

**MASTER WATER REPORT
FOR
DEVELOPMENT UNIT 2
AT
EASTMARK**

June 30, 2020
WP# 195036

Brookfield Residential	MASTER DEVELOPER APPROVAL	EASTMARK.
	DATE	12/17/19
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Master Reports - DU2		

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EXPIRES 06/30/21



DEVELOPMENT SERVICES
REVIEWED FOR CODE
COMPLIANCE
DATE **7/14/2020 RAP**

APPROVED

WOOD/PATEL
MISSION: CLIENT SERVICE®

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1.0 INTRODUCTION

1.1 General Background and Project Location

The proposed Development Unit 2 (Site) is anticipated to comprise approximately 179 acres within the 3,154-acre Eastmark master planned community in the City of Mesa (City). Development Unit 2 (DU 2) is planned to include single-family residential, multi-family residential, office, and open spaces.

This Master Water Report has been prepared in accordance with Wood, Patel & Associates, Inc.'s (WOODPATEL) understanding of the City of Mesa's technical requirements for water distribution systems, as applicable for the development known as Eastmark.

The Site is located within Section 15, Township 1 South, Range 7 East of the Gila and Salt River Meridian. The Site is bounded by Warner Road to the south (from Ellsworth Road to Eastmark Parkway), Eastmark Parkway on the east (from Warner Road to the Mesquite Road alignment), the Mesquite Road alignment on the north (from Eastmark Parkway to Ellsworth Road), and Ellsworth Road to the west (refer to Exhibit 1 – *Vicinity Map*).

1.2 Scope of Master Water Report

The Master Water Report for Development Unit 2 at Eastmark presents water design demands, pipe sizes, and backbone waterline locations, as required to provide water service to the Site at full build-out conditions prior to the full build-out of Eastmark. This update reflects the City of Mesa Water Master Plan modeled waterline sizes in this area of the Desert Wells Water Pressure Zone. Report results indicate pressures and flows which are adequate to serve DU 2.

The purpose of this report is to provide a water analysis reflecting the developed condition of DU 2 prior to the full build-out of Eastmark, based on the land uses provided by DMB Mesa Proving Grounds, LLC, and to identify the water infrastructure required to serve the Site, while meeting the requirements of the City's Engineering and Design Standards. Updates to this DU 2 Master Water Report may be required if significant changes are made to the land uses and assumptions utilized to prepare this report.

Additionally, design criteria may change based on actual water demands to calculate draws on the system in the future.

1.3 Master Water Report for Eastmark

The *Master Water Report Update for Eastmark* (prepared for DU 2), by Wood, Patel & Associates, Inc. (WOODPATEL), dated June 30, 2020, has been submitted concurrently with this report to the City of Mesa for review and approval to incorporate changes within DU 2. The most current updated master report includes the revised information utilized as the basis for this report.

1.4 Full Build-Out Condition

The design criteria utilized to calculate water demands and determine required pipe sizes for the Site are based on projected full build-out conditions for DU 2. For a detailed breakdown of DU 2 modeled land use, please refer to the following:

- Table 1 – *DU 2 Modeled Land Use*
- Table 4 – *Water Demand Design Flows by Development Unit*
- Table 5 – *Water Demand Design Flows by Junction Node*
- Exhibit 2 – *DU 2 Master Water Exhibit*

1.5 Basis of Design Reports for Specific Individual Developments

As development progresses within the Site, Basis of Design (BOD) reports are required for specific individual developments to ensure compliance with the Master Report and this Development Unit Master Report, and to identify significant variations in land use, water demands, and the water infrastructure needed to serve the parcel. It is WOODPATEL's understanding the Site will be developed in phases, and the infrastructure needed to support a phased development will be determined at the time of platting.

2.0 EXISTING CONDITIONS

2.1 Topographic Conditions

The pre-developed Site consisted of multiple automotive test tracks and undisturbed desert, which borders the Site to the west, north, and the northern half of the eastern boundary. The southern half of the eastern boundary has recently been constructed as part of DU 6 South. To the south, the Site is bounded by Warner Road and DU 3/4 which is currently under construction. The land generally slopes in a southwesterly direction, at approximately 0.5 to 1 percent. The peak elevation within the Site is approximately 1,415 feet above mean sea level (MSL), located at Inspirian Parkway and the Mesquite Road alignment. The lowest elevation within the Site is approximately 1,396 feet MSL, located at Warner Road and Ellsworth Road. Refer to Exhibit 1 for roadway alignments.

2.2 Existing Pressure Zones and Hydraulic Grade Lines

The Site is located within the Desert Wells Water Pressure Zone, defined by the City of Mesa as follows:

Desert Wells Water Pressure Zone:

- Ground elevation range = 1,375 to 1,525 feet
- Static hydraulic grade line (HGL) = 1,634 feet

2.3 Existing Offsite Water Infrastructure

Relevant existing water infrastructure adjacent to the Site includes the following within the Desert Wells Water Pressure Zone:

- 16-inch waterline extending south along Ellsworth Road, from north of Elliot Road to Pecos Road.
- 16-inch waterline extending east along Elliot Road, from Ellsworth Road to Mountain Road.
- 24-inch waterline extending south along Signal Butte Road to Elliot Road.
- 16-inch waterline extending south along Signal Butte Road, from Elliot Road to Ray Road.
- 30-inch waterline extending south along Signal Butte Road, from Elliot Road to Rueben Avenue.

- 16-inch waterline extending east along Ray Road, from Ellsworth Road to Mountain Road.
- 12-inch waterline extending east along Warner Road, from the Loop 202 freeway to Ellsworth Road (not modeled).
- 24-inch waterline extending west along Point Twenty-Two Boulevard, from Signal Butte Road to Inspirian Parkway.
- 20-inch waterline extending north along Eastmark Parkway, from Ray Road to Warner Road.
- 12-inch waterline extending north along Inspirian Parkway, from DU 3S to Warner Road.
- 16-inch waterline extending east along Eastmark Parkway, from Ray Road to Signal Butte Road.
- 12-inch looped waterlines through DU 6N Phase 1.
- 8-inch looped waterlines through DU 7, DU 8 & 9, DU 3S, and portions of DU 6S.
- Existing 24-inch waterline in Signal Butte Road, from Ray Road to Williams Field Road.
- Existing 24-inch waterline in Williams Field Road, from Signal Butte Road along the adjacent southern Eastmark boundary.
- 8-inch waterline extending north along Parc Joule Avenue, from Point Twenty-Two Boulevard to the southern boundary of DU 6N.
- 12-inch waterline extending north along Everton Terrace, from DU 8 and the southern boundary of DU 5N.
- 16-inch waterline extending north along Everton Terrace and the south and west boundary of DU 5N.
- 12-inch waterline extending north along Everton Terrace, from DU 6S to Elliot Road.
- 12-inch waterline extending through DU 6S from DU 5N to Eastmark Parkway.
- It is our understanding, the 8-inch looped waterlines through DU 6S are currently constructed and operational.

2.4 Existing Onsite Water Infrastructure

There are no known waterlines within the Site. If waterlines are discovered, they will be removed by the Developer, where applicable, with the construction of DU 2.

3.0 DESIGN CRITERIA AND PROJECTED WATER DEMANDS

3.1 Design Criteria

Water demand and pipe-sizing criteria utilized in this DU 2 Master Water Report are based on WOODPATEL’s understanding of the following:

- Applicable water system design criteria listed in the *2019 City of Mesa Engineering and Design Standards*, along with City-accepted population-based criteria, per Table 2 – *DU 2 Water System Design Criteria*.
- Previously-approved report criteria for DU 5 North, DU 6 North, DU 6 South, DU 7, DU 8 & 9, DU 3 South, and DU 3/4 North.
- Regionally-accepted design standards.
- Title 18, Chapter 9 of the *Arizona Administrative Code*.

Table 2 represents Unit Daily Water Demand design criteria for each land use category. The Development Unit Daily Water Demand was used to estimate demands at each node in the hydraulic model to determine flow rates, velocities, and pipe sizing.

