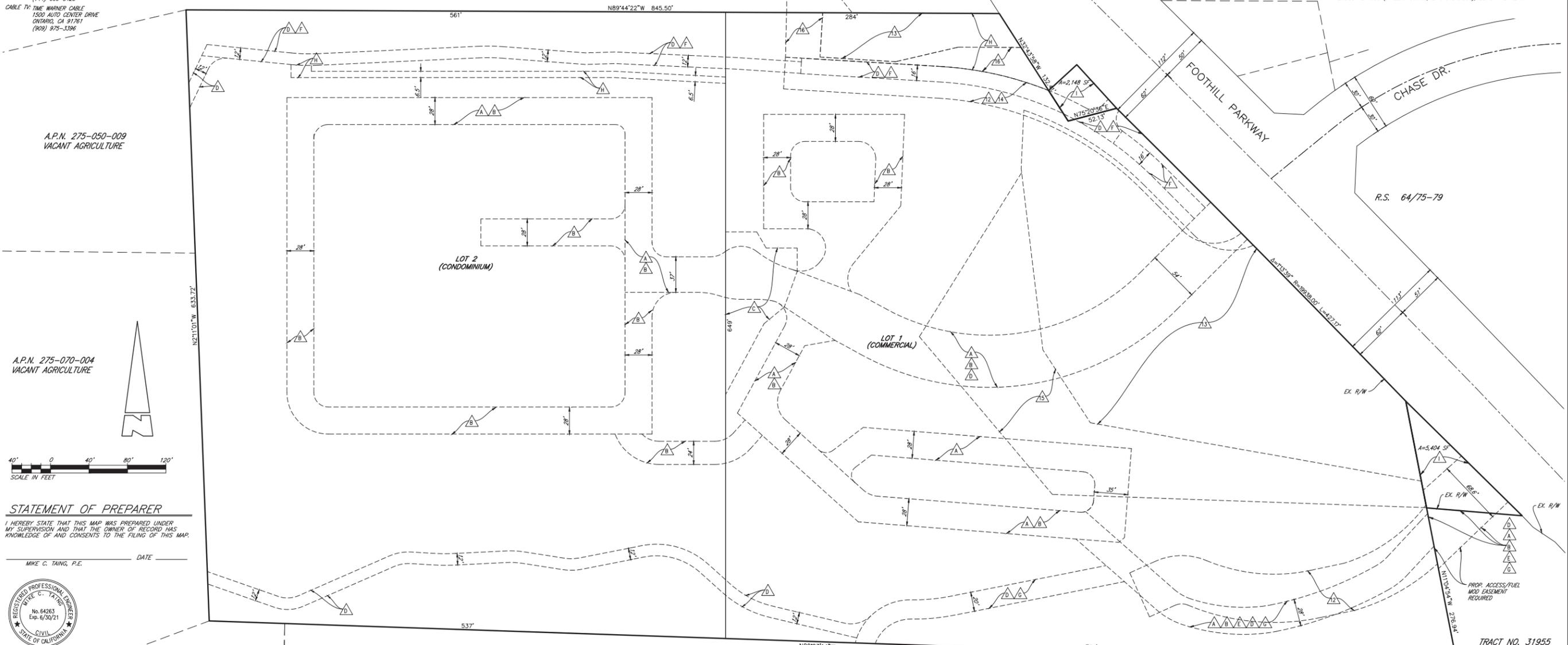
10. ADJACENT LAND USE:
 - NORTH: GENERAL PLAN - LDR ZONING - R1-7.2 (2,000 SF MIN) EXISTING USE - VACANT
 - SOUTH: GENERAL PLAN - LDR ZONING - AGRICULTURE EXISTING USE - AGRICULTURE
 - EAST: GENERAL PLAN - LDR ZONING - R1-7.2, R1-8.4, R1-9.6 EXISTING USE - RESIDENTIAL
 - WEST: GENERAL PLAN - LDR ZONING - AGRICULTURE EXISTING USE - VACANT
11. THOMAS BROTHERS GUIDE: RIVERSIDE COUNTY, PAGE 772, GRID J3
12. ALL EXISTING EASEMENTS AND IRREVOCABLE OFFERS OF DEDICATION THAT AFFECT THE PROPERTY BEING SUBDIVIDED ARE SHOWN ON THIS TENTATIVE TRACT MAP
13. ALL EXISTING EASEMENTS ARE TO REMAIN IN THEIR DESIGNATED LOCATIONS UNLESS NOTED OTHERWISE.
14. THE SUBJECT PROPERTY IS WITHIN A SANTA ANA RIVER WATERSHED.
15. THE SUBJECT PROPERTY IS WITHIN AN UNMAPPED FLOOD ZONE X.
16. ALL PARTIES HAVING A BENEFICIARY INTEREST IN THE PROPERTY BEING SUBDIVIDED ARE AWARE OF AND CONSENT TO THE FILING OF THIS TENTATIVE TRACT MAP.



VICINITY MAP

BASIS OF BEARINGS:

THE BASIS OF BEARINGS SHOWN HEREON ARE BASED ON THE CITY OF CORONA GPS MONUMENTS NO. 1183 OAK DAM (N: 2254579.000, E: 6152833.939 AND NO. 3039 LINDSON 2 1853 (N: 2249760.701, E: 6154840.535), BEING N 27°12'10" W.



A.P.N. 275-050-009
VACANT AGRICULTURE

A.P.N. 275-070-004
VACANT AGRICULTURE

STATEMENT OF PREPARER

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.

MIKE C. TAING, P.E.



A.P.N. 275-080-020
VACANT AGRICULTURE

A.P.N. 275-080-021
VACANT AGRICULTURE

A.P.N. 275-080-013
VACANT AGRICULTURE
USA

TRACT NO. 31955
M.B. 407/5-20

TRACT NO. 31955
M.B. 407/5-20

DATE OF LATEST REVISION: 12/26/2020

PREPARED BY:

