Accepted For:
City of Scottsdale
Water Resources Department
9379 E. San Salvador
Scottsdale, Arizona

By: Doug Mann
Date: 3.3.2016

20-ZN-2002#3
2/12/2016

WOOD/PATEL
MISSION: CLIENT SERVICE™

ONE SCOTTSDALE
(Stacked 40s)

MASTER ON-SITE WATER PLAN

Revised January 28, 2016
Revised February 10, 2012
Revised April 16, 2009
August 25, 2005
WP# 154391

Submitted to:

City of Scottsdale
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Suite 205
Scottsdale, AZ 85251

Prepared for:

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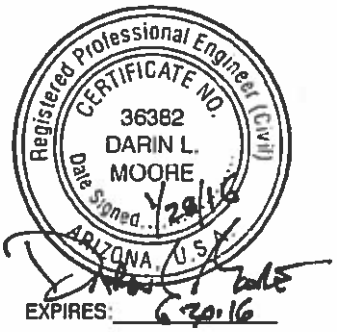

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Registered Professional Engineer (Civil) CERTIFICATE NO. 36392 DARIN L. MOORE Date Signed 4.29.16 ARIZONA, U.S.A.

EXPIRES: 6.30.16

You don't discuss well 33 ! Site to be protected in place and any Modifications subject to City Approval.

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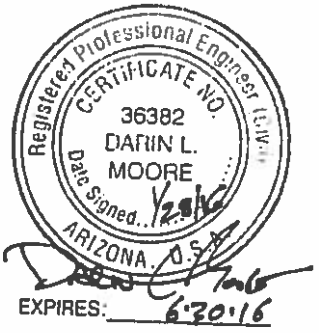

1.0 INTRODUCTION

1.1 General Background

This plan has been prepared in accordance with Wood, Patel & Associates, Inc.'s (Wood/Patel) understanding of City of Scottsdale technical requirements for potable-water systems and our understanding of the Master Water Plan submission requirements as defined in the November 19, 2002 Development Agreement No. 2002-142-COS, between the Corrigan Land & Livestock Company, LLC, Corrigan Real Estate Investment, LLC, DMB Stacked 40s LLC, and the City of Scottsdale (Development Agreement), for the approximate 160-acre (gross) parcel of land formerly known as the Stacked 40s, currently known as One Scottsdale.

One Scottsdale is located at the northeast corner of Scottsdale Road and Union Hills Drive; south of Thompson Peak Parkway and east of Scottsdale Road. It is dissected by the Arizona Department of Transportation (ADOT) State Route 101 Freeway, and bound on the north by the Grayhawk Master Planned Community (hereafter referred to as Grayhawk), and on the east by both Grayhawk and Arizona State Trust Land. Specifically, One Scottsdale is located in the west half of Section 26, Township 4 North, Range 4 East of the Gila and Salt River Meridian. Plate 1 – *Vicinity Map* displays its specific location. Center Drive is now called Legacy Boulevard.

One Scottsdale will be developed on approximately 120 acres north of the State Route 101 Freeway, hereinafter referred to as the Project Area, and is anticipated to be a phased mixed-use development that may include single-family residential, multi-family residential, hotel, mixed-use office, retail, and commercial uses as applicable per the Development Agreement. Approximate acreage for each phase is delineated as below:

Phase 1: 64.2 AC
Phase 2: 56.7 AC
Phase 3 (South of 101): 18.9 AC

For the purposes of this plan, the scope of work per the Development Agreement stipulations is included as follows:

1. *MASTER WATER PLAN. A Master Water Plan shall be prepared in accordance with the City's design procedures and criteria by a registered engineer who is licensed in the State of Arizona. The plan shall conform to the draft Water and Wastewater Report Guidelines available through the City Water Resources Department. The Master Water Plan shall include:*

   a. *A description of water system requirements for the Planning Unit and the phasing of such requirements.*

   b. *A discussion of the timing of and parties responsible for construction of all water facilities.*

   c. *The conceptual location and size of all necessary water system components, including both on and off-site lines, pump stations and storage facilities needed to serve the development on the existing system with water demand generation factors based on land use.*

   d. *A flow and pressure analysis of the proposed system that includes a simulation of the system operation for each pressure zone within the development using a computer model with average day demands, maximum day demands with estimated required fire flow and any requirements to meet the then current City standards, maximum day demands with reservoir tanks closed, and peak hour demands.*

   e. *Compliance with the adopted City's Integrated Water Master Plan.*

   f. *A preliminary plan of the Planning Unit showing development sites and right-of-ways, contours and benchmarks, existing utilities and fire hydrants within 400 feet of the proposed development, any features such as watercourses and drainage facilities that may influence the location of underground utilities, a general layout of the proposed water main, and any required water facilities.*

2. *MASTER WATER PLAN APPROVAL. Before the application of any basis of design reports to the Plan Review and Permit Services Division, the Master Developer shall have obtained approval from the City Water Resources Department of the Master Water Plan.*

The intent of this Master Plan revision is to support a proposed amendment to the One Scottsdale zoning. Refer to Section 1.2, Table 1.2 for the revised Conceptual Planning Areas land use budget.

1.2 Study Area and Planning Units

One Scottsdale is further described as containing "Planning Unit I", "Planning Unit II" and "Planning Unit III" as shown in Plate 2 – *Modeled On-Site Land Use Plan*. The scope of this Master Water Plan includes the Project Area consisting of "Planning Unit II" and "Planning Unit III". Mr. John R. Lund and the City of Scottsdale are parties to a

separate Development Agreement, Agreement Number 2002-143-COS, relating to the development of the South Parcel also known as Planning Unit I.

Therefore, the Stacked 40s Development Agreement (Number 2002-142-COS) shall no longer apply to the South Parcel (also known as Planning Unit I) upon the effective date of Agreement Number 2002-143-COS.

Both the original and proposed land used totals for the Stacked 40s are provided below in Table 1.1 – *Land Use Budget*.

Table 1.1:
Land Use Budget

Category	Zoning	Permitted Uses Within Planning Units		Original Total Allowed	Proposed Total Allowed[1]
		II	III		
Residential[2]	PRC PCD	X	X	1,100 Units	2,466 Units
Commercial / Retail / Office	PRC PCD	X	X	1,800,000 SF	2,848,145 SF
Hotel	PRC PCD	X	X	400 Rooms	400 Rooms

Notes:
1. Source: Schedule C, Stacked 40s Land Use Budget, Development Agreement, amended December 2015
2. A maximum of 750 residential units within Planning Unit III.

According to the Development Agreement, the approved Development Plan for the Project Area is on file with the Planning and Development Services Department at the City of Scottsdale. The two (2) proposed Planning Unit locations are as follows: Planning Unit II will extend north from the State Route 101 Freeway to Legacy Boulevard, and Planning Unit III will extend north from Legacy Boulevard to Thompson Peak Parkway. A summary of proposed planning areas designated for development within the Project Area is provided in Table 1.2 – *Conceptual Planning Areas*. Refer Appendix A – *Modeled Land Use Calculations* for additional information.

Table 1.2:
Conceptual Planning Areas[1]

Area	Number of Residential Dwelling Units	Commercial				Hotel (Rooms)
		Office (Sq. Ft.)	Retail (Sq. Ft.)	Restaurant (Sq. Ft.)	Total (Sq. Ft.)	
PU II	1,716	1,859,145	234,400	70,000	2,163,545	400
PU III	750	637,100	35,500	30,000	702,600	
Total	**2,466**	**2,496,245**	**269,900**	**100,000**	**2,866,145**	**400**

Notes:

1. Source: Client-furnished December 2015 land plan for modeling purposes.

1.3 Build-Out Condition

The design criteria utilized to project water demands and to evaluate the system hydraulics for the Project Area are based on the maximum number of residences, hotel rooms and square footage of commercial uses allowed. Significant changes in land use and/or projected water demands may require an amendment to the Master Plan and/or review and re-approval by the City of Scottsdale. All water and sanitary sewer lines within the Project Area will be constructed by the owner/developer.

1.4 Construction Phasing

It is anticipated that Planning Units II and III will be constructed in several phases. Refer to Plate 2 for a phasing breakdown of Planning Units II and III. On-site waterline construction will generally coincide with the development phasing, with adequate looping provided to serve each phase, to be demonstrated by hydraulic modeling results submitted with future basis-of-design (BOD) reports for individual phases.

2.0 EXISTING CONDITIONS

2.1 Topographic Conditions

Currently, the Project Area consists of a mass graded condition for both Planning Units II and III. The Henkel development and associated infrastructure in the southern portion of Planning Unit II is built, along with the Legacy Boulevard improvements that dissect the area. The land generally slopes in a southerly direction at an approximate slope of 1.5 percent from Thompson Peak Parkway to ADOT State Route 101 Freeway. The peak elevation within the area is approximately 1,669 feet, located near Thompson Peak Parkway. The lowest elevation within the Project Area is approximately 1,608 feet near the intersection of Scottsdale Road and State Route 101. The Project Area lies within City of Scottsdale Pressure Zones 4E and 5, according to the City of Scottsdale Design Standards and Policy Manual.

2.2 Existing Water Infrastructure

Potable water for the Project Area will be supplied by the City of Scottsdale. According to City of Scottsdale staff, the hydraulic grade lines (HGLs) of the existing potable-water system in the area are approximately 1,764 feet and 1,910 feet for Pressure Zones 4 and 5, respectively. Results from a recent fire hydrant flow test conducted by Arizona Flow Testing, LLC on October 30, 2015 indicate an HGL of approximately 1,854 feet for Pressure Zone 5 (refer to Appendix D - *Fire Hydrant Flow Test Results*). The lower Zone 5 HGL was utilized for modeling purposes. Existing water infrastructure in the area includes:

- 16-inch potable waterline located along Scottsdale Road, between Union Hills Drive and Legacy Boulevard
- 12-inch potable waterline located along Scottsdale Road, between Legacy Boulevard and Thompson Peak Parkway
- 16-inch potable waterline in Legacy Boulevard, between Scottsdale Road and Hayden Road
- 16-inch potable waterline along Hayden Road, between Union Hills Drive and Thompson Peak Parkway
- 24-inch waterline in the Legacy Boulevard alignment, from Hayden Road to the power line corridor
- 12-inch potable waterline located along Thompson Peak Parkway
- 16-inch potable waterline located along Union Hills Road
- 2 pressure-reducing valve (PRV) stations were recently located within Scottsdale Road north of Legacy Boulevard near the Zone 4E / Zone 5 pressure-zone boundary, and 73rd Street north of Legacy. 8" I At Hayden+ Legacy

Please refer to Plate 3 for additional information regarding existing water infrastructure.

3.0 DESIGN CRITERIA AND PROJECTED WATER DEMANDS

3.1 Design Criteria

The design criteria used to estimate water demands and evaluate system hydraulics are based on Wood/Patel's understanding of the requirements listed in the *City of Scottsdale Design Standards and Policies Manual*. The following is a summary of the primary design criteria utilized:

- Average-Day Water Demand, Residential (8-22 DU/acre): 228 gpd/DU
- Average-Day Water Demand, Retail: 0.80 gpd/SF
- Average-Day Water Demand, Restaurant: 1.3 gpd/SF
- Average-Day Water Demand, Office: 0.60 gpd/SF
- Average-Day Water Demand, Hotel: 447 gpd/Room
- Fire Flow Requirements (used for all areas): 2,500 gpm
- Maximum-Day Demand: 2.0 x Ave. Day Demand
- Peak-Hour Demand: 3.5 x Ave. Day Demand
- Offsite Average-Day Water Demand* 1,851 gpd/ac
- Offsite Maximum-Day Demand* 2,499 gpd/ac
- F.A.R. Peaking Factor* 4 x Ave. Day Demand
- Minimum Residual Pressure, Peak Hour: 50 psi
- Minimum Residual Pressure, Max. Day + Fire Flow: 30 psi
- Maximum System Pressure: 120 psi
- Maximum Pipe Head Loss, Max. Day Demand: 8 ft / 1,000 ft
- Maximum Pipe Head Loss, Peak Hour Demand: 10 ft / 1,000 ft
- Minimum Pipe Diameter: 8 inches

Abbreviations: gpd = gallons per day; DU = dwelling unit; SF = square feet, psi = pounds per sq. inch; Ave. = average; gpm = gallons per minute
*Based on the City of Scottsdale Water Masterplan Update (2015)

3.2 Projected Onsite Water Demands

Projected water demands were calculated using design criteria listed in Section 3.1, and are summarized in Table 3.1 below.

Table 3.1:
Projected Onsite Water Demands

DS+PM

	Average-Day Demand		Maximum- Day Demand		Peak-Hour Demand
	GPD	GPM	GPD	GPM	GPM
Planning Unit II	1,964,321	1,362	3,928,643	2,724	4,767
Planning Unit III	449,660	312	899,320	624	1,092
Total	**2,413,981**	**1,674**	**4,827,963**	**3,348**	**5,859**

The water demands listed include projected landscape water use. Refer to Appendix B – *Projected Water Demand Calculations* for detailed water use projections.

3.3 Demands to Offsite Infrastructure

In addition to calculating Projected Water Demands for onsite water system analysis, the offsite water system demands were also calculated utilizing information from the 2015 City of Scottsdale Water Master Plan update. The projected offsite demands are summarized below. See Appendix B for detailed Offsite Water Design Flow calculations.

Not shown

Master plan demands

Table 3.2:
Projected Offsite Water Demand

PHASE	Average-Day Demand		Maximum- Day Demand		Peak Demand
	GPD	GPM	GPD	GPM	GPM
Planning Unit II	118,834	82.5	160,436	111.4	330
Planning Unit III	104,952	72.9	141,693	98.4	292
Total	**223,786**	**155**	**302,129**	**210**	**622**

maxday
Mixed use control

64.2 Ac 2499 gpAcl = 160436

56.7 Ac 2499 gpAcl = 141693

622 MP value
vs 5859 IDSTPM value

9.4 factor

210 MP
vs 3348 IDSTPM

15.9 factor

4.0 HYDRAULIC MODEL

4.1 Methodology

WaterCAD Version 7.0, by Haestad Methods, was utilized to analyze the proposed potable water system. As discussed in section 2.2, a hydraulic grade line (HGL) of 1,764 feet was used to simulate the City of Scottsdale (COS) water-supply for Pressure Zone 4E based on information provided by the City of Scottsdale staff. Results from a fire hydrant flow test conducted on October 30, 2015 by Arizona Flow Testing, LLC., were used to model the COS Pressure Zone 5 water-supply (refer to Appendix D – *Fire Hydrant Flow Test Results).* The hydraulic grade lines shown below represent the maximum hydraulic grade in each specified zone during the Average-Day, Max-Day and Peak-Hour scenarios. Refer to the junction tables for the Planning Unit II and Planning Unit III scenarios in Appendix C.

	Zone 4E	Zone 5
• Project Area Average-Day Demand HGL (Feet):	1,761	1,854
• Project Area Maximum-Day Demand HGL (Feet):	1,755	1,851
• Project Area Peak-Hour Demand HGL (Feet):	1,755	1,816

Water demands and peaking factors described in Sections 3.1 and 3.2 were applied to the hydraulic model. Pipes were sized in accordance with design criteria listed in Section 3.1.

4.2 Pressure Reducing Valves

Pressure reducing valves (PRV) were placed in the hydraulic model north of Legacy Boulevard to separate Pressure Zones 4E and 5. The locations of existing PRV-3 and proposed PRV-4, as shown in Plate 3 were chosen to provide adequate pressures in the model and to balance the amount of water supplied from the two (2) pressure zones to the area.

The original design intent included providing a potable-water system that would serve the area within a single pressure zone. Locating the PRVs farther north in the hydraulic model, near Thompson Peak Parkway, resulted in low pressures on the Zone 4E-supply side, with the vast majority of water supply coming from the Zone 5 booster pump station, potentially exceeding the capacity of the existing off-site waterlines and using virtually no water from Zone 4E.

4.3 Hydraulic Modeling Results

The hydraulic-modeling results indicate that the system is capable of delivering peak-hour demands as follows:

Planning Unit(s)	Demand (gpm)	Residual Pressure Range (psi)*
II	4,767	40 to 52**
II & III	5,859	50 to 70

* Includes junctions within the Stacked 40s (One Scottsdale).

** Proposed piping within Planning Unit III was not utilized for this modeling scenario. The hydraulic model indicates that portions of Planning Unit II may have peak-hour pressures below the 50 psi standard until the Planning Unit III water system is placed in service.

currently in place

During previous discussions with City of Scottsdale staff, there was concern regarding the ability of the existing 12-inch waterline located along Scottsdale Road, between Legacy Boulevard and Thompson Peak Parkway to serve the area north of Legacy Boulevard. According to the hydraulic modeling results, this existing waterline does not appear to restrict the available capacity required for Planning Unit III. System pressures are anticipated to increase when Planning Unit III is constructed, due to the additional waterline looping provided. Please refer to Plate 3. Water customers near the PRVs may need to install individual pressure regulators due to pressures above 80 psi.

All customers must install per DS+PM

Fire-flow results from the model indicate that a fire flow of 2,500 gpm can be provided during Maximum-Day Demand, while maintaining residual pressures greater than 30 psi. Hydraulic-modeling results, calculations and exhibits involved in the water system analysis are provided in the attached Appendices and Plates.