Fire flow requirements were modeled during the fire flow analysis of the Site. Residential development was modeled with a fire flow of 2,000 gpm, and the commercial development was modeled with a minimum fire flow of 4,000 gpm.

3.2 Water Demand Design Flows

Water demand flows under full build-out conditions are calculated using the design criteria listed in Section 3.1. For detailed calculations, refer to Table 3 - *Overall Eastmark Modeled Land Use*. Projected full build-out design demands for DU 2 and the existing development within Eastmark, including DU 3/4, DU 5 North, DU 6 South, DU 6 North, DU 7, DU 8/9, and DU 3 South, are summarized below.

	Average-Day Demand MGD (gpm)	Max-Day Demand MGD (gpm)	Peak-Hour Demand (gpm)
DU 2	0.317 (253)	0.602 (451)	(648)
Remaining Planned/ Constructed DU’s	5.043 (3,663)	7.920 (5,661)	(7,661)
Total Eastmark	5.360 (3,916)	8.522 (6,112)	(8,309)

4.0 HYDRAULIC MODEL

Bentley WaterCAD Version 8i, a potable water transmission and distribution system numerical modeling program, was utilized to analyze the proposed potable water system. A hydraulic grade line (HGL) of 1,634 feet was used to simulate the water supply pressure for the Desert Wells Water Pressure Zone. Water demands and peaking factors utilized are based on information listed in Section 3.0 of this report. Pipes are sized to accommodate modeled conditions of flow.

4.1 Modeled Scenarios

The following primary modeling scenarios were selected to demonstrate compliance with City of Mesa requirements, and to analyze the proposed water system:

- Average-Day Demand
- Max-Day Demand
- Peak-Hour Demand
- Max-Day Demand Plus Fire Flow

To analyze the planned water distribution system within DU 2, the above scenarios were modeled using the current capacity of the Signal Butte Groundwater Facility (SBGWF), and the City's distribution system north of Ray Road through the existing 24-inch waterline in Signal Butte Road. The hydraulic model utilizes the Hazen-Williams equation to calculate head losses throughout the system during the modeled scenarios. Refer to Table 2 for additional information regarding hydraulic modeling parameters.

4.2 Hydraulic Modeling Criteria

Assumptions were made regarding offsite water infrastructure for the purpose of modeling DU 2 to full build-out design conditions.

- It is our understanding, the DU 3 South, DU 3/4-1 through 3/4-4, DU 6N Phase 1, DU 6S, DU 7, and DU 8 & 9 water infrastructure has been constructed and is operational.
- It is our understanding, the 12-inch water infrastructure within DU 3/4, along Inspirian Parkway, is currently constructed.
- It is our understanding, the future proposed infrastructure requires several connections to the existing offsite waterlines.

- One (1) connection to the existing 16-inch waterline in Ellsworth Road, between Warner Road and the Mesquite Road alignment with a proposed 12-inch waterline.
- DU 2 improvements will connect a proposed 12-inch waterline to an existing 20-inch waterline at the southern boundary of DU 5N and Eastmark Parkway, and to the existing 16-inch waterline in Ellsworth Road.
- A 12-inch waterline extension will be constructed along Inspirian Parkway, from Warner Road to the Mesquite Road alignment.

Refer to Exhibit 2 for detailed information regarding existing and proposed offsite water infrastructure. With multiple connections to existing waterlines, the system has redundancy allowing the water system to function in compliance with City of Mesa standards and specifications. Additional connections to existing waterlines may be required to provide looped systems, if construction is phased differently than presented within this report.

4.3 Hydraulic Modeling Results

The hydraulic modeling results indicate the onsite system in DU 2 is capable of delivering Average-Day and Peak-Hour demands for the full-buildout condition within the following onsite pressure ranges:

DU 3/4 Full-Buildout Pressure (psi)

Hydraulic Model Scenario	Low	Node	High	Node
Average-Day Demand	95	J-DU5N-040	104	J-DU3-4-120
Peak-Hour Demand	93	J-DU5N-040	102	J-DU3-4-120

Fire flow results for the model indicate available fire flows of 4,000 gpm for commercial development and 2,000 gpm for residential development during Max-Day demands, while maintaining residual pressures greater than 20 psi throughout the Site at full build-out conditions. Results also indicate fire flow velocities do exceed 10 feet per second (fps) within existing waterlines; however, velocities within these existing waterlines do not exceed 12 fps at full build-out condition. Refer to the *Eastmark Master Water Report Update* concurrently submitted with this report. Detailed hydraulic modeling results, calculations, and exhibits are provided in the attached appendices and exhibits. Modeled outflow from each water source is shown below.

Flow from South C.A.P. Desert Wells Pump Station

Average-Day Demand:	3,444 gpm
Max-Day Demand:	5,361 gpm
Peak-Hour Demand:	7,274 gpm

Flow from City of Mesa Water System, North of Elliot Road

Average-Day Demand:	471 gpm
Max-Day Demand:	751 gpm
Peak-Hour Demand:	1,035 gpm

5.0 GENERAL PLAN FOR ONSITE WATER DISTRIBUTION

5.1 Piping Layout

The planned water distribution system for the Site consists of 12-inch public waterlines within main roadways, and looped 8-inch public water lines within proposed neighborhoods, using pipe materials per City of Mesa standards. Main waterlines have been located within designated public rights-of-way. In accordance with City of Mesa standards, 12-inch and 16-inch waterlines are generally located near ½-mile and 1-mile street alignments, or are upsized, as needed, to meet design demands or City-required upsizing (refer to Exhibit 2).

5.2 Water Sources

According to the *2018 City of Mesa Water Master Plan Update*, two (2) primary sources of water will supply Eastmark. These sources are surface water supplied from the C.A.P. Canal, and groundwater from proposed well sites.

5.2.1 Surface Water

The Signal Butte Groundwater Facility, consisting of a reservoir and groundwater wells, has been constructed to provide storage and assist in meeting peak demands in the Desert Wells Water Pressure Zone. A portion of the facility will serve Eastmark in the interim until the construction of the C.A.P. raw water conveyance system and South C.A.P. Water Treatment Plant are completed. The City completed Phase 1 of the C.A.P. raw water conveyance system along Elliot Road, and Phase 2 will be fully constructed by 2025, per the *2018 City of Mesa Water Master Plan (Update)*.

According to the *2018 City of Mesa Water Master Plan (Update)*, the C.A.P. Canal water supply system typically provides a constant supply of surface water, although outages are possible as a result of failures and for periodic maintenance. C.A.P. has indicated that short dry-ups (ranging from one week to one month in duration) may be required every two to three years, on average, for maintenance purposes. According to the *2018 City of Mesa Water Master Plan (Update)*, the South C.A.P. water facilities will be supplied by groundwater production wells during C.A.P. dry-ups to provide adequate storage and pumping to the Desert Wells Water Pressure Zone and other pressure zones.

5.2.2 Groundwater Wells

Conceptual locations of the future groundwater wells are shown on Exhibit 2. Well locations are conceptual in nature and will be coordinated with the City of Mesa during the construction plan design and preparation. Well collection lines will be required extending from each well site to supply the South C.A.P. water facilities. It is WOODPATEL's understanding the well sites and well collector mains will be phased with development and will be owned, operated, and maintained by the City of Mesa.

5.3 Water Pressure to Multi-Story Buildings

Based on full-buildout hydraulic modeling results, peak-hour residual pressures within the Site are at or above 90 pounds per square inch (psi). Private individual booster pumps may be required to serve multi-story buildings, and should be evaluated on an individual basis. Since onsite pressures are above 80 psi, pressure reducing valves (PRVs) on buildings should be evaluated on an individual basis.