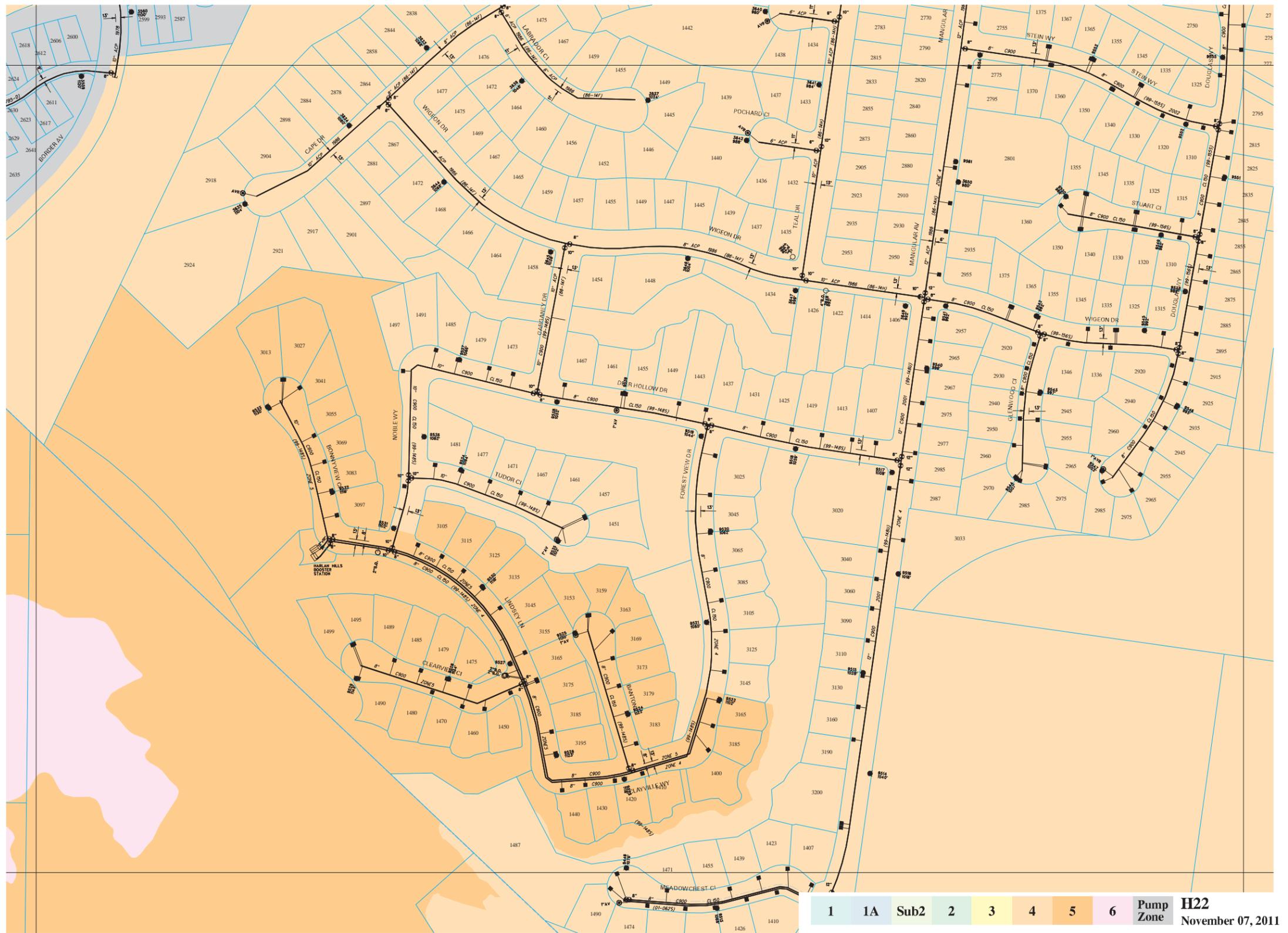


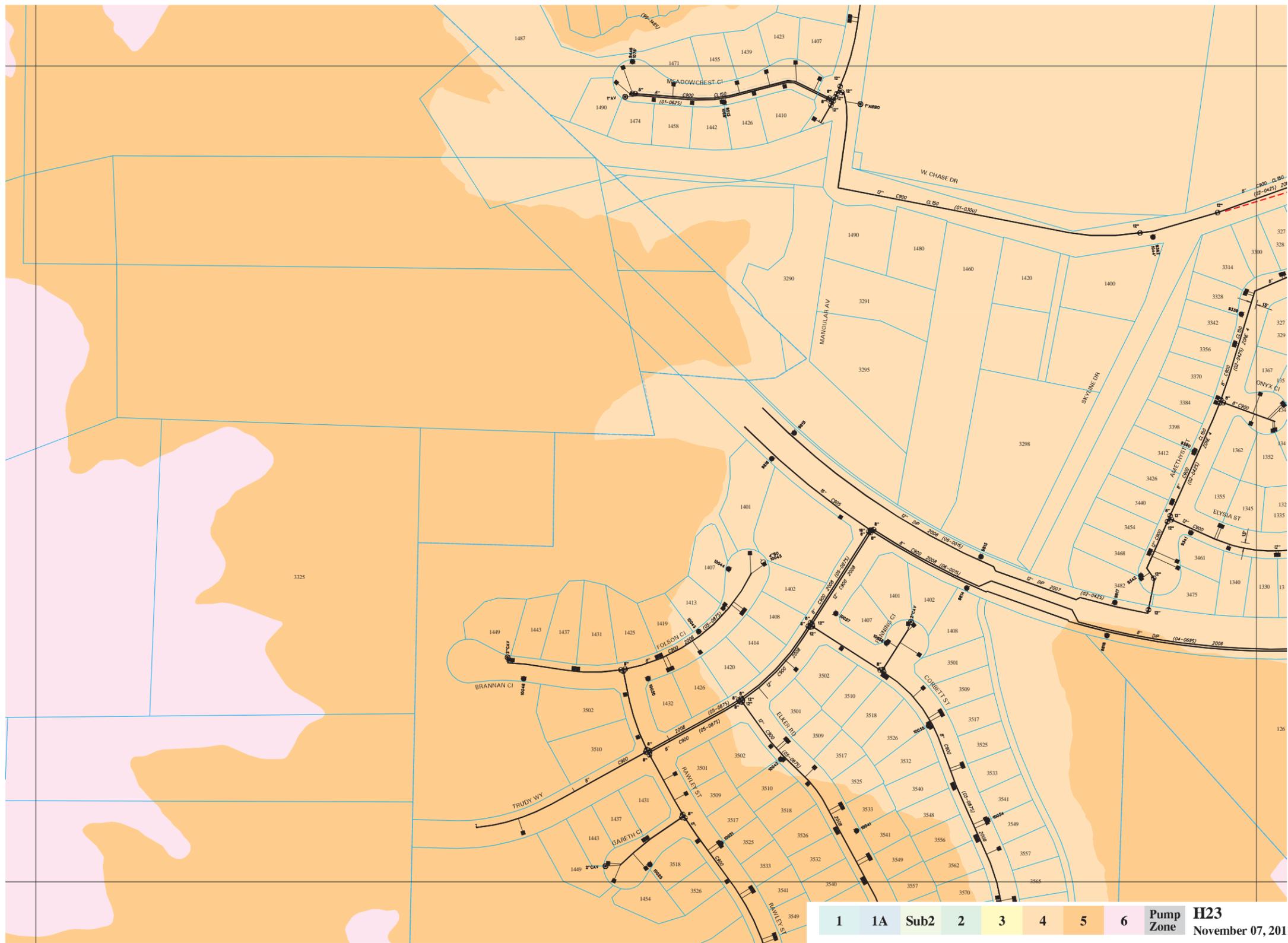
SHEET
1 OF 1
SHEET

Appendix

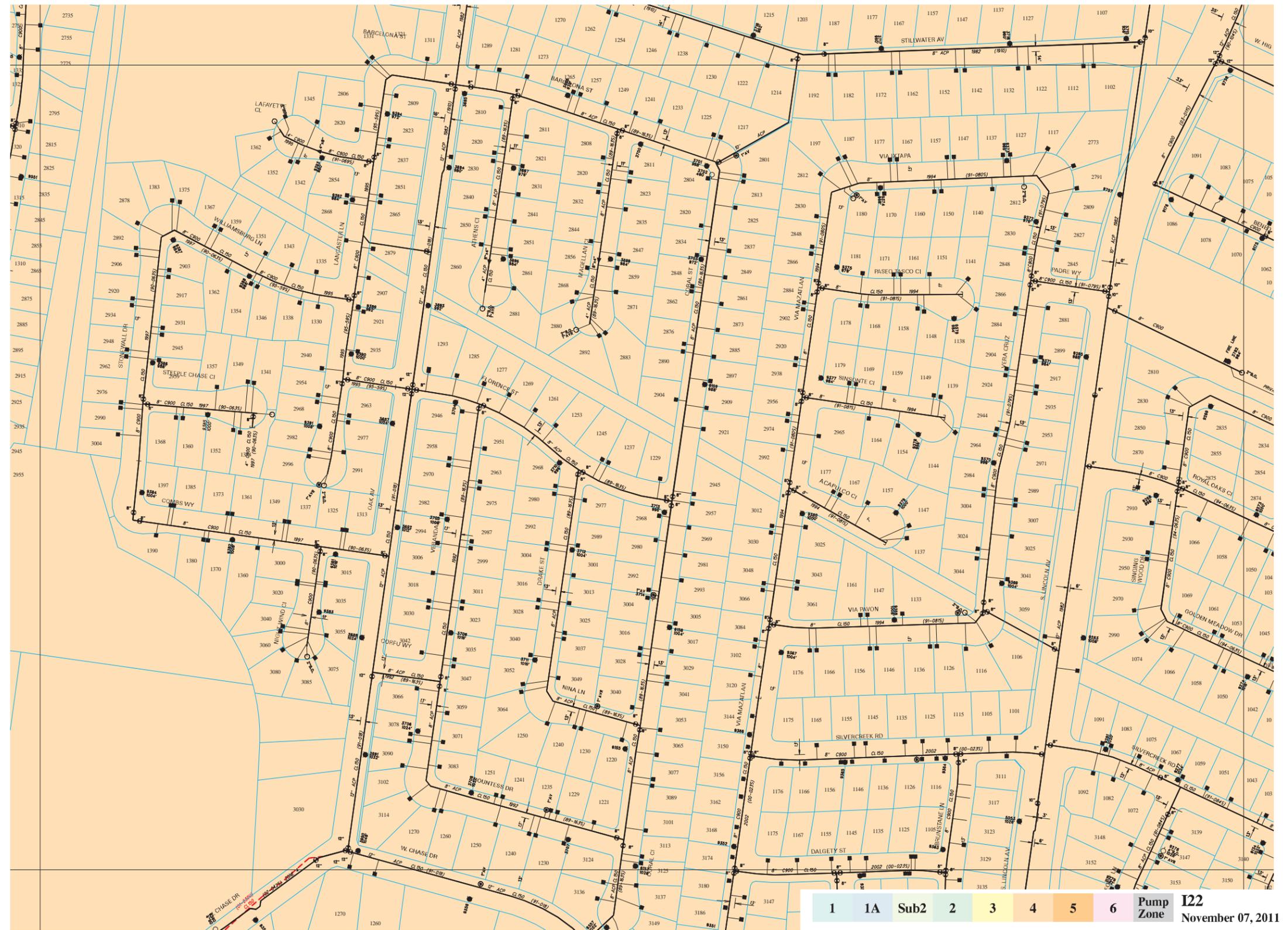
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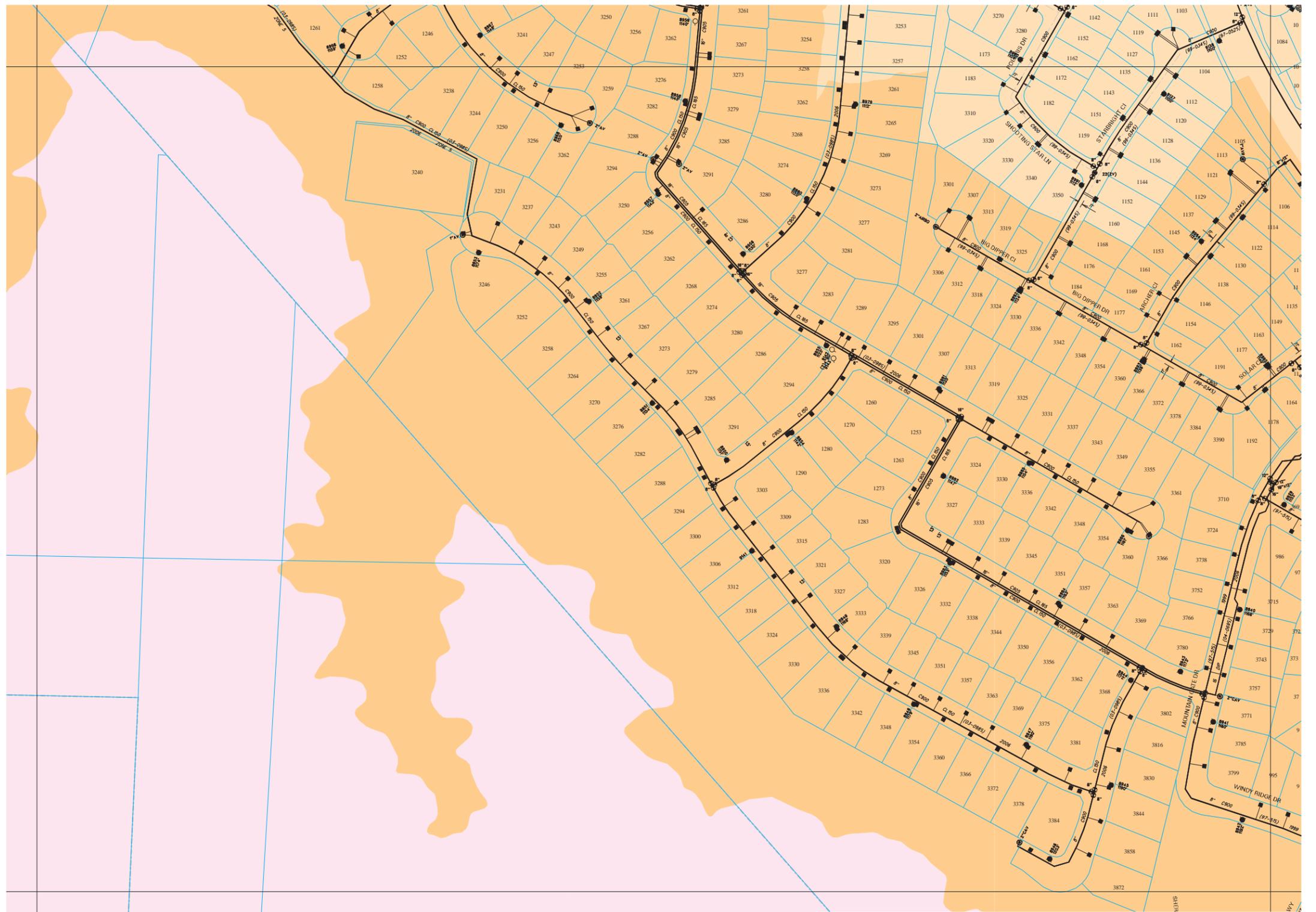
**CITY OF CORONA
WATER SYSTEM ATLAS
AND PRESSURE ZONE MAP**

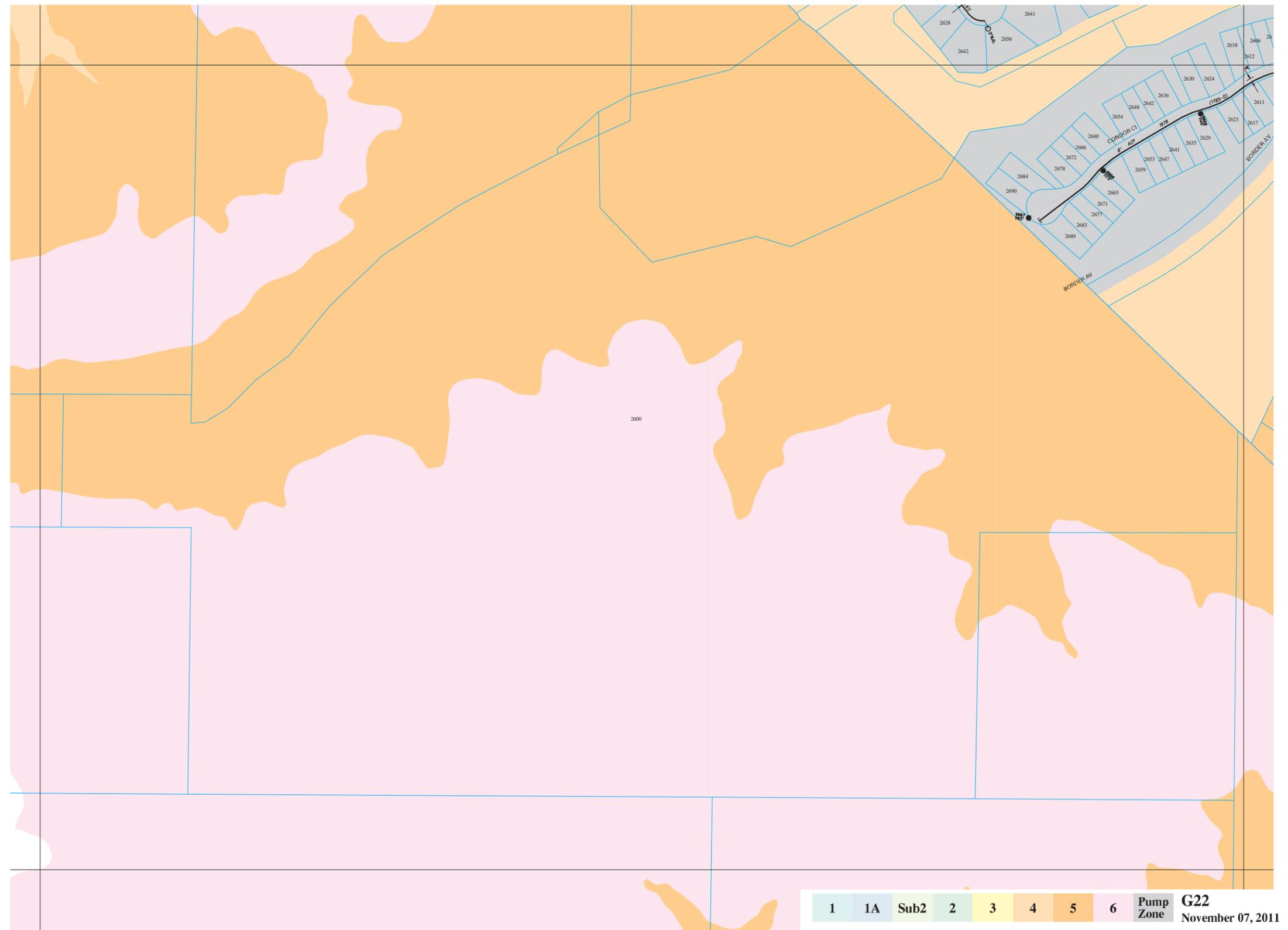




1	1A	Sub2	2	3	4	5	6	Pump Zone	H23
									November 07, 2011







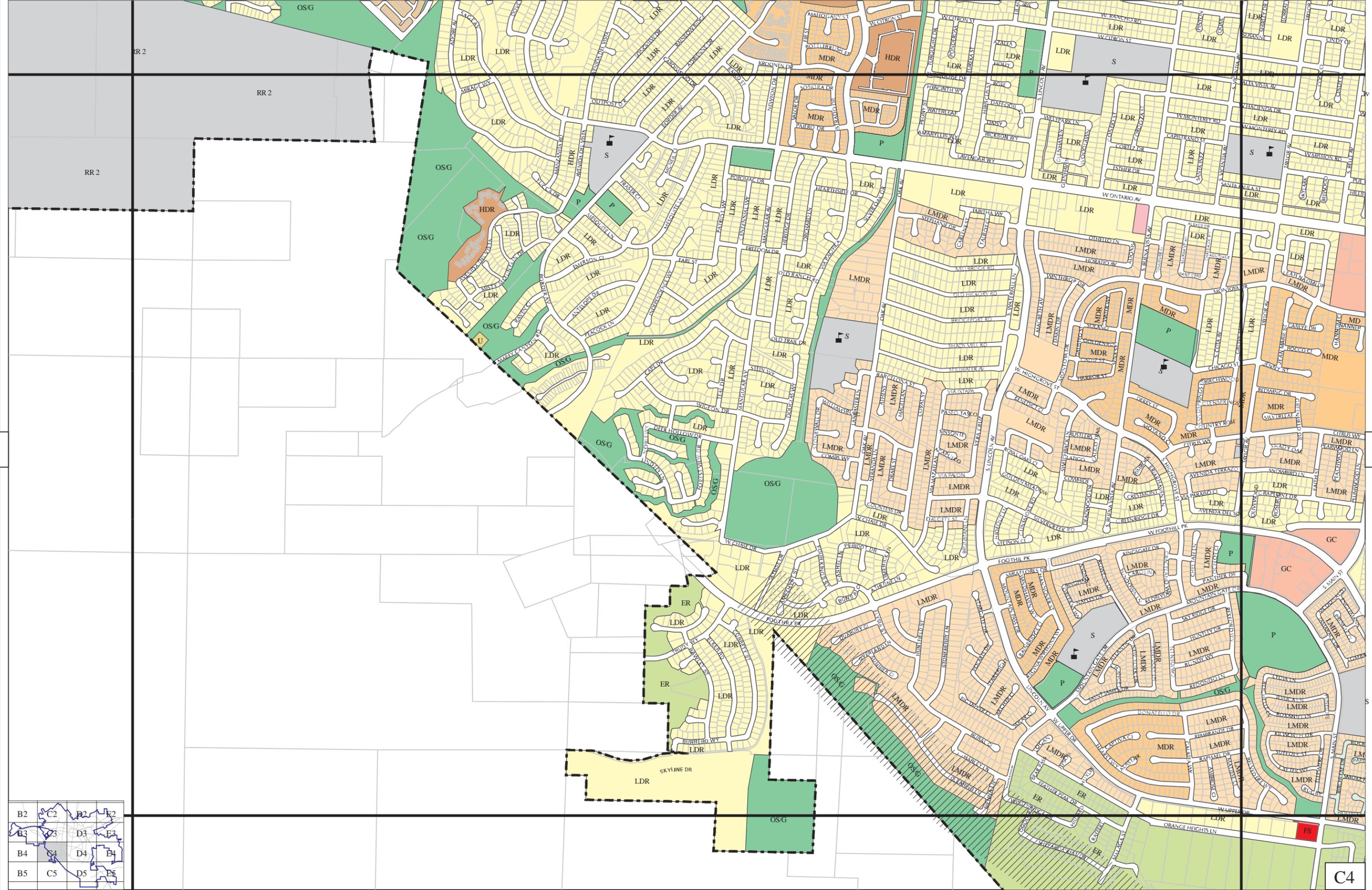
Appendix

D

**CITY OF CORONA GENERAL PLAN
LAND USE AND ZONING MAP**

CITY OF CORONA GENERAL PLAN ATLAS

- | | |
|---|--|
|  AG Agriculture |  GI General Industry |
|  E Estate 1 - 3 du/acre |  P Parks |
|  RR 1 Rural Residential I 0.2 - .05 du/acre |  OS/G Open Space General |
|  RR 2 Rural Residential II 0.5 - 1 du/acre |  OS/R Open Space Recreation |
|  LDR Low Density Residential 3 - 6 du/acre | |
|  LMDR Low-Medium Density Residential 6 - 8 du/acre |  S School |
|  MDR Medium Density Residential 6 - 15 du/acre |  FS Fire Station |
|  HDR High Density Residential 15 - 36 du/acre |  U Utility |
|  OP Office/Professional |  Slope Management |
|  GC General Commercial |  Geologic Hazard Zone |
|  MUD Mixed Use: Downtown |  Schools |
|  MU 1 Mixed Use: Commercial and Residential |  Corona City Boundary |
|  MU 2 Mixed Use: Industrial and Commercial |  Corona Sphere of Influence |
|  LI Light Industry |  Railroad |