4.4 Water Pressures in Multi-Story Buildings

Since there is potential for multi-story buildings to be constructed within the Project Area, projected water pressures were analyzed using a modeling scenario with junction elevations 60 feet above existing grade. The hydraulic modeling results indicated that, in general, multi-story buildings within Planning Units II and III may not have water pressures above 50 psi during Peak-Hour demand periods.

If it is found necessary to increase water pressures in upper building levels, private booster pump systems, including fire pumps designed to serve individual buildings, or other provisions as directed by the City may be required. Available fire flows at ground level are adequate throughout the Project Area according to the hydraulic model.

4.5 Preliminary Piping Layout

Potable water service and fire protection for the Project Area will be provided through proposed 8-inch, 12-inch, and 16-inch looped public water lines. Waterline connections are proposed to the existing 12-inch and 16-inch public waterlines located along Scottsdale Road, and the existing 12-inch waterline located along Thompson Peak Parkway.

4.6 Legacy Boulevard (Center Drive)

Center Dive is now called Legacy Boulevard. It is our understanding that the managing partner of One Scottsdale (Stacked 40s) enabled Legacy Boulevard, through the Site, to be constructed to coincide with the adjoining City of Scottsdale sponsored Legacy Boulevard. At this time, Legacy Boulevard (a public roadway) has been constructed and is in use by the general public.

5.0 CONCLUSIONS

The One Scottsdale (Stacked 40s) Master On-Site Water Plan revised January 28, 2015, as presented, is believed to meet City of Scottsdale standards and requirements. It is intended to serve as a guide for construction documents associated with the proposed potable-water systems. No critical issues were identified that would prevent the anticipated outcome as presented in this Plan. The following highlights critical conclusions:

1. Planning Units II and III's on-site potable-water system is capable of being designed in general accordance with the City of Scottsdale's current water-system design criteria.

2. Wood/Patel believes that the modeled on-site water system will provide necessary system pressures, water supply and fire flows within the previously-defined design criteria throughout the skeleton water system, according to hydraulic modeling results contained in this plan.

3. Certain on-site multi-story buildings may need individual, private booster pump systems to meet domestic water and/or fire protection needs for upper building levels.

4. Wood/Patel is not aware of any discrepancies related to compliance of this report with the adopted *City of Scottsdale Integrated Water Master Plan*.

5. The One Scottsdale (Stacked 40s) Master On-Site Water Plan dated January 28, 2015, prepared by Wood/Patel demonstrates the adequacy of the proposed on-site water distribution system to serve the proposed Planning Units II and III.

6. Basis of Design Reports are required for each phase of development within Planning Units II and III to demonstrate compliance with this Master Plan.

APPENDIX A

MODELED LAND USE CALCULATIONS

WOOD/PATEL — **MODELED LAND USE CALCULATIONS**

CIVIL ENGINEERS • HYDROLOGISTS • LAND SURVEYORS

Project:	Master On-Site Water/Wastewater Plan for One Scottsdale (Stacked 40s)	Proj. Number:	154391
Location:	Scottsdale, Arizona	Proj. Engineer:	JGR
Date:	December 3, 2015		

PLANNING UNIT II

PHASE 1

PLANNING UNIT SUB-AREA	RESIDENTIAL (DUs)	COMMERCIAL OFFICE AREA (SF)	COMMERCIAL RETAIL AREA (SF)	COMMERCIAL RESTAURANT AREA (SF)	COMMERCIAL TOTAL COMMERCIAL AREA (SF)	HOTEL (ROOMS)
1 (Henkel Building)	---	325,156	---	---	325,156	---
SUBTOTAL	---	325,156	---	---	325,156	---

PHASE 2

PLANNING UNIT SUB-AREA	RESIDENTIAL (DUs)	COMMERCIAL OFFICE AREA (SF)	COMMERCIAL RETAIL AREA (SF)	COMMERCIAL RESTAURANT AREA (SF)	COMMERCIAL TOTAL COMMERCIAL AREA (SF)	HOTEL (ROOMS)
2a	133	---	57,500	26,000	83,500	---
2b	266	---	28,831	---	28,831	---
2c	133	---	57,500	26,000	83,500	---
2d	266	---	28,831	---	28,831	---
SUBTOTAL	798	---	172,662	52,000	224,662	---

PHASE 3

PLANNING UNIT SUB-AREA	RESIDENTIAL (DUs)	COMMERCIAL OFFICE AREA (SF)	COMMERCIAL RETAIL AREA (SF)	COMMERCIAL RESTAURANT AREA (SF)	COMMERCIAL TOTAL COMMERCIAL AREA (SF)	HOTEL (ROOMS)
3a	---	246,800	2,500	5,000	254,300	140
3b	---	246,800	2,500	---	249,300	---
3c	---	190,100	2,500	---	192,600	---
3d	---	116,300	2,500	---	118,800	---
SUBTOTAL	---	800,000	10,000	5,000	815,000	140

PHASE 4

PLANNING UNIT SUB-AREA	RESIDENTIAL (DUs)	COMMERCIAL OFFICE AREA (SF)	COMMERCIAL RETAIL AREA (SF)	COMMERCIAL RESTAURANT AREA (SF)	COMMERCIAL TOTAL COMMERCIAL AREA (SF)	HOTEL (ROOMS)
4a	279	---	---	---	---	260
4b	267	---	---	8,000	8,000	---
4c	372	---	---	---	---	---
SUBTOTAL	918	---	---	8,000	8,000	260

PHASE 5

PLANNING UNIT SUB-AREA	RESIDENTIAL (DUs)	COMMERCIAL OFFICE AREA (SF)	COMMERCIAL RETAIL AREA (SF)	COMMERCIAL RESTAURANT AREA (SF)	COMMERCIAL TOTAL COMMERCIAL AREA (SF)	HOTEL (ROOMS)
5a	---	127,834	21,074	2,500	151,408	---
5b	---	204,533	15,332	2,500	222,365	---
5c	---	204,533	15,332	---	219,865	---
SUBTOTAL	---	536,900	51,738	5,000	593,638	---

PHASE 6

PLANNING UNIT SUB-AREA	RESIDENTIAL (DUs)	COMMERCIAL OFFICE AREA (SF)	COMMERCIAL RETAIL AREA (SF)	COMMERCIAL RESTAURANT AREA (SF)	COMMERCIAL TOTAL COMMERCIAL AREA (SF)	HOTEL (ROOMS)
6	---	197,089	---	---	197,089	---
SUBTOTAL	---	197,089	---	---	197,089	---

PLANNING UNIT II TOTAL	1,716	1,859,145	234,400	70,000	2,163,545	400

Project:	Master On-Site Water/Wastewater Plan for One Scottsdale (Stacked 40s)	Proj. Number:	154391
Location:	Scottsdale, Arizona	Proj. Engineer:	JGR
Date:	December 3, 2015		

PLANNING UNIT III

PHASE 1

PLANNING UNIT SUB-AREA	RESIDENTIAL (DUs)	COMMERCIAL OFFICE AREA (SF)	COMMERCIAL RETAIL AREA (SF)	COMMERCIAL RESTAURANT AREA (SF)	COMMERCIAL TOTAL COMMERCIAL AREA (SF)	HOTEL (ROOMS)
1	388	---	---	---	---	---
SUBTOTAL	388	---	---	---	---	---

PHASE 2

PLANNING UNIT SUB-AREA	RESIDENTIAL (DUs)	COMMERCIAL OFFICE AREA (SF)	COMMERCIAL RETAIL AREA (SF)	COMMERCIAL RESTAURANT AREA (SF)	COMMERCIAL TOTAL COMMERCIAL AREA (SF)	HOTEL (ROOMS)
2	362	---	---	---	---	---
SUBTOTAL	362	---	---	---	---	---

PHASE 3

PLANNING UNIT SUB-AREA	RESIDENTIAL (DUs)	COMMERCIAL OFFICE AREA (SF)	COMMERCIAL RETAIL AREA (SF)	COMMERCIAL RESTAURANT AREA (SF)	COMMERCIAL TOTAL COMMERCIAL AREA (SF)	HOTEL (ROOMS)
3a	---	159,275	17,750	15,000	192,025	---
3b	---	159,275	17,750	---	177,025	---
3c	---	159,275	---	15,000	174,275	---
3d	---	159,275	---	---	159,275	---
SUBTOTAL	---	637,100	35,500	30,000	702,600	---

PLANNING UNIT III TOTAL	750	637,100	35,500	30,000	702,600	---
FULL BUILDOUT TOTAL	2,466	2,496,245	269,900	100,000	2,866,145	400

APPENDIX B

PROJECTED WATER DEMAND CALCULATIONS
MODELED PRV STATUS

Project: Master On-Site Water/Wastewater Plan for One Scottsdale (Stacked 40s)
Location: Scottsdale, Arizona
Date: December 3, 2015

Proj. Number: 154391
Proj. Engineer: JGR

PLANNING UNIT II

			LAND USE TYPE											PROJECTED WATER DEMAND						
			RESIDENTIAL		COMMERCIAL							HOTEL								
					OFFICE		RETAIL		RESTAURANT		TOTAL COMMERCIAL AREA (SF)									
HYD. MODEL NODE	ELEVATION (FT)	PLANNING UNIT SUB-AREA	NO. OF DWELLING UNITS	ADF/DU (GPD)[3]	AREA (SF)	ADF/SF (GPD)	AREA (SF)	ADF/SF (GPD)	AREA (SF)	ADF/SF (GPD)		ROOMS	ADF/ROOM (GPD)	AVE. DAY DEMAND (GPD)	AVE. DAY DEMAND (GPM)	DEMAND ASSIGNED TO JUNCTIONS	MAX. DAY DEMAND (GPD)[1]	MAX. DAY DEMAND (GPM)[1]	PEAK HOUR DEMAND (GPM)[2]	FIRE FLOW (GPM)
J-102-2	1,616	2c	133	228	—	6	57,500	8	26,000	1.3	83,500	—	447	110,124	76	76	220,248	152	266	2,500
J-105-2	1,609	5a	—	228	127,834	6	21,074	8	2,500	1.3	151,408	—	447	96,810	67	67	193,619	134	235	2,500
J-110-2	1,613	1	—	228	325,156	6	—	8	0	1.3	325,156	—	447	195,094	135	231	390,187	270	473	2,500
		5b	—	228	204,533	6	15,332	8	2,500	1.3	222,365	—	447	138,235	96		276,471	192	336	2,500
J-120-2	1,612	5c	—	288	204,533	6	15,332	8	0	1.3	219,865	—	447	134,985	94	94	269,971	188	329	2,500
J-130-2	1,613	6	—	228	197,089	6	—	8	0	1.3	197,089	—	447	118,253	82	82	236,507	164	287	2,500
J-160-2	1,616	4c	372	228	—	6	—	8	0	1.3	0	—	447	84,816	59	59	169,632	118	207	2,500
J-170-2	1,614	2d	266	228	—	6	28,831	8	0	1.3	28,831	—	447	83,713	58	58	167,426	116	203	2,500
J-175-2	1,622	4b	267	228	—	6	—	8	8,000	1.3	8,000	—	447	71,276	49	49	142,552	98	172	2,500
J-180-2	1,626	4a	279	228	—	6	—	8	0	1.3	0	260	447	179,832	125	183	359,664	250	438	2,500
		2b	266	229	—	6	28,831	8	0	1.3	28,831	—	447	83,979	58		167,958	116	203	2,500
J-190-2	1,625	2a	133	228	—	6	57,500	8	26,000	1.3	83,500	—	447	110,124	76	76	220,248	152	266	2,500
J-200-2	1,632	3a	—	228	246,800	6	2,500	8	5,000	1.3	254,300	140	447	219,160	152	233	438,320	304	532	2,500
		3c	—	228	190,100	6	2,500	8	0	1.3	192,600	—	447	116,060	81		232,120	162	284	2,500
J-220-2	1,631	3b	—	228	246,800	6	2,500	8	0	1.3	249,300	—	447	150,080	104	154	300,160	208	364	2,500
		3d	—	228	116,300	6	2,500	8	0	1.3	118,800	—	447	71,780	50		143,560	100	175	2,500
		PLANNING UNIT II TOTAL	1,716		1,859,145		234,400		70,000		2,163,545	400		1,964,321	1,362	1,362	3,928,643	2,724	4,767	

Project: Master On-Site Water/Wastewater Plan for One Scottsdale (Stacked 40s)
Location: Scottsdale, Arizona
Date: December 3, 2015

Proj. Number: 154391
Proj. Engineer: JGR

PLANNING UNIT III

			LAND USE TYPE											PROJECTED WATER DEMAND						
			RESIDENTIAL		COMMERCIAL							HOTEL								
					OFFICE		RETAIL		RESTAURANT		TOTAL COMMERCIAL AREA (SF)									
HYD. MODEL NODE	ELEVATION (FT)	PLANNING UNIT SUB-AREA	NO. OF DWELLING UNITS	ADF/DU (GPD)[3]	AREA (SF)	ADF/SF (GPD)	AREA (SF)	ADF/SF (GPD)	AREA (SF)	ADF/SF (GPD)		ROOMS	ADF/ROOM (GPD)	AVE. DAY DEMAND (GPD)	AVE. DAY DEMAND (GPM)	DEMAND ASSIGNED TO JUNCTIONS	MAX. DAY DEMAND (GPD)[1]	MAX. DAY DEMAND (GPM)[1]	PEAK HOUR DEMAND (GPM)[2]	FIRE FLOW (GPM)
J-270-3	1,642	3d	---	228	159,275	.6	—	.8	—	1.3	159,275	—	447	95,565	66	66	191,130	132	231	2,500
J-300-3	1,653	3b	---	228	159,275	.6	17,750	.8	---	1.3	177,025	—	447	109,765	76	76	219,530	152	266	2,500
J-310-3	1,660	3a	—	228	159,275	.6	17,750	.8	15,000.0	1.3	192,025	—	447	129,265	90	90	258,530	180	315	2,500
J-330-3	1,637	3c	---	228	159,275	.6	—	.8	15,000.0	1.3	174,275	—	447	115,065	80	80	230,130	160	280	2,500
		PLANNING UNIT III TOTAL	0		637,100		35,500				702,600	---		449,660	312	312	899,320	624	1,092	
		FULL BUILDOUT TOTAL	1,716		2,496,245		269,900				2,866,145	400		2,413,981	1,674	1,674	4,827,963	3,348	5,859	

NOTES:

(1) Maximum Day Demand = 2.0 x Average Day Demand.

(2) Peak Hour Demand = 3.5 x Average Day Demand.

(3) Per Figure 4.1-3, COS Design Standards & Policies Manual, Section 4.

WOOD/PATEL

MODELED WATER SUPPLY / PRV STATUS

CIVIL ENGINEERS * HYDROLOGISTS * LAND SURVEYORS

Project:	Master On-Site Water/Wastewater Plan for One Scottsdale (Stacked 40s)	Proj. Number:	154391
Location:	Scottsdale, Arizona	Proj. Engineer:	JGR
Date:	December 3, 2015		

PLANNING UNIT II

		PRV STATUS			FLOW FROM ZONE 4 BPS		FLOW FROM ZONE 5 BPS		
SCENARIO	PRV HGL SETTING	PRV-2-EX 1	PRV-3 2	PRV-4 3	GPM	%	GPM	%	TOTAL FLOW (GPM)
AVE. DAY	1,755 FT.	CLOSED	CLOSED	CLOSED	1,362	100.0%	0	0.0%	1,362
MAX DAY		CLOSED	CLOSED	CLOSED	2,724	100.0%	0	0.0%	2,724
PEAK HOUR		CLOSED	CLOSED	CLOSED	4,767	100.0%	0	0.0%	4,767

PLANNING UNITS II & III (FULL BUILDOUT)

		PRV STATUS			FLOW FROM ZONE 4 BPS		FLOW FROM ZONE 5 BPS		
SCENARIO	PRV HGL SETTING	PRV-2-EX 1	PRV-3 2	PRV-4 3	GPM	%	GPM	%	TOTAL FLOW (GPM)
AVE. DAY	1,755 FT.	CLOSED	CLOSED	CLOSED	1,362	81.4%	312	18.6%	1,674
MAX DAY		CLOSED	THROTTLING	CLOSED	2,417	72.2%	931	27.8%	3,348
PEAK HOUR		CLOSED	THROTTLING	THROTTLING	2,522	43.0%	3,337	57.0%	5,859