6.0 CONCLUSIONS

This *Master Water Report for Development Unit 2 at Eastmark* meets accepted standards and requirements, and will serve, in conjunction with the *Master Water Report for Eastmark*, as a guide for construction documents associated with the planned potable water systems of DU 2. No critical issues were identified that would preclude the anticipated development as presented in this Master Water Report. The following are critical conclusions:

1. The Site is located within the existing Desert Wells Water Pressure Zone, currently served by the City of Mesa.
2. For the purpose of this Master Water Report, the full build-out conditions for DU 2 have been evaluated for the design of the water distribution system.
3. The approximate Average-Day water demand for DU 2 is 0.317 million gallons per day (MGD) at full build-out conditions, per Section 3.2 of this report.
4. The full-buildout condition for DU 2 meets the revised well capacity for the Signal Butte Groundwater Facility, per the *2018 City of Mesa Master Water Plan (Update)*.
5. A hydraulic model was utilized to analyze the proposed potable water system and size pipes for the water distribution system. Modeling results indicate minimum residual pressures are met, and head loss and velocities within the planned waterlines meet the design criteria presented herein.
6. The planned onsite water distribution system for DU 2 consists of 12-inch public waterlines within main roadways, and looped 8-inch public waterlines throughout proposed neighborhoods.
7. Modeling results indicated the proposed waterline layout would adequately serve DU 2.
8. The proposed water distribution system and resulting hydraulic modeling output anticipates City of Mesa water production facilities and booster pump station facilities will be brought into service, as necessary.
9. This *Master Water Report for Development Unit 2 at Eastmark* demonstrates the sufficiency of the proposed water distribution system to serve the Site in accordance with City of Mesa Water Standards and the *Master Water Report for Eastmark*.

TABLE 1

DU 2 MODELED LAND USE

Project: DU 2 at Eastmark
Location: Mesa, Arizona

PRELIMINARY LAND USE AND DWELLING UNIT BREAKDOWN BY PARCEL

Parcel	No. of DUs	Residential Acres	Density (DU/AC)	Non-Residential Acres	Land Use	Floor Area (SQ. FT.)	Population Density or Acreage		Total Population or Acreage	Unit Daily Water Demand (GPD/DU, AC, or S.F.)		Avg Day Flow (GPD)	Total Avg Day Flow (GPD)
DU-2A	211	17.0	12.41	--	HDR-1	--	--	--	--	194	GPD/DU	40,934	40,934
	--	--	--	2.8	Open Space	--	--	--	--	--	--	--	
DU-2B	49	7.0	7.00	--	MDR-4	--	--	--	--	254	GPD/DU	12,446	52,448
	49	7.3	6.71	--	MDR-4	--	--	--	--	254	GPD/DU	12,446	
	--	--	--	5.0	Commercial	50,000	2.5	Employees and Patrons / 1,000 S.F.	125.0	80	GPD / Person	10,000	
	114	5.7	20.00	--	HDR-2	--	--	--	--	154	GPD/DU	17,556	
DU-2C	--	--	--	4.6	Open Space	--	--	--	--	--	--	--	117,932
	83	12.3	6.75	--	MDR-4	--	--	--	--	254	GPD/DU	21,082	
	82	16.8	4.88	--	MDR-3	--	--	--	--	400	GPD/DU	32,800	
	89	24.2	3.68	--	MDR-1	--	--	--	--	420	GPD/DU	37,380	
	105	17.0	6.18	--	MDR-4	--	--	--	--	254	GPD/DU	26,670	
DU-2D	--	--	--	4.1	Open Space	--	--	--	--	--	--	--	33,560
	--	--	--	9.1	Great Park ⁽¹⁾	--	0.8	Acres of Turf/ Acre	7.3	4,400	GPD/Acre	32,120	
DU-2E	--	--	--	--	--	--	0.2	Acres of Low Water Use Landscaping/ Acre	1.8	800	GPD/Acre	1,440	73,084
	36	11.5	3.13	--	MDR-1	--	--	--	--	420	GPD/DU	15,120	
	43	9.5	4.53	--	MDR-3	--	--	--	--	400	GPD/DU	17,200	
	66	10.2	6.47	--	MDR-4	--	--	--	--	254	GPD/DU	16,764	
	--	--	--	7.1	Commercial	120,000	2.5	Employees and Patrons / 1,000 S.F.	300.0	80	GPD / Person	24,000	
DU 2 Totals	927	138.5		40.0		170,000						317,958	317,958

Project: DU 2 at Eastmark
Location: Mesa, Arizona

Junction	Parcel(s)	No. of DUs	Acres	Density (DU/AC)	Land Use	Floor Area (SQ. FT.)	Avg Day Flow (GPD)	Total Avg Day Flow (GPD)	Avg Day (GPM)	Total Avg Day Flow (GPM)
J-DU2-010	1/2-DU-2A	106	9.9	10.7	HDR-1	--	20,467	57,009	14.2	39.6
	1/2-DU-2E	73	22.8	3.2	HDR-1/ MDR-3/ MDR-4/ Commercial	60,000	36,542		25.4	
J-970EX	DU-2B	212	29.6	7.2	HDR-2/ Commercial	50,000	52,448	52,448	36.4	36.4
J-DU2-020	1/2-DU-2A	105	9.8	10.7	HDR-1	--	20,467	79,433	14.2	55.1
	1/2-DU-2C	180	37.2	4.8	MDR-1/ MDR-3/ MDR-4	--	58,966		40.9	
J-DU3-4-050	DU-2D	--	9.1	--	Great Park ⁽¹⁾	--	33,560	33,560	56.0	56.0
J-DU3-4-130	1/2-DU-2E	72	22.8	3.2	HDR-1/ MDR-3/ MDR-4/ Commercial	60,000	36,542	36,542	25.4	25.4
J-DU3-4-170	1/2-DU-2C	179	37.2	4.8	MDR-1/ MDR-3/ MDR-4	--	58,966	58,966	40.9	40.9
DU 2 Totals		927	178.4			170,000	317,958	317,958	253.4	253.4

Notes:
 1) The irrigation system for the Great Park is supplied by a lake planned in Great Park Phase 4 just north of Point Twenty-Two Blvd within Development Unit 3/4 that is filled from the potable water system. Per DMB Mesa Proving Grounds, LLC, the lake is planned to be filled within 10 hours/day. Therefore, the total instantaneous peak flow to irrigate the Great Park is calculated as follows: (33,560 GPD within DU 2) * (1 Day/10 Hours) * (1 Hour/60 Minutes) = 56 GPM. The Great Park demand within DU 2 is modeled at junction J-DU3-4-050. Overall peak flow to fill the north lake and irrigate the Great Park is calculated as follows: (149 GPM within DU 3/4) + (56 GPM within DU 2) = 205 GPM. Refer to Eastmark Development Unit 3/4 Master Water Report for Great Park details.

TABLE 2

DU 2 WATER DESIGN CRITERIA

Project: DU 2 at Eastmark
 Location: Mesa, Arizona
 References: 2019 City of Mesa Engineering Design Standards and City of Mesa approved population based design criteria

UNIT DAILY RESIDENTIAL WATER DEMANDS						
LAND USE CATEGORY	LAND USE	DWELLING UNIT DENSITY		UNIT DAILY WATER DEMAND		NOTES
		VALUE	UNITS	VALUE	UNITS	
LDR-1	Low Density Residential (LDR 0-1)	0.5	DU/AC	490	GPD/DU	Source: Dwelling unit density divisions are based on City of Mesa 2025 General Plan. Unit water demands are based on the City of Mesa 2019 Engineering and Design Standards.
LDR-2	LDR 0-1 & LDR 1-2 AVG.	1	DU/AC	490	GPD/DU	
LDR-3	Low Density Residential (LDR-1-2)	1.2	DU/AC	470	GPD/DU	
MDR-1	Medium Density Residential (MDR 2-4)	3.0	DU/AC	420	GPD/DU	
MDR-2	MDR 2-4 & MDR 4-6 AVG.	4	DU/AC	420	GPD/DU	
MDR-3	Medium Density Residential (MDR 4-6)	5.0	DU/AC	400	GPD/DU	
MDR-4	Medium Density Residential (MDR 6-10)	6.5	DU/AC	254	GPD/DU	
HDR-1	High Density Residential (HDR 10-15)	11.0	DU/AC	194	GPD/DU	
HDR-2	High Density Residential (HDR 15+)	20.0	DU/AC	154	GPD/DU	
MUR-1	Mixed Use/Residential (MUR) – Residential	15.0	DU/AC	185	GPD/DU	