B4

D4

C4

C5

B2	C2	D2	E2
B3	C3	D3	E3
B4	C4	D4	E4
B5	C5	D5	E5

CITY OF CORONA ZONING ATLAS

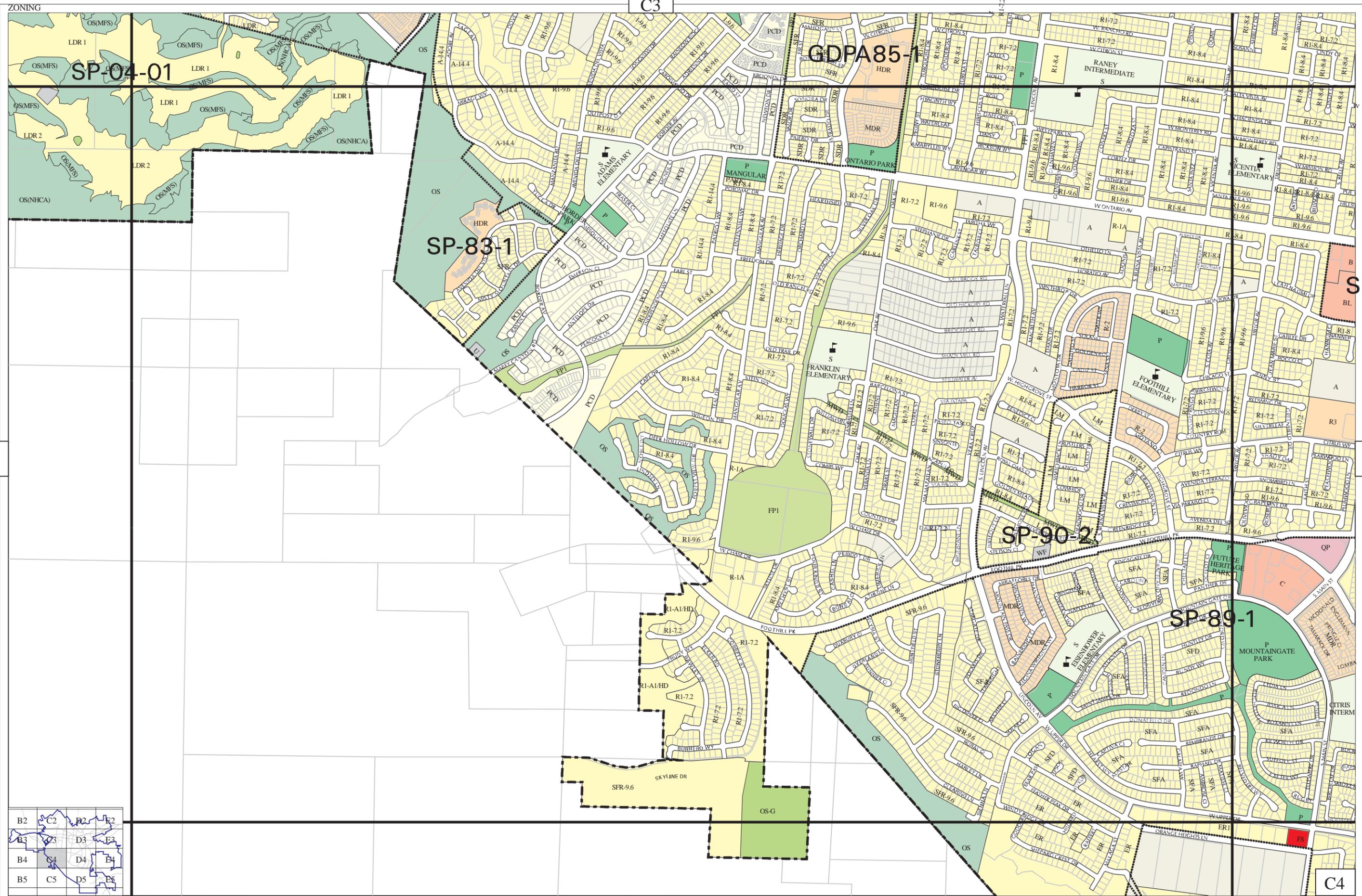
A Agricultural	CR Commercial Retail District	IP Industrial Park	MF2 Multi Family Residential 2	R1-7.2 Single Family Residential (7,200 sq. lot min)	SF3 Single Family (Block3)
A/HD Agricultural/Hillside Development	CS Community Services	L Low Density Residential	MF3 Multi Family Residential 3	R1-7.6 Single Family Residential (7,600 sq. lot min)	SFA Single Family Attached
A/AP Agricultural (Agricultural Products)	D Downtown	LCI Limited Commercial - Industrial	MF4 Multi Family Residential 4	R1-8.4 Single Family Residential (8,400 sq. lot min)	SFC Single Family Condominium
A-14.4 Agricultural (14,400 sq. lot min.)	DB Detention Basin	LDR Low Density Residential	MFR Multi Family Residential	R1-8.OS Single Family Residential (8,400 sq. lot min)	SFD Single Family Detached Residential
A/MR Agricultural (Mineral Resource)	E Estate	LDR-72 Low Density Residential (7200 sq. ft. lot min.)	MHDR Medium High Density Residential	R1-9.6 Single Family Residential (9,600 sq. lot min)	SFR Single Family Residential
ACDD Automotive Commercial Development District	ER Estate Residential	LI Light Industrial	MI Medium Industrial	R1-12 Single Family Residential (12,000 sq. lot min)	SFR-5 Single Family (5,000 sq. min. lot)
BL1 Block1 (Lincoln Business Center)	ER1 Estate Residential Block 1	LM Low Density Residential	MP Mobile Home Park	R1-14.4 Single Family Residential (14,400 sq. lot min)	SFR-6 Single Family (6,000 sq. min lot)
BL1-O Block1-Overlay (Lincoln Business Center)	ER2 Estate Residential Block 2	LMD 1 Low Density Residential 1	MH Mobile Home	R1-20 Single Family Residential (20,000 sq. lot min)	SFR-7 Single Family (7,000 sq. min lot)
BL2 Block2 (Lincoln Business Center)	EC Entertainment Commercial	LMD 2 Low Density Residential 2	MSI Medium Service Industrial	R-2 Low Density Multiple Family Residential	SFR-7.2 Single Family (7,200 sq. min. lot)
BL3 Block3 (Lincoln Business Center)	ESR Entertainment/Specialty Retail Zone	LMDR Low Medium Density Residential	MWD MWD Easement	R-3 Multiple Family Residential	SFR-8.4 Single Family (8,400 sq. lot min)
BLK1 Block1 (Main Street South)	FP1 Flood Plain	M Medium Density Residential	NC Neighborhood Commercial	RE Residential Estate	SFR-9 Single Family (9,000 sq. min lot)
BLK2 Block2 (Main Street South)	FS Fire Station	M1 Light Manufacturing	NCD Neighborhood Commercial District	RE-35 Residential Estate 35	SFR-9.6 Single Family (9,600 sq. min lot)
BLK3 Block3 (Main Street South)	G Golf	M2 General Manufacturing	MU Mixed Use	RES Reserve Area	SRSC Subregional Shopping Center
BLK4 Block4 (Main Street South)	Golf Course Golf	M2/O General Manufacturing (Oil)	OP Office Park	R-G Multiple Dwelling Zones	TC Transitional Commercial District
BLK5 Block5 (Main Street South)	GB Gateway Business	M3 Heavy Manufacturing	OS Open Space	RO Residential Office	TC-99-1 Transit/Mixed Use Zone
BLK6 Block6 (Main Street South)	GB1 Gateway Business 1	M3/MR Heavy Manufacturing (Mineral Resource)	OS(MLS) Open Space(Manufactured Landscaped Slopes)	RR Resort Residential	TR Transitional Retail District
BP Business Park	GC Golf Course	M4 Industrial Park	OS(PP) Open Space (Private Parks)	R/R Railroad	U Utility
BP Business Park Flex	GC General Commercial SP98-1	MP Mobile Home Park	OS(PPUO) Open Spcae(Private Parks Utility Overlay)	RSC Regional Shopping Center	UDR Urban Density Residential District
C Commercial	GP Greenbelt Park	MDR Medium Density Residential	OS(NHCA) Open Space(Natural Conservation Area)	SC Support Commercial	W Water
C2 Restricted Commercial	HDR High Density Residential	MDR7 Medium Density Residential (7 du/ac)	P Park	SC-99-01 Service Commercial Zone	WF Water Facility
C3 General Commercial	HDR16 High Density Residential (16 du/ac)	MDR8 Medium Density Residential (8 du/ac)	PCD Planned Community Development	SCF Support Commercial Freeway	WWTP Wastewater Treatment Plant
CC Commercial Center	HDR21 High Density Residential (21 du/ac)	MDR10 Medium Density Residential (10 du/ac)	QP Quasi Public	S School	
CER Custom Estate Residential	HDR22 High Density Residential (22 du/ac)	MDR12 Medium Density Residential (12 du/ac)	R Residential	SCI Support Commercial Industrial	
CF Freeway Access	HDR23 High Density Residential (23 du/ac)	MDR13 Medium Density Residential (13 du/ac)	R1 Single Family Residential	SFD Single Family Detached	
CG Commercial General	HER Hillside Estate Residential	MDR15 Medium Density Residential (15 du/ac)	RIA Single Family Residential (1ac. min.)	SF Single Family	
CP Professional and Office	I Industrial District	MDR22 Medium Density Residential (22 du/ac)	RIA/HD Single Family Residential (1ac. min.) Hillside	SF1 Single Family (Block1)	
CO/BP Commercial Office/Business Park Flex	ICDD Industrial Commercial Development District	MF1 Multi Family Residential 1	RI-AI/HD Single Family Residential (1ac. min.) Hillside	SF2 Single Family (Block2)	

SPECIFIC PLANS

SP 81-1 Lincoln Business Center Specific Plan	SP 84-2 Parkview Specific Plan	SP 89-1 Mountaingate Specific Plan	SP 90-5 Corona Vista Specific Plan	SP 99-1 North Main Street District Specific Plan
SP 81-2 Northeast Corona Specific Plan	GDPA85-1 Brookwood Specific Plan	SP 89-2 Chase Ranch Specific Plan	SP 90-6 Eagle Glen Specific Plan	SP 99-3 Dos Lagos Specific Plan
SP 82-1 Township in Corona Specific Plan	SP 85-1 Prado Point Specific Plan	SP 90-1 The Plaza on Sixth Street Specific Plan	SP 91-1 Main Street South Plaza Specific Plan	SP 00-1 Green River Ranch Specific Plan
SP 82-2 Birtcher Business Center Specific Plan	SP 85-2 Sierra Del Oro Specific Plan	SP 90-2 Todd Ranch Specific Plan	SP 91-2 El Cerrito Specific Plan	SP 01-1 Crown Ranch Estates Specific Plan
SP 83-1 Crown Ridge Specific Plan	SP 85-3 Corona Ranch Specific Plan	SP 90-3 Cherokee Ranch Specific Plan	SP 95-1 Cimarron Specific Plan	SP 01-2 Corona Magnolia Specific Plan
SP 84-1 Concordia Specific Plan	SP 87-1 Westgate Specific Plan	SP 90-4 Empire Homes Specific Plan	SP 98-1 Downtown Revitalization Specific Plan	SP 04-01 Sierra Bella Specific Plan

Single Family Residential	Utility	North Main Street Specific Plan
Multiple Family Residential	Schools	Garretson Avenue Overlay Zone
Commercial/Industrial	Planned Community Development	Golf Course
Heavy Industrial	Open Space	Schools
Mixed Use	Flood Control	Corona City Boundary
Commercial	Parks	Specific Plans Boundaries
Office	Agricultural	

LEGEND



B2	C2	D2	E2
B3	C3	D3	E3
B4	C4	D4	E4
B5	C5	D5	E5

E

ULTIMATE CONDITION MODEL DEMANDS AND MAP



CITY OF CORONA
FIRE FLOW TEST REPORT
TELEPHONE: 951-739-4842; FAX: 951-735-3786

Applicant Information

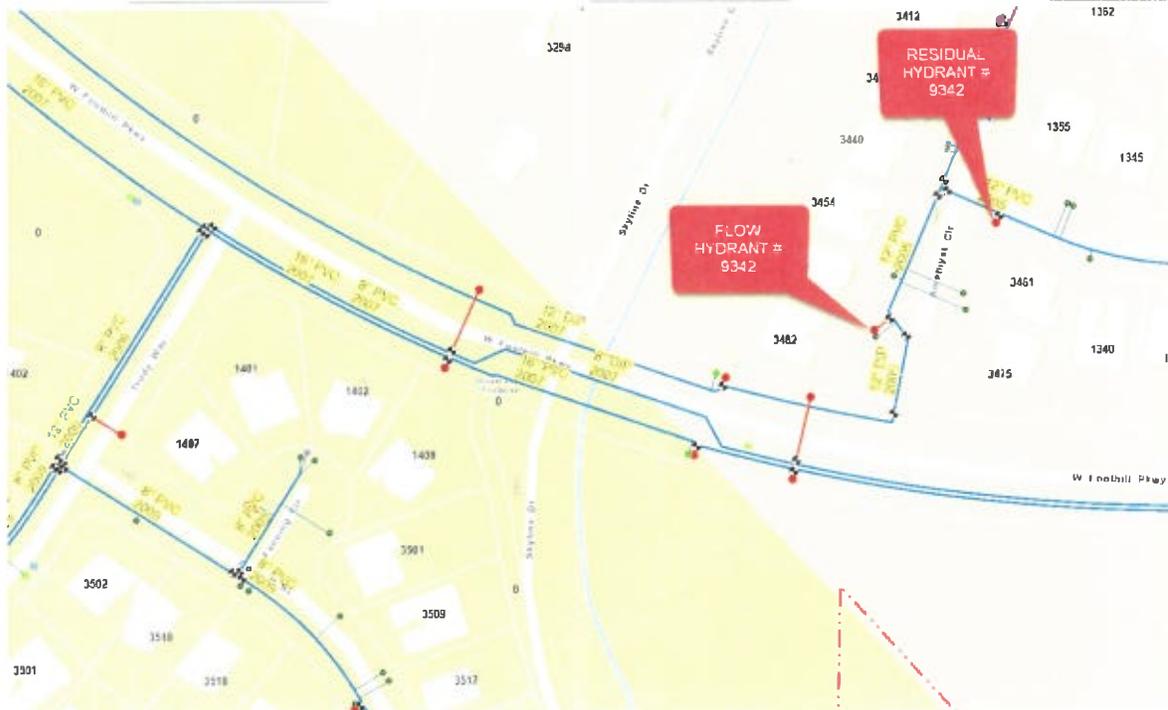
First, Last Name:	MIKE TAING	Date:	7/25/2018
Company Name:	KWC ENGINEERS	Phone:	(951) 734-2130
Billing Address:	1880 COMPTON AVE	Fax:	
City, State, Zip Code:	CORONA CA 92881	Email:	Mike.Taing@kwceengineers.com
Site Address/APN #/Tract #:	SKYLINE HEIGHTS DEVELOPME	Flow Hydrant(s):	9342
Reason for Request	Fire	Residual Hydrant:	9341

Test Information

Test Date:	8/7/2018	Test Time:	8:50 AM	Test Performed By:	Richard and Juan
Static Pressure (psi):	51	Total Hydrant(s) Flow (gpm):	2087		
Residual Pressure (psi):	47	20 psi Residual Flow (gpm):	6307		

Flow Hydrant Information

Flow Hydrant # 1:	9342	Flow Hydrant # 2:		Flow Hydrant # 3:	
Nozzle Size (in):	4	Nozzle Size (in):		Nozzle Size (in):	
Pitot Pressure (psi):	34	Pitot Pressure (psi):		Pitot Pressure (psi):	
Main Size (in):	12	Main Size (in):		Main Size (in):	
Test Duration (min):	3	Test Duration (min):		Test Duration (min):	
Hydrant Flow (gpm):	2087	Hydrant Flow (gpm):		Hydrant Flow (gpm):	



Approved By:

Date:

8/13/2018



CITY OF CORONA
FIRE FLOW TEST REPORT
TELEPHONE: 951-739-4842; FAX: 951-735-3786

Applicant Information

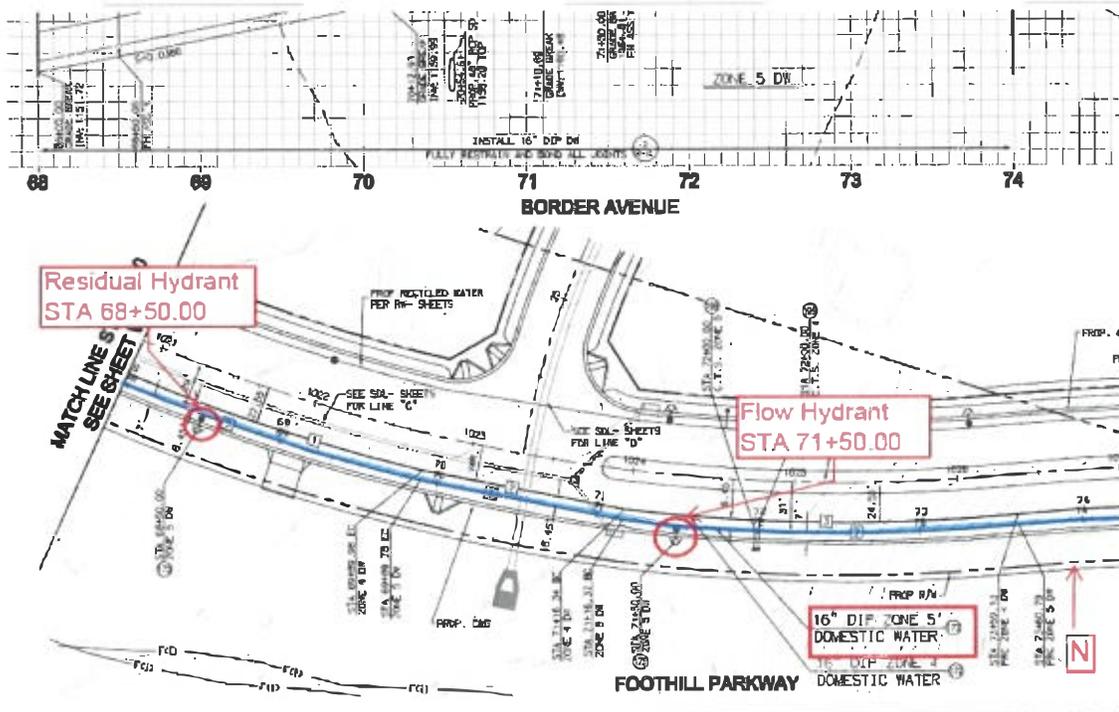
First, Last Name:	MIKE TAING	Date:	7/25/2018
Company Name:	KWC ENGINEERS	Phone:	(951) 734-2130
Billing Address:	1880 COMPTON AVE	Fax:	
City, State, Zip Code:	CORONA CA 92881	Email:	Mike.Taing@kwceengineers.com
Site Address/APN #/Tract #:	SKYLINE HEIGHTS DEVELOPME	Flow Hydrant(s):	STA 71+50
Reason for Request	DESIGN	Residual Hydrant:	STA 68+50

Test Information

Test Date:	8/7/2018	Test Time:	9:32 AM	Test Performed By:	Richard and Juan
Static Pressure (psi):	86	Total Hydrant(s) Flow (gpm):	993		
Residual Pressure (psi):	76	20 psi Residual Flow (gpm):	2750		