Notes

1 Existing Hayden Road PRV
2 Existing Scottsdale Road PRV
3 Proposed 73rd Street PRV

This could create issues in North Areas OR E5

APPENDIX C

HYDRAULIC MODELING RESULTS

Active Scenario: Average Day Demand - PU II

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-10-EX	1,608.0	Zone	0	1,760.9	66
J-20-EX	1,615.0	Zone	0	1,760.9	63
J-50-EX	1,632.0	Zone	0	1,760.9	56
J-60-EX	1,644.0	Zone	0	1,854.2	91
J-70-EX	1,650.0	Zone	0	1,854.2	88
J-80-EX	1,655.0	Zone	0	1,854.2	86
J-120-EX	1,669.0	Zone	0	1,854.2	80
J-90-EX	1,662.0	Zone	0	1,854.2	83
J-100-EX	1,665.0	Zone	0	1,854.2	82
J-170-EX	1,585.0	Zone	0	1,761.1	76
J-160-EX	1,610.0	Zone	0	1,761.8	66
J-150-EX	1,640.0	Zone	0	1,762.1	53
J-130-EX	1,700.0	Zone	0	1,854.2	67
J-30-EX	1,623.0	Zone	0	1,760.9	60
J-40-EX	1,627.0	Zone	0	1,760.9	58
J-110-EX	1,666.0	Zone	0	1,854.2	81
J-105-EX	1,665.0	Zone	0	1,854.2	82
J-125-EX	1,669.0	Zone	0	1,854.2	80
EX FH #1 - TEST HYDRANT	1,669.0	Zone	0	1,854.2	80
EX FH #2 - FLOW HYDRANT	1,666.0	Zone	0	1,854.2	81
J-150-2	1,616.0	PU2	0	1,760.6	63
J-100-2	1,615.0	PU2	0	1,760.7	63
J-160-2	1,620.0	PU2	59	1,760.7	61
J-111-2	1,639.0	PU2	0	1,760.9	53
J-101-2	1,637.0	PU2	0	1,760.9	54
J-220-2	1,631.0	PU2	154	1,760.8	56
J-121-2	1,638.0	PU2	0	1,761.0	53
J-110-2	1,613.0	PU2	231	1,760.6	64
J-130-2	1,613.0	PU2	82	1,760.6	64
J-200-2	1,632.0	PU2	233	1,760.7	56
J-190-2	1,625.0	PU2	76	1,760.7	59
J-170-2	1,614.0	PU2	58	1,760.7	63
J-120-2	1,612.0	PU2	94	1,760.6	64
J-105-2	1,609.0	PU2	67	1,760.7	66
J-102-2	1,616.0	PU2	76	1,760.7	63
J-165-2	1,617.1	PU2	0	1,760.7	62
J-180-2	1,626.0	PU2	183	1,760.7	58
J-175-2	1,621.5	PU2	49	1,760.7	60
J-100-3	1,639.0	PU3	0	1,854.2	93
J-110-3	1,643.0	PU3	0	1,854.2	91
J-120-3	1,647.0	PU3	0	1,854.2	90
J-130-3	1,650.0	PU3	0	1,854.2	88
J-140-3	1,665.0	PU3	0	1,854.2	82
J-150-3	1,653.0	PU3	0	1,854.2	87
J-160-3	1,654.0	PU3	0	1,854.2	87
J-170-3	1,656.0	PU3	0	1,854.2	86

Active Scenario: Average Day Demand - PU II

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-180-3	1,660.5	PU3	0	1,854.2	84
J-190-3	1,663.0	PU3	0	1,854.2	83
J-200-3	1,666.0	PU3	0	1,854.2	81
J-210-3	1,658.0	PU3	0	1,854.2	85
J-220-3	1,663.0	PU3	0	1,854.2	83
J-230-3	1,665.0	PU3	0	1,854.2	82
J-240-3	1,647.0	PU3	0	1,854.2	90
J-250-3	1,645.0	PU3	0	1,854.2	91
J-260-3	1,647.5	PU3	0	1,854.2	89
J-270-3	1,642.0	PU3	0	1,854.2	92
J-290-3	1,650.0	PU3	0	1,854.2	88
J-300-3	1,652.5	PU3	0	1,854.2	87
J-310-3	1,660.0	PU3	0	1,854.2	84
J-265-3	1,650.0	PU3	0	1,854.2	88
J-245-3	1,648.9	PU3	0	1,854.2	89
J-235-3	1,665.0	PU3	0	1,854.2	82
J-135-3	1,661.7	PU3	0	1,854.2	83
J-320-3	1,642.0	PU3	0	1,854.2	92
J-330-3	1,637.0	PU3	0	1,854.2	94

Active Scenario: Maximum Day Demand - PU II

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-10-EX	1,608.0	Zone	0	1,752.8	63
J-20-EX	1,615.0	Zone	0	1,752.7	60
J-50-EX	1,632.0	Zone	0	1,752.7	52
J-60-EX	1,644.0	Zone	0	1,854.2	91
J-70-EX	1,650.0	Zone	0	1,854.2	88
J-80-EX	1,655.0	Zone	0	1,854.2	86
J-120-EX	1,669.0	Zone	0	1,854.2	80
J-90-EX	1,662.0	Zone	0	1,854.2	83
J-100-EX	1,665.0	Zone	0	1,854.2	82
J-170-EX	1,585.0	Zone	0	1,753.5	73
J-160-EX	1,610.0	Zone	0	1,756.1	63
J-150-EX	1,640.0	Zone	0	1,757.0	51
J-130-EX	1,700.0	Zone	0	1,854.2	67
J-30-EX	1,623.0	Zone	0	1,752.7	56
J-40-EX	1,627.0	Zone	0	1,752.7	54
J-110-EX	1,666.0	Zone	0	1,854.2	81
J-105-EX	1,665.0	Zone	0	1,854.2	82
J-125-EX	1,669.0	Zone	0	1,854.2	80
EX FH #1 - TEST HYDRANT	1,669.0	Zone	0	1,854.2	80
EX FH #2 - FLOW HYDRANT	1,666.0	Zone	0	1,854.2	81
J-150-2	1,616.0	PU2	0	1,751.8	59
J-100-2	1,615.0	PU2	0	1,752.1	59
J-160-2	1,620.0	PU2	118	1,751.9	57
J-111-2	1,639.0	PU2	0	1,752.8	49
J-101-2	1,637.0	PU2	0	1,752.7	50
J-220-2	1,631.0	PU2	308	1,752.5	53
J-121-2	1,638.0	PU2	0	1,753.1	50
J-110-2	1,613.0	PU2	462	1,751.8	60
J-130-2	1,613.0	PU2	164	1,751.8	60
J-200-2	1,632.0	PU2	466	1,752.2	52
J-190-2	1,625.0	PU2	152	1,752.2	55
J-170-2	1,614.0	PU2	116	1,752.1	60
J-120-2	1,612.0	PU2	188	1,751.8	60
J-105-2	1,609.0	PU2	134	1,752.0	62
J-102-2	1,616.0	PU2	152	1,752.2	59
J-165-2	1,617.1	PU2	0	1,752.1	58
J-180-2	1,626.0	PU2	366	1,752.2	55
J-175-2	1,621.5	PU2	98	1,752.1	56
J-100-3	1,639.0	PU3	0	1,854.2	93
J-110-3	1,643.0	PU3	0	1,854.2	91
J-120-3	1,647.0	PU3	0	1,854.2	90
J-130-3	1,650.0	PU3	0	1,854.2	88
J-140-3	1,665.0	PU3	0	1,854.2	82
J-150-3	1,653.0	PU3	0	1,854.2	87
J-160-3	1,654.0	PU3	0	1,854.2	87
J-170-3	1,656.0	PU3	0	1,854.2	86

Active Scenario: Maximum Day Demand - PU II

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-180-3	1,660.5	PU3	0	1,854.2	84
J-190-3	1,663.0	PU3	0	1,854.2	83
J-200-3	1,666.0	PU3	0	1,854.2	81
J-210-3	1,658.0	PU3	0	1,854.2	85
J-220-3	1,663.0	PU3	0	1,854.2	83
J-230-3	1,665.0	PU3	0	1,854.2	82
J-240-3	1,647.0	PU3	0	1,854.2	90
J-250-3	1,645.0	PU3	0	1,854.2	91
J-260-3	1,647.5	PU3	0	1,854.2	89
J-270-3	1,642.0	PU3	0	1,854.2	92
J-290-3	1,650.0	PU3	0	1,854.2	88
J-300-3	1,652.5	PU3	0	1,854.2	87
J-310-3	1,660.0	PU3	0	1,854.2	84
J-265-3	1,650.0	PU3	0	1,854.2	88
J-245-3	1,648.9	PU3	0	1,854.2	89
J-235-3	1,665.0	PU3	0	1,854.2	82
J-135-3	1,661.7	PU3	0	1,854.2	83
J-320-3	1,642.0	PU3	0	1,854.2	92
J-330-3	1,637.0	PU3	0	1,854.2	94

Active Scenario: Peak Hour Demand - PU II

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-10-EX	1,608.0	Zone	0	1,732.3	54
J-20-EX	1,615.0	Zone	0	1,732.1	51
J-50-EX	1,632.0	Zone	0	1,732.2	43
J-60-EX	1,644.0	Zone	0	1,854.2	91
J-70-EX	1,650.0	Zone	0	1,854.2	88
J-80-EX	1,655.0	Zone	0	1,854.2	86
J-120-EX	1,669.0	Zone	0	1,854.2	80
J-90-EX	1,662.0	Zone	0	1,854.2	83
J-100-EX	1,665.0	Zone	0	1,854.2	82
J-170-EX	1,585.0	Zone	0	1,734.4	65
J-160-EX	1,610.0	Zone	0	1,741.8	57
J-150-EX	1,640.0	Zone	0	1,744.3	45
J-130-EX	1,700.0	Zone	0	1,854.2	67
J-30-EX	1,623.0	Zone	0	1,732.2	47
J-40-EX	1,627.0	Zone	0	1,732.2	46
J-110-EX	1,666.0	Zone	0	1,854.2	81
J-105-EX	1,665.0	Zone	0	1,854.2	82
J-125-EX	1,669.0	Zone	0	1,854.2	80
EX FH #1 - TEST HYDRANT	1,669.0	Zone	0	1,854.2	80
EX FH #2 - FLOW HYDRANT	1,666.0	Zone	0	1,854.2	81
J-150-2	1,616.0	PU2	0	1,729.6	49
J-100-2	1,615.0	PU2	0	1,730.5	50
J-160-2	1,620.0	PU2	207	1,729.9	48
J-111-2	1,639.0	PU2	0	1,732.3	40
J-101-2	1,637.0	PU2	0	1,732.2	41
J-220-2	1,631.0	PU2	539	1,731.4	43
J-121-2	1,638.0	PU2	0	1,733.2	41
J-110-2	1,613.0	PU2	809	1,729.6	50
J-130-2	1,613.0	PU2	287	1,729.6	50
J-200-2	1,632.0	PU2	816	1,730.8	43
J-190-2	1,625.0	PU2	266	1,730.7	46
J-170-2	1,614.0	PU2	203	1,730.4	50
J-120-2	1,612.0	PU2	329	1,729.6	51
J-105-2	1,609.0	PU2	235	1,730.2	52
J-102-2	1,616.0	PU2	266	1,730.6	50
J-165-2	1,617.1	PU2	0	1,730.3	49
J-180-2	1,626.0	PU2	641	1,730.6	45
J-175-2	1,621.5	PU2	172	1,730.4	47
J-100-3	1,639.0	PU3	0	1,854.2	93
J-110-3	1,643.0	PU3	0	1,854.2	91
J-120-3	1,647.0	PU3	0	1,854.2	90
J-130-3	1,650.0	PU3	0	1,854.2	88
J-140-3	1,665.0	PU3	0	1,854.2	82
J-150-3	1,653.0	PU3	0	1,854.2	87
J-160-3	1,654.0	PU3	0	1,854.2	87
J-170-3	1,656.0	PU3	0	1,854.2	86

Active Scenario: Peak Hour Demand - PU II

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-180-3	1,660.5	PU3	0	1,854.2	84
J-190-3	1,663.0	PU3	0	1,854.2	83
J-200-3	1,666.0	PU3	0	1,854.2	81
J-210-3	1,658.0	PU3	0	1,854.2	85
J-220-3	1,663.0	PU3	0	1,854.2	83
J-230-3	1,665.0	PU3	0	1,854.2	82
J-240-3	1,647.0	PU3	0	1,854.2	90
J-250-3	1,645.0	PU3	0	1,854.2	91
J-260-3	1,647.5	PU3	0	1,854.2	89
J-270-3	1,642.0	PU3	0	1,854.2	92
J-290-3	1,650.0	PU3	0	1,854.2	88
J-300-3	1,652.5	PU3	0	1,854.2	87
J-310-3	1,660.0	PU3	0	1,854.2	84
J-265-3	1,650.0	PU3	0	1,854.2	88
J-245-3	1,648.9	PU3	0	1,854.2	89
J-235-3	1,665.0	PU3	0	1,854.2	82
J-135-3	1,661.7	PU3	0	1,854.2	83
J-320-3	1,642.0	PU3	0	1,854.2	92
J-330-3	1,637.0	PU3	0	1,854.2	94

Active Scenario: Average Day Demand - PU II & III

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-10-EX	1,608.0	Zone	0	1,760.9	66
J-20-EX	1,615.0	Zone	0	1,760.9	63
J-50-EX	1,632.0	Zone	0	1,760.9	56
J-60-EX	1,644.0	Zone	0	1,853.5	91
J-70-EX	1,650.0	Zone	0	1,853.5	88
J-80-EX	1,655.0	Zone	0	1,853.5	86
J-120-EX	1,669.0	Zone	0	1,853.7	80
J-90-EX	1,662.0	Zone	0	1,853.6	83
J-100-EX	1,665.0	Zone	0	1,853.6	82
J-170-EX	1,585.0	Zone	0	1,761.1	76
J-160-EX	1,610.0	Zone	0	1,761.8	66
J-150-EX	1,640.0	Zone	0	1,762.1	53
J-130-EX	1,700.0	Zone	0	1,853.7	67
J-30-EX	1,623.0	Zone	0	1,760.9	60
J-40-EX	1,627.0	Zone	0	1,760.9	58
J-110-EX	1,666.0	Zone	0	1,853.6	81
J-105-EX	1,665.0	Zone	0	1,853.6	82
J-125-EX	1,669.0	Zone	0	1,853.7	80
EX FH #1 - TEST HYDRANT	1,669.0	Zone	0	1,853.7	80
EX FH #2 - FLOW HYDRANT	1,666.0	Zone	0	1,853.6	81
J-150-2	1,616.0	PU2	0	1,760.6	63
J-100-2	1,615.0	PU2	0	1,760.7	63
J-160-2	1,620.0	PU2	59	1,760.7	61
J-111-2	1,639.0	PU2	0	1,760.9	53
J-101-2	1,637.0	PU2	0	1,760.9	54
J-220-2	1,631.0	PU2	154	1,760.8	56
J-121-2	1,638.0	PU2	0	1,761.0	53
J-110-2	1,613.0	PU2	231	1,760.6	64
J-130-2	1,613.0	PU2	82	1,760.6	64
J-200-2	1,632.0	PU2	233	1,760.7	56
J-190-2	1,625.0	PU2	76	1,760.7	59
J-170-2	1,614.0	PU2	58	1,760.7	63
J-120-2	1,612.0	PU2	94	1,760.6	64
J-105-2	1,609.0	PU2	67	1,760.7	66
J-102-2	1,616.0	PU2	76	1,760.7	63
J-165-2	1,617.1	PU2	0	1,760.7	62
J-180-2	1,626.0	PU2	183	1,760.7	58
J-175-2	1,621.5	PU2	49	1,760.7	60
J-100-3	1,639.0	PU3	0	1,853.5	93
J-110-3	1,643.0	PU3	0	1,853.5	91
J-120-3	1,647.0	PU3	0	1,853.5	89
J-130-3	1,650.0	PU3	0	1,853.5	88
J-140-3	1,665.0	PU3	0	1,853.6	82
J-150-3	1,653.0	PU3	0	1,853.5	87
J-160-3	1,654.0	PU3	0	1,853.5	86
J-170-3	1,656.0	PU3	0	1,853.5	85

Active Scenario: Average Day Demand - PU II & III

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-180-3	1,660.5	PU3	0	1,853.6	84
J-190-3	1,663.0	PU3	0	1,853.6	82
J-200-3	1,666.0	PU3	0	1,853.6	81
J-210-3	1,658.0	PU3	0	1,853.5	85
J-220-3	1,663.0	PU3	0	1,853.6	82
J-230-3	1,665.0	PU3	0	1,853.6	82
J-240-3	1,647.0	PU3	0	1,853.5	89
J-250-3	1,645.0	PU3	0	1,853.5	90
J-260-3	1,647.5	PU3	0	1,853.5	89
J-270-3	1,642.0	PU3	66	1,853.5	92
J-290-3	1,650.0	PU3	0	1,853.5	88
J-300-3	1,652.5	PU3	76	1,853.5	87
J-310-3	1,660.0	PU3	90	1,853.5	84
J-265-3	1,650.0	PU3	0	1,853.5	88
J-245-3	1,648.9	PU3	0	1,853.5	89
J-235-3	1,665.0	PU3	0	1,853.6	82
J-135-3	1,661.7	PU3	0	1,853.5	83
J-320-3	1,642.0	PU3	0	1,853.5	92
J-330-3	1,637.0	PU3	80	1,853.5	94