UNIT DAILY NON-RESIDENTIAL WATER DEMANDS					
LAND USE	Population Density		WATER DESIGN DEMANDS (PER CAPITA)		NOTES
Civic / Church / Library Staff	0.4	Employees / 1,000 S.F.	54	GPD / Person	
Civic / Church / Library Patrons	2	Patrons / 1,000 S.F.	20	GPD / Person	
Aquatic Center	200	Patrons and Staff / Acre	15	GPD / Person	
Commercial / Retail / Restaurant	2.5	Employees and Patrons / 1,000 S.F.	80	GPD / Person	
Office	5.0	Employees / 1,000 S.F.	80	GPD / Person	
Theater	250	Seats / Screen	7.5	GPD / Seat	
Hotel	---	---	150	GPD / Room	
Resort	---	---	300	GPD / Room	
Turf	---	---	4400	GPD/Acre	
Low Water Use Landscaping	---	---	800	GPD/Acre	

HYDRAULIC MODELING CRITERIA				
DESCRIPTION	VALUE	UNITS	NOTES	
PEAKING FACTORS				
Max Day	2.0	x Ave Day Demand	1	
Peak Hour	3.0	x Ave Day Demand	1	
MODELED FIRE HYDRANT FLOW (MINIMUMS)				
Residential	1,500	gpm		
Commercial (represents flow in backbone waterlines)	4,000	gpm		
HYDRAULICS (ON SITE)				
Minimum Residual Pressure, Peak Hour	40	psi	1	
Minimum Residual Pressure, Max Day + Fire Flow	20	psi	1	
Maximum Pipe Head Loss, Max Day Demand	10 ft/1000 ft	-	2	
Maximum Velocity, Peak Hour Demand	5 (+/-)	ft/s	1	
Maximum Velocity, Max Day + Fire Flow	10	ft/s	1	
Minimum Pipe Diameter, Looped System	8	in	1	
Hazen-Williams C-value	120	-	3	

- Notes:
1. Per 2019 City of Mesa Engineering Design Standards.
 2. Per City of Phoenix Design Standards Manual for Water and Wastewater Systems.
 3. DU2 Hazen-Williams C-value per previously approved master plans.

TABLE 3

**OVERALL EASTMARK
MODELED LAND USE**

Project: Eastmark
Location: Mesa, Arizona

EASTMARK - PRELIMINARY RESIDENTIAL LAND USE AND DWELLING UNIT BREAKDOWN

Land Use	LDR-2	LDR-3	MDR-1	MDR-2	MDR-3	MDR-4	HDR-1	HDR-2	Residential Total	Mixed Use Residential	Total Residential Units
Acreage	0.0	50.2	1,066.8	301.1	314.0	93.8	41.7	64.3	1,931.9	0.0	--
Dwelling Units	0	91	3,556	1,226	1,648	603	467	1,522	9,113	0	9,113

EASTMARK - WATER DEMAND CALCULATIONS

Development Unit	Total Area (AC)	Residential (AC)	Total Dwelling Units	Keys ⁽¹⁾	Gross Non-Residential ⁽²⁾ (AC)	Total Floor Area (sq. ft.)	Education (AC)	Church (AC)	Civic (AC)	Other (AC)	Avg. Day Water Demand (GPD)	Development Unit Flow Area (AC)	Unit Daily Water Demand (GPD/AC)
1	--	--	--	--	--	--	--	--	--	--	--	--	--
2	178.5	138.5	927	0	12.1	170,000	--	0.0	0.0	27.9	317,958	178.5	1,781.3
3S	92.3	92.3	388	0	0.0	--	0.0	0.0	0.0	0.0	112,421	92.3	1,218.0
3/4	614.0	421.7	3,252	234	55.4	1,092,202	60.8	5.5	--	70.7	1,308,752	614.0	2,131.5
5N	31.1	0.0	0	0	25.0	390,000	0.0	0.0	0.0	6.1	29,000	31.1	932.5
6N	86.5	0.0	--	0	86.5	1,340,000	0.0	0.0	0.0	0.0	2,000,000	86.5	23,121.4
6S	402.6	357.9	1,223	0	17.9	131,000	0.0	0.0	0.0	26.8	540,140	402.6	1,341.6
7	575.5	470.3	1,873	0	2.0	265,000	13.0	7.5	1.7	81.0	585,144	575.5	1,016.8
8	198.8	196.1	544	0	0.0	--	0.0	0.0	0.0	2.7	182,490	198.8	918.0
9	328.2	255.1	906	0	0.0	200,000	0.0	0.0	11.2	61.9	284,100	328.2	865.6
Subtotal:	2,507.5	1931.9	9,113	234	198.9	3,588,202	73.8	13.0	12.9	277.1	5,360,005	2,507.5	--

Notes:

⁽¹⁾ Anticipated number of "Keys" represents hotel and resort uses. This includes approximately 6.5 acres within DU-3/4.

⁽²⁾ Non-residential water demands are calculated based on net non-residential acreage.

Abbreviations:

AC = Acres

GPD = Gallons Per Day

GPD/AC = Gallons Per Day Per Acre

TABLE 4

**WATER DEMAND DESIGN FLOWS
BY DEVELOPMENT UNIT**

Project: Eastmark
 Location: Mesa, Arizona
 References: City of Mesa Engineering Design Standards