Flow Hydrant Information

Flow Hydrant # 1:	STA 71+50	Flow Hydrant # 2:		Flow Hydrant # 3:	
Nozzle Size (in):	2.5	Nozzle Size (in):		Nozzle Size (in):	
Pitot Pressure (psi):	35	Pitot Pressure (psi):		Pitot Pressure (psi):	
Main Size (in):	16	Main Size (in):		Main Size (in):	
Test Duration (min):	3	Test Duration (min):		Test Duration (min):	
Hydrant Flow (gpm):	993	Hydrant Flow (gpm):		Hydrant Flow (gpm):	



Approved By:  Date: 8/13/2018

Legend

**Junction
TYPE**

- Active
- Domain
- Inactive

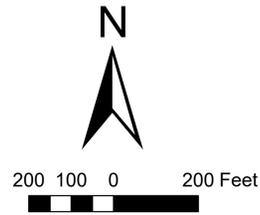
**Reservoir
TYPE**

- Active
- Domain
- Inactive

**Pump
TYPE**

- Active
- Domain
- Inactive

— Pipe



Legend

**Junction
TYPE**

- Active
- Domain
- Inactive

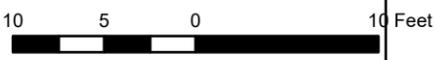
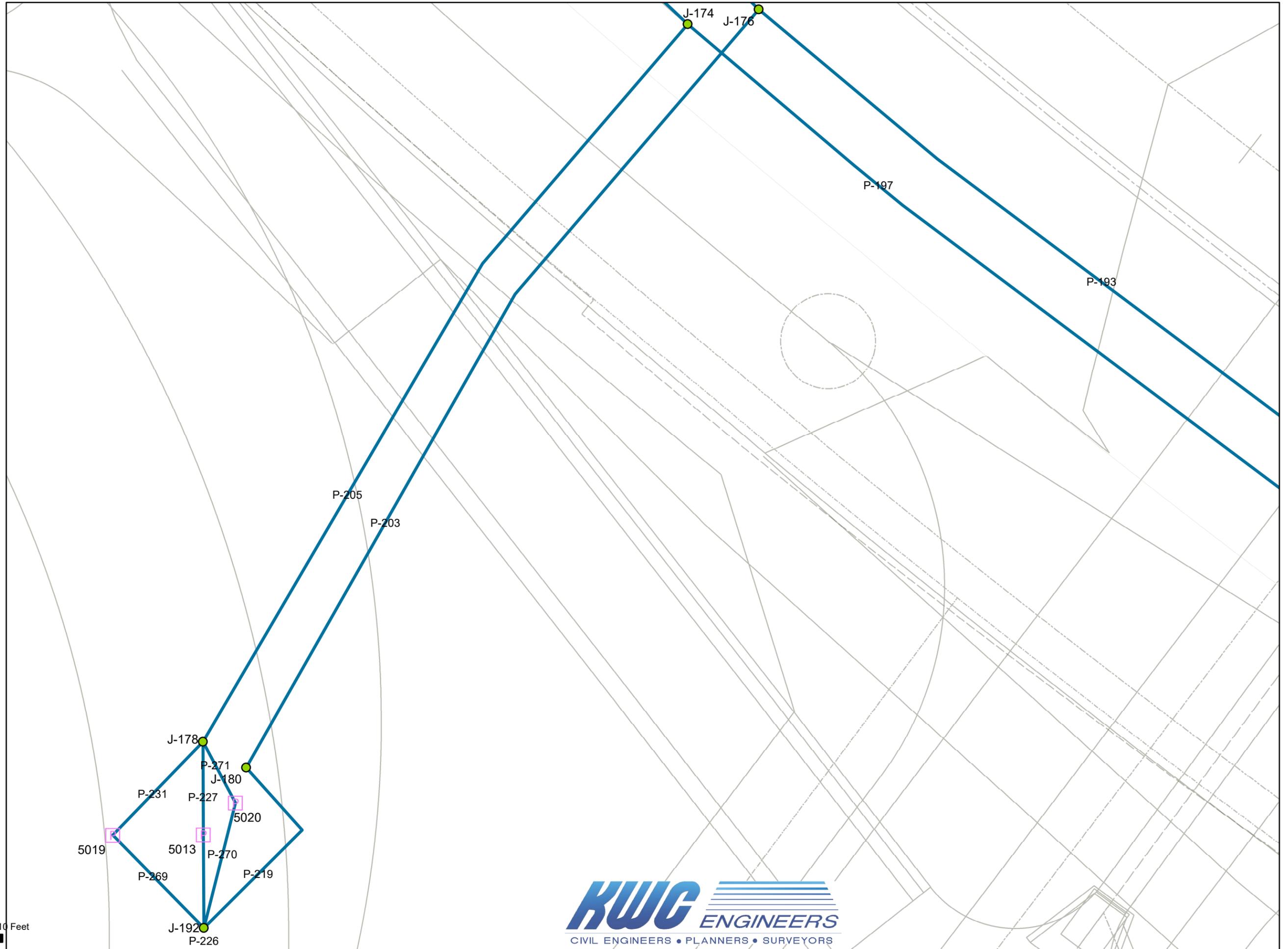
**Reservoir
TYPE**

- Active
- Domain
- Inactive

**Pump
TYPE**

- Active
- Domain
- Inactive

— Pipe



SKYLINE VILLAGE PROJECT - WATER DEMAND SUMMARY

Node No.	Land Area No.	Tributary Area (ac)	Average Day Demand (GPD)	Average Day Demand (gpm)	Max Day Factor	Maximum Day Demand (gpm)	Peak Hour Factor	Peak Hour Demand (gpm)
ZONE FIVE								
J- 219	1	3.17	5,104	3.54	1.80	6.38	3.00	10.63
J- 210	2	4.30	6,923	4.81	1.80	8.65	3.00	14.42
J- 217	3	1.49	1,490	1.03	1.80	1.86	3.00	3.10
J- 209	4	4.63	19,261	13.38	1.80	24.08	3.00	40.13
J- 206	5	0.79	787	0.55	1.80	0.98	3.00	1.64
J- 220	6	2.65	2,650	1.84	1.80	3.31	3.00	5.52
Total:		17.03	36,214	25.15		45.27		75.45

SKYLINE HEIGHTS PROJECT - WATER DEMAND SUMMARY (PHASE 1)

Node No.	Land Area No.	Tributary Area (ac)	Average Day Demand (GPD)	Average Day Demand (gpm)	Max Day Factor	Maximum Day Demand (gpm)	Peak Hour Factor	Peak Hour Demand (gpm)
ZONE FIVE								
J- 10	--	3.75	13,275	9.22	1.80	16.59	3.00	27.66
J- 11	--	3.74	13,240	9.19	1.80	16.55	3.00	27.58
J- 12	--	1.74	6,160	4.28	1.80	7.70	3.00	12.83
J- 13	--	2.12	7,505	5.21	1.80	9.38	3.00	15.64
J- 14	--	2.15	7,611	5.29	1.80	9.51	3.00	15.86
Total:		13.50	47,790	33.19		59.74		99.56

- 1) Average Day Demand based on 1610 gpd/ac for GCC, 4160 gpd/ac for HDR, 3540 gpd/ac for LDR, and 1000 gpd/ac for OS.
- 2) Maximum Day Demand is 1.80xADD.
- 3) Peak Hour Demand is 3.00xADD for Zone 5.
- 4) Fire flow is 3500 gpm for 4 hours for commercial
- 5) Fire flow is 2500 gpm for 2 hours for multi-family residential.

ONSITE WATER DEMANDS ANALYSIS RESULTS

Average Daily Demand (ADD)

(SCENARIO 1: ZONE 5 PUMP OFF)

Junction Pressures @ Steady State Analysis					
ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)	
J-1	0.00	1070.60	1277.97	89.85	
J-10	9.22	1180.70	1276.83	41.65	<-ZONE 5
J-11	9.19	1187.00	1276.83	38.92	<-ZONE 5
J-12	4.28	1205.40	1276.82	30.95	<-ZONE 5
J-13	5.21	1217.00	1276.82	25.92	<-ZONE 5
J-136	0.00	1175.52	1277.97	44.39	<-ZONE 5
J-14	5.29	1206.70	1276.82	30.38	<-ZONE 5
J-142	0.00	1168.84	1277.97	47.29	<-ZONE 5
J-168	0.00	1070.09	1189.99	51.95	<-ZONE 4
J-170	0.00	1142.54	1190.00	20.56	<-ZONE 4
J-174	0.00	1157.87	1277.97	52.04	<-ZONE 5
J-176	0.00	1157.71	1190.00	13.99	<-ZONE 4
J-178	0.00	1160.00	1277.97	51.12	<-ZONE 5
J-180	0.00	1160.00	1190.00	13.00	<-ZONE 4
J-184	1250.00	1080.00	1243.09	70.67	
J-186	2087.00	1080.00	1189.97	47.65	<-ZONE 4
J-188	0.00	1153.66	1277.97	53.86	<-ZONE 5
J-192	0.00	1160.00	1190.00	13.00	<-ZONE 4
J-194	0.00	1117.56	1274.98	68.21	
J-2	0.00	1070.50	1277.97	89.90	
J-205	0.00	1129.93	1277.97	64.15	
J-206	0.55	1143.81	1277.97	58.13	<-ZONE 5
J-207	0.00	1142.00	1277.97	58.92	<-ZONE 5
J-208	0.00	1139.05	1277.97	60.19	
J-209	13.38	1139.68	1277.97	59.92	<-ZONE 5
J-210	4.83	1128.46	1277.97	64.78	
J-211	0.00	1098.02	1277.97	77.97	
J-212	0.00	1136.72	1277.97	61.20	
J-213	0.00	1138.10	1277.97	60.61	
J-214	0.00	1138.97	1277.97	60.23	
J-215	0.00	1139.66	1277.97	59.93	<-ZONE 5
J-216	0.00	1136.88	1277.97	61.13	
J-217	1.03	1133.76	1277.97	62.49	
J-218	0.00	1137.11	1277.97	61.03	
J-219	3.54	1135.33	1277.97	61.81	
J-220	1.84	1142.08	1277.97	58.88	<-ZONE 5
J-221	0.00	1095.21	1277.97	79.19	
J-222	0.00	1078.11	1277.97	86.60	
J-3	0.00	1070.50	1277.97	89.90	
J-4	0.00	1071.65	1277.97	89.40	
J-5	0.00	1164.00	1277.97	49.38	<-ZONE 5
J-6	0.00	1152.75	1276.84	53.77	<-ZONE 5
J-7	0.00	1152.96	1276.83	53.67	<-ZONE 5
J-8	0.00	1117.56	1274.62	68.05	
J-84	0.00	1161.00	1276.83	50.19	<-ZONE 5
J-9	0.00	1161.00	1276.84	50.19	<-ZONE 5

Reservoir Results @ Steady State Analysis		
ID	Flow (gpm)	Head (ft)
R-7008	-2043.40	1190.00
R-7010	-1308.36	1278.00
R-7012	-43.59	1190.00

Pump Results @ Steady State Analysis									
ID	Elevation (ft)	Upstream Pressure (psi)	Downstream Pressure (psi)	Flow (gpm)	Head Gain (ft)	Status	Setting	Available NPSH (ft)	Cavitation Index
5013	1160.00	13.00	51.12	0.00	0.00	Closed	0	0.00	0.00
5019	1160.00	13.00	51.12	0.00	0.00	Closed	0	0.00	0.00
5020	1160.00	13.00	51.12	0.00	0.00	Closed	0	0.00	0.00

ONSITE WATER DEMANDS ANALYSIS RESULTS

Average Daily Demand (ADD)

(SCENARIO 1: ZONE 5 PUMP OFF)

Pipe Pressures @ Steady State Analysis

ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/k-ft)	Status
P-10	J-10	J-84	337.21	8	110	-7.95	0.05	0.00	0.00	Open
P-11	J-9	J-6	254.31	8	110	-25.24	0.16	0.01	0.03	Open
P-12	J-9	J-10	331.30	8	110	25.24	0.16	0.01	0.03	Open
P-13	J-10	J-11	779.83	8	110	9.19	0.06	0.00	0.00	Open
P-14	J-12	J-10	553.74	8	110	-14.78	0.09	0.01	0.01	Open
P-147	J-136	J-211	2187.52	16	110	25.17	0.04	0.00	0.00	Open
P-15	J-13	J-12	308.82	8	110	-5.21	0.03	0.00	0.00	Open
P-155	J-142	J-136	159.33	16	110	25.17	0.04	0.00	0.00	Open
P-16	J-14	J-12	286.07	8	110	-5.29	0.03	0.00	0.00	Open
P-193	J-168	J-176	3290.72	16	110	-43.60	0.07	0.01	0.00	Open
P-197	J-174	J-5	104.96	16	110	25.17	0.04	0.00	0.00	Open
P-199	J-176	J-170	367.24	16	110	-43.59	0.07	0.00	0.00	Open
P-2	J-2	J-1	27.00	16	110	0.00	0.00	0.00	0.00	Open
P-203	J-180	J-176	102.36	16	110	0.00	0.00	0.00	0.00	Open
P-205	J-174	J-178	96.80	16	110	0.00	0.00	0.00	0.00	Open
P-207	R-7008	J-186	2.12	12	110	2043.40	5.80	0.03	13.00	Open
P-211	J-186	J-168	1396.15	12	110	-43.60	0.12	0.01	0.01	Open
P-213	J-188	J-174	108.45	16	110	25.17	0.04	0.00	0.00	Open
P-217	R-7010	J-188	19.50	16	110	1308.36	2.09	0.03	1.40	Open
P-219	J-180	J-192	24.79	16	110	0.00	0.00	0.00	0.00	Open
P-221	J-194	J-8	68.96	12	110	1250.00	3.55	0.36	5.22	Open
P-225	R-7012	J-170	1386.31	16	110	43.59	0.07	0.00	0.00	Open
P-226	J-192	5013	10.36	12	150	0.00	0.00	0.00	0.00	Open
P-227	5013	J-178	10.36	12	150	0.00	0.00	0.00	0.00	Open
P-231	5019	J-178	14.45	12	150	0.00	0.00	0.00	0.00	Open
P-246	J-206	J-207	85.04	8	110	-0.55	0.00	0.00	0.00	Open
P-247	J-208	J-209	168.97	8	110	13.38	0.09	0.00	0.01	Open
P-248	J-205	J-210	115.49	12	110	4.83	0.01	0.00	0.00	Open
P-249	J-211	J-212	512.60	8	110	7.75	0.05	0.00	0.00	Open
P-250	J-213	J-208	137.75	12	110	1.36	0.00	0.00	0.00	Open
P-251	J-214	J-215	197.10	12	110	-4.04	0.01	0.00	0.00	Open
P-252	J-212	J-216	26.87	12	110	3.54	0.01	0.00	0.00	Open
P-253	J-212	J-214	179.71	12	110	7.97	0.02	0.00	0.00	Open
P-254	J-205	J-217	253.11	12	110	12.59	0.04	0.00	0.00	Open
P-255	J-217	J-218	144.19	12	110	11.56	0.03	0.00	0.00	Open
P-256	J-216	J-219	129.67	12	110	3.54	0.01	0.00	0.00	Open
P-257	J-207	J-213	408.60	12	110	1.36	0.00	0.00	0.00	Open
P-258	J-220	J-207	283.28	12	110	1.91	0.01	0.00	0.00	Open
P-259	J-208	J-214	26.33	12	110	-12.02	0.03	0.00	0.00	Open
P-260	J-218	J-215	170.52	12	110	7.80	0.02	0.00	0.00	Open
P-261	J-218	J-212	160.94	12	110	3.76	0.01	0.00	0.00	Open
P-262	J-215	J-220	292.68	12	110	3.75	0.01	0.00	0.00	Open
P-263	J-211	J-222	400.47	16	110	17.42	0.03	0.00	0.00	Open
P-264	J-221	J-205	448.93	12	110	17.42	0.05	0.00	0.00	Open

<-EX. PIPE

P-265	J-222	J-4	249.43	16	110	0.00	0.00	0.00	0.00	Open
P-266	J-221	J-222	61.64	12	110	-17.42	0.05	0.00	0.00	Open
P-269	J-192	5019	14.50	12	150	0.00	0.00	0.00	0.00	Open
P-270	J-192	5020	14.36	12	150	0.00	0.00	0.00	0.00	Open
P-271	5020	J-178	7.71	12	150	0.00	0.00	0.00	0.00	Open
P-3	J-3	J-2	5.00	16	110	0.00	0.00	0.00	0.00	Open
P-4	J-4	J-3	394.66	16	110	0.00	0.00	0.00	0.00	Open
P-5	J-5	J-142	144.77	16	110	25.17	0.04	0.00	0.00	Open
P-6	J-6	J-188	835.80	16	110	-1283.19	2.05	1.13	1.35	Open
P-7	J-6	J-7	11.45	16	110	1257.95	2.01	0.01	1.30	Open
P-8	J-7	J-194	354.26	12	110	1250.00	3.55	1.85	5.22	Open
P-84	J-84	J-7	258.28	16	110	-7.95	0.01	0.00	0.00	Open
P-9	J-8	J-184	837.86	8	110	1250.00	7.98	31.53	37.63	Open