Active Scenario: Maximum Day Demand - PU II & III

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-10-EX	1,608.0	Zone	0	1,755.0	64
J-20-EX	1,615.0	Zone	0	1,754.9	61
J-50-EX	1,632.0	Zone	0	1,755.0	53
J-60-EX	1,644.0	Zone	0	1,849.0	89
J-70-EX	1,650.0	Zone	0	1,849.1	86
J-80-EX	1,655.0	Zone	0	1,849.2	84
J-120-EX	1,669.0	Zone	0	1,850.2	78
J-90-EX	1,662.0	Zone	0	1,849.3	81
J-100-EX	1,665.0	Zone	0	1,849.4	80
J-170-EX	1,585.0	Zone	0	1,755.6	74
J-160-EX	1,610.0	Zone	0	1,757.7	64
J-150-EX	1,640.0	Zone	0	1,758.4	51
J-130-EX	1,700.0	Zone	0	1,850.6	65
J-30-EX	1,623.0	Zone	0	1,755.0	57
J-40-EX	1,627.0	Zone	0	1,755.0	55
J-110-EX	1,666.0	Zone	0	1,849.6	79
J-105-EX	1,665.0	Zone	0	1,849.5	80
J-125-EX	1,669.0	Zone	0	1,850.6	79
EX FH #1 - TEST HYDRANT	1,669.0	Zone	0	1,850.6	79
EX FH #2 - FLOW HYDRANT	1,666.0	Zone	0	1,849.6	79
J-150-2	1,616.0	PU2	0	1,754.1	60
J-100-2	1,615.0	PU2	0	1,754.4	60
J-160-2	1,620.0	PU2	118	1,754.2	58
J-111-2	1,639.0	PU2	0	1,755.0	50
J-101-2	1,637.0	PU2	0	1,755.0	51
J-220-2	1,631.0	PU2	308	1,754.7	54
J-121-2	1,638.0	PU2	0	1,755.3	51
J-110-2	1,613.0	PU2	462	1,754.0	61
J-130-2	1,613.0	PU2	164	1,754.0	61
J-200-2	1,632.0	PU2	466	1,754.5	53
J-190-2	1,625.0	PU2	152	1,754.4	56
J-170-2	1,614.0	PU2	116	1,754.3	61
J-120-2	1,612.0	PU2	188	1,754.0	61
J-105-2	1,609.0	PU2	134	1,754.3	63
J-102-2	1,616.0	PU2	152	1,754.4	60
J-165-2	1,617.1	PU2	0	1,754.3	59
J-180-2	1,626.0	PU2	366	1,754.4	56
J-175-2	1,621.5	PU2	98	1,754.3	57
J-100-3	1,639.0	PU3	0	1,849.0	91
J-110-3	1,643.0	PU3	0	1,849.1	89
J-120-3	1,647.0	PU3	0	1,849.1	87
J-130-3	1,650.0	PU3	0	1,849.1	86
J-140-3	1,665.0	PU3	0	1,849.3	80
J-150-3	1,653.0	PU3	0	1,849.2	85
J-160-3	1,654.0	PU3	0	1,849.2	84
J-170-3	1,656.0	PU3	0	1,849.2	84

Active Scenario: Maximum Day Demand - PU II & III

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-180-3	1,660.5	PU3	0	1,849.3	82
J-190-3	1,663.0	PU3	0	1,849.4	81
J-200-3	1,666.0	PU3	0	1,849.7	79
J-210-3	1,658.0	PU3	0	1,849.2	83
J-220-3	1,663.0	PU3	0	1,849.3	81
J-230-3	1,665.0	PU3	0	1,849.3	80
J-240-3	1,647.0	PU3	0	1,849.1	87
J-250-3	1,645.0	PU3	0	1,849.1	88
J-260-3	1,647.5	PU3	0	1,849.1	87
J-270-3	1,642.0	PU3	132	1,849.0	90
J-290-3	1,650.0	PU3	0	1,849.0	86
J-300-3	1,652.5	PU3	152	1,848.9	85
J-310-3	1,660.0	PU3	180	1,848.9	82
J-265-3	1,650.0	PU3	0	1,849.2	86
J-245-3	1,648.9	PU3	0	1,849.1	87
J-235-3	1,665.0	PU3	0	1,849.3	80
J-135-3	1,661.7	PU3	0	1,849.2	81
J-320-3	1,642.0	PU3	0	1,849.0	90
J-330-3	1,637.0	PU3	160	1,848.8	92

Active Scenario: Peak Hour Demand - PU II & III

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-10-EX	1,608.0	Zone	0	1,753.9	63
J-20-EX	1,615.0	Zone	0	1,753.8	60
J-50-EX	1,632.0	Zone	0	1,754.7	53
J-60-EX	1,644.0	Zone	0	1,798.9	67
J-70-EX	1,650.0	Zone	0	1,799.4	65
J-80-EX	1,655.0	Zone	0	1,800.5	63
J-120-EX	1,669.0	Zone	0	1,812.1	62
J-90-EX	1,662.0	Zone	0	1,801.9	61
J-100-EX	1,665.0	Zone	0	1,803.3	60
J-170-EX	1,585.0	Zone	0	1,754.6	73
J-160-EX	1,610.0	Zone	0	1,757.1	64
J-150-EX	1,640.0	Zone	0	1,757.9	51
J-130-EX	1,700.0	Zone	0	1,815.5	50
J-30-EX	1,623.0	Zone	0	1,754.3	57
J-40-EX	1,627.0	Zone	0	1,754.6	55
J-110-EX	1,666.0	Zone	0	1,805.4	60
J-105-EX	1,665.0	Zone	0	1,803.8	60
J-125-EX	1,669.0	Zone	0	1,815.5	63
EX FH #1 - TEST HYDRANT	1,669.0	Zone	0	1,815.5	63
EX FH #2 - FLOW HYDRANT	1,666.0	Zone	0	1,805.4	60
J-150-2	1,616.0	PU2	0	1,751.4	59
J-100-2	1,615.0	PU2	0	1,752.2	59
J-160-2	1,620.0	PU2	207	1,751.7	57
J-111-2	1,639.0	PU2	0	1,754.7	50
J-101-2	1,637.0	PU2	0	1,754.7	51
J-220-2	1,631.0	PU2	539	1,753.2	53
J-121-2	1,638.0	PU2	0	1,754.7	50
J-110-2	1,613.0	PU2	809	1,751.3	60
J-130-2	1,613.0	PU2	287	1,751.4	60
J-200-2	1,632.0	PU2	816	1,752.9	52
J-190-2	1,625.0	PU2	266	1,752.6	55
J-170-2	1,614.0	PU2	203	1,752.2	60
J-120-2	1,612.0	PU2	329	1,751.3	60
J-105-2	1,609.0	PU2	235	1,752.0	62
J-102-2	1,616.0	PU2	266	1,752.4	59
J-165-2	1,617.1	PU2	0	1,752.1	58
J-180-2	1,626.0	PU2	641	1,752.5	55
J-175-2	1,621.5	PU2	172	1,752.2	57
J-100-3	1,639.0	PU3	0	1,797.7	69
J-110-3	1,643.0	PU3	0	1,798.8	67
J-120-3	1,647.0	PU3	0	1,799.1	66
J-130-3	1,650.0	PU3	0	1,799.9	65
J-140-3	1,665.0	PU3	0	1,802.3	59
J-150-3	1,653.0	PU3	0	1,800.4	64
J-160-3	1,654.0	PU3	0	1,800.5	63
J-170-3	1,656.0	PU3	0	1,800.6	63

Active Scenario: Peak Hour Demand - PU II & III

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-180-3	1,660.5	PU3	0	1,801.8	61
J-190-3	1,663.0	PU3	0	1,803.0	61
J-200-3	1,666.0	PU3	0	1,806.6	61
J-210-3	1,658.0	PU3	0	1,801.4	62
J-220-3	1,663.0	PU3	0	1,802.4	60
J-230-3	1,665.0	PU3	0	1,802.3	59
J-240-3	1,647.0	PU3	0	1,799.8	66
J-250-3	1,645.0	PU3	0	1,800.0	67
J-260-3	1,647.5	PU3	0	1,800.1	66
J-270-3	1,642.0	PU3	231	1,798.9	68
J-290-3	1,650.0	PU3	0	1,799.2	65
J-300-3	1,652.5	PU3	266	1,799.1	63
J-310-3	1,660.0	PU3	315	1,799.4	60
J-265-3	1,650.0	PU3	0	1,800.2	65
J-245-3	1,648.9	PU3	0	1,800.1	65
J-235-3	1,665.0	PU3	0	1,802.3	59
J-135-3	1,661.7	PU3	0	1,801.3	60
J-320-3	1,642.0	PU3	0	1,798.8	68
J-330-3	1,637.0	PU3	280	1,798.2	70

Bldg pumps reqd.

Active Scenario: Peak Hour Demand - Multistory Scenerio - PU II & III

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-10-EX	1,612.0	Zone	0	1,753.9	61
J-20-EX	1,615.0	Zone	0	1,753.8	60
J-50-EX	1,632.0	Zone	0	1,754.7	53
J-60-EX	1,644.0	Zone	0	1,798.9	67
J-70-EX	1,650.0	Zone	0	1,799.4	65
J-80-EX	1,655.0	Zone	0	1,800.5	63
J-120-EX	1,669.0	Zone	0	1,812.1	62
J-90-EX	1,662.0	Zone	0	1,801.9	61
J-100-EX	1,665.0	Zone	0	1,803.3	60
J-170-EX	1,585.0	Zone	0	1,754.6	73
J-160-EX	1,610.0	Zone	0	1,757.1	64
J-150-EX	1,640.0	Zone	0	1,757.9	51
J-130-EX	1,700.0	Zone	0	1,815.5	50
J-30-EX	1,623.0	Zone	0	1,754.3	57
J-40-EX	1,627.0	Zone	0	1,754.6	55
J-110-EX	1,666.0	Zone	0	1,805.4	60
J-105-EX	1,665.0	Zone	0	1,803.8	60
J-125-EX	1,669.0	Zone	0	1,815.5	63
EX FH #1 - TEST HYDRANT	1,669.0	Zone	0	1,815.5	63
EX FH #2 - FLOW HYDRANT	1,666.0	Zone	0	1,805.4	60
J-150-2	1,676.0	PU2	0	1,751.4	33
J-100-2	1,675.0	PU2	0	1,752.2	33
J-160-2	1,680.0	PU2	207	1,751.7	31
J-111-2	1,699.0	PU2	0	1,754.7	24
J-101-2	1,637.0	PU2	0	1,754.7	51
J-220-2	1,691.0	PU2	539	1,753.2	27
J-121-2	1,698.0	PU2	0	1,754.7	25
J-110-2	1,671.0	PU2	809	1,751.3	35
J-130-2	1,673.0	PU2	287	1,751.4	34
J-200-2	1,692.0	PU2	816	1,752.9	26
J-190-2	1,685.0	PU2	266	1,752.6	29
J-170-2	1,674.0	PU2	203	1,752.2	34
J-120-2	1,672.0	PU2	329	1,751.3	34
J-105-2	1,612.0	Zone	235	1,752.0	61
J-102-2	1,616.0	PU2	266	1,752.4	59
J-165-2	1,674.0	PU2	0	1,752.1	34
J-180-2	1,686.0	PU2	641	1,752.5	29
J-175-2	1,680.0	PU2	172	1,752.2	31
J-100-3	1,699.0	PU3	0	1,797.7	43
J-110-3	1,703.0	PU3	0	1,798.8	41
J-120-3	1,697.0	PU3	0	1,799.1	44
J-130-3	1,710.0	PU3	0	1,799.9	39
J-140-3	1,725.0	PU3	0	1,802.3	33
J-150-3	1,713.0	PU3	0	1,800.4	38
J-160-3	1,714.0	PU3	0	1,800.5	37
J-170-3	1,716.0	PU3	0	1,800.6	37

+60'

Press problems here!

Active Scenario: Peak Hour Demand - Multistory Scenerio - PU II & III

FlexTable: Junction Table

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-180-3	1,720.5	PU3	0	1,801.8	35
J-190-3	1,723.0	PU3	0	1,803.0	35
J-200-3	1,726.0	PU3	0	1,806.6	35
J-210-3	1,718.0	PU3	0	1,801.4	36
J-220-3	1,723.0	PU3	0	1,802.4	34
J-230-3	1,725.0	PU3	0	1,802.3	33
J-240-3	1,707.0	PU3	0	1,799.8	40
J-250-3	1,705.0	PU3	0	1,800.0	41
J-260-3	1,707.5	PU3	0	1,800.1	40
J-270-3	1,702.0	PU3	231	1,798.9	42
J-290-3	1,710.0	PU3	0	1,799.2	39
J-300-3	1,712.5	PU3	266	1,799.1	37
J-310-3	1,720.0	PU3	315	1,799.4	34
J-265-3	1,710.0	PU3	0	1,800.2	39
J-245-3	1,710.5	PU3	0	1,800.1	39
J-235-3	1,725.0	PU3	0	1,802.3	33
J-135-3	1,721.7	PU3	0	1,801.3	34
J-320-3	1,642.0	PU3	0	1,798.8	68
J-330-3	1,637.0	PU3	280	1,798.2	70

Active Scenario: Average Day Demand - PU II

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
MODELED ZONE 4 WATER SUPPLY	130.0	16.0	1,750.00	Ductile Iron	1,362	2.17
P-20-EX	130.0	16.0	306.00	Ductile Iron	-311	0.50
P-30-EX	130.0	16.0	450.00	Ductile Iron	94	0.15
P-40-EX	130.0	16.0	368.00	Ductile Iron	94	0.15
P-50-EX	150.0	16.0	564.00	PVC	-94	0.15
P-60-EX	150.0	12.0	165.00	PVC	0	0.00
P-65-EX	150.0	12.0	477.00	PVC	0	0.00
P-70-EX	150.0	12.0	392.00	PVC	0	0.00
P-80-EX	150.0	12.0	373.00	PVC	0	0.00
P-90-EX	150.0	12.0	557.00	PVC	0	0.00
P-100-2	130.0	8.0	301.00	Ductile Iron	167	1.06
P-100-3	130.0	12.0	203.00	Ductile Iron	0	0.00
P-100-EX	130.0	12.0	483.00	Ductile Iron	0	0.00
P-101-2	130.0	16.0	386.00	Ductile Iron	94	0.15
P-105-2	130.0	12.0	299.00	Ductile Iron	-185	0.52
P-110-2	130.0	12.0	277.00	Ductile Iron	-284	0.81
P-110-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-110-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-111-2	130.0	16.0	243.00	Ductile Iron	94	0.15
P-115-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-120-2	130.0	12.0	319.00	Ductile Iron	53	0.15
P-120-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-120-EX	130.0	12.0	442.00	Ductile Iron	0	0.00
P-121-2	130.0	16.0	708.00	Ductile Iron	-441	0.70
P-125-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-130-2	130.0	12.0	319.00	Ductile Iron	-41	0.12
P-130-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-130-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-131-2	130.0	16.0	2,109.00	Ductile Iron	-884	1.41
P-140-2	130.0	12.0	307.00	Ductile Iron	-405	1.15
P-140-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-145-2	130.0	12.0	184.00	Ductile Iron	-144	0.41
P-145-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-145-EX	130.0	16.0	2,609.00	Ductile Iron	0	0.00
P-150-2	130.0	12.0	0.00	Ductile Iron	-123	0.35
P-150-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-150-EX	130.0	16.0	412.00	Ductile Iron	0	0.00
P-160-2	130.0	12.0	351.00	Ductile Iron	123	0.35
P-160-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-160-EX	130.0	16.0	1,528.00	Ductile Iron	-478	0.76
P-165-2	130.0	12.0	0.00	Ductile Iron	182	0.52
P-170-2	130.0	12.0	0.00	Ductile Iron	86	0.24
P-170-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-170-EX	140.0	16.0	5,280.00	Asbestos Cement	-478	0.76

Active Scenario: Average Day Demand - PU II

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
P-175-2	130.0	12.0	335.00	Ductile Iron	144	0.41
P-175-2	130.0	12.0	0.00	Ductile Iron	-96	0.27
P-175-EX	130.0	16.0	1,254.00	Ductile Iron	-478	0.76
P-180-2	130.0	12.0	0.00	Ductile Iron	-145	0.41
P-180-3	130.0	8.0	0.00	Ductile Iron	1	0.00
P-180-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-190-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-190-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-195-2	130.0	12.0	0.00	Ductile Iron	39	0.11
P-200-2	130.0	12.0	457.00	Ductile Iron	-115	0.32
P-200-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-210-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-220-2	130.0	12.0	0.00	Ductile Iron	-289	0.82
P-220-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-225-2	130.0	12.0	507.00	Ductile Iron	-443	1.26
P-230-2	130.0	12.0	0.00	Ductile Iron	348	0.99
P-230-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-240-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-250-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-260-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-265-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-270-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-280-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-290-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-300-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-310-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-315-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-320-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-325-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-330-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-335-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-340-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-345-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-370-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-380-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-390-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-400-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-410-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-420-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-430-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-440-3	130.0	8.0	0.00	Ductile Iron	0	0.00
ZONE 5 MODELED WATER SUPPLY - PUMP TO SYSTEM	130.0	48.0	1.00	Ductile Iron	0	0.00

Active Scenario: Average Day Demand - PU II

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
ZONE 5 MODELED WATER SUPPLY - RES TO PUMP	130.0	48.0	1.00	Ductile Iron	0	0.00