Eastmark

DEVELOPMENT UNIT	PARCEL/ DEVELOPMENT UNIT SUB-AREA	DEVELOPMENT UNIT DEMAND AREA (ACRES)	DWELLING UNITS	LAND USE	UNIT FLOW (GPD/AC)	HYD. MODEL NODE	AVE. DAY DEMAND		MAX DAY DEMAND		PEAK HOUR DEMAND
							(GPD)	(GPM)	(GPD)	(GPM)	(GPM)
DU-2	DU-2A	19.8	--	--	2,067.37	J-DU2-010 (50%), J-DU2-020 (50%)	40,934	28.4	81,868	56.8	85.2
	DU-2B	29.6	--	--	1,771.89	J-970EX	52,448	36.4	104,896	72.8	109.2
	DU-2C	74.4	--	--	1,585.11	J-DU2-020 (50%), J-DU3-4-170 (50%)	117,932	81.9	235,864	163.8	245.7
	DU-2D	9.1	--	Park	3,687.91	J-DU3-4-050	33,560	55.9	33,560	55.90	55.90
	DU-2E	45.6	--	--	1,602.72	J-DU2-010 (50%), J-DU3-4-130 (50%)	73,084	50.8	146,168	101.6	152.4
Total		178.5					317,958	253.4	602,356	450.9	648.4
DU-3S	3S-1	30.9	137	MDR-2	1,218	J-DU3S-030, J-DU3S-040, J-DU3S-050	37,636	26.1	75,272	52.3	78.3
	3S-2	31.4	113	MDR-2	1,218	J-DU3S-020, J-DU3S-030, J-DU3S-050, J-DU3S-060	38,245	26.6	76,490	53.1	79.8
	3S-3	30.0	138	MDR-2	1,218	J-DU3S-010, J-DU3S-020, J-DU3S-060, J-DU3S-070	36,540	25.4	73,080	50.8	76.2
Total		92.3	388				112,421	78.1	224,842	156.2	234.3
DU-3/4	DU-3/4-1 to DU-3/4-3	55.00	416	MDR-4 / HDR-2 /Open Space	1,831	J-DU3-4-200, J-DU3-4-210, J-DU7-020	100,700	69.9	201,400	139.9	209.7
	DU-3/4-4	34.00	195	MDR-3	1,434	J-DU3-4-040, J-DU3-4-210	48,750	33.9	97,500	67.7	101.7
	DU-3/4-6	60.80	--	High School/ Aquatic Center	3,823	J-DU3-4-010, J-DU3-4-020, J-DU3-4-210	232,440	161.4	464,880	322.8	484.2
	DU-3/4-7	5.50	--	Church	1,228	J-DU3-4-030	6,754	4.7	13,508	9.4	14.1
	DU-3/4-8	10.51	56	MDR-2	1,332	J-DU3-4-140	14,000	9.8	28,000	19.6	29.4
	DU-3/4-8B	8.50	216	HDR-2	5,845	J-DU3S-080	49,680	34.5	99,360	69.0	103.5
	DU-3/4-9	10.73	55	MDR-2	1,281	J-DU3-4-150	13,750	9.6	27,500	19.2	28.8
	DU-3/4-9A	7.19	--	Office/ Restaurant	4,490	J-DU3-4-100	32,280	22.5	64,560	45.0	67.5
	DU-3/4-9B	7.37	--	Office	3,691	J-DU3-4-030	27,200	18.9	54,400	37.8	56.7
	DU-3/4-9C	2.22	--	Restaurant	677	J-DU3-4-100	1,504	1.1	3,008	2.2	3.3
	DU-3/4-9D	4.35	--	Hotel/ Theater/ Entertainment Center Restaurant	7,335	J-DU3-4-030A	31,909	22.2	63,818	44.4	66.6
	DU-3/4-9E	2.11	--	Hotel	8,104	J-300EX	17,100	11.9	34,200	23.8	35.7
	DU-3/4-9F	5.95	--	Commercial/ Retail/ Restaurant	1,398	J-300EX	8,320	5.8	16,640	11.6	17.4
	DU-3/4-9G	1.83	--	Restaurant	1,137	J-DU3-4-030A	2,080	1.5	4,160	3.0	4.5
	DU-3/4-9H	5.00	140	HDR-2/ Recreation Center	7,190	J-DU3-4-030A	35,950	25.0	71,900	50.0	75.0
	DU-3/4-9J	10.68	314	HDR-2/ Recreation Center	7,470	J-DU3-4-030, J-DU3-4-030A	79,780	55.5	159,560	111.0	166.5
	DU-3/4-9K	3.10	83	HDR-2/ Commerical/ Retail	8,016	J-DU3-4-030A	24,850	17.3	49,700	34.6	51.9
	DU-3/4-9L	6.13	190	HDR-2/ Recreation Center/ Commerical/ Retail	8,766	J-DU3S-080	53,735	37.4	107,470	74.8	112.2
	DU-3/4-10	12.18	45	MDR-2	924	J-DU3-4-160	11,250	7.8	22,500	15.6	23.4
	DU-3/4-10B	18.70	--	Commercial/Retail	1,604	J-DU3-4-090, J-DU3-4-100	30,000	20.8	60,000	41.6	62.4
	DU-3/4-11	11.76	41	MDR-2	872	J-DU3-4-160	10,250	7.1	20,500	14.2	21.3
	DU-3/4-12	13.07	45	MDR-2	861	J-DU6-130, J-DU6-170	11,250	7.9	22,500	15.8	23.7
	DU-3/4-13	13.40	44	MDR-2	821	J-DU6-130, J-DU6-170	11,000	7.7	22,000	15.4	23.1
DU-3/4-14 to 3/4-17	46.90	201	MDR-3	1,071	J-DU6-140, J-DU6-170	50,250	34.9	100,500	69.8	104.7	
DU-3/4-18	10.20	121	HDR-1	2,728	J-DU7-050	27,830	19.3	55,660	38.6	57.9	
DU-3/4-19 to 3/4-22	26.10	--	Great Park	3,434	J-DU3-4-050	89,640	149.4	89,640	149.4	149.4	

Project: Eastmark
Location: Mesa, Arizona
References: City of Mesa Engineering Design Standards

DU-3/4	DU-3/4-23 to 3/4-27	62.30	217	MDR-1	871	J-DU3-4-040, J-DU7-040	54,250	37.7	108,500	75.3	113.1
	DU-3/4-28 to 3/4-30	56.10	350	MDR-3	1,560	J-DU3-4-070, J-DU3-4-110, J-DU3-4-150	87,500	60.8	175,000	121.5	182.4
	DU-3/4-31 to 3/4-33	41.90	223	MDR-3	1,331	J-DU3-4-080, J-DU3-4-090, J-DU3-4-030	55,750	38.7	111,500	77.4	116.1
	DU-3/4-34	19.80	300	MDR-2/ Pffice	4,495	J-DU3-4-130, J-DU3-4-140	89,000	61.8	178,000	123.6	185.4
	Other	40.60	--	Road ROW	--	--	--	--	--	--	--
Total		614.00	3,252.0				1,308,752	996.8	2,527,864	1,844.0	2,691.6

DU 5N	DU-5A	31.1	--	Industrial/ Low Water Use Landscaping/ Road ROW	932	J-DU5N-030	29,000	20.1	58,000	40.3	60.3
Total		31.1					29,000	20.1	58,000	40.3	60.3

DU-6N	DU-6A ³	86.5	--	Industrial	23,121	J-DU6-020, J-DU6-060	2,000,000	1,388.9	2,000,000	1,388.9	1,388.9
Total		86.5					2,000,000	1,388.9	2,000,000	1,388.9	1,388.9

DU-6S	6-1/2	45.4	107	MDR-1/ Road ROW/ Low Water Use Landscaping	990	J-DU6-160	44,940	31.2	89,880	62.4	93.6
	6-3	18.4	--	Commercial/ Retail/ Low Water Use Landscaping	1,424	J-260EX	26,200	18.2	52,400	36.4	54.6
	6-4, 6-5	36.5	92	MDR-1/ Low Water Use Landscaping	1,059	J-DU6-120	38,640	26.8	77,280	53.7	80.4
	6-6	19.3	58	MDR-1/ Low Water Use Landscaping	1,262	J-DU6-110	24,360	16.9	48,720	33.8	50.7
	6-7	21.0	61	MDR-1	1,220	J-DU6-150 (50%), J-DU6-160 (50%)	25,620	17.8	51,240	35.6	53.4
	6-8	31.0	52	LDR-3/ Low Water Use Landscaping	788	J-DU6-150 (50%), J-DU6-160 (50%)	24,440	17.0	48,880	33.9	51.0
	6-9, 6-17	25.4	116	MDR-3/ Low Water Use Landscaping	1,827	J-DU6-110	46,400	32.2	92,800	64.4	96.6
	6-10 through 6-12	41.9	171	MDR-2	1,714	J-DU6-140 (50%), J-DU6-150 (50%)	71,820	49.9	143,640	99.8	149.7
	6-13 through 6-15	50.2	161	MDR-1	1,347	J-DU6-120 (50%), J-DU6-140 (50%)	67,620	47.0	135,240	93.9	141.0
	6-16 through 6-18	36.7	114	MDR-1	1,305	J-DU6-130	47,880	33.3	95,760	66.5	99.9
	6-19 through 6-23	76.8	291	MDR-2/ Low Water Use Landscaping	1,591	J-DU3-4-170	122,220	84.9	244,440	169.8	254.7
Total		402.6	1,223				540,140	375.2	1,080,280	750.2	1,125.6

DU-7	7-1	15.9	84	MDR-3	1,602	J-DU7-100	25,472	17.7	50,944	35.4	53.1
	7-2	19.3	79	MDR-1	834	J-DU7-100	16,096	11.2	32,192	22.4	33.6
	7-3	30.7	110	MDR-1	834	J-DU7-110	25,604	17.8	51,208	35.6	53.4
	7-4	32.3	84	MDR-1	834	J-DU7-180	26,938	18.7	53,876	37.4	56.1
	7-5	25.1	66	MDR-1	834	J-DU7-190	20,933	14.5	41,866	29.1	43.5
	7-6	18.5	38	MDR-1	834	J-DU7-170	15,429	10.7	30,858	21.4	32.1
	7-7	26.8	98	MDR-1	834	J-DU7-190	22,351	15.5	44,702	31.0	46.5
	7-8	23.5	120	MDR-3	1,602	J-1990EX	37,647	26.1	75,294	52.3	78.3
	7-9	23.1	81	MDR-1	834	J-DU7-080	19,265	13.4	38,530	26.8	40.2
	7-10	7.5	--	CHURCH	1,500	J-250EX	11,250	7.8	22,500	15.6	23.4
	7-11	24.4	135	MDR-3	1,602	J-DU7-080	39,089	27.1	78,178	54.3	81.3
	7-12	23.0	97	MDR-1	834	J-DU7-160	19,182	13.3	38,364	26.6	39.9
	7-13	19.2	78	MDR-1	834	J-DU7-060	16,013	11.1	32,026	22.2	33.3
	7-14	17.3	53	MDR-1	834	J-DU7-150	14,428	10.0	28,856	20.0	30.0
	7-15	18.4	58	MDR-1	834	J-DU7-160	15,346	10.7	30,692	21.3	32.1
	7-16	26.4	106	MDR-1	834	J-DU7-140	22,018	15.3	44,036	30.6	45.9
	7-17	20.1	99	MDR-3	1,602	J-DU7-200	32,200	22.4	64,400	44.7	67.2
	7-18	29.1	85	MDR-1	834	J-DU7-200	24,269	16.9	48,538	33.7	50.7
	7-19	23.8	103	MDR-1	834	J-DU7-140	19,849	13.8	39,698	27.6	41.4
	7-20	19.9	80	MDR-1	834	J-DU7-200	16,597	11.5	33,194	23.1	34.5