<-EX. PIPE

ONSITE WATER DEMANDS ANALYSIS RESULTS

Max Day Demand (MDD)

(SCENARIO 1: ZONE 5 PUMP OFF)

Junction Pressures @ Steady State Analysis					
ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)	
J-1	0.00	1070.60	1277.96	89.85	
J-10	16.60	1180.70	1276.77	41.63	<-ZONE 5
J-11	16.54	1187.00	1276.76	38.89	<-ZONE 5
J-12	7.70	1205.40	1276.76	30.92	<-ZONE 5
J-13	9.38	1217.00	1276.76	25.89	<-ZONE 5
J-136	0.00	1175.52	1277.97	44.39	<-ZONE 5
J-14	9.52	1206.70	1276.76	30.35	<-ZONE 5
J-142	0.00	1168.84	1277.97	47.29	<-ZONE 5
J-168	0.00	1070.09	1189.99	51.95	<-ZONE 4
J-170	0.00	1142.54	1190.00	20.56	<-ZONE 4
J-174	0.00	1157.87	1277.97	52.04	<-ZONE 5
J-176	0.00	1157.71	1190.00	13.99	<-ZONE 4
J-178	0.00	1160.00	1277.97	51.12	<-ZONE 5
J-180	0.00	1160.00	1190.00	13.00	<-ZONE 4
J-184	1250.00	1080.00	1243.05	70.65	
J-186	2087.00	1080.00	1189.97	47.65	<-ZONE 4
J-188	0.00	1153.66	1277.97	53.86	<-ZONE 5
J-192	0.00	1160.00	1190.00	13.00	<-ZONE 4
J-194	0.00	1117.56	1274.93	68.19	
J-2	0.00	1070.50	1277.96	89.89	
J-205	0.00	1129.93	1277.96	64.14	
J-206	0.98	1143.81	1277.96	58.13	<-ZONE 5
J-207	0.00	1142.00	1277.96	58.91	<-ZONE 5
J-208	0.00	1139.05	1277.96	60.19	
J-209	24.08	1139.68	1277.95	59.91	<-ZONE 5
J-210	8.65	1128.46	1277.96	64.78	
J-211	0.00	1098.02	1277.96	77.97	
J-212	0.00	1136.72	1277.96	61.20	
J-213	0.00	1138.10	1277.96	60.60	
J-214	0.00	1138.97	1277.96	60.22	
J-215	0.00	1139.66	1277.96	59.92	<-ZONE 5
J-216	0.00	1136.88	1277.96	61.13	
J-217	1.86	1133.76	1277.96	62.48	
J-218	0.00	1137.11	1277.96	61.03	
J-219	6.38	1135.33	1277.96	61.80	
J-220	3.31	1142.08	1277.96	58.88	<-ZONE 5
J-221	0.00	1095.21	1277.96	79.19	
J-222	0.00	1078.11	1277.96	86.60	
J-3	0.00	1070.50	1277.96	89.89	
J-4	0.00	1071.65	1277.96	89.40	
J-5	0.00	1164.00	1277.97	49.38	<-ZONE 5
J-6	0.00	1152.75	1276.80	53.75	<-ZONE 5
J-7	0.00	1152.96	1276.78	53.65	<-ZONE 5
J-8	0.00	1117.56	1274.57	68.03	
J-84	0.00	1161.00	1276.78	50.17	<-ZONE 5
J-9	0.00	1161.00	1276.79	50.17	<-ZONE 5

Reservoir Results @ Steady State Analysis		
ID	Flow (gpm)	Head (ft)
R-7008	-2043.40	1190.00
R-7010	-1355.00	1278.00
R-7012	-43.59	1190.00

Pump Results @ Steady State Analysis									
ID	Elevation (ft)	Upstream Pressure (psi)	Downstream Pressure (psi)	Flow (gpm)	Head Gain (ft)	Status	Setting	Available NPSH (ft)	Cavitation Index
5013	1160.00	13.00	51.12	0.00	0.00	Closed	0	0.00	0.00
5019	1160.00	13.00	51.12	0.00	0.00	Closed	0	0.00	0.00
5020	1160.00	13.00	51.12	0.00	0.00	Closed	0	0.00	0.00

ONSITE WATER DEMANDS ANALYSIS RESULTS

Max Day Demand (MDD)

(SCENARIO 1: ZONE 5 PUMP OFF)

Pipe Pressures @ Steady State Analysis

ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/k-ft)	Status
P-10	J-10	J-84	337.21	8	110	-26.95	0.17	0.01	0.03	Open
P-11	J-9	J-6	254.31	8	110	-32.79	0.21	0.01	0.04	Open
P-12	J-9	J-10	331.30	8	110	32.79	0.21	0.01	0.04	Open
P-13	J-10	J-11	779.83	8	110	16.54	0.11	0.01	0.01	Open
P-14	J-12	J-10	553.74	8	110	-26.60	0.17	0.02	0.03	Open
P-147	J-136	J-211	2187.52	16	110	45.26	0.07	0.01	0.00	Open
P-15	J-13	J-12	308.82	8	110	-9.38	0.06	0.00	0.00	Open
P-155	J-142	J-136	159.33	16	110	45.26	0.07	0.00	0.00	Open
P-16	J-14	J-12	286.07	8	110	-9.52	0.06	0.00	0.00	Open
P-193	J-168	J-176	3290.72	16	110	-43.60	0.07	0.01	0.00	Open
P-197	J-174	J-5	104.96	16	110	45.26	0.07	0.00	0.00	Open
P-199	J-176	J-170	367.24	16	110	-43.59	0.07	0.00	0.00	Open
P-2	J-2	J-1	27.00	16	110	0.00	0.00	0.00	0.00	Open
P-203	J-180	J-176	102.36	16	110	0.00	0.00	0.00	0.00	Open
P-205	J-174	J-178	96.80	16	110	0.00	0.00	0.00	0.00	Open
P-207	R-7008	J-186	2.12	12	110	2043.40	5.80	0.03	13.00	Open
P-211	J-186	J-168	1396.15	12	110	-43.60	0.12	0.01	0.01	Open
P-213	J-188	J-174	108.45	16	110	45.26	0.07	0.00	0.00	Open
P-217	R-7010	J-188	19.50	16	110	1355.00	2.16	0.03	1.49	Open
P-219	J-180	J-192	24.79	16	110	0.00	0.00	0.00	0.00	Open
P-221	J-194	J-8	68.96	12	110	1250.00	3.55	0.36	5.22	Open
P-225	R-7012	J-170	1386.31	16	110	43.59	0.07	0.00	0.00	Open
P-226	J-192	5013	10.36	12	150	0.00	0.00	0.00	0.00	Open
P-227	5013	J-178	10.36	12	150	0.00	0.00	0.00	0.00	Open
P-231	5019	J-178	14.45	12	150	0.00	0.00	0.00	0.00	Open
P-246	J-206	J-207	85.04	8	110	-0.98	0.01	0.00	0.00	Open
P-247	J-208	J-209	168.97	8	110	24.08	0.15	0.00	0.03	Open
P-248	J-205	J-210	115.49	12	110	8.65	0.02	0.00	0.00	Open
P-249	J-211	J-212	512.60	8	110	13.94	0.09	0.00	0.01	Open
P-250	J-213	J-208	137.75	12	110	2.44	0.01	0.00	0.00	Open
P-251	J-214	J-215	197.10	12	110	-7.29	0.02	0.00	0.00	Open
P-252	J-212	J-216	26.87	12	110	6.38	0.02	0.00	0.00	Open
P-253	J-212	J-214	179.71	12	110	14.34	0.04	0.00	0.00	Open
P-254	J-205	J-217	253.11	12	110	22.67	0.06	0.00	0.00	Open
P-255	J-217	J-218	144.19	12	110	20.81	0.06	0.00	0.00	Open
P-256	J-216	J-219	129.67	12	110	6.38	0.02	0.00	0.00	Open
P-257	J-207	J-213	408.60	12	110	2.44	0.01	0.00	0.00	Open
P-258	J-220	J-207	283.28	12	110	3.42	0.01	0.00	0.00	Open
P-259	J-208	J-214	26.33	12	110	-21.64	0.06	0.00	0.00	Open
P-260	J-218	J-215	170.52	12	110	14.03	0.04	0.00	0.00	Open
P-261	J-218	J-212	160.94	12	110	6.78	0.02	0.00	0.00	Open
P-262	J-215	J-220	292.68	12	110	6.73	0.02	0.00	0.00	Open
P-263	J-211	J-222	400.47	16	110	31.32	0.05	0.00	0.00	Open
P-264	J-221	J-205	448.93	12	110	31.32	0.09	0.00	0.01	Open

P-265	J-222	J-4	249.43	16	110	0.00	0.00	0.00	0.00	Open
P-266	J-221	J-222	61.64	12	110	-31.32	0.09	0.00	0.01	Open
P-269	J-192	5019	14.50	12	150	0.00	0.00	0.00	0.00	Open
P-270	J-192	5020	14.36	12	150	0.00	0.00	0.00	0.00	Open
P-271	5020	J-178	7.71	12	150	0.00	0.00	0.00	0.00	Open
P-3	J-3	J-2	5.00	16	110	0.00	0.00	0.00	0.00	Open
P-4	J-4	J-3	394.66	16	110	0.00	0.00	0.00	0.00	Open
P-5	J-5	J-142	144.77	16	110	45.26	0.07	0.00	0.00	Open
P-6	J-6	J-188	835.80	16	110	-1309.74	2.09	1.17	1.40	Open
P-7	J-6	J-7	11.45	16	110	1276.95	2.04	0.02	1.34	Open
P-8	J-7	J-194	354.26	12	110	1250.00	3.55	1.85	5.22	Open
P-84	J-84	J-7	258.28	16	110	-26.95	0.04	0.00	0.00	Open
P-9	J-8	J-184	837.86	8	110	1250.00	7.98	31.53	37.63	Open

<-EX. PIPE

ONSITE WATER DEMANDS ANALYSIS RESULTS

Peak Hour Demand (PHD)

(SCENARIO 1: ZONE 5 PUMP OFF)

Junction Pressures @ Steady State Analysis					
ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)	
J-1	0.00	1070.60	1277.95	89.84	
J-10	27.66	1180.70	1276.68	41.59	<-ZONE 5
J-11	27.58	1187.00	1276.65	38.85	<-ZONE 5
J-12	12.83	1205.40	1276.63	30.87	<-ZONE 5
J-13	15.64	1217.00	1276.63	25.84	<-ZONE 5
J-136	0.00	1175.52	1277.96	44.39	<-ZONE 5
J-14	15.86	1206.70	1276.63	30.30	<-ZONE 5
J-142	0.00	1168.84	1277.97	47.28	<-ZONE 5
J-168	0.00	1070.09	1189.99	51.95	<-ZONE 4
J-170	0.00	1142.54	1190.00	20.56	<-ZONE 4
J-174	0.00	1157.87	1277.97	52.04	<-ZONE 5
J-176	0.00	1157.71	1190.00	13.99	<-ZONE 4
J-178	0.00	1160.00	1277.97	51.12	<-ZONE 5
J-180	0.00	1160.00	1190.00	13.00	<-ZONE 4
J-184	1250.00	1080.00	1242.98	70.62	
J-186	2087.00	1080.00	1189.97	47.65	<-ZONE 4
J-188	0.00	1153.66	1277.97	53.86	<-ZONE 5
J-192	0.00	1160.00	1190.00	13.00	<-ZONE 4
J-194	0.00	1117.56	1274.86	68.16	
J-2	0.00	1070.50	1277.95	89.89	
J-205	0.00	1129.93	1277.94	64.13	
J-206	1.64	1143.81	1277.94	58.12	<-ZONE 5
J-207	0.00	1142.00	1277.94	58.90	<-ZONE 5
J-208	0.00	1139.05	1277.94	60.18	
J-209	40.13	1139.68	1277.93	59.90	<-ZONE 5
J-210	14.42	1128.46	1277.94	64.77	
J-211	0.00	1098.02	1277.95	77.96	
J-212	0.00	1136.72	1277.94	61.19	
J-213	0.00	1138.10	1277.94	60.59	
J-214	0.00	1138.97	1277.94	60.21	
J-215	0.00	1139.66	1277.94	59.92	<-ZONE 5
J-216	0.00	1136.88	1277.94	61.12	
J-217	3.10	1133.76	1277.94	62.47	
J-218	0.00	1137.11	1277.94	61.02	
J-219	10.63	1135.33	1277.94	61.79	
J-220	5.52	1142.08	1277.94	58.87	<-ZONE 5
J-221	0.00	1095.21	1277.95	79.18	
J-222	0.00	1078.11	1277.95	86.59	
J-3	0.00	1070.50	1277.95	89.89	
J-4	0.00	1071.65	1277.95	89.39	
J-5	0.00	1164.00	1277.97	49.38	<-ZONE 5
J-6	0.00	1152.75	1276.73	53.72	<-ZONE 5
J-7	0.00	1152.96	1276.71	53.62	<-ZONE 5
J-8	0.00	1117.56	1274.50	68.00	
J-84	0.00	1161.00	1276.71	50.14	<-ZONE 5
J-9	0.00	1161.00	1276.71	50.14	<-ZONE 5

Reservoir Results @ Steady State Analysis		
ID	Flow (gpm)	Head (ft)
R-7008	-2043.40	1190.00
R-7010	-1425.01	1278.00
R-7012	-43.59	1190.00

Pump Results @ Steady State Analysis									
ID	Elevation (ft)	Upstream Pressure (psi)	Downstream Pressure (psi)	Flow (gpm)	Head Gain (ft)	Status	Setting	Available NPSH (ft)	Cavitation Index
5013	1160.00	13.00	51.12	0.00	0	Closed	0	0	0
5019	1160.00	13.00	51.12	0.00	0	Closed	0	0	0
5020	1160.00	13.00	51.12	0.00	0	Closed	0	0	0

ONSITE WATER DEMANDS ANALYSIS RESULTS

Peak Hour Demand (PHD)
(SCENARIO 1: ZONE 5 PUMP OFF)