Active Scenario: Maximum Day Demand - PU II

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
MODELED ZONE 4 WATER SUPPLY	130.0	16.0	1,750.00	Ductile Iron	2,724	4.35
P-20-EX	130.0	16.0	306.00	Ductile Iron	-622	0.99
P-30-EX	130.0	16.0	450.00	Ductile Iron	187	0.30
P-40-EX	130.0	16.0	368.00	Ductile Iron	187	0.30
P-50-EX	150.0	16.0	564.00	PVC	-187	0.30
P-60-EX	150.0	12.0	165.00	PVC	0	0.00
P-65-EX	150.0	12.0	477.00	PVC	0	0.00
P-70-EX	150.0	12.0	392.00	PVC	1	0.00
P-80-EX	150.0	12.0	373.00	PVC	0	0.00
P-90-EX	150.0	12.0	557.00	PVC	0	0.00
P-100-2	130.0	8.0	301.00	Ductile Iron	333	2.13
P-100-3	130.0	12.0	203.00	Ductile Iron	0	0.00
P-100-EX	130.0	12.0	483.00	Ductile Iron	0	0.00
P-101-2	130.0	16.0	386.00	Ductile Iron	187	0.30
P-105-2	130.0	12.0	299.00	Ductile Iron	-369	1.05
P-110-2	130.0	12.0	277.00	Ductile Iron	-568	1.61
P-110-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-110-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-111-2	130.0	16.0	243.00	Ductile Iron	187	0.30
P-115-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-120-2	130.0	12.0	319.00	Ductile Iron	106	0.30
P-120-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-120-EX	130.0	12.0	442.00	Ductile Iron	0	0.00
P-121-2	130.0	16.0	708.00	Ductile Iron	-882	1.41
P-125-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-130-2	130.0	12.0	319.00	Ductile Iron	-82	0.23
P-130-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-130-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-131-2	130.0	16.0	2,109.00	Ductile Iron	-1,769	2.82
P-140-2	130.0	12.0	307.00	Ductile Iron	-809	2.30
P-140-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-145-2	130.0	12.0	184.00	Ductile Iron	-288	0.82
P-145-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-145-EX	130.0	16.0	2,609.00	Ductile Iron	0	0.00
P-150-2	130.0	12.0	0.00	Ductile Iron	-246	0.70
P-150-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-150-EX	130.0	16.0	412.00	Ductile Iron	0	0.00
P-160-2	130.0	12.0	351.00	Ductile Iron	246	0.70
P-160-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-160-EX	130.0	16.0	1,528.00	Ductile Iron	-955	1.52
P-165-2	130.0	12.0	0.00	Ductile Iron	364	1.03
P-170-2	130.0	12.0	0.00	Ductile Iron	172	0.49
P-170-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-170-EX	140.0	16.0	5,280.00	Asbestos Cement	-955	1.52

Active Scenario: Maximum Day Demand - PU II

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
P-175-2	130.0	12.0	335.00	Ductile Iron	288	0.82
P-175-2	130.0	12.0	0.00	Ductile Iron	-191	0.54
P-175-EX	130.0	16.0	1,254.00	Ductile Iron	-955	1.52
P-180-2	130.0	12.0	0.00	Ductile Iron	-289	0.82
P-180-3	130.0	8.0	0.00	Ductile Iron	1	0.01
P-180-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-190-3	130.0	8.0	0.00	Ductile Iron	1	0.01
P-190-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-195-2	130.0	12.0	0.00	Ductile Iron	77	0.22
P-200-2	130.0	12.0	457.00	Ductile Iron	-229	0.65
P-200-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-210-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-220-2	130.0	12.0	0.00	Ductile Iron	-578	1.64
P-220-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-225-2	130.0	12.0	507.00	Ductile Iron	-886	2.51
P-230-2	130.0	12.0	0.00	Ductile Iron	695	1.97
P-230-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-240-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-250-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-260-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-265-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-270-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-280-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-290-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-300-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-310-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-315-3	130.0	8.0	0.00	Ductile Iron	1	0.00
P-320-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-325-3	130.0	8.0	0.00	Ductile Iron	1	0.00
P-330-3	130.0	8.0	0.00	Ductile Iron	1	0.00
P-335-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-340-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-345-3	130.0	12.0	0.00	Ductile Iron	-1	0.00
P-370-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-380-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-390-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-400-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-410-3	130.0	8.0	0.00	Ductile Iron	1	0.00
P-420-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-430-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-440-3	130.0	8.0	0.00	Ductile Iron	0	0.00
ZONE 5 MODELED WATER SUPPLY - PUMP TO SYSTEM	130.0	48.0	1.00	Ductile Iron	0	0.00

Active Scenario: Maximum Day Demand - PU II

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
ZONE 5 MODELED WATER SUPPLY - RES TO PUMP	130.0	48.0	1.00	Ductile Iron	0	0.00

Active Scenario: Peak Hour Demand - PU II

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
MODELED ZONE 4 WATER SUPPLY	130.0	16.0	1,750.00	Ductile Iron	4,770	7.61
P-20-EX	130.0	16.0	306.00	Ductile Iron	-1,089	1.74
P-30-EX	130.0	16.0	450.00	Ductile Iron	328	0.52
P-40-EX	130.0	16.0	368.00	Ductile Iron	328	0.52
P-50-EX	150.0	16.0	564.00	PVC	-328	0.52
P-60-EX	150.0	12.0	165.00	PVC	0	0.00
P-65-EX	150.0	12.0	477.00	PVC	0	0.00
P-70-EX	150.0	12.0	392.00	PVC	1	0.00
P-80-EX	150.0	12.0	373.00	PVC	0	0.00
P-90-EX	150.0	12.0	557.00	PVC	0	0.00
P-100-2	130.0	8.0	301.00	Ductile Iron	584	3.73
P-100-3	130.0	12.0	203.00	Ductile Iron	0	0.00
P-100-EX	130.0	12.0	483.00	Ductile Iron	0	0.00
P-101-2	130.0	16.0	386.00	Ductile Iron	328	0.52
P-105-2	130.0	12.0	299.00	Ductile Iron	-646	1.83
P-110-2	130.0	12.0	277.00	Ductile Iron	-995	2.82
P-110-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-110-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-111-2	130.0	16.0	243.00	Ductile Iron	328	0.52
P-115-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-120-2	130.0	12.0	319.00	Ductile Iron	186	0.53
P-120-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-120-EX	130.0	12.0	442.00	Ductile Iron	0	0.00
P-121-2	130.0	16.0	708.00	Ductile Iron	-1,545	2.47
P-125-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-130-2	130.0	12.0	319.00	Ductile Iron	-143	0.40
P-130-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-130-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-131-2	130.0	16.0	2,109.00	Ductile Iron	-3,097	4.94
P-140-2	130.0	12.0	307.00	Ductile Iron	-1,417	4.02
P-140-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-145-2	130.0	12.0	184.00	Ductile Iron	-505	1.43
P-145-3	130.0	12.0	0.00	Ductile Iron	-1	0.00
P-145-EX	130.0	16.0	2,609.00	Ductile Iron	0	0.00
P-150-2	130.0	12.0	0.00	Ductile Iron	-430	1.22
P-150-3	130.0	12.0	0.00	Ductile Iron	-1	0.00
P-150-EX	130.0	16.0	412.00	Ductile Iron	0	0.00
P-160-2	130.0	12.0	351.00	Ductile Iron	430	1.22
P-160-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-160-EX	130.0	16.0	1,528.00	Ductile Iron	-1,673	2.67
P-165-2	130.0	12.0	0.00	Ductile Iron	637	1.81
P-170-2	130.0	12.0	0.00	Ductile Iron	302	0.86
P-170-3	130.0	8.0	0.00	Ductile Iron	1	0.01
P-170-EX	140.0	16.0	5,280.00	Asbestos Cement	-1,673	2.67

Active Scenario: Peak Hour Demand - PU II

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
P-175-2	130.0	12.0	335.00	Ductile Iron	505	1.43
P-175-2	130.0	12.0	0.00	Ductile Iron	-335	0.95
P-175-EX	130.0	16.0	1,254.00	Ductile Iron	-1,673	2.67
P-180-2	130.0	12.0	0.00	Ductile Iron	-507	1.44
P-180-3	130.0	8.0	0.00	Ductile Iron	2	0.02
P-180-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-190-3	130.0	8.0	0.00	Ductile Iron	2	0.01
P-190-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-195-2	130.0	12.0	0.00	Ductile Iron	135	0.38
P-200-2	130.0	12.0	457.00	Ductile Iron	-401	1.14
P-200-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-210-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-220-2	130.0	12.0	0.00	Ductile Iron	-1,013	2.87
P-220-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-225-2	130.0	12.0	507.00	Ductile Iron	-1,552	4.40
P-230-2	130.0	12.0	0.00	Ductile Iron	1,217	3.45
P-230-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-240-3	130.0	8.0	0.00	Ductile Iron	1	0.00
P-250-3	130.0	8.0	0.00	Ductile Iron	1	0.00
P-260-3	130.0	8.0	0.00	Ductile Iron	1	0.01
P-265-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-270-3	130.0	8.0	0.00	Ductile Iron	1	0.01
P-280-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-290-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-300-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-310-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-315-3	130.0	8.0	0.00	Ductile Iron	1	0.01
P-320-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-325-3	130.0	8.0	0.00	Ductile Iron	1	0.01
P-330-3	130.0	8.0	0.00	Ductile Iron	1	0.01
P-335-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-340-3	130.0	12.0	0.00	Ductile Iron	-1	0.00
P-345-3	130.0	12.0	0.00	Ductile Iron	-1	0.00
P-370-3	130.0	8.0	0.00	Ductile Iron	1	0.01
P-380-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-390-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-400-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-410-3	130.0	8.0	0.00	Ductile Iron	1	0.01
P-420-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-430-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-440-3	130.0	8.0	0.00	Ductile Iron	0	0.00
ZONE 5 MODELED WATER SUPPLY - PUMP TO SYSTEM	130.0	48.0	1.00	Ductile Iron	0	0.00

Active Scenario: Peak Hour Demand - PU II

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
ZONE 5 MODELED WATER SUPPLY - RES TO PUMP	130.0	48.0	1.00	Ductile Iron	0	0.00

Active Scenario: Average Day Demand - PU II & III

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
MODELED ZONE 4 WATER SUPPLY	130.0	16.0	1,750.00	Ductile Iron	1,362	2.17
P-20-EX	130.0	16.0	306.00	Ductile Iron	-311	0.50
P-30-EX	130.0	16.0	450.00	Ductile Iron	94	0.15
P-40-EX	130.0	16.0	368.00	Ductile Iron	94	0.15
P-50-EX	150.0	16.0	564.00	PVC	-94	0.15
P-60-EX	150.0	12.0	165.00	PVC	0	0.00
P-65-EX	150.0	12.0	477.00	PVC	0	0.00
P-70-EX	150.0	12.0	392.00	PVC	56	0.16
P-80-EX	150.0	12.0	373.00	PVC	98	0.28
P-90-EX	150.0	12.0	557.00	PVC	-98	0.28
P-100-2	130.0	8.0	301.00	Ductile Iron	167	1.06
P-100-3	130.0	12.0	203.00	Ductile Iron	0	0.00
P-100-EX	130.0	12.0	483.00	Ductile Iron	-98	0.28
P-101-2	130.0	16.0	386.00	Ductile Iron	94	0.15
P-105-2	130.0	12.0	299.00	Ductile Iron	-185	0.52
P-110-2	130.0	12.0	277.00	Ductile Iron	-284	0.81
P-110-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-110-EX	130.0	12.0	0.00	Ductile Iron	-98	0.28
P-111-2	130.0	16.0	243.00	Ductile Iron	94	0.15
P-115-EX	130.0	12.0	0.00	Ductile Iron	-232	0.66
P-120-2	130.0	12.0	319.00	Ductile Iron	53	0.15
P-120-3	130.0	12.0	0.00	Ductile Iron	0	0.00
P-120-EX	130.0	12.0	442.00	Ductile Iron	-232	0.66
P-121-2	130.0	16.0	708.00	Ductile Iron	-441	0.70
P-125-EX	130.0	12.0	0.00	Ductile Iron	-312	0.89
P-130-2	130.0	12.0	319.00	Ductile Iron	-41	0.12
P-130-3	130.0	12.0	0.00	Ductile Iron	-8	0.02
P-130-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-131-2	130.0	16.0	2,109.00	Ductile Iron	-884	1.41
P-140-2	130.0	12.0	307.00	Ductile Iron	-405	1.15
P-140-3	130.0	12.0	0.00	Ductile Iron	-87	0.25
P-145-2	130.0	12.0	184.00	Ductile Iron	-144	0.41
P-145-3	130.0	12.0	0.00	Ductile Iron	-59	0.17
P-145-EX	130.0	16.0	2,609.00	Ductile Iron	0	0.00
P-150-2	130.0	12.0	0.00	Ductile Iron	-123	0.35
P-150-3	130.0	12.0	0.00	Ductile Iron	-153	0.43
P-150-EX	130.0	16.0	412.00	Ductile Iron	0	0.00
P-160-2	130.0	12.0	351.00	Ductile Iron	123	0.35
P-160-3	130.0	12.0	0.00	Ductile Iron	-134	0.38
P-160-EX	130.0	16.0	1,528.00	Ductile Iron	-478	0.76
P-165-2	130.0	12.0	0.00	Ductile Iron	182	0.52
P-170-2	130.0	12.0	0.00	Ductile Iron	86	0.24
P-170-3	130.0	8.0	0.00	Ductile Iron	-28	0.18
P-170-EX	140.0	16.0	5,280.00	Asbestos Cement	-478	0.76

Active Scenario: Average Day Demand - PU II & III

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
P-175-2	130.0	12.0	335.00	Ductile Iron	144	0.41
P-175-2	130.0	12.0	0.00	Ductile Iron	-96	0.27
P-175-EX	130.0	16.0	1,254.00	Ductile Iron	-478	0.76
P-180-2	130.0	12.0	0.00	Ductile Iron	-145	0.41
P-180-3	130.0	8.0	0.00	Ductile Iron	-42	0.27
P-180-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-190-3	130.0	8.0	0.00	Ductile Iron	-12	0.08
P-190-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-195-2	130.0	12.0	0.00	Ductile Iron	39	0.11
P-200-2	130.0	12.0	457.00	Ductile Iron	-115	0.32
P-200-3	130.0	8.0	0.00	Ductile Iron	-32	0.20
P-210-3	130.0	8.0	0.00	Ductile Iron	-32	0.20
P-220-2	130.0	12.0	0.00	Ductile Iron	-289	0.82
P-220-3	130.0	8.0	0.00	Ductile Iron	-80	0.51
P-225-2	130.0	12.0	507.00	Ductile Iron	-443	1.26
P-230-2	130.0	12.0	0.00	Ductile Iron	348	0.99
P-230-3	130.0	8.0	0.00	Ductile Iron	-80	0.51
P-240-3	130.0	8.0	0.00	Ductile Iron	-29	0.19
P-250-3	130.0	8.0	0.00	Ductile Iron	-29	0.19
P-260-3	130.0	8.0	0.00	Ductile Iron	19	0.12
P-265-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-270-3	130.0	8.0	0.00	Ductile Iron	19	0.12
P-280-3	130.0	8.0	0.00	Ductile Iron	-48	0.31
P-290-3	130.0	8.0	0.00	Ductile Iron	-33	0.21
P-300-3	130.0	8.0	0.00	Ductile Iron	-9	0.06
P-310-3	130.0	8.0	0.00	Ductile Iron	-9	0.06
P-315-3	130.0	8.0	0.00	Ductile Iron	10	0.07
P-320-3	130.0	8.0	0.00	Ductile Iron	9	0.06
P-325-3	130.0	8.0	0.00	Ductile Iron	19	0.12
P-330-3	130.0	8.0	0.00	Ductile Iron	-14	0.09
P-335-3	130.0	8.0	0.00	Ductile Iron	-24	0.15
P-340-3	130.0	12.0	0.00	Ductile Iron	79	0.23
P-345-3	130.0	12.0	0.00	Ductile Iron	-56	0.16
P-370-3	130.0	8.0	0.00	Ductile Iron	31	0.20
P-380-3	130.0	8.0	0.00	Ductile Iron	73	0.46
P-390-3	130.0	8.0	0.00	Ductile Iron	-3	0.02
P-400-3	130.0	8.0	0.00	Ductile Iron	93	0.60
P-410-3	130.0	8.0	0.00	Ductile Iron	-42	0.27
P-420-3	130.0	8.0	0.00	Ductile Iron	-39	0.25
P-430-3	130.0	8.0	0.00	Ductile Iron	41	0.26
P-440-3	130.0	8.0	0.00	Ductile Iron	80	0.51
ZONE 5 MODELED WATER SUPPLY - PUMP TO SYSTEM	130.0	48.0	1.00	Ductile Iron	312	0.06

Active Scenario: Average Day Demand - PU II & III

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
ZONE 5 MODELED WATER SUPPLY - RES TO PUMP	130.0	48.0	1.00	Ductile Iron	312	0.06