Project: Eastmark
 Location: Mesa, Arizona
 References: City of Mesa Engineering Design Standards

DU-7	7-21	19.0	84	MDR-1	834	J-DU7-110	15,846	11.0	31,692	22.0	33.0
	7-25	1.7	--	CIVIC	1,500	J-DU7-130	2,550	1.8	5,100	3.5	5.4
	7-26	2.0	--	COMMERICAL/ RESTAURANT	1,700	J-DU7-010	3,400	2.4	6,800	4.7	7.2
	7-50	5.0	--	EDUCATION	1,500	J-DU7-140	7,500	5.2	15,000	10.4	15.6
	7-51	8.0	--	EDUCATION	1,500	J-DU7-150	12,000	8.3	24,000	16.7	24.9
	7-53	14.5	135	HDR-1	1,936	J-DU7-150	28,072	19.5	56,144	39.0	58.5
	7-52, 7-54	48.0	--	GREAT PARK	1,558	J-DU7-030	74,800	125.0	74,800	125	125
	7-52, 7-54	--	--	PUBLIC RESTROOM	--	J-DU7-140	1,000	0.7	2,000	1.4	2.1
R.O.W.		33.0	--	Road R.O.W.	--	--	--	--	--	--	--
Total		575.5	1,873				585,144	479.4	1,095,488	833.8	1,188.2

DU-8	8-1	22.9	74	MDR-1	969	J-DU8-070	22,200	15.4	44,400	30.8	46.2
	8-2	30.0	87	MDR-1	870	J-DU8-060, J-DU8-100	26,100	18.1	52,200	36.3	54.3
	8-3	24.7	64	MDR-1	777	J-DU8-110	19,200	13.3	38,400	26.7	39.9
	8-3B	6.7	9	MDR-1 / PARK	2,176	J-DU8-110	14,580	10.1	29,160	20.3	30.3
	8-4	21.0	42	MDR-1	600	J-DU8-080, J-DU8-090	12,600	8.8	25,200	17.5	26.4
	8-6	23.6	91	MDR-1	1,157	J-DU8-110, J-DU8-120	27,300	19.0	54,600	37.9	57.0
	8-7	28.2	74	MDR-1	787	J-DU8-120, J-DU8-130	22,200	15.4	44,400	30.8	46.2
	8-8	20.0	39	LDR-3	956	J-DU8-090, J-DU8-130	19,110	13.3	38,220	26.5	39.9
	8-9	21.7	64	MDR-1	885	J-DU8-040, J-DU8-130	19,200	13.3	38,400	26.7	39.9
Total		198.8	544				182,490	126.7	364,980	253.5	380.1

DU-9	9-1	57.2	189	MDR-1	991	J-DU9-010, J-DU9-020	56,700	39.4	113,400	78.8	118.2
	9-2	25.6	99	MDR-1	1,160	J-DU9-020, J-DU9-030	29,700	20.6	59,400	41.3	61.8
	9-3	11.2	--	Civic	1,500	J-DU9-020, J-DU9-030	16,800	11.7	33,600	23.3	35.1
	9-4	49.4	158	MDR-1	960	J-DU9-030, J-DU9-070	47,400	32.9	94,800	65.8	98.7
	9-5	39.8	144	MDR-1	1,085	J-DU9-070, J-DU9-080	43,200	30.0	86,400	60.0	90.0
	9-6	22.4	90	MDR-2	1,004	J-DU9-040, J-DU9-060	22,500	15.6	45,000	31.3	46.8
	9-7	60.7	226	MDR-1	1,117	J-DU9-060, J-DU9-080	67,800	47.1	135,600	94.2	141.3
	Other	61.9	--	Drainage Channel/Road ROW	--	--	--	--	--	--	--
Total		328.2	906				284,100	197.3	568,200	394.7	591.9

EASTMARK TOTAL 2,507.5 5,360,005 3,915.9 8,522,010 6,112.5 8,309.3

TABLE 5

**WATER DEMAND DESIGN FLOWS
BY JUNCTION NODE**

Project: Eastmark
 Location: Mesa, Arizona
 References: City of Mesa Engineering Design Standards

HYDRAULIC MODEL NODE	WATER DEMAND (GPM)		
	AVE. DAY	MAX DAY	PEAK HOUR
J-DU3S-010	10.20	20.40	30.60
J-DU3S-020	11.00	22.00	33.00
J-DU3S-030	15.00	30.00	45.00
J-DU3S-040	11.00	22.00	33.00
J-DU3S-050	12.10	24.20	36.30
J-DU3S-060	11.80	23.60	35.40
J-DU3S-070	7.00	14.00	21.00
J-DU3S-080	71.90	143.80	215.70
J-DU3-4-010	53.80	107.60	161.40
J-DU3-4-020	53.80	107.60	161.40
J-DU3-4-030	64.70	129.40	194.10
J-DU3-4-030A	93.90	187.80	281.70
J-DU3-4-040	35.80	71.60	107.40
J-DU3-4-050	205.40	205.40	205.40
J-DU3-4-060	--	--	--
J-DU3-4-070	20.30	40.60	60.90
J-DU3-4-080	12.90	25.80	38.70
J-DU3-4-090	23.30	46.60	69.90
J-DU3-4-100	33.80	67.60	101.40
J-DU3-4-110	20.30	40.60	60.90
J-DU3-4-120	--	--	--
J-DU3-4-130	56.40	112.80	169.20
J-DU3-4-140	40.70	81.40	122.10
J-DU3-4-150	29.80	59.60	89.40
J-DU3-4-160	14.90	29.80	44.70
J-DU3-4-170	125.80	251.60	377.40
J-DU3-4-200	23.30	46.60	69.90
J-DU3-4-210	94.10	188.20	282.30
J-DU5N-010	0.00	0.00	0.00
J-DU5N-020	0.00	0.00	0.00
J-DU5N-030	20.00	40.14	60.30
J-DU5N-040	0.00	0.00	0.00
J-DU5N-050	--	--	--
J-DU5N-060	0.00	0.00	0.00
J-DU6-010	--	--	--
J-DU6-020	694.40	694.40	694.40
J-DU6-050	--	--	--
J-DU6-060	694.40	694.40	694.40
J-DU6-070	--	--	--
J-DU6-080	0.00	0.00	0.00
J-DU6-090	--	--	--
J-DU6-100	0.00	0.00	0.00
J-DU6-110	49.10	98.20	147.30
J-DU6-120	50.30	100.60	150.90
J-DU6-130	41.10	82.20	123.30
J-DU6-140	66.00	132.00	198.00
J-DU6-150	42.30	84.60	126.90
J-DU6-160	48.60	97.20	145.80
J-DU6-170	25.30	50.60	75.90
J-DU6-180	--	--	--