Pipe Pressures @ Steady State Analysis										
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/k-ft)	Status
P-10	J-10	J-84	337.21	8	110	-51.94	0.33	0.04	0.10	Open
P-11	J-9	J-6	254.31	8	110	-47.63	0.30	0.02	0.09	Open
P-12	J-9	J-10	331.30	8	110	47.63	0.30	0.03	0.09	Open
P-13	J-10	J-11	779.83	8	110	27.58	0.18	0.03	0.03	Open
P-14	J-12	J-10	553.74	8	110	-44.33	0.28	0.04	0.08	Open
P-147	J-136	J-211	2187.52	16	110	75.44	0.12	0.02	0.01	Open
P-15	J-13	J-12	308.82	8	110	-15.64	0.10	0.00	0.01	Open
P-155	J-142	J-136	159.33	16	110	75.44	0.12	0.00	0.01	Open
P-16	J-14	J-12	286.07	8	110	-15.86	0.10	0.00	0.01	Open
P-193	J-168	J-176	3290.72	16	110	-43.60	0.07	0.01	0.00	Open
P-197	J-174	J-5	104.96	16	110	75.44	0.12	0.00	0.01	Open
P-199	J-176	J-170	367.24	16	110	-43.59	0.07	0.00	0.00	Open
P-2	J-2	J-1	27.00	16	110	0.00	0.00	0.00	0.00	Open
P-203	J-180	J-176	102.36	16	110	0.00	0.00	0.00	0.00	Open
P-205	J-174	J-178	96.80	16	110	0.00	0.00	0.00	0.00	Open
P-207	R-7008	J-186	2.12	12	110	2043.40	5.80	0.03	13.00	Open
P-211	J-186	J-168	1396.15	12	110	-43.60	0.12	0.01	0.01	Open
P-213	J-188	J-174	108.45	16	110	75.44	0.12	0.00	0.01	Open
P-217	R-7010	J-188	19.50	16	110	1425.01	2.27	0.03	1.64	Open
P-219	J-180	J-192	24.79	16	110	0.00	0.00	0.00	0.00	Open
P-221	J-194	J-8	68.96	12	110	1250.00	3.55	0.36	5.22	Open
P-225	R-7012	J-170	1386.31	16	110	43.59	0.07	0.00	0.00	Open
P-226	J-192	5013	10.36	12	150	0.00	0.00	0.00	0.00	Open
P-227	5013	J-178	10.36	12	150	0.00	0.00	0.00	0.00	Open
P-231	5019	J-178	14.45	12	150	0.00	0.00	0.00	0.00	Open
P-246	J-206	J-207	85.04	8	110	-1.64	0.01	0.00	0.00	Open
P-247	J-208	J-209	168.97	8	110	40.13	0.26	0.01	0.06	Open
P-248	J-205	J-210	115.49	12	110	14.42	0.04	0.00	0.00	Open
P-249	J-211	J-212	512.60	8	110	23.24	0.15	0.01	0.02	Open
P-250	J-213	J-208	137.75	12	110	4.07	0.01	0.00	0.00	Open
P-251	J-214	J-215	197.10	12	110	-12.15	0.03	0.00	0.00	Open
P-252	J-212	J-216	26.87	12	110	10.63	0.03	0.00	0.00	Open
P-253	J-212	J-214	179.71	12	110	23.91	0.07	0.00	0.00	Open
P-254	J-205	J-217	253.11	12	110	37.78	0.11	0.00	0.01	Open
P-255	J-217	J-218	144.19	12	110	34.68	0.10	0.00	0.01	Open
P-256	J-216	J-219	129.67	12	110	10.63	0.03	0.00	0.00	Open
P-257	J-207	J-213	408.60	12	110	4.07	0.01	0.00	0.00	Open
P-258	J-220	J-207	283.28	12	110	5.71	0.02	0.00	0.00	Open
P-259	J-208	J-214	26.33	12	110	-36.06	0.10	0.00	0.00	Open
P-260	J-218	J-215	170.52	12	110	23.38	0.07	0.00	0.00	Open
P-261	J-218	J-212	160.94	12	110	11.30	0.03	0.00	0.00	Open
P-262	J-215	J-220	292.68	12	110	11.23	0.03	0.00	0.00	Open
P-263	J-211	J-222	400.47	16	110	52.20	0.08	0.00	0.00	Open
P-264	J-221	J-205	448.93	12	110	52.20	0.15	0.01	0.01	Open

P-265	J-222	J-4	249.43	16	110	0.00	0.00	0.00	0.00	Open
P-266	J-221	J-222	61.64	12	110	-52.20	0.15	0.00	0.01	Open
P-269	J-192	5019	14.50	12	150	0.00	0.00	0.00	0.00	Open
P-270	J-192	5020	14.36	12	150	0.00	0.00	0.00	0.00	Open
P-271	5020	J-178	7.71	12	150	0.00	0.00	0.00	0.00	Open
P-3	J-3	J-2	5.00	16	110	0.00	0.00	0.00	0.00	Open
P-4	J-4	J-3	394.66	16	110	0.00	0.00	0.00	0.00	Open
P-5	J-5	J-142	144.77	16	110	75.44	0.12	0.00	0.01	Open
P-6	J-6	J-188	835.80	16	110	-1349.57	2.15	1.24	1.48	Open
P-7	J-6	J-7	11.45	16	110	1301.94	2.08	0.02	1.39	Open
P-8	J-7	J-194	354.26	12	110	1250.00	3.55	1.85	5.22	Open
P-84	J-84	J-7	258.28	16	110	-51.94	0.08	0.00	0.00	Open
P-9	J-8	J-184	837.86	8	110	1250.00	7.98	31.53	37.63	Open

<-EX. PIPE

ONSITE WATER DEMANDS ANALYSIS RESULTS

Average Daily Demand (ADD)

(SCENARIO 2: ZONE 5 PUMP ON)

Junction Pressures @ Steady State Analysis				
ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
J-1	0.00	1070.60	1428.37	155.02
J-10	9.22	1180.70	1427.08	106.76
J-11	9.19	1187.00	1427.08	104.03
J-12	4.28	1205.40	1427.08	96.05
J-13	5.21	1217.00	1427.07	91.03
J-136	0.00	1175.52	1428.37	109.56
J-14	5.29	1206.70	1427.07	95.49
J-142	0.00	1168.84	1428.37	112.45
J-168	0.00	1070.09	1189.16	51.59
J-170	0.00	1142.54	1188.97	20.12
J-174	0.00	1157.87	1428.37	117.21
J-176	0.00	1157.71	1188.70	13.43
J-178	0.00	1160.00	1428.51	116.34
J-180	0.00	1160.00	1188.55	12.37
J-184	1250.00	1080.00	1393.35	135.77
J-186	2087.00	1080.00	1189.96	47.65
J-188	0.00	1153.66	1428.22	118.97
J-192	0.00	1160.00	1188.52	12.36
J-194	0.00	1117.56	1425.23	133.31
J-2	0.00	1070.50	1428.37	155.06
J-205	0.00	1129.93	1428.37	129.31
J-206	0.55	1143.81	1428.37	123.30
J-207	0.00	1142.00	1428.37	124.08
J-208	0.00	1139.05	1428.37	125.36
J-209	13.38	1139.68	1428.37	125.09
J-210	4.83	1128.46	1428.37	129.95
J-211	0.00	1098.02	1428.37	143.14
J-212	0.00	1136.72	1428.37	126.37
J-213	0.00	1138.10	1428.37	125.77
J-214	0.00	1138.97	1428.37	125.40
J-215	0.00	1139.66	1428.37	125.10
J-216	0.00	1136.88	1428.37	126.30
J-217	1.03	1133.76	1428.37	127.65
J-218	0.00	1137.11	1428.37	126.20
J-219	3.54	1135.33	1428.37	126.97
J-220	1.84	1142.08	1428.37	124.05
J-221	0.00	1095.21	1428.37	144.36
J-222	0.00	1078.11	1428.37	151.77
J-3	0.00	1070.50	1428.37	155.06
J-4	0.00	1071.65	1428.37	154.57
J-5	0.00	1164.00	1428.37	114.55
J-6	0.00	1152.75	1427.10	118.87
J-7	0.00	1152.96	1427.08	118.78
J-8	0.00	1117.56	1424.87	133.16
J-84	0.00	1161.00	1427.08	115.29
J-9	0.00	1161.00	1427.09	115.30

Reservoir Results @ Steady State Analysis		
ID	Flow (gpm)	Head (ft)
R-7008	-2465.95	1190.00
R-7010	0.00	1278.00
R-7012	-929.41	1190.00

Pump Results @ Steady State Analysis									
ID	Elevation (ft)	Upstream Pressure (psi)	Downstream Pressure (psi)	Flow (gpm)	Head Gain (ft)	Status	Setting	Available NPSH (ft)	Cavitation Index
5013	1160.00	12.36	116.34	0.00	0.00	Closed	0	0.00	0.00
5019	1160.00	12.34	116.36	1308.37	240.08	Open	1	61.57	0.61
5020	1160.00	12.36	116.34	0.00	0.00	Closed	0	0.00	0.00

ONSITE WATER DEMANDS ANALYSIS RESULTS

Average Daily Demand (ADD)

(SCENARIO 2: ZONE 5 PUMP ON)

Pipe Pressures @ Steady State Analysis

ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/k-ft)	Status
P-10	J-10	J-84	337.21	8	110	-7.95	0.05	0.00	0.00	Open
P-11	J-9	J-6	254.31	8	110	-25.24	0.16	0.01	0.03	Open
P-12	J-9	J-10	331.30	8	110	25.24	0.16	0.01	0.03	Open
P-13	J-10	J-11	779.83	8	110	9.19	0.06	0.00	0.00	Open
P-14	J-12	J-10	553.74	8	110	-14.78	0.09	0.01	0.01	Open
P-147	J-136	J-211	2187.52	16	110	25.17	0.04	0.00	0.00	Open
P-15	J-13	J-12	308.82	8	110	-5.21	0.03	0.00	0.00	Open
P-155	J-142	J-136	159.33	16	110	25.17	0.04	0.00	0.00	Open
P-16	J-14	J-12	286.07	8	110	-5.29	0.03	0.00	0.00	Open
P-193	J-168	J-176	3290.72	16	110	378.95	0.60	0.46	0.14	Open
P-197	J-174	J-5	104.96	16	110	25.17	0.04	0.00	0.00	Open
P-199	J-176	J-170	367.24	16	110	-929.41	1.48	0.27	0.74	Open
P-2	J-2	J-1	27.00	16	110	0.00	0.00	0.00	0.00	Open
P-203	J-180	J-176	102.36	16	110	-1308.36	2.09	0.14	1.40	Open
P-205	J-174	J-178	96.80	16	110	-1308.36	2.09	0.14	1.40	Open
P-207	R-7008	J-186	2.12	12	110	2465.95	7.00	0.04	18.35	Open
P-211	J-186	J-168	1396.15	12	110	378.95	1.08	0.80	0.57	Open
P-213	J-188	J-174	108.45	16	110	-1283.19	2.05	0.15	1.35	Open
P-217	R-7010	J-188	19.50	16	110	0.00	0.00	0.00	0.00	Closed
P-219	J-180	J-192	24.79	16	110	1308.36	2.09	0.03	1.40	Open
P-221	J-194	J-8	68.96	12	110	1250.00	3.55	0.36	5.22	Open
P-225	R-7012	J-170	1386.31	16	110	929.41	1.48	1.03	0.74	Open
P-226	J-192	5013	10.36	12	150	0.00	0.00	0.00	0.00	Open
P-227	5013	J-178	10.36	12	150	0.00	0.00	0.00	0.00	Open
P-231	5019	J-178	14.45	12	150	1308.37	3.71	0.05	3.20	Open
P-246	J-206	J-207	85.04	8	110	-0.55	0.00	0.00	0.00	Open
P-247	J-208	J-209	168.97	8	110	13.38	0.09	0.00	0.01	Open
P-248	J-205	J-210	115.49	12	110	4.83	0.01	0.00	0.00	Open
P-249	J-211	J-212	512.60	8	110	7.75	0.05	0.00	0.00	Open
P-250	J-213	J-208	137.75	12	110	1.63	0.00	0.00	0.00	Open
P-251	J-214	J-215	197.10	12	110	-3.93	0.01	0.00	0.00	Open
P-252	J-212	J-216	26.87	12	110	3.54	0.01	0.00	0.00	Open
P-253	J-212	J-214	179.71	12	110	7.81	0.02	0.00	0.00	Open
P-254	J-205	J-217	253.11	12	110	12.59	0.04	0.00	0.00	Open
P-255	J-217	J-218	144.19	12	110	11.56	0.03	0.00	0.00	Open
P-256	J-216	J-219	129.67	12	110	3.54	0.01	0.00	0.00	Open
P-257	J-207	J-213	408.60	12	110	1.63	0.00	0.00	0.00	Open
P-258	J-220	J-207	283.28	12	110	2.18	0.01	0.00	0.00	Open
P-259	J-208	J-214	26.33	12	110	-11.75	0.03	0.00	0.00	Open
P-260	J-218	J-215	170.52	12	110	7.96	0.02	0.00	0.00	Open
P-261	J-218	J-212	160.94	12	110	3.60	0.01	0.00	0.00	Open
P-262	J-215	J-220	292.68	12	110	4.02	0.01	0.00	0.00	Open
P-263	J-211	J-222	400.47	16	110	17.42	0.03	0.00	0.00	Open
P-264	J-221	J-205	448.93	12	110	17.42	0.05	0.00	0.00	Open

P-265	J-222	J-4	249.43	16	110	0.00	0.00	0.00	0.00	Open
P-266	J-221	J-222	61.64	12	110	-17.42	0.05	0.00	0.00	Open
P-269	J-192	5019	14.50	12	150	1308.37	3.71	0.05	3.20	Open
P-270	J-192	5020	14.36	12	150	0.00	0.00	0.00	0.00	Open
P-271	5020	J-178	7.71	12	150	0.00	0.00	0.00	0.00	Open
P-3	J-3	J-2	5.00	16	110	0.00	0.00	0.00	0.00	Open
P-4	J-4	J-3	394.66	16	110	0.00	0.00	0.00	0.00	Open
P-5	J-5	J-142	144.77	16	110	25.17	0.04	0.00	0.00	Open
P-6	J-6	J-188	835.80	16	110	-1283.19	2.05	1.13	1.35	Open
P-7	J-6	J-7	11.45	16	110	1257.95	2.01	0.01	1.30	Open
P-8	J-7	J-194	354.26	12	110	1250.00	3.55	1.85	5.22	Open
P-84	J-84	J-7	258.28	16	110	-7.95	0.01	0.00	0.00	Open
P-9	J-8	J-184	837.86	8	110	1250.00	7.98	31.53	37.63	Open

ONSITE WATER DEMANDS ANALYSIS RESULTS

Max Day Demand (MDD)

(SCENARIO 2: ZONE 5 PUMP ON)

Junction Pressures @ Steady State Analysis				
ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
J-1	0.00	1070.60	1422.78	152.60
J-10	16.60	1180.70	1421.44	104.31
J-11	16.54	1187.00	1421.43	101.58
J-12	7.70	1205.40	1421.42	93.60
J-13	9.38	1217.00	1421.42	88.58
J-136	0.00	1175.52	1422.79	107.14
J-14	9.52	1206.70	1421.42	93.04
J-142	0.00	1168.84	1422.79	110.04
J-168	0.00	1070.09	1188.53	51.32
J-170	0.00	1142.54	1188.64	19.97
J-174	0.00	1157.87	1422.79	114.79
J-176	0.00	1157.71	1188.27	13.24
J-178	0.00	1160.00	1422.94	113.93
J-180	0.00	1160.00	1188.12	12.19
J-184	1250.00	1080.00	1387.72	133.33
J-186	2087.00	1080.00	1188.96	47.21
J-188	0.00	1153.66	1422.64	116.55
J-192	0.00	1160.00	1188.08	12.17
J-194	0.00	1117.56	1419.60	130.87
J-2	0.00	1070.50	1422.78	152.64
J-205	0.00	1129.93	1422.78	126.89
J-206	0.98	1143.81	1422.78	120.88
J-207	0.00	1142.00	1422.78	121.66
J-208	0.00	1139.05	1422.78	122.94
J-209	24.08	1139.68	1422.77	122.66
J-210	8.65	1128.46	1422.78	127.53
J-211	0.00	1098.02	1422.78	140.72
J-212	0.00	1136.72	1422.78	123.95
J-213	0.00	1138.10	1422.78	123.35
J-214	0.00	1138.97	1422.78	122.97
J-215	0.00	1139.66	1422.78	122.68
J-216	0.00	1136.88	1422.78	123.88
J-217	1.86	1133.76	1422.78	125.23
J-218	0.00	1137.11	1422.78	123.78
J-219	6.38	1135.33	1422.78	124.55
J-220	3.31	1142.08	1422.78	121.63
J-221	0.00	1095.21	1422.78	141.94
J-222	0.00	1078.11	1422.78	149.35
J-3	0.00	1070.50	1422.78	152.64
J-4	0.00	1071.65	1422.78	152.15
J-5	0.00	1164.00	1422.79	112.13
J-6	0.00	1152.75	1421.47	116.44
J-7	0.00	1152.96	1421.45	116.34
J-8	0.00	1117.56	1419.24	130.72
J-84	0.00	1161.00	1421.45	112.85
J-9	0.00	1161.00	1421.46	112.86

Reservoir Results @ Steady State Analysis		
ID	Flow (gpm)	Head (ft)
R-7008	-2360.21	1189.00
R-7010	0.00	1278.00
R-7012	-1081.79	1190.00

Pump Results @ Steady State Analysis									
ID	Elevation (ft)	Upstream Pressure (psi)	Downstream Pressure (psi)	Flow (gpm)	Head Gain (ft)	Status	Setting	Available NPSH (ft)	Cavitation Index
5013	1160.00	12.17	113.93	0.00	0.00	Closed	0	0.00	0.00
5019	1160.00	12.15	113.95	1355.01	234.95	Open	1	61.13	0.59
5020	1160.00	12.17	113.93	0.00	0.00	Closed	0	0.00	0.00

ONSITE WATER DEMANDS ANALYSIS RESULTS

Max Day Demand (MDD)

(SCENARIO 2: ZONE 5 PUMP ON)