Active Scenario: Maximum Day Demand - PU II & III

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
MODELED ZONE 4 WATER SUPPLY	130.0	16.0	1,750.00	Ductile Iron	2,417	3.86
P-20-EX	130.0	16.0	306.00	Ductile Iron	-519	0.83
P-30-EX	130.0	16.0	450.00	Ductile Iron	296	0.47
P-40-EX	130.0	16.0	368.00	Ductile Iron	296	0.47
P-50-EX	150.0	16.0	564.00	PVC	-296	0.47
P-60-EX	150.0	12.0	165.00	PVC	180	0.51
P-65-EX	150.0	12.0	477.00	PVC	180	0.51
P-70-EX	150.0	12.0	392.00	PVC	223	0.63
P-80-EX	150.0	12.0	373.00	PVC	305	0.87
P-90-EX	150.0	12.0	557.00	PVC	-305	0.87
P-100-2	130.0	8.0	301.00	Ductile Iron	330	2.11
P-100-3	130.0	12.0	203.00	Ductile Iron	127	0.36
P-100-EX	130.0	12.0	483.00	Ductile Iron	-305	0.87
P-101-2	130.0	16.0	386.00	Ductile Iron	116	0.19
P-105-2	130.0	12.0	299.00	Ductile Iron	-372	1.06
P-110-2	130.0	12.0	277.00	Ductile Iron	-569	1.61
P-110-3	130.0	12.0	0.00	Ductile Iron	-127	0.36
P-110-EX	130.0	12.0	0.00	Ductile Iron	-305	0.87
P-111-2	130.0	16.0	243.00	Ductile Iron	116	0.19
P-115-EX	130.0	12.0	0.00	Ductile Iron	-692	1.96
P-120-2	130.0	12.0	319.00	Ductile Iron	107	0.30
P-120-3	130.0	12.0	0.00	Ductile Iron	-127	0.36
P-120-EX	130.0	12.0	442.00	Ductile Iron	-692	1.96
P-121-2	130.0	16.0	708.00	Ductile Iron	-710	1.13
P-125-EX	130.0	12.0	0.00	Ductile Iron	-931	2.64
P-130-2	130.0	12.0	319.00	Ductile Iron	-81	0.23
P-130-3	130.0	12.0	0.00	Ductile Iron	-104	0.29
P-130-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-131-2	130.0	16.0	2,109.00	Ductile Iron	-1,568	2.50
P-140-2	130.0	12.0	307.00	Ductile Iron	-815	2.31
P-140-3	130.0	12.0	0.00	Ductile Iron	-307	0.87
P-145-2	130.0	12.0	184.00	Ductile Iron	-291	0.82
P-145-3	130.0	12.0	0.00	Ductile Iron	-224	0.64
P-145-EX	130.0	16.0	2,609.00	Ductile Iron	0	0.00
P-150-2	130.0	12.0	0.00	Ductile Iron	-245	0.70
P-150-3	130.0	12.0	0.00	Ductile Iron	-434	1.23
P-150-EX	130.0	16.0	412.00	Ductile Iron	0	0.00
P-160-2	130.0	12.0	351.00	Ductile Iron	245	0.70
P-160-3	130.0	12.0	0.00	Ductile Iron	-387	1.10
P-160-EX	130.0	16.0	1,528.00	Ductile Iron	-849	1.35
P-165-2	130.0	12.0	0.00	Ductile Iron	363	1.03
P-170-2	130.0	12.0	0.00	Ductile Iron	175	0.50
P-170-3	130.0	8.0	0.00	Ductile Iron	-82	0.52
P-170-EX	140.0	16.0	5,280.00	Asbestos Cement	-849	1.35

Active Scenario: Maximum Day Demand - PU II & III

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
P-175-2	130.0	12.0	335.00	Ductile Iron	291	0.82
P-175-2	130.0	12.0	0.00	Ductile Iron	-189	0.54
P-175-EX	130.0	16.0	1,254.00	Ductile Iron	-849	1.35
P-180-2	130.0	12.0	0.00	Ductile Iron	-287	0.81
P-180-3	130.0	8.0	0.00	Ductile Iron	-130	0.83
P-180-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-190-3	130.0	8.0	0.00	Ductile Iron	-36	0.23
P-190-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-195-2	130.0	12.0	0.00	Ductile Iron	103	0.29
P-200-2	130.0	12.0	457.00	Ductile Iron	-255	0.72
P-200-3	130.0	8.0	0.00	Ductile Iron	-99	0.63
P-210-3	130.0	8.0	0.00	Ductile Iron	-99	0.63
P-220-2	130.0	12.0	0.00	Ductile Iron	-550	1.56
P-220-3	130.0	8.0	0.00	Ductile Iron	-239	1.53
P-225-2	130.0	12.0	507.00	Ductile Iron	-858	2.43
P-230-2	130.0	12.0	0.00	Ductile Iron	721	2.04
P-230-3	130.0	8.0	0.00	Ductile Iron	-239	1.53
P-240-3	130.0	8.0	0.00	Ductile Iron	-94	0.60
P-250-3	130.0	8.0	0.00	Ductile Iron	-94	0.60
P-260-3	130.0	8.0	0.00	Ductile Iron	47	0.30
P-265-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-270-3	130.0	8.0	0.00	Ductile Iron	47	0.30
P-280-3	130.0	8.0	0.00	Ductile Iron	-141	0.90
P-290-3	130.0	8.0	0.00	Ductile Iron	-110	0.70
P-300-3	130.0	8.0	0.00	Ductile Iron	-30	0.19
P-310-3	130.0	8.0	0.00	Ductile Iron	-30	0.19
P-315-3	130.0	8.0	0.00	Ductile Iron	32	0.21
P-320-3	130.0	8.0	0.00	Ductile Iron	30	0.19
P-325-3	130.0	8.0	0.00	Ductile Iron	63	0.40
P-330-3	130.0	8.0	0.00	Ductile Iron	-47	0.30
P-335-3	130.0	8.0	0.00	Ductile Iron	-80	0.51
P-340-3	130.0	12.0	0.00	Ductile Iron	203	0.58
P-345-3	130.0	12.0	0.00	Ductile Iron	-43	0.12
P-370-3	130.0	8.0	0.00	Ductile Iron	41	0.26
P-380-3	130.0	8.0	0.00	Ductile Iron	123	0.78
P-390-3	130.0	8.0	0.00	Ductile Iron	-29	0.19
P-400-3	130.0	8.0	0.00	Ductile Iron	209	1.33
P-410-3	130.0	8.0	0.00	Ductile Iron	-82	0.52
P-420-3	130.0	8.0	0.00	Ductile Iron	-73	0.47
P-430-3	130.0	8.0	0.00	Ductile Iron	87	0.56
P-440-3	130.0	8.0	0.00	Ductile Iron	160	1.02
ZONE 5 MODELED WATER SUPPLY - PUMP TO SYSTEM	130.0	48.0	1.00	Ductile Iron	931	0.17

Active Scenario: Maximum Day Demand - PU II & III

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
ZONE 5 MODELED WATER SUPPLY - RES TO PUMP	130.0	48.0	1.00	Ductile Iron	931	0.17

Active Scenario: Peak Hour Demand - PU II & III

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
MODELED ZONE 4 WATER SUPPLY	130.0	16.0	1,750.00	Ductile Iron	2,525	4.03
P-20-EX	130.0	16.0	306.00	Ductile Iron	-381	0.61
P-30-EX	130.0	16.0	450.00	Ductile Iron	1,021	1.63
P-40-EX	130.0	16.0	368.00	Ductile Iron	1,021	1.63
P-50-EX	150.0	16.0	564.00	PVC	-1,021	1.63
P-60-EX	150.0	12.0	165.00	PVC	1,054	2.99
P-65-EX	150.0	12.0	477.00	PVC	1,054	2.99
P-70-EX	150.0	12.0	392.00	PVC	910	2.58
P-80-EX	150.0	12.0	373.00	PVC	1,107	3.14
P-90-EX	150.0	12.0	557.00	PVC	-1,107	3.14
P-100-2	130.0	8.0	301.00	Ductile Iron	553	3.53
P-100-3	130.0	12.0	203.00	Ductile Iron	1,191	3.38
P-100-EX	130.0	12.0	483.00	Ductile Iron	-1,107	3.14
P-101-2	130.0	16.0	386.00	Ductile Iron	-33	0.05
P-105-2	130.0	12.0	299.00	Ductile Iron	-664	1.88
P-110-2	130.0	12.0	277.00	Ductile Iron	-982	2.78
P-110-3	130.0	12.0	0.00	Ductile Iron	-1,191	3.38
P-110-EX	130.0	12.0	0.00	Ductile Iron	-1,107	3.14
P-111-2	130.0	16.0	243.00	Ductile Iron	-33	0.05
P-115-EX	130.0	12.0	0.00	Ductile Iron	-2,477	7.03
P-120-2	130.0	12.0	319.00	Ductile Iron	173	0.49
P-120-3	130.0	12.0	0.00	Ductile Iron	-1,191	3.38
P-120-EX	130.0	12.0	442.00	Ductile Iron	-2,477	7.03
P-121-2	130.0	16.0	708.00	Ductile Iron	-152	0.24
P-125-EX	130.0	12.0	0.00	Ductile Iron	-3,337	9.47
P-130-2	130.0	12.0	319.00	Ductile Iron	-156	0.44
P-130-3	130.0	12.0	0.00	Ductile Iron	-811	2.30
P-130-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-131-2	130.0	16.0	2,109.00	Ductile Iron	-1,591	2.54
P-140-2	130.0	12.0	307.00	Ductile Iron	-1,403	3.98
P-140-3	130.0	12.0	0.00	Ductile Iron	-1,232	3.50
P-145-2	130.0	12.0	184.00	Ductile Iron	-473	1.34
P-145-3	130.0	12.0	0.00	Ductile Iron	-948	2.69
P-145-EX	130.0	16.0	2,609.00	Ductile Iron	0	0.00
P-150-2	130.0	12.0	0.00	Ductile Iron	-443	1.26
P-150-3	130.0	12.0	0.00	Ductile Iron	-1,498	4.25
P-150-EX	130.0	16.0	412.00	Ductile Iron	0	0.00
P-160-2	130.0	12.0	351.00	Ductile Iron	443	1.26
P-160-3	130.0	12.0	0.00	Ductile Iron	-1,369	3.88
P-160-EX	130.0	16.0	1,528.00	Ductile Iron	-934	1.49
P-165-2	130.0	12.0	0.00	Ductile Iron	650	1.84
P-170-2	130.0	12.0	0.00	Ductile Iron	270	0.76
P-170-3	130.0	8.0	0.00	Ductile Iron	-284	1.81
P-170-EX	140.0	16.0	5,280.00	Asbestos Cement	-934	1.49

Active Scenario: Peak Hour Demand - PU II & III

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
P-175-2	130.0	12.0	335.00	Ductile Iron	473	1.34
P-175-2	130.0	12.0	0.00	Ductile Iron	-381	1.08
P-175-EX	130.0	16.0	1,254.00	Ductile Iron	-934	1.49
P-180-2	130.0	12.0	0.00	Ductile Iron	-553	1.57
P-180-3	130.0	8.0	0.00	Ductile Iron	-486	3.10
P-180-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-190-3	130.0	8.0	0.00	Ductile Iron	-125	0.80
P-190-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-195-2	130.0	12.0	0.00	Ductile Iron	294	0.83
P-200-2	130.0	12.0	457.00	Ductile Iron	-560	1.59
P-200-3	130.0	8.0	0.00	Ductile Iron	-371	2.37
P-210-3	130.0	8.0	0.00	Ductile Iron	-371	2.37
P-220-2	130.0	12.0	0.00	Ductile Iron	-900	2.55
P-220-3	130.0	8.0	0.00	Ductile Iron	-860	5.49
P-225-2	130.0	12.0	507.00	Ductile Iron	-1,439	4.08
P-230-2	130.0	12.0	0.00	Ductile Iron	1,376	3.90
P-230-3	130.0	8.0	0.00	Ductile Iron	-860	5.49
P-240-3	130.0	8.0	0.00	Ductile Iron	-361	2.30
P-250-3	130.0	8.0	0.00	Ductile Iron	-361	2.30
P-260-3	130.0	8.0	0.00	Ductile Iron	128	0.82
P-265-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-270-3	130.0	8.0	0.00	Ductile Iron	128	0.82
P-280-3	130.0	8.0	0.00	Ductile Iron	-489	3.12
P-290-3	130.0	8.0	0.00	Ductile Iron	-448	2.86
P-300-3	130.0	8.0	0.00	Ductile Iron	-122	0.78
P-310-3	130.0	8.0	0.00	Ductile Iron	-122	0.78
P-315-3	130.0	8.0	0.00	Ductile Iron	125	0.79
P-320-3	130.0	8.0	0.00	Ductile Iron	122	0.78
P-325-3	130.0	8.0	0.00	Ductile Iron	246	1.57
P-330-3	130.0	8.0	0.00	Ductile Iron	-202	1.29
P-335-3	130.0	8.0	0.00	Ductile Iron	-326	2.08
P-340-3	130.0	12.0	0.00	Ductile Iron	421	1.19
P-345-3	130.0	12.0	0.00	Ductile Iron	144	0.41
P-370-3	130.0	8.0	0.00	Ductile Iron	-166	1.06
P-380-3	130.0	8.0	0.00	Ductile Iron	32	0.20
P-390-3	130.0	8.0	0.00	Ductile Iron	-234	1.50
P-400-3	130.0	8.0	0.00	Ductile Iron	549	3.51
P-410-3	130.0	8.0	0.00	Ductile Iron	-197	1.26
P-420-3	130.0	8.0	0.00	Ductile Iron	-212	1.35
P-430-3	130.0	8.0	0.00	Ductile Iron	68	0.44
P-440-3	130.0	8.0	0.00	Ductile Iron	280	1.79
ZONE 5 MODELED WATER SUPPLY - PUMP TO SYSTEM	130.0	48.0	1.00	Ductile Iron	3,337	0.59

Active Scenario: Peak Hour Demand - PU II & III

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
ZONE 5 MODELED WATER SUPPLY - RES TO PUMP	130.0	48.0	1.00	Ductile Iron	3,337	0.59

Active Scenario: Peak Hour Demand - Multistory Scenerio - PU II & III

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
MODELED ZONE 4 WATER SUPPLY	130.0	16.0	1,750.00	Ductile Iron	2,525	4.03
P-20-EX	130.0	16.0	306.00	Ductile Iron	-381	0.61
P-30-EX	130.0	16.0	450.00	Ductile Iron	1,021	1.63
P-40-EX	130.0	16.0	368.00	Ductile Iron	1,021	1.63
P-50-EX	150.0	16.0	564.00	PVC	-1,021	1.63
P-60-EX	150.0	12.0	165.00	PVC	1,054	2.99
P-65-EX	150.0	12.0	477.00	PVC	1,054	2.99
P-70-EX	150.0	12.0	392.00	PVC	910	2.58
P-80-EX	150.0	12.0	373.00	PVC	1,107	3.14
P-90-EX	150.0	12.0	557.00	PVC	-1,107	3.14
P-100-2	130.0	8.0	301.00	Ductile Iron	553	3.53
P-100-3	130.0	12.0	203.00	Ductile Iron	1,191	3.38
P-100-EX	130.0	12.0	483.00	Ductile Iron	-1,107	3.14
P-101-2	130.0	16.0	386.00	Ductile Iron	-33	0.05
P-105-2	130.0	12.0	299.00	Ductile Iron	-664	1.88
P-110-2	130.0	12.0	277.00	Ductile Iron	-982	2.78
P-110-3	130.0	12.0	0.00	Ductile Iron	-1,191	3.38
P-110-EX	130.0	12.0	0.00	Ductile Iron	-1,107	3.14
P-111-2	130.0	16.0	243.00	Ductile Iron	-33	0.05
P-115-EX	130.0	12.0	0.00	Ductile Iron	-2,477	7.03
P-120-2	130.0	12.0	319.00	Ductile Iron	173	0.49
P-120-3	130.0	12.0	0.00	Ductile Iron	-1,191	3.38
P-120-EX	130.0	12.0	442.00	Ductile Iron	-2,477	7.03
P-121-2	130.0	16.0	708.00	Ductile Iron	-152	0.24
P-125-EX	130.0	12.0	0.00	Ductile Iron	-3,337	9.47
P-130-2	130.0	12.0	319.00	Ductile Iron	-156	0.44
P-130-3	130.0	12.0	0.00	Ductile Iron	-811	2.30
P-130-EX	130.0	12.0	0.00	Ductile Iron	0	0.00
P-131-2	130.0	16.0	2,109.00	Ductile Iron	-1,591	2.54
P-140-2	130.0	12.0	307.00	Ductile Iron	-1,403	3.98
P-140-3	130.0	12.0	0.00	Ductile Iron	-1,232	3.50
P-145-2	130.0	12.0	184.00	Ductile Iron	-473	1.34
P-145-3	130.0	12.0	0.00	Ductile Iron	-948	2.69
P-145-EX	130.0	16.0	2,609.00	Ductile Iron	0	0.00
P-150-2	130.0	12.0	0.00	Ductile Iron	-443	1.26
P-150-3	130.0	12.0	0.00	Ductile Iron	-1,498	4.25
P-150-EX	130.0	16.0	412.00	Ductile Iron	0	0.00
P-160-2	130.0	12.0	351.00	Ductile Iron	443	1.26
P-160-3	130.0	12.0	0.00	Ductile Iron	-1,369	3.88
P-160-EX	130.0	16.0	1,528.00	Ductile Iron	-934	1.49
P-165-2	130.0	12.0	0.00	Ductile Iron	650	1.84
P-170-2	130.0	12.0	0.00	Ductile Iron	270	0.76
P-170-3	130.0	8.0	0.00	Ductile Iron	-284	1.81
P-170-EX	140.0	16.0	5,280.00	Asbestos Cement	-934	1.49