J-DU7-010	2.40	4.80	7.20
J-DU7-020	23.30	46.60	69.90
J-DU7-030	125.00	125.00	125.00
J-DU7-040	18.80	37.60	56.40
J-DU7-050	19.30	38.60	57.90
J-DU7-060	11.00	22.00	33.00
J-DU7-070	--	--	--
J-DU7-080	40.50	81.00	121.50
J-DU7-090	--	--	--
J-DU7-100	28.70	57.40	86.10
J-DU7-110	28.80	57.60	86.40
J-DU7-120	--	--	--
J-DU7-130	1.80	3.60	5.40
J-DU7-140	35.00	70.00	105.00
J-DU7-150	37.80	75.60	113.40
J-DU7-160	24.00	48.00	72.00
J-DU7-170	10.70	21.40	32.10
J-DU7-180	18.70	37.40	56.10
J-DU7-190	30.00	60.00	90.00
J-DU7-200	50.70	101.40	152.10
J-DU8-010	--	--	--
J-DU8-020	--	--	--
J-DU8-030	--	--	--
J-DU8-040	6.70	13.40	20.10
J-DU8-050	--	--	--
J-DU8-060	9.00	18.00	27.00
J-DU8-070	15.40	30.80	46.20
J-DU8-080	4.40	8.80	13.20
J-DU8-090	11.00	22.00	33.00
J-DU8-100	9.20	18.40	27.60
J-DU8-110	33.00	66.00	99.00
J-DU8-120	17.10	34.20	51.30
J-DU8-130	21.00	42.00	63.00
J-DU9-010	19.70	39.40	59.10
J-DU9-020	35.80	71.60	107.40
J-DU9-030	32.60	65.20	97.80
J-DU9-040	7.80	15.60	23.40
J-DU9-050	--	--	--
J-DU9-060	31.40	62.80	94.20
J-DU9-070	31.50	63.00	94.50
J-DU9-080	38.50	77.00	115.50
J-300EX	17.70	35.40	53.10
J-250EX	7.80	15.60	23.40
J-260EX	18.20	36.40	54.60
J-360EX	0.00	0.00	0.00
J-DU2-010	39.60	79.20	118.80
J-960EX	0.00	0.00	0.00
J-970EX	36.40	72.80	109.20
J-1040EX	0.00	0.00	0.00
J-1220EX	0.00	0.00	0.00
J-1240EX	0.00	0.00	0.00
J-2140EX	0.00	0.00	0.00
J-DU2-020	55.10	110.20	165.30
J-1130EX	0.00	0.00	0.00
J-1990EX	26.00	52.00	78.00
J-2340EX	0.00	0.00	0.00
EASTMARK TOTAL	3,915.90	6,112.74	8,309.60

TABLE 6

CITY OF MESA GROUNDWATER WELLS INVENTORY

Project: Master Water Report Update
 Location: Mesa, Arizona
 References: City of Mesa 2018 Water Master Plan Update, dated August 6, 2018

DESERT WELLS PRESSURE ZONE

Well ID	2018 Capacity (MGD)	2028 Capacity (MGD)	2040 Capacity (MGD)	Comments
DW6	1.2	1.2	1.2	
DW9	1.9	1.9	1.9	
DW10	-	-	-	Idled due to High Nitrate Levels
Subtotal (MGD)=	3.1	3.1	3.1	
Subtotal (GPM)=	2,152.8	2,152.8	2,152.8	

DW13	2.5	2.5	2.5	Signal Butte GWF
DW16	1.3	1.3	1.3	Signal Butte GWF
DW17	2.1	2.1	2.1	Signal Butte GWF
DW18	1.00	1.00	1.00	Signal Butte GWF
DW19	-	1.20	1.20	Signal Butte GWF (To be connected in FY 18/19)
DW20	-	1.20	1.20	Signal Butte GWF (To be connected in FY 18/19)
DW21	2	2	2	Signal Butte GWF
DW22	2.1	2.1	2.1	Signal Butte GWF
New Wells at SB GWF		8.00	10.00	Signal Butte GWF
Subtotal (MGD)=	11.00	21.40	23.40	
Subtotal (GPM)=	7,638.9	14,861.1	16,250.0	

DWGWF & SBGWF Total (MGD)=	14.80	34.00	40.00
DWGWF & SBGWF Total (GPM)=	10,277.8	23,611.1	27,777.8

Overall Total Capacity (MGD)=	17.90	37.10	43.10
Overall Total Capacity (GPM)=	12,430.6	25,763.9	29,930.6

APPENDIX A

**HYDRAULIC MODELING RESULTS –
SERVED BY SOUTH C.A.P. WATER TREATMENT PLANT
(NON-DROUGHT CONDITION)**

Average-Day Demand

Eastmark Master Water Report

Active Scenario: Avg Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Reservoir Table

Label	Elevation (ft)	Zone	Flow (Out net) (gpm)	Hydraulic Grade (ft)
C.O.M. DW SUPPLY FROM NORTH	1,634.0	Desert Wells	471.70	1,634.0
SCAP DWPS	1,634.0	Desert Wells	3,444.21	1,634.0

Eastmark Master Water Report

Active Scenario: Avg Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-100EX	1,406.0	0.00	98.3	1,633.3
J-110EX	1,418.0	0.00	93.1	1,633.3
J-120EX	1,462.0	0.00	74.4	1,633.9
J-135EX	1,460.0	0.00	75.1	1,633.7
J-150EX	1,472.0	0.00	69.8	1,633.4
J-160EX	1,435.0	0.00	85.7	1,633.2
J-170EX	1,430.0	0.00	87.9	1,633.1
J-180EX	1,410.0	0.00	96.5	1,633.1
J-190EX	1,395.0	0.00	103.0	1,633.1
J-200EX	1,385.0	0.00	107.3	1,633.0
J-220EX	1,480.0	0.00	66.5	1,633.7
J-230EX	1,475.0	0.00	68.6	1,633.5
J-250EX	1,452.0	7.80	78.5	1,633.4
J-260EX	1,453.0	18.20	78.1	1,633.4
J-270EX	1,429.0	0.00	88.3	1,633.2
J-280EX	1,460.0	0.00	74.9	1,633.2
J-300EX	1,392.0	17.70	104.2	1,632.9
J-320EX	1,422.0	0.00	91.4	1,633.2
J-330EX	1,455.0	0.00	77.1	1,633.3
J-340EX	1,440.0	0.00	83.6	1,633.2
J-360EX	1,400.0	0.00	100.8	1,633.0
J-550EX	1,425.0	0.00	90.1	1,633.2
J-590EX	1,413.0	0.00	95.3	1,633.3
J-920EX	1,434.0	0.00	86.2	1,633.2
J-960EX	1,402.0	0.00	100.0	1,633.1
J-970EX	1,397.0	36.40	102.1	1,633.0
J-1000EX	1,455.0	0.00	77.4	1,634.0
J-1010EX	1,485.0	0.00	64.4	1,634.0
J-1020EX	1,425.0	0.00	90.3	1,633.7
J-1030EX	1,480.0	0.00	66.6	1,634.0
J-1040EX	1,428.0	0.00	88.8	1,633.3
J-1050EX	1,445.0	0.00	81.5	1,633.3
J-1120EX	1,456.0	0.00	76.8	1,633.4
J-1130EX	1,445.0	0.00	81.5	1,633.3
J-1160EX	1,445.0	0.00	81.8	1,634.0
J-1170EX	1,470.0	0.00	70.9	1,634.0
J-1180EX	1,440.0	0.00	83.9	1,633.8
J-1190EX	1,420.0	0.00	92.4	1,633.5
J-1200EX	1,445.0	0.00	81.7	1,633.8
J-1210EX	1,455.0	0.00	77.4	1,634.0
J-1220EX	1,475.0	0.00	68.8	1,633.9
J-1230EX	1,460.0	0.00	74.9	1,633.2
J-1235EX	1,440.0	0.00	83.6	1,633.3
J-1240EX	1,455.0	0.00	77.1	1,633.3
J-1280	1,410.0	0.00	96.5	1,633.1
J-1290EX	1,480.0	0.00	66.6	1,634.0
J-1300EX	1,465.0	0.00	73.1	1,634.0
J-1310EX	1,480.0	0.00	66.6	1,634.0
J-1330EX	1,465.0	0.00	73.1	1,634.0
J-1340EX	1,450.0	0.00	79.6	1,634.0
J-1350EX	1,465.0	0.00	73.1	1,634.0
J-1360EX	1,445.0	0.00	81.8	1,634.0
J-1370EX	1,430.0	0.00	88.2	1,633.8