Pipe Pressures @ Steady State Analysis

ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/k-ft)	Status
P-10	J-10	J-84	337.21	8	110	-26.95	0.17	0.01	0.03	Open
P-11	J-9	J-6	254.31	8	110	-32.79	0.21	0.01	0.04	Open
P-12	J-9	J-10	331.30	8	110	32.79	0.21	0.01	0.04	Open
P-13	J-10	J-11	779.83	8	110	16.54	0.11	0.01	0.01	Open
P-14	J-12	J-10	553.74	8	110	-26.60	0.17	0.02	0.03	Open
P-147	J-136	J-211	2187.52	16	110	45.26	0.07	0.01	0.00	Open
P-15	J-13	J-12	308.82	8	110	-9.38	0.06	0.00	0.00	Open
P-155	J-142	J-136	159.33	16	110	45.26	0.07	0.00	0.00	Open
P-16	J-14	J-12	286.07	8	110	-9.52	0.06	0.00	0.00	Open
P-193	J-168	J-176	3290.72	16	110	273.21	0.44	0.25	0.08	Open
P-197	J-174	J-5	104.96	16	110	45.26	0.07	0.00	0.00	Open
P-199	J-176	J-170	367.24	16	110	-1081.79	1.73	0.36	0.98	Open
P-2	J-2	J-1	27.00	16	110	0.00	0.00	0.00	0.00	Open
P-203	J-180	J-176	102.36	16	110	-1355.00	2.16	0.15	1.49	Open
P-205	J-174	J-178	96.80	16	110	-1355.00	2.16	0.14	1.49	Open
P-207	R-7008	J-186	2.12	12	110	2360.21	6.70	0.04	16.97	Open
P-211	J-186	J-168	1396.15	12	110	273.21	0.78	0.44	0.31	Open
P-213	J-188	J-174	108.45	16	110	-1309.74	2.09	0.15	1.40	Open
P-217	R-7010	J-188	19.50	16	110	0.00	0.00	0.00	0.00	Closed
P-219	J-180	J-192	24.79	16	110	1355.00	2.16	0.04	1.49	Open
P-221	J-194	J-8	68.96	12	110	1250.00	3.55	0.36	5.22	Open
P-225	R-7012	J-170	1386.31	16	110	1081.79	1.73	1.36	0.98	Open
P-226	J-192	5013	10.36	12	150	0.00	0.00	0.00	0.00	Open
P-227	5013	J-178	10.36	12	150	0.00	0.00	0.00	0.00	Open
P-231	5019	J-178	14.45	12	150	1355.01	3.84	0.05	3.41	Open
P-246	J-206	J-207	85.04	8	110	-0.98	0.01	0.00	0.00	Open
P-247	J-208	J-209	168.97	8	110	24.08	0.15	0.00	0.03	Open
P-248	J-205	J-210	115.49	12	110	8.65	0.02	0.00	0.00	Open
P-249	J-211	J-212	512.60	8	110	13.94	0.09	0.00	0.01	Open
P-250	J-213	J-208	137.75	12	110	2.49	0.01	0.00	0.00	Open
P-251	J-214	J-215	197.10	12	110	-7.26	0.02	0.00	0.00	Open
P-252	J-212	J-216	26.87	12	110	6.38	0.02	0.00	0.00	Open
P-253	J-212	J-214	179.71	12	110	14.34	0.04	0.00	0.00	Open
P-254	J-205	J-217	253.11	12	110	22.67	0.06	0.00	0.00	Open
P-255	J-217	J-218	144.19	12	110	20.81	0.06	0.00	0.00	Open
P-256	J-216	J-219	129.67	12	110	6.38	0.02	0.00	0.00	Open
P-257	J-207	J-213	408.60	12	110	2.49	0.01	0.00	0.00	Open
P-258	J-220	J-207	283.28	12	110	3.47	0.01	0.00	0.00	Open
P-259	J-208	J-214	26.33	12	110	-21.59	0.06	0.00	0.00	Open
P-260	J-218	J-215	170.52	12	110	14.03	0.04	0.00	0.00	Open
P-261	J-218	J-212	160.94	12	110	6.78	0.02	0.00	0.00	Open
P-262	J-215	J-220	292.68	12	110	6.78	0.02	0.00	0.00	Open
P-263	J-211	J-222	400.47	16	110	31.32	0.05	0.00	0.00	Open
P-264	J-221	J-205	448.93	12	110	31.32	0.09	0.00	0.01	Open

P-265	J-222	J-4	249.43	16	110	0.00	0.00	0.00	0.00	Open
P-266	J-221	J-222	61.64	12	110	-31.32	0.09	0.00	0.01	Open
P-269	J-192	5019	14.50	12	150	1355.01	3.84	0.05	3.42	Open
P-270	J-192	5020	14.36	12	150	0.00	0.00	0.00	0.00	Open
P-271	5020	J-178	7.71	12	150	0.00	0.00	0.00	0.00	Open
P-3	J-3	J-2	5.00	16	110	0.00	0.00	0.00	0.00	Open
P-4	J-4	J-3	394.66	16	110	0.00	0.00	0.00	0.00	Open
P-5	J-5	J-142	144.77	16	110	45.26	0.07	0.00	0.00	Open
P-6	J-6	J-188	835.80	16	110	-1309.74	2.09	1.17	1.40	Open
P-7	J-6	J-7	11.45	16	110	1276.95	2.04	0.02	1.33	Open
P-8	J-7	J-194	354.26	12	110	1250.00	3.55	1.85	5.22	Open
P-84	J-84	J-7	258.28	16	110	-26.95	0.04	0.00	0.00	Open
P-9	J-8	J-184	837.86	8	110	1250.00	7.98	31.53	37.63	Open

ONSITE WATER DEMANDS ANALYSIS RESULTS

Max Day Demand (MDD) plus Fire Flow at J-206

(SCENARIO 2: ZONE 5 PUMP ON)

Junction Pressures @ Steady State Analysis				
ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
J-1	0.00	1070.60	1407.32	145.90
J-10	16.60	1180.70	1419.34	103.40
J-11	16.54	1187.00	1419.33	100.67
J-12	7.70	1205.40	1419.32	92.69
J-13	9.38	1217.00	1419.32	87.67
J-136	0.00	1175.52	1418.73	105.38
J-14	9.52	1206.70	1419.32	92.13
J-142	0.00	1168.84	1419.49	108.61
J-168	0.00	1070.09	1183.92	49.32
J-170	0.00	1142.54	1182.43	17.29
J-174	0.00	1157.87	1420.69	113.88
J-176	0.00	1157.71	1180.43	9.84
J-178	0.00	1160.00	1421.69	113.39
J-180	0.00	1160.00	1179.37	8.39
J-184	1250.00	1080.00	1385.61	132.42
J-186	2087.00	1080.00	1189.94	47.64
J-188	0.00	1153.66	1420.54	115.64
J-192	0.00	1160.00	1179.11	8.28
J-194	0.00	1117.56	1417.50	129.96
J-2	0.00	1070.50	1407.32	145.94
J-205	0.00	1129.93	1402.61	118.15
J-206	1250.98	1143.81	1391.79	107.45
J-207	1250.00	1142.00	1394.99	109.62
J-208	0.00	1139.05	1397.85	112.14
J-209	24.08	1139.68	1397.85	111.87
J-210	8.65	1128.46	1402.61	118.79
J-211	0.00	1098.02	1408.23	134.41
J-212	0.00	1136.72	1398.89	113.60
J-213	0.00	1138.10	1397.13	112.24
J-214	0.00	1138.97	1398.00	112.24
J-215	0.00	1139.66	1398.00	111.94
J-216	0.00	1136.88	1398.89	113.53
J-217	1.86	1133.76	1400.29	115.49
J-218	0.00	1137.11	1398.98	113.47
J-219	6.38	1135.33	1398.89	114.20
J-220	3.31	1142.08	1396.47	110.23
J-221	0.00	1095.21	1406.75	134.99
J-222	0.00	1078.11	1407.32	142.65
J-3	0.00	1070.50	1407.32	145.94
J-4	0.00	1071.65	1407.32	145.45
J-5	0.00	1164.00	1420.19	111.00
J-6	0.00	1152.75	1419.36	115.52
J-7	0.00	1152.96	1419.35	115.43
J-8	0.00	1117.56	1417.14	129.81
J-84	0.00	1161.00	1419.35	111.94
J-9	0.00	1161.00	1419.35	111.94

<-ZONE 4

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Reservoir Results @ Steady State Analysis		
ID	Flow (gpm)	Head (ft)
R-7008	-3213.75	1190.00
R-7010	0.00	1278.00
R-7012	-2728.26	1190.00

Pump Results @ Steady State Analysis									
ID	Elevation (ft)	Upstream Pressure (psi)	Downstream Pressure (psi)	Flow (gpm)	Head Gain (ft)	Status	Setting	Available NPSH (ft)	Cavitation Index
5013	1160.00	8.27	113.4	1285.09	242.64	Open	1	52.18	0.53
5019	1160.00	8.26	113.41	1284.86	242.67	Open	1	52.16	0.53
5020	1160.00	8.26	113.40	1285.05	242.64	Open	1	52.16	0.53

ONSITE WATER DEMANDS ANALYSIS RESULTS

Max Day Demand (MDD) plus Fire Flow at J-206

(SCENARIO 2: ZONE 5 PUMP ON)

Pipe Pressures @ Steady State Analysis

ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/k-ft)	Status
P-10	J-10	J-84	337.21	8	110	-26.95	0.17	0.01	0.03	Open
P-11	J-9	J-6	254.31	8	110	-32.79	0.21	0.01	0.04	Open
P-12	J-9	J-10	331.30	8	110	32.79	0.21	0.01	0.04	Open
P-13	J-10	J-11	779.83	8	110	16.54	0.11	0.01	0.01	Open
P-14	J-12	J-10	553.74	8	110	-26.60	0.17	0.02	0.03	Open
P-147	J-136	J-211	2187.52	16	110	2545.26	4.06	10.50	4.80	Open
P-15	J-13	J-12	308.82	8	110	-9.38	0.06	0.00	0.00	Open
P-155	J-142	J-136	159.33	16	110	2545.26	4.06	0.76	4.80	Open
P-16	J-14	J-12	286.07	8	110	-9.52	0.06	0.00	0.00	Open
P-193	J-168	J-176	3290.72	16	110	1126.75	1.80	3.49	1.06	Open
P-197	J-174	J-5	104.96	16	110	2545.26	4.06	0.50	4.80	Open
P-199	J-176	J-170	367.24	16	110	-2728.26	4.35	2.00	5.46	Open
P-2	J-2	J-1	27.00	16	110	0.00	0.00	0.00	0.00	Open
P-203	J-180	J-176	102.36	16	110	-3855.00	6.15	1.06	10.35	Open
P-205	J-174	J-178	96.80	16	110	-3855.00	6.15	1.00	10.35	Open
P-207	R-7008	J-186	2.12	12	110	3213.75	9.12	0.06	30.02	Open
P-211	J-186	J-168	1396.15	12	110	1126.75	3.20	6.01	4.31	Open
P-213	J-188	J-174	108.45	16	110	-1309.74	2.09	0.15	1.40	Open
P-217	R-7010	J-188	19.50	16	110	0.00	0.00	0.00	0.00	Closed
P-219	J-180	J-192	24.79	16	110	3855.00	6.15	0.26	10.35	Open
P-221	J-194	J-8	68.96	12	110	1250.00	3.55	0.36	5.22	Open
P-225	R-7012	J-170	1386.31	16	110	2728.26	4.35	7.57	5.46	Open
P-226	J-192	5013	10.36	12	150	1285.09	3.65	0.03	3.10	Open
P-227	5013	J-178	10.36	12	150	1285.09	3.65	0.03	3.10	Open
P-231	5019	J-178	14.45	12	150	1284.86	3.64	0.04	3.09	Open
P-246	J-206	J-207	85.04	8	110	-1250.98	7.98	3.20	37.68	Open
P-247	J-208	J-209	168.97	8	110	24.08	0.15	0.00	0.02	Open
P-248	J-205	J-210	115.49	12	110	8.65	0.02	0.00	0.00	Open
P-249	J-211	J-212	512.60	8	110	845.12	5.39	9.34	18.22	Open
P-250	J-213	J-208	137.75	12	110	-1252.26	3.55	0.72	5.24	Open
P-251	J-214	J-215	197.10	12	110	-61.83	0.18	0.00	0.02	Open
P-252	J-212	J-216	26.87	12	110	6.38	0.02	0.00	0.00	Open
P-253	J-212	J-214	179.71	12	110	1214.51	3.45	0.89	4.95	Open
P-254	J-205	J-217	253.11	12	110	1691.49	4.80	2.31	9.14	Open
P-255	J-217	J-218	144.19	12	110	1689.63	4.79	1.32	9.12	Open
P-256	J-216	J-219	129.67	12	110	6.38	0.02	0.00	0.00	Open
P-257	J-207	J-213	408.60	12	110	-1252.26	3.55	2.14	5.24	Open
P-258	J-220	J-207	283.28	12	110	1248.72	3.54	1.48	5.21	Open
P-259	J-208	J-214	26.33	12	110	-1276.34	3.62	0.14	5.43	Open
P-260	J-218	J-215	170.52	12	110	1313.86	3.73	0.98	5.73	Open
P-261	J-218	J-212	160.94	12	110	375.78	1.07	0.09	0.56	Open
P-262	J-215	J-220	292.68	12	110	1252.03	3.55	1.53	5.24	Open
P-263	J-211	J-222	400.47	16	110	1700.14	2.71	0.91	2.27	Open
P-264	J-221	J-205	448.93	12	110	1700.14	4.82	4.14	9.23	Open

P-265	J-222	J-4	249.43	16	110	0.00	0.00	0.00	0.00	Open
P-266	J-221	J-222	61.64	12	110	-1700.14	4.82	0.57	9.23	Open
P-269	J-192	5019	14.50	12	150	1284.86	3.64	0.04	3.09	Open
P-270	J-192	5020	14.36	12	150	1285.05	3.65	0.04	3.09	Open
P-271	5020	J-178	7.71	12	150	1285.05	3.65	0.02	3.10	Open
P-3	J-3	J-2	5.00	16	110	0.00	0.00	0.00	0.00	Open
P-4	J-4	J-3	394.66	16	110	0.00	0.00	0.00	0.00	Open
P-5	J-5	J-142	144.77	16	110	2545.26	4.06	0.69	4.80	Open
P-6	J-6	J-188	835.80	16	110	-1309.74	2.09	1.17	1.40	Open
P-7	J-6	J-7	11.45	16	110	1276.95	2.04	0.02	1.33	Open
P-8	J-7	J-194	354.26	12	110	1250.00	3.55	1.85	5.22	Open
P-84	J-84	J-7	258.28	16	110	-26.95	0.04	0.00	0.00	Open
P-9	J-8	J-184	837.86	8	110	1250.00	7.98	31.53	37.63	Open

ONSITE WATER DEMANDS ANALYSIS RESULTS

Max Day Demand (MDD) plus Fire Flow at J-219

(SCENARIO 2: ZONE 5 PUMP ON)

Junction Pressures @ Steady State Analysis				
ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
J-1	0.00	1070.60	1349.71	120.94
J-10	16.60	1180.70	1373.03	83.34
J-11	16.54	1187.00	1373.02	80.60
J-12	7.70	1205.40	1373.01	72.63
J-13	9.38	1217.00	1373.01	67.60
J-136	0.00	1175.52	1370.75	84.60
J-14	9.52	1206.70	1373.01	72.06
J-142	0.00	1168.84	1372.17	88.10
J-168	0.00	1070.09	1180.70	47.93
J-170	0.00	1142.54	1178.41	15.54
J-174	0.00	1157.87	1374.38	93.81
J-176	0.00	1157.71	1175.34	7.64
J-178	0.00	1160.00	1375.92	93.56
J-180	0.00	1160.00	1173.71	5.94
J-184	1250.00	1080.00	1339.31	112.36
J-186	2087.00	1080.00	1189.93	47.63
J-188	0.00	1153.66	1374.23	95.57
J-192	0.00	1160.00	1173.32	5.77
J-194	0.00	1117.56	1371.19	109.90
J-2	0.00	1070.50	1349.71	120.98
J-205	0.00	1129.93	1341.18	91.53
J-206	0.98	1143.81	1334.00	82.41
J-207	0.00	1142.00	1334.00	83.20
J-208	0.00	1139.05	1333.87	84.42
J-209	24.08	1139.68	1333.87	84.14
J-210	8.65	1128.46	1341.18	92.17
J-211	0.00	1098.02	1351.36	109.77
J-212	0.00	1136.72	1333.43	85.24
J-213	0.00	1138.10	1333.91	84.84
J-214	0.00	1138.97	1333.87	84.45
J-215	0.00	1139.66	1334.14	84.27
J-216	0.00	1136.88	1332.49	84.76
J-217	1.86	1133.76	1336.97	88.05
J-218	0.00	1137.11	1334.58	85.56
J-219	3506.38	1135.33	1327.91	83.45
J-220	3.31	1142.08	1334.07	83.19
J-221	0.00	1095.21	1348.68	109.83
J-222	0.00	1078.11	1349.71	117.69
J-3	0.00	1070.50	1349.71	120.98
J-4	0.00	1071.65	1349.71	120.49
J-5	0.00	1164.00	1373.45	90.75
J-6	0.00	1152.75	1373.06	95.46
J-7	0.00	1152.96	1373.04	95.36
J-8	0.00	1117.56	1370.83	109.74
J-84	0.00	1161.00	1373.04	91.88
J-9	0.00	1161.00	1373.05	91.88