Active Scenario: Peak Hour Demand - Multistory Scenerio - PU II & III

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
P-175-2	130.0	12.0	335.00	Ductile Iron	473	1.34
P-175-2	130.0	12.0	0.00	Ductile Iron	-381	1.08
P-175-EX	130.0	16.0	1,254.00	Ductile Iron	-934	1.49
P-180-2	130.0	12.0	0.00	Ductile Iron	-553	1.57
P-180-3	130.0	8.0	0.00	Ductile Iron	-486	3.10
P-180-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-190-3	130.0	8.0	0.00	Ductile Iron	-125	0.80
P-190-EX	130.0	6.0	0.00	Ductile Iron	0	0.00
P-195-2	130.0	12.0	0.00	Ductile Iron	294	0.83
P-200-2	130.0	12.0	457.00	Ductile Iron	-560	1.59
P-200-3	130.0	8.0	0.00	Ductile Iron	-371	2.37
P-210-3	130.0	8.0	0.00	Ductile Iron	-371	2.37
P-220-2	130.0	12.0	0.00	Ductile Iron	-900	2.55
P-220-3	130.0	8.0	0.00	Ductile Iron	-860	5.49
P-225-2	130.0	12.0	507.00	Ductile Iron	-1,439	4.08
P-230-2	130.0	12.0	0.00	Ductile Iron	1,376	3.90
P-230-3	130.0	8.0	0.00	Ductile Iron	-860	5.49
P-240-3	130.0	8.0	0.00	Ductile Iron	-361	2.30
P-250-3	130.0	8.0	0.00	Ductile Iron	-361	2.30
P-260-3	130.0	8.0	0.00	Ductile Iron	128	0.82
P-265-3	130.0	8.0	0.00	Ductile Iron	0	0.00
P-270-3	130.0	8.0	0.00	Ductile Iron	128	0.82
P-280-3	130.0	8.0	0.00	Ductile Iron	-489	3.12
P-290-3	130.0	8.0	0.00	Ductile Iron	-448	2.86
P-300-3	130.0	8.0	0.00	Ductile Iron	-122	0.78
P-310-3	130.0	8.0	0.00	Ductile Iron	-122	0.78
P-315-3	130.0	8.0	0.00	Ductile Iron	125	0.79
P-320-3	130.0	8.0	0.00	Ductile Iron	122	0.78
P-325-3	130.0	8.0	0.00	Ductile Iron	246	1.57
P-330-3	130.0	8.0	0.00	Ductile Iron	-202	1.29
P-335-3	130.0	8.0	0.00	Ductile Iron	-326	2.08
P-340-3	130.0	12.0	0.00	Ductile Iron	421	1.19
P-345-3	130.0	12.0	0.00	Ductile Iron	144	0.41
P-370-3	130.0	8.0	0.00	Ductile Iron	-166	1.06
P-380-3	130.0	8.0	0.00	Ductile Iron	32	0.20
P-390-3	130.0	8.0	0.00	Ductile Iron	-234	1.50
P-400-3	130.0	8.0	0.00	Ductile Iron	549	3.51
P-410-3	130.0	8.0	0.00	Ductile Iron	-197	1.26
P-420-3	130.0	8.0	0.00	Ductile Iron	-212	1.35
P-430-3	130.0	8.0	0.00	Ductile Iron	68	0.44
P-440-3	130.0	8.0	0.00	Ductile Iron	280	1.79
ZONE 5 MODELED WATER SUPPLY - PUMP TO SYSTEM	130.0	48.0	1.00	Ductile Iron	3,337	0.59

Active Scenario: Peak Hour Demand - Multistory Scenerio - PU II & III

FlexTable: Pipe Table

Label	Hazen-Williams C	Diameter (in)	Length (User Defined) (ft)	Material	Flow (gpm)	Velocity (ft/s)
ZONE 5 MODELED WATER SUPPLY - RES TO PUMP	130.0	48.0	1.00	Ductile Iron	3,337	0.59

Active Scenario: Maximum Day Plus Fire Flow - PU II

Fire Flow Node FlexTable: Fire Flow Report

Label	Zone	Satisfies Fire Flow Constraints?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (Calculated Zone Lower Limit) (psi)
EX FH #1 - TEST HYDRANT	Zone	True	2,500	4,483	30	38
EX FH #2 - FLOW HYDRANT	Zone	True	2,500	4,982	30	32
J-10-EX	Zone	True	2,500	4,149	39	30
J-20-EX	Zone	True	2,500	4,125	36	30
J-30-EX	Zone	True	2,500	4,059	33	30
J-40-EX	Zone	True	2,500	4,015	32	30
J-50-EX	Zone	True	2,500	3,993	30	32
J-60-EX	Zone	True	2,500	5,096	36	30
J-70-EX	Zone	True	2,500	5,096	34	30
J-80-EX	Zone	True	2,500	5,096	31	30
J-90-EX	Zone	True	2,500	5,055	30	31
J-100-2	PU2	True	2,500	3,748	37	30
J-100-3	PU3	True	2,500	5,145	30	32
J-100-EX	Zone	True	2,500	5,096	31	30
J-101-2	PU2	True	2,500	3,668	31	30
J-102-2	PU2	True	2,500	3,903	37	30
J-105-2	PU2	True	2,500	3,887	39	30
J-105-EX	Zone	True	2,500	5,096	33	30
J-110-2	PU2	True	2,500	4,214	35	30
J-110-3	PU3	True	2,500	5,239	34	30
J-110-EX	Zone	True	2,500	5,096	34	30
J-111-2	PU2	True	2,500	3,654	30	31
J-120-2	PU2	True	2,500	3,940	35	30
J-120-3	PU3	True	2,500	5,238	33	30
J-120-EX	Zone	True	2,500	5,096	40	30
J-121-2	PU2	True	2,500	3,784	30	30
J-125-EX	Zone	True	2,500	5,096	43	30
J-130-2	PU2	True	2,500	3,913	34	30
J-130-3	PU3	True	2,500	5,230	33	30
J-130-EX	Zone	True	2,500	3,551	30	51
J-135-3	PU3	True	2,500	5,178	30	30
J-140-3	PU3	True	2,500	5,163	30	31
J-150-2	PU2	True	2,500	3,749	33	30
J-150-3	PU3	True	2,500	5,070	30	30
J-150-EX	Zone	True	2,500	5,547	30	32
J-160-2	PU2	True	2,500	3,864	33	30
J-160-3	PU3	True	2,500	5,029	30	32
J-160-EX	Zone	True	2,500	5,064	39	30
J-165-2	PU2	True	2,500	3,743	36	30
J-170-2	PU2	True	2,500	3,863	37	30
J-170-3	PU3	True	2,500	4,775	30	33
J-170-EX	Zone	True	2,500	4,282	49	30
J-175-2	PU2	True	2,500	3,837	34	30
J-180-2	PU2	True	2,500	4,108	33	30

Active Scenario: Maximum Day Plus Fire Flow - PU II

Fire Flow Node FlexTable: Fire Flow Report

Label	Zone	Satisfies Fire Flow Constraints?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (Calculated Zone Lower Limit) (psi)
J-180-3	PU3	True	2,500	4,329	30	44
J-190-2	PU2	True	2,500	3,877	33	30
J-190-3	PU3	True	2,500	4,892	30	34
J-200-2	PU2	True	2,500	4,174	30	30
J-200-3	PU3	True	2,500	4,692	30	40
J-210-3	PU3	True	2,500	4,525	30	40
J-220-2	PU2	True	2,500	4,074	31	30
J-220-3	PU3	True	2,500	4,898	30	31
J-230-3	PU3	True	2,500	4,776	30	30
J-235-3	PU3	True	2,500	3,905	30	46
J-240-3	PU3	True	2,500	4,997	30	32
J-245-3	PU3	True	2,500	4,961	30	33
J-250-3	PU3	True	2,500	4,336	30	35
J-260-3	PU3	True	2,500	4,227	30	39
J-265-3	PU3	True	2,500	4,772	30	34
J-270-3	PU3	True	2,500	5,246	35	30
J-290-3	PU3	True	2,500	4,997	30	32
J-300-3	PU3	True	2,500	4,538	30	33
J-310-3	PU3	True	2,500	4,435	30	38
J-320-3	PU3	True	2,500	5,071	30	32
J-330-3	PU3	True	2,500	3,748	30	54

Active Scenario: Maximum Day Plus Fire Flow - PU II & III

Fire Flow Node FlexTable: Fire Flow Report

Label	Zone	Satisfies Fire Flow Constraints?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (Calculated Zone Lower Limit) (psi)
EX FH #1 - TEST HYDRANT	Zone	True	2,500	3,924	30	33
EX FH #2 - FLOW HYDRANT	Zone	True	2,500	4,433	30	31
J-10-EX	Zone	True	2,500	4,775	57	30
J-20-EX	Zone	True	2,500	4,777	54	30
J-30-EX	Zone	True	2,500	4,783	52	30
J-40-EX	Zone	True	2,500	4,787	50	30
J-50-EX	Zone	True	2,500	4,790	49	30
J-60-EX	Zone	True	2,500	4,472	37	30
J-70-EX	Zone	True	2,500	4,472	35	30
J-80-EX	Zone	True	2,500	4,472	32	30
J-90-EX	Zone	True	2,500	4,472	30	30
J-100-2	PU2	True	2,500	8,000	30	32
J-100-3	PU3	True	2,500	4,614	30	30
J-100-EX	Zone	True	2,500	4,472	32	30
J-101-2	PU2	True	2,500	8,000	32	32
J-102-2	PU2	True	2,500	8,000	34	34
J-105-2	PU2	True	2,500	8,000	33	31
J-105-EX	Zone	True	2,500	4,472	34	30
J-110-2	PU2	True	2,500	7,720	30	31
J-110-3	PU3	True	2,500	4,615	34	30
J-110-EX	Zone	True	2,500	4,472	34	30
J-111-2	PU2	True	2,500	8,000	32	33
J-120-2	PU2	True	2,500	7,376	30	31
J-120-3	PU3	True	2,500	4,614	34	30
J-120-EX	Zone	True	2,500	4,164	40	30
J-121-2	PU2	True	2,500	8,000	32	33
J-125-EX	Zone	True	2,500	4,165	43	30
J-130-2	PU2	True	2,500	6,999	30	30
J-130-3	PU3	True	2,500	4,606	33	30
J-130-EX	Zone	True	2,500	3,048	30	51
J-135-3	PU3	True	2,500	4,567	30	30
J-140-3	PU3	True	2,500	4,550	30	31
J-150-2	PU2	True	2,500	6,745	30	32
J-150-3	PU3	True	2,500	4,519	30	30
J-150-EX	Zone	True	2,500	4,643	49	30
J-160-2	PU2	True	2,500	7,117	30	34
J-160-3	PU3	True	2,500	4,484	30	31
J-160-EX	Zone	True	2,500	4,733	58	30
J-165-2	PU2	True	2,500	7,916	31	30
J-170-2	PU2	True	2,500	8,000	31	32
J-170-3	PU3	True	2,500	4,273	30	32
J-170-EX	Zone	True	2,500	4,764	66	30
J-175-2	PU2	True	2,500	7,899	30	34
J-180-2	PU2	True	2,500	8,000	33	34

Active Scenario: Maximum Day Plus Fire Flow - PU II & III

Fire Flow Node FlexTable: Fire Flow Report

Label	Zone	Satisfies Fire Flow Constraints?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (Calculated Zone Lower Limit) (psi)
J-180-3	PU3	True	2,500	3,682	30	40
J-190-2	PU2	True	2,500	7,843	30	31
J-190-3	PU3	True	2,500	4,364	30	33
J-200-2	PU2	True	2,500	7,858	30	35
J-200-3	PU3	True	2,500	3,989	30	37
J-210-3	PU3	True	2,500	3,947	30	37
J-220-2	PU2	True	2,500	8,000	31	34
J-220-3	PU3	True	2,500	4,358	30	31
J-230-3	PU3	True	2,500	4,247	30	30
J-235-3	PU3	True	2,500	3,342	30	42
J-240-3	PU3	True	2,500	4,477	30	32
J-245-3	PU3	True	2,500	4,444	30	32
J-250-3	PU3	True	2,500	3,778	30	34
J-260-3	PU3	True	2,500	3,642	30	37
J-265-3	PU3	True	2,500	4,288	30	34
J-270-3	PU3	True	2,500	4,743	36	30
J-290-3	PU3	True	2,500	4,438	30	30
J-300-3	PU3	True	2,500	4,066	30	32
J-310-3	PU3	True	2,500	3,853	30	37
J-320-3	PU3	True	2,500	4,525	30	32
J-330-3	PU3	True	2,500	3,376	30	48

verify w/ F.D. Erickson report listed a higher Number

Active Scenario: Average Day Demand - PU II

FlexTable: PRV Table

Label	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Status (Calculated)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-2-EX	1,656.0	16.0	1,755.0	Inactive	0	1,854.2	1,854.2	0.00
PRV-3	1,636.0	12.0	1,755.0	Inactive	0	1,854.2	1,854.2	0.00
PRV-4	1,639.0	12.0	1,755.0	Inactive	0	1,854.2	1,854.2	0.00

Active Scenario: Maximum Day Demand - PU II

FlexTable: PRV Table

Label	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Status (Calculated)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-2-EX	1,656.0	16.0	1,755.0	Inactive	0	1,854.2	1,854.2	0.00
PRV-3	1,636.0	12.0	1,755.0	Inactive	0	1,854.2	1,854.2	0.00
PRV-4	1,639.0	12.0	1,755.0	Inactive	0	1,854.2	1,854.2	0.00

Active Scenario: Peak Hour Demand - PU II

FlexTable: PRV Table

Label	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Status (Calculated)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-2-EX	1,656.0	16.0	1,755.0	Inactive	0	1,854.2	1,854.2	0.00
PRV-3	1,636.0	12.0	1,755.0	Inactive	0	1,854.2	1,854.2	0.00
PRV-4	1,639.0	12.0	1,755.0	Inactive	0	1,854.2	1,854.2	0.00

Active Scenario: Average Day Demand - PU II & III

FlexTable: PRV Table

Label	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Status (Calculated)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-2-EX	1,656.0	16.0	1,755.0	Closed	0	1,853.7	1,762.1	0.00
PRV-3	1,636.0	12.0	1,755.0	Closed	0	1,853.5	1,760.9	0.00
PRV-4	1,639.0	12.0	1,755.0	Closed	0	1,853.5	1,760.9	0.00

Active Scenario: Maximum Day Demand - PU II & III

FlexTable: PRV Table

Label	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Status (Calculated)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-2-EX	1,656.0	16.0	1,755.0	Closed	0	1,850.6	1,758.4	0.00
PRV-3	1,636.0	12.0	1,755.0	Active	180	1,849.0	1,755.0	93.94
PRV-4	1,639.0	12.0	1,755.0	Active	127	1,849.0	1,755.0	93.99

Active Scenario: Peak Hour Demand - PU II & III

FlexTable: PRV Table

Label	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Status (Calculated)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-2-EX	1,656.0	16.0	1,755.0	Closed	0	1,815.5	1,757.9	0.00
PRV-3	1,636.0	12.0	1,755.0	Active	1,054	1,797.9	1,755.0	42.90
PRV-4	1,639.0	12.0	1,755.0	Active	1,191	1,797.6	1,755.0	42.57

Active Scenario: Peak Hour Demand - Multistory Scenerio - PU II & III

FlexTable: PRV Table

Label	Elevation (ft)	Diameter (Valve) (in)	Hydraulic Grade Setting (Initial) (ft)	Status (Calculated)	Flow (gpm)	Hydraulic Grade (From) (ft)	Hydraulic Grade (To) (ft)	Headloss (ft)
PRV-2-EX	1,657.0	16.0	1,755.0	Closed	0	1,815.5	1,757.9	0.00
PRV-3	1,636.0	12.0	1,755.0	Active	1,054	1,797.9	1,755.0	42.90
PRV-4	1,639.0	12.0	1,755.0	Active	1,191	1,797.6	1,755.0	42.57

Active Scenario: Maximum Day Demand - PU II

FlexTable: Reservoir Table

Label	Elevation (ft)	Zone	Flow (Out net) (gpm)	Hydraulic Grade (ft)
MODELED COS WATER SOURCE - ZONE 4	1,764.0	Zone	2,724	1,764.0
MODELED COS WATER SOURCE - ZONE 5	1,669.4	Zone	0	1,669.4

Active Scenario: Peak Hour Demand - PU II

FlexTable: Reservoir Table

Label	Elevation (ft)	Zone	Flow (Out net) (gpm)	Hydraulic Grade (ft)
MODELED COS WATER SOURCE - ZONE 4	1,764.0	Zone	4,770	1,764.0
MODELED COS WATER SOURCE - ZONE 5	1,669.4	Zone	0	1,669.4

Active Scenario: Average Day Demand - PU II & III

FlexTable: Reservoir Table

Label	Elevation (ft)	Zone	Flow (Out net) (gpm)	Hydraulic Grade (ft)
MODELED COS WATER SOURCE - ZONE 4	1,764.0	Zone	1,362	1,764.0
MODELED COS WATER SOURCE - ZONE 5	1,669.4	Zone	312	1,669.4

Active Scenario: Maximum Day Demand - PU II & III

FlexTable: Reservoir Table

Label	Elevation (ft)	Zone	Flow (Out net) (gpm)	Hydraulic Grade (ft)
MODELED COS WATER SOURCE - ZONE 4	1,764.0	Zone	2,417	1,764.0
MODELED COS WATER SOURCE - ZONE 5	1,669.4	Zone	931	1,669.4

Active Scenario: Peak Hour Demand - PU II & III

FlexTable: Reservoir Table

Label	Elevation (ft)	Zone	Flow (Out net) (gpm)	Hydraulic Grade (ft)
MODELED COS WATER SOURCE - ZONE 4	1,764.0	Zone	2,525	1,764.0
MODELED COS WATER SOURCE - ZONE 5	1,669.4	Zone	3,337	1,669.4

Active Scenario: Peak Hour Demand - Multistory Scenerio - PU II & III

FlexTable: Reservoir Table

Label	Elevation (ft)	Zone	Flow (Out net) (gpm)	Hydraulic Grade (ft)
MODELED COS WATER SOURCE - ZONE 4	1,764.0	Zone	2,525	1,764.0
MODELED COS WATER SOURCE - ZONE 5	1,669.4	Zone	3,337	1,669.4

APPENDIX D

FIRE HYDRANT FLOW TEST RESULTS

Arizona Flow Testing LLC

HYDRANT FLOW TEST REPORT

Project Name:	One Scottsdale
Project Address:	Scottsdale Rd. & Thompson Peak Pkwy., Scottsdale, Arizona 85255
Client Project No:	154391
Arizona Flow Testing Project No.:	15134
Flow Test Permit No:	C48958
Date and time flow test conducted:	October 30, 2015 at 7:30 AM
Data is current and reliable until:	April 30, 2016
Conducted by:	Floyd Vaughan–Arizona Flow Testing, LLC (480-250-8154)
Witnessed by:	Larry Frandle–City of Scottsdale-Inspector (602-541-4942)

Raw Test Data

Static Pressure: **80.0 PSI**
(Measured in pounds per square inch)

Residual Pressure: **68.0 PSI**
(Measured in pounds per square inch)

Pitot Pressure: **42.0 PSI**
(Measured in pounds per square inch)

Diffuser Orifice Diameter: One (4 inch)
(Measured in inches)

Coefficient of Diffuser: .90

Flowing GPM: **2,785 GPM**
(Measured in gallons per minute)

GPM @ 20 PSI: **6,641 GPM**

Data with 10 % Safety Factor

Static Pressure: **72.0 PSI**
(Measured in pounds per square inch)

Scottsdale requires a maximum Static Pressure of 72 PSI for AFES Design.