Reservoir Results @ Steady State Analysis		
ID	Flow (gpm)	Head (ft)
R-7008	-3506.90	1190.00
R-7010	0.00	1278.00
R-7012	-3435.10	1190.00

Pump Results @ Steady State Analysis									
ID	Elevation (ft)	Upstream Pressure (psi)	Downstream Pressure (psi)	Flow (gpm)	Head Gain (ft)	Status	Setting	Available NPSH (ft)	Cavitation Index
5013	1160.00	5.75	93.58	1618.45	202.69	Open	1	46.37	0.40
5019	1160.00	5.74	93.59	1618.14	202.73	Open	1	46.36	0.40
5020	1160.00	5.74	93.57	1618.40	202.7	Open	1	46.36	0.40

ONSITE WATER DEMANDS ANALYSIS RESULTS
Max Day Demand (MDD) plus Fire Flow at J-219
(SCENARIO 2: ZONE 5 PUMP ON)

Pipe Pressures @ Steady State Analysis										
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/k-ft)	Status
P-10	J-10	J-84	337.21	8	110	-26.95	0.17	0.01	0.03	Open
P-11	J-9	J-6	254.31	8	110	-32.79	0.21	0.01	0.04	Open
P-12	J-9	J-10	331.30	8	110	32.79	0.21	0.01	0.04	Open
P-13	J-10	J-11	779.83	8	110	16.54	0.11	0.01	0.01	Open
P-14	J-12	J-10	553.74	8	110	-26.60	0.17	0.02	0.03	Open
P-147	J-136	J-211	2187.52	16	110	3545.26	5.66	19.39	8.86	Open
P-15	J-13	J-12	308.82	8	110	-9.38	0.06	0.00	0.00	Open
P-155	J-142	J-136	159.33	16	110	3545.26	5.66	1.41	8.86	Open
P-16	J-14	J-12	286.07	8	110	-9.52	0.06	0.00	0.00	Open
P-193	J-168	J-176	3290.72	16	110	1419.90	2.27	5.36	1.63	Open
P-197	J-174	J-5	104.96	16	110	3545.26	5.66	0.93	8.86	Open
P-199	J-176	J-170	367.24	16	110	-3435.10	5.48	3.07	8.36	Open
P-2	J-2	J-1	27.00	16	110	0.00	0.00	0.00	0.00	Open
P-203	J-180	J-176	102.36	16	110	-4855.00	7.75	1.62	15.87	Open
P-205	J-174	J-178	96.80	16	110	-4855.00	7.75	1.54	15.87	Open
P-207	R-7008	J-186	2.12	12	110	3506.90	9.95	0.07	35.26	Open
P-211	J-186	J-168	1396.15	12	110	1419.90	4.03	9.23	6.61	Open
P-213	J-188	J-174	108.45	16	110	-1309.74	2.09	0.15	1.40	Open
P-217	R-7010	J-188	19.50	16	110	0.00	0.00	0.00	0.00	Closed
P-219	J-180	J-192	24.79	16	110	4855.00	7.75	0.39	15.87	Open
P-221	J-194	J-8	68.96	12	110	1250.00	3.55	0.36	5.22	Open
P-225	R-7012	J-170	1386.31	16	110	3435.10	5.48	11.59	8.36	Open
P-226	J-192	5013	10.36	12	150	1618.45	4.59	0.05	4.75	Open
P-227	5013	J-178	10.36	12	150	1618.45	4.59	0.05	4.75	Open
P-231	5019	J-178	14.45	12	150	1618.14	4.59	0.07	4.75	Open
P-246	J-206	J-207	85.04	8	110	-0.98	0.01	0.00	0.00	Open
P-247	J-208	J-209	168.97	8	110	24.08	0.15	0.00	0.02	Open
P-248	J-205	J-210	115.49	12	110	8.65	0.02	0.00	0.00	Open
P-249	J-211	J-212	512.60	8	110	1201.71	7.67	17.93	34.98	Open
P-250	J-213	J-208	137.75	12	110	235.88	0.67	0.03	0.24	Open
P-251	J-214	J-215	197.10	12	110	-613.09	1.74	0.28	1.40	Open
P-252	J-212	J-216	26.87	12	110	3506.38	9.95	0.95	35.27	Open
P-253	J-212	J-214	179.71	12	110	-824.89	2.34	0.43	2.42	Open
P-254	J-205	J-217	253.11	12	110	2334.90	6.62	4.20	16.61	Open
P-255	J-217	J-218	144.19	12	110	2333.04	6.62	2.39	16.58	Open
P-256	J-216	J-219	129.67	12	110	3506.38	9.95	4.57	35.27	Open
P-257	J-207	J-213	408.60	12	110	235.88	0.67	0.10	0.24	Open
P-258	J-220	J-207	283.28	12	110	236.86	0.67	0.07	0.24	Open
P-259	J-208	J-214	26.33	12	110	211.80	0.60	0.01	0.19	Open
P-260	J-218	J-215	170.52	12	110	853.26	2.42	0.44	2.57	Open
P-261	J-218	J-212	160.94	12	110	1479.78	4.20	1.15	7.14	Open
P-262	J-215	J-220	292.68	12	110	240.17	0.68	0.07	0.25	Open
P-263	J-211	J-222	400.47	16	110	2343.55	3.74	1.65	4.12	Open
P-264	J-221	J-205	448.93	12	110	2343.55	6.65	7.51	16.72	Open

P-265	J-222	J-4	249.43	16	110	0.00	0.00	0.00	0.00	Open
P-266	J-221	J-222	61.64	12	110	-2343.55	6.65	1.03	16.72	Open
P-269	J-192	5019	14.50	12	150	1618.14	4.59	0.07	4.74	Open
P-270	J-192	5020	14.36	12	150	1618.40	4.59	0.07	4.74	Open
P-271	5020	J-178	7.71	12	150	1618.40	4.59	0.04	4.75	Open
P-3	J-3	J-2	5.00	16	110	0.00	0.00	0.00	0.00	Open
P-4	J-4	J-3	394.66	16	110	0.00	0.00	0.00	0.00	Open
P-5	J-5	J-142	144.77	16	110	3545.26	5.66	1.28	8.86	Open
P-6	J-6	J-188	835.80	16	110	-1309.74	2.09	1.17	1.40	Open
P-7	J-6	J-7	11.45	16	110	1276.95	2.04	0.02	1.33	Open
P-8	J-7	J-194	354.26	12	110	1250.00	3.55	1.85	5.22	Open
P-84	J-84	J-7	258.28	16	110	-26.95	0.04	0.00	0.00	Open
P-9	J-8	J-184	837.86	8	110	1,250.00	7.98	31.53	37.63	Open

ONSITE WATER DEMANDS ANALYSIS RESULTS

Max Day Demand (MDD) plus Fire Flow at J-210

(SCENARIO 2: ZONE 5 PUMP ON)

Junction Pressures @ Steady State Analysis				
ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
J-1	0.00	1070.60	1349.34	120.78
J-10	16.60	1180.70	1373.03	83.34
J-11	16.54	1187.00	1373.02	80.60
J-12	7.70	1205.40	1373.01	72.63
J-13	9.38	1217.00	1373.01	67.60
J-136	0.00	1175.52	1370.75	84.59
J-14	9.52	1206.70	1373.01	72.06
J-142	0.00	1168.84	1372.17	88.10
J-168	0.00	1070.09	1180.70	47.93
J-170	0.00	1142.54	1178.41	15.54
J-174	0.00	1157.87	1374.38	93.81
J-176	0.00	1157.71	1175.34	7.64
J-178	0.00	1160.00	1375.92	93.56
J-180	0.00	1160.00	1173.71	5.94
J-184	1250.00	1080.00	1339.31	112.36
J-186	2087.00	1080.00	1189.93	47.63
J-188	0.00	1153.66	1374.23	95.57
J-192	0.00	1160.00	1173.32	5.77
J-194	0.00	1117.56	1371.19	109.90
J-2	0.00	1070.50	1349.34	120.82
J-205	0.00	1129.93	1338.88	90.54
J-206	0.98	1143.81	1340.09	85.05
J-207	0.00	1142.00	1340.09	85.83
J-208	0.00	1139.05	1340.11	87.12
J-209	24.08	1139.68	1340.11	86.85
J-210	3508.65	1128.46	1334.81	89.41
J-211	0.00	1098.02	1351.36	109.77
J-212	0.00	1136.72	1340.20	88.17
J-213	0.00	1138.10	1340.11	87.53
J-214	0.00	1138.97	1340.12	87.16
J-215	0.00	1139.66	1340.07	86.84
J-216	0.00	1136.88	1340.20	88.10
J-217	1.86	1133.76	1339.59	89.19
J-218	0.00	1137.11	1340.00	87.91
J-219	6.38	1135.33	1340.20	88.77
J-220	3.31	1142.08	1340.08	85.79
J-221	0.00	1095.21	1348.08	109.57
J-222	0.00	1078.11	1349.34	117.53
J-3	0.00	1070.50	1349.34	120.82
J-4	0.00	1071.65	1349.34	120.32
J-5	0.00	1164.00	1373.45	90.75
J-6	0.00	1152.75	1373.06	95.46
J-7	0.00	1152.96	1373.04	95.36
J-8	0.00	1117.56	1370.83	109.74
J-84	0.00	1161.00	1373.04	91.88
J-9	0.00	1161.00	1373.04	91.88

Reservoir Results @ Steady State Analysis		
ID	Flow (gpm)	Head (ft)
R-7008	-3506.87	1190.00
R-7010	0.00	1278.00
R-7012	-3435.13	1190.00

Pump Results @ Steady State Analysis									
ID	Elevation (ft)	Upstream Pressure (psi)	Downstream Pressure (psi)	Flow (gpm)	Head Gain (ft)	Status	Setting	Available NPSH (ft)	Cavitation Index
5013	1160.00	5.75	93.58	1618.45	202.69	Open	1	46.37	0.40
5019	1160.00	5.74	93.59	1618.14	202.73	Open	1	46.35	0.40
5020	1160.00	5.74	93.57	1618.40	202.7	Open	1	46.36	0.40

ONSITE WATER DEMANDS ANALYSIS RESULTS
Max Day Demand (MDD) plus Fire Flow at J-210
(SCENARIO 2: ZONE 5 PUMP ON)

Pipe Pressures @ Steady State Analysis										
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/k-ft)	Status
P-10	J-10	J-84	337.21	8	110	-26.95	0.17	0.01	0.03	Open
P-11	J-9	J-6	254.31	8	110	-32.79	0.21	0.01	0.04	Open
P-12	J-9	J-10	331.30	8	110	32.79	0.21	0.01	0.04	Open
P-13	J-10	J-11	779.83	8	110	16.54	0.11	0.01	0.01	Open
P-14	J-12	J-10	553.74	8	110	-26.60	0.17	0.02	0.03	Open
P-147	J-136	J-211	2187.52	16	110	3545.26	5.66	19.39	8.86	Open
P-15	J-13	J-12	308.82	8	110	-9.38	0.06	0.00	0.00	Open
P-155	J-142	J-136	159.33	16	110	3545.26	5.66	1.41	8.86	Open
P-16	J-14	J-12	286.07	8	110	-9.52	0.06	0.00	0.00	Open
P-193	J-168	J-176	3290.72	16	110	1419.87	2.27	5.36	1.63	Open
P-197	J-174	J-5	104.96	16	110	3545.26	5.66	0.93	8.86	Open
P-199	J-176	J-170	367.24	16	110	-3435.13	5.48	3.07	8.36	Open
P-2	J-2	J-1	27.00	16	110	0.00	0.00	0.00	0.00	Open
P-203	J-180	J-176	102.36	16	110	-4855.00	7.75	1.62	15.87	Open
P-205	J-174	J-178	96.80	16	110	-4855.00	7.75	1.54	15.87	Open
P-207	R-7008	J-186	2.12	12	110	3506.87	9.95	0.07	35.26	Open
P-211	J-186	J-168	1396.15	12	110	1419.87	4.03	9.23	6.61	Open
P-213	J-188	J-174	108.45	16	110	-1309.74	2.09	0.15	1.40	Open
P-217	R-7010	J-188	19.50	16	110	0.00	0.00	0.00	0.00	Closed
P-219	J-180	J-192	24.79	16	110	4855.00	7.75	0.39	15.87	Open
P-221	J-194	J-8	68.96	12	110	1250.00	3.55	0.36	5.22	Open
P-225	R-7012	J-170	1386.31	16	110	3435.13	5.48	11.59	8.36	Open
P-226	J-192	5013	10.36	12	150	1618.45	4.59	0.05	4.75	Open
P-227	5013	J-178	10.36	12	150	1618.45	4.59	0.05	4.75	Open
P-231	5019	J-178	14.45	12	150	1618.14	4.59	0.07	4.74	Open
P-246	J-206	J-207	85.04	8	110	-0.98	0.01	0.00	0.00	Open
P-247	J-208	J-209	168.97	8	110	24.08	0.15	0.00	0.03	Open
P-248	J-205	J-210	115.49	12	110	3508.65	9.95	4.08	35.31	Open
P-249	J-211	J-212	512.60	8	110	930.33	5.94	11.16	21.77	Open
P-250	J-213	J-208	137.75	12	110	-89.96	0.26	0.01	0.04	Open
P-251	J-214	J-215	197.10	12	110	231.19	0.66	0.05	0.23	Open
P-252	J-212	J-216	26.87	12	110	6.38	0.02	0.00	0.00	Open
P-253	J-212	J-214	179.71	12	110	345.23	0.98	0.09	0.48	Open
P-254	J-205	J-217	253.11	12	110	-893.72	2.54	0.71	2.80	Open
P-255	J-217	J-218	144.19	12	110	-895.58	2.54	0.41	2.82	Open
P-256	J-216	J-219	129.67	12	110	6.38	0.02	0.00	0.00	Open
P-257	J-207	J-213	408.60	12	110	-89.96	0.26	0.02	0.04	Open
P-258	J-220	J-207	283.28	12	110	-88.98	0.25	0.01	0.04	Open
P-259	J-208	J-214	26.33	12	110	-114.04	0.32	0.00	0.06	Open
P-260	J-218	J-215	170.52	12	110	-316.86	0.90	0.07	0.41	Open
P-261	J-218	J-212	160.94	12	110	-578.72	1.64	0.20	1.25	Open
P-262	J-215	J-220	292.68	12	110	-85.67	0.24	0.01	0.04	Open
P-263	J-211	J-222	400.47	16	110	2614.94	4.17	2.02	5.04	Open
P-264	J-221	J-205	448.93	12	110	2614.93	7.42	9.20	20.48	Open

P-265	J-222	J-4	249.43	16	110	0.00	0.00	0.00	0.00	Open
P-266	J-221	J-222	61.64	12	110	-2614.93	7.42	1.26	20.48	Open
P-269	J-192	5019	14.50	12	150	1618.14	4.59	0.07	4.74	Open
P-270	J-192	5020	14.36	12	150	1618.40	4.59	0.07	4.74	Open
P-271	5020	J-178	7.71	12	150	1618.40	4.59	0.04	4.75	Open
P-3	J-3	J-2	5.00	16	110	0.00	0.00	0.00	0.00	Open
P-4	J-4	J-3	394.66	16	110	0.00	0.00	0.00	0.00	Open
P-5	J-5	J-142	144.77	16	110	3545.26	5.66	1.28	8.86	Open
P-6	J-6	J-188	835.80	16	110	-1309.74	2.09	1.17	1.40	Open
P-7	J-6	J-7	11.45	16	110	1276.95	2.04	0.02	1.33	Open
P-8	J-7	J-194	354.26	12	110	1250.00	3.55	1.85	5.22	Open
P-84	J-84	J-7	258.28	16	110	-26.95	0.04	0.00	0.00	Open
P-9	J-8	J-184	837.86	8	110	1,250.00	7.98	31.53	37.63	Open