Residual Pressure: **60.0 PSI**
(Measured in pounds per square inch)

Distance between hydrants: 660 Feet

Main size: 12 Inch

Flowing GPM: **2,785 GPM**

GPM @ 20 PSI: **6,147 GPM**

Flow Test Location

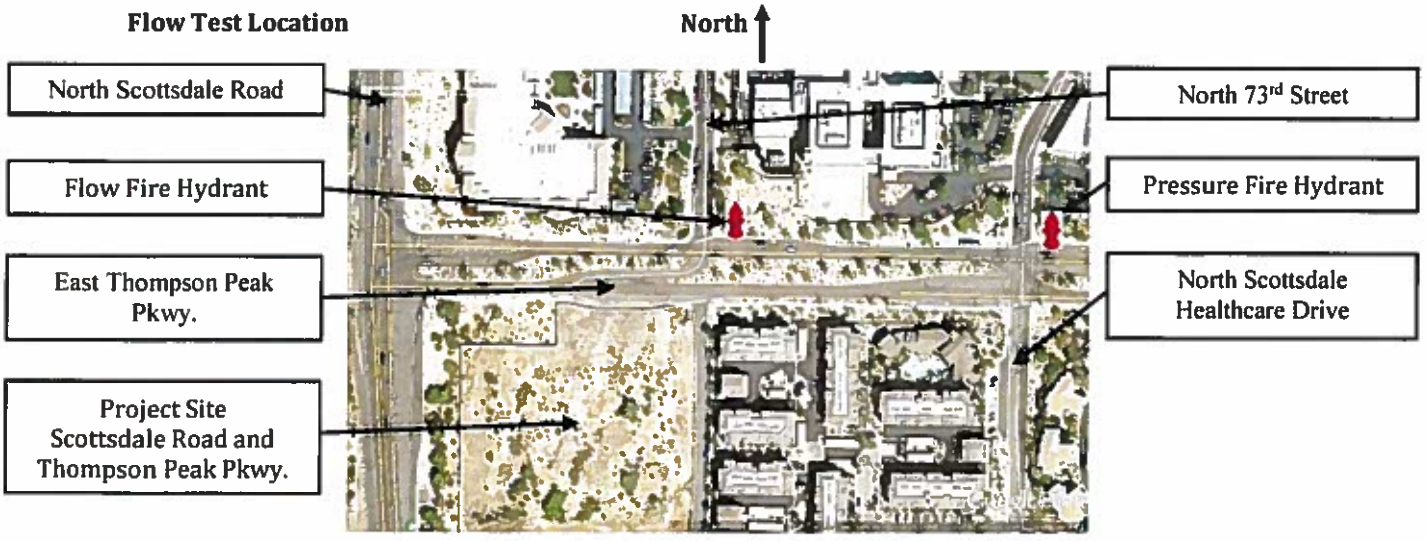

PLATE 1

VICINITY MAP

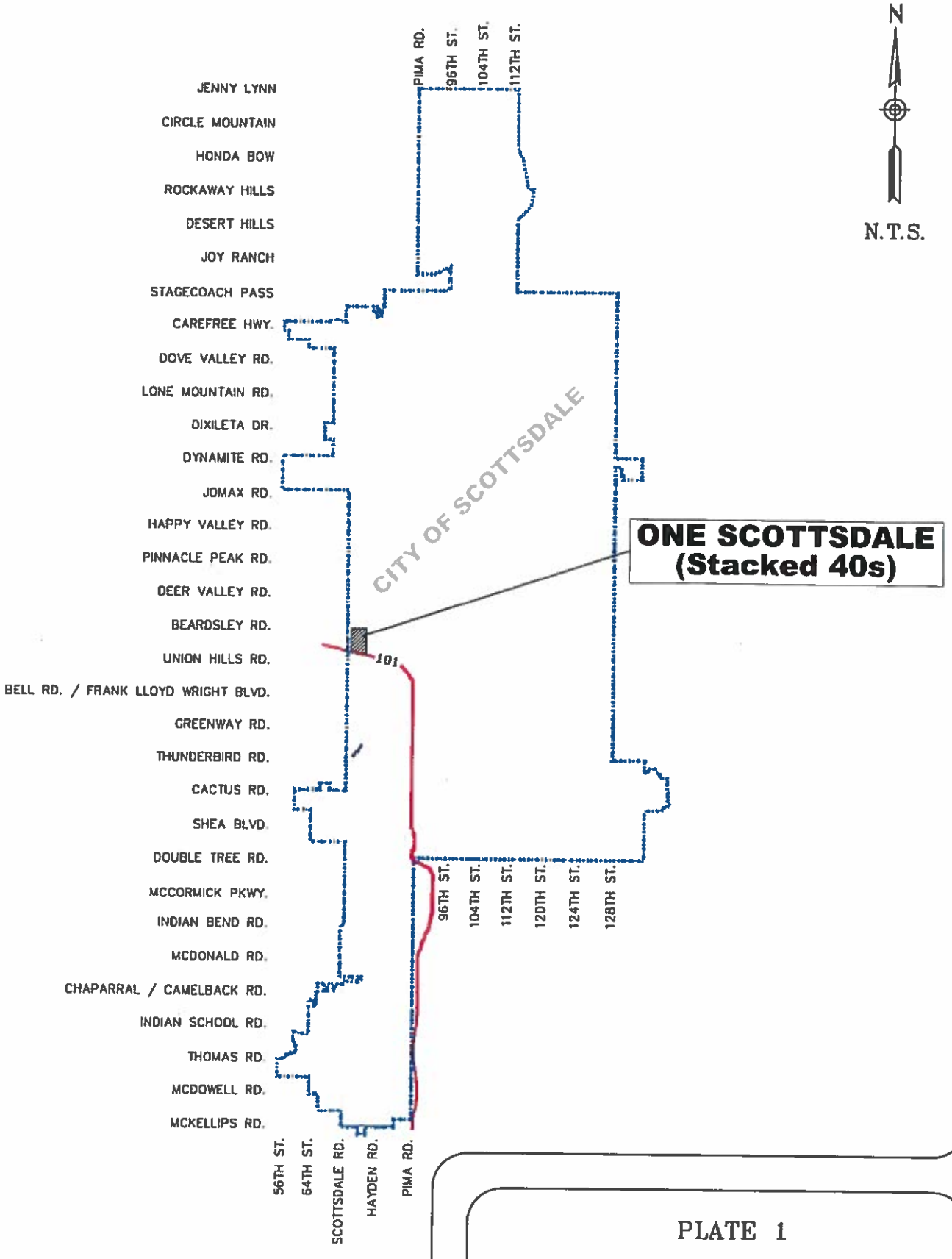

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PLATE 1

ONE SCOTTSDALE
(Stacked 40s)
VICINITY MAP

WOOD/PATEL & ASSOCIATES
Civil Engineers
Hydrologists
Land Surveyors
Construction Managers
(602) 335-8500

PLATE 2

MODELED ON-SITE LAND USE PLAN

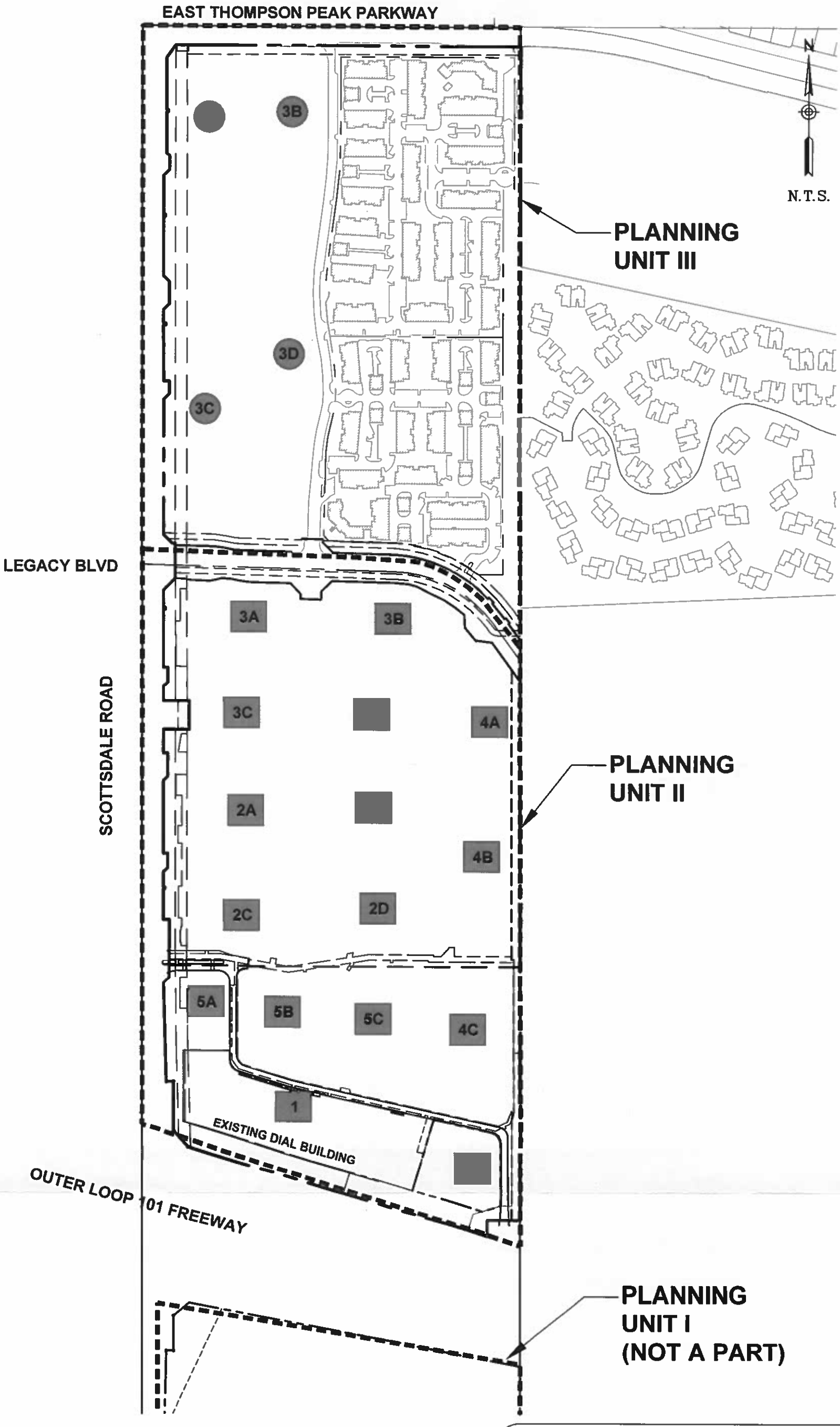

PLATE 2

JANUARY 2016

ONE SCOTTSDALE MODELED ON-SITE LAND USE PLAN

WOOD/PATEL ASSOCIATES
Civil Engineers
Hydrologists
Land Surveyors
Construction Managers
(602) 335-8500

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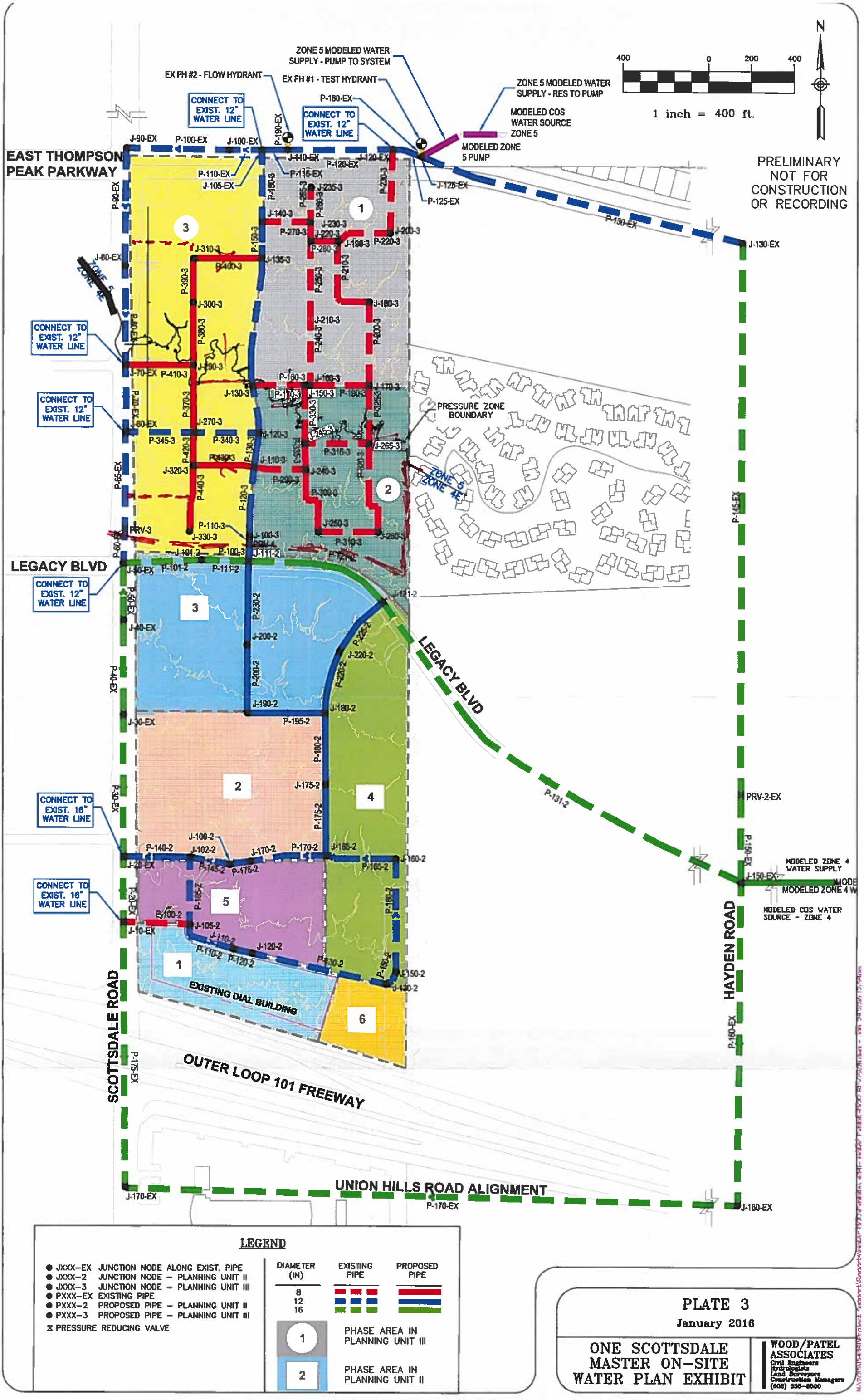
PLATE 3

MASTER ON-SITE WATER PLAN EXHIBIT



LEGEND

- ● JXXX–EX JUNCTION NODE ALONG EXIST. PIPE
- ● JXXX–2 JUNCTION NODE – PLANNING UNIT II
- ● JXXX–3 JUNCTION NODE – PLANNING UNIT III
- ● PXXX–EX EXISTING PIPE
- ● PXXX–2 PROPOSED PIPE – PLANNING UNIT II
- ● PXXX–3 PROPOSED PIPE – PLANNING UNIT III
- ⧖ PRESSURE REDUCING VALVE

DIAMETER (IN)	EXISTING PIPE	PROPOSED PIPE
8		
12		
16		

1 — PHASE AREA IN PLANNING UNIT III

2 — PHASE AREA IN PLANNING UNIT II

PLATE 3

January 2016

ONE SCOTTSDALE MASTER ON–SITE WATER PLAN EXHIBIT

WOOD/PATEL ASSOCIATES
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Hydrologists
Land Surveyors
Construction Managers
(602) 335–8500