Eastmark Master Water Report

Active Scenario: Avg Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-1380EX	1,450.0	0.00	79.6	1,633.9
J-1390EX	1,430.0	0.00	88.2	1,633.8
J-1400EX	1,430.0	0.00	88.2	1,633.8
J-1410	1,458.0	0.00	76.0	1,633.6
J-1410EX	1,420.0	0.00	92.4	1,633.6
J-1420EX	1,460.0	0.00	75.0	1,633.4
J-1430EX	1,455.0	0.00	77.2	1,633.5
J-1440EX	1,478.0	0.00	67.3	1,633.6
J-1680EX	1,401.0	0.00	100.4	1,633.1
J-1990EX	1,447.0	26.00	80.6	1,633.3
J-2000EX	1,442.0	0.00	82.8	1,633.3
J-2010EX	1,419.0	0.00	92.6	1,633.1
J-2040EX	1,427.0	0.00	89.2	1,633.2
J-2120EX	1,453.0	0.00	78.0	1,633.3
J-2140EX	1,450.0	0.00	79.3	1,633.3
J-2295	1,415.0	0.00	94.3	1,633.0
J-2340EX	1,434.0	0.00	86.2	1,633.3
J-2353	1,456.0	0.00	76.8	1,633.5
J-2361	1,454.5	0.00	77.4	1,633.4
J-2364	1,454.2	0.00	77.5	1,633.4
J-DU2-010	1,407.0	39.60	97.8	1,632.9
J-DU2-020	1,411.5	55.10	95.8	1,632.9
J-DU2-030	1,408.0	0.00	97.3	1,633.0
J-DU3-4-010	1,405.0	53.80	98.6	1,632.9
J-DU3-4-020	1,402.0	53.80	99.9	1,632.9
J-DU3-4-030	1,392.0	64.70	104.2	1,632.9
J-DU3-4-030A	1,394.5	93.90	103.1	1,632.9
J-DU3-4-040	1,403.0	35.80	99.5	1,632.9
J-DU3-4-050	1,408.0	205.40	97.3	1,632.9
J-DU3-4-060	1,408.0	0.00	97.3	1,632.9
J-DU3-4-070	1,404.0	20.30	99.0	1,632.9
J-DU3-4-080	1,400.0	12.90	100.8	1,632.9
J-DU3-4-090	1,393.0	23.30	103.8	1,632.9
J-DU3-4-100	1,391.0	33.80	104.7	1,632.9
J-DU3-4-110	1,393.0	20.30	103.8	1,632.9
J-DU3-4-120	1,393.0	0.00	103.8	1,632.9
J-DU3-4-130	1,395.0	56.40	102.9	1,632.9
J-DU3-4-140	1,403.0	40.70	99.5	1,632.9
J-DU3-4-150	1,407.0	29.80	97.7	1,632.9
J-DU3-4-160	1,406.0	14.90	98.2	1,632.9
J-DU3-4-170	1,410.0	125.80	96.5	1,632.9
J-DU3-4-200	1,412.5	23.30	95.4	1,632.9
J-DU3-4-210	1,406.0	94.10	98.2	1,632.9
J-DU3S-010	1,412.0	10.20	95.6	1,633.0
J-DU3S-020	1,407.0	11.00	97.7	1,632.9
J-DU3S-030	1,401.0	15.00	100.3	1,632.9
J-DU3S-040	1,399.0	11.00	101.2	1,632.9
J-DU3S-050	1,404.0	12.10	99.0	1,632.9
J-DU3S-060	1,410.0	11.80	96.4	1,632.9
J-DU3S-070	1,417.0	7.00	93.4	1,632.9
J-DU3S-080	1,396.0	71.90	102.5	1,632.9
J-DU5N-010	1,436.0	0.00	85.2	1,633.0
J-DU5N-020	1,424.5	0.00	90.2	1,633.1

Eastmark Master Water Report

Active Scenario: Avg Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-DU5N-030	1,426.0	20.00	89.6	1,633.1
J-DU5N-040	1,414.0	0.00	94.7	1,632.9
J-DU5N-050	1,414.0	0.00	94.7	1,632.9
J-DU6-010	1,459.0	0.00	75.4	1,633.3
J-DU6-020	1,453.0	694.40	78.0	1,633.3
J-DU6-050	1,448.0	0.00	80.2	1,633.3
J-DU6-060	1,458.0	694.40	75.9	1,633.3
J-DU6-110	1,432.0	49.10	87.0	1,633.0
J-DU6-120	1,422.0	50.30	91.3	1,633.0
J-DU6-130	1,416.0	41.10	93.9	1,632.9
J-DU6-140	1,417.0	66.00	93.4	1,633.0
J-DU6-150	1,427.0	42.30	89.1	1,633.0
J-DU6-160	1,436.0	48.60	85.3	1,633.1
J-DU6-170	1,416.5	25.30	93.6	1,633.0
J-DU7-010	1,415.0	2.40	94.3	1,633.0
J-DU7-020	1,425.0	23.30	90.0	1,632.9
J-DU7-030	1,416.0	125.00	93.8	1,632.9
J-DU7-040	1,409.0	18.80	96.9	1,632.9
J-DU7-050	1,416.0	19.30	93.9	1,633.0
J-DU7-060	1,423.0	11.00	90.9	1,633.0
J-DU7-070	1,430.0	0.00	87.9	1,633.1
J-DU7-080	1,434.0	40.50	86.2	1,633.2
J-DU7-090	1,437.0	0.00	84.9	1,633.3
J-DU7-100	1,435.0	28.70	85.7	1,633.2
J-DU7-110	1,435.0	28.80	85.7	1,633.1
J-DU7-120	1,420.0	0.00	92.2	1,633.0
J-DU7-130	1,420.0	1.80	92.2	1,633.0
J-DU7-140	1,425.0	35.00	90.0	1,633.0
J-DU7-150	1,419.0	37.80	92.6	1,633.0
J-DU7-160	1,435.0	24.00	85.7	1,633.1
J-DU7-170	1,432.0	10.70	87.0	1,633.1
J-DU7-180	1,433.0	18.70	86.6	1,633.1
J-DU7-190	1,437.0	30.00	84.9	1,633.2
J-DU7-200	1,432.0	50.70	87.0	1,633.0
J-DU8-010	1,420.0	0.00	92.2	1,633.0
J-DU8-020	1,419.5	0.00	92.4	1,633.0
J-DU8-030	1,421.0	0.00	91.7	1,633.0
J-DU8-040	1,418.0	6.70	93.1	1,633.1
J-DU8-050	1,422.0	0.00	91.3	1,633.1
J-DU8-060	1,420.0	9.00	92.2	1,633.0
J-DU8-070	1,420.0	15.40	92.2	1,633.0
J-DU8-080	1,422.0	4.40	91.3	1,633.0
J-DU8-090	1,424.0	11.00	90.4	1,633.0
J-DU8-100	1,425.0	9.20	90.0	1,633.0
J-DU8-110	1,430.0	33.00	87.8	1,633.0
J-DU8-120	1,431.0	17.10	87.4	1,633.0
J-DU8-130	1,427.0	21.00	89.1	1,633.0
J-DU9-010	1,419.0	19.70	92.6	1,633.0
J-DU9-020	1,415.0	35.80	94.3	1,633.0
J-DU9-030	1,416.0	32.60	93.9	1,633.0
J-DU9-040	1,416.0	7.80	93.9	1,633.0
J-DU9-050	1,419.0	0.00	92.6	1,633.0
J-DU9-060	1,422.0	31.40	91.3	1,633.0

Eastmark Master Water Report

Active Scenario: Avg Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-DU9-070	1,414.0	31.50	94.7	1,632.9
J-DU9-080	1,419.0	38.50	92.6	1,632.9
J-DU9-090	1,414.0	0.00	94.8	1,633.0
J-DU9-100	1,414.0	0.00	94.8	1,633.0

Eastmark Master Water Report

Active Scenario: Avg Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-160EX	16.0	2,721.65	120.0	52.76	0.08	0.003
P-170EX	16.0	5,365.91	120.0	52.76	0.08	0.003
P-180EX	16.0	5,395.89	120.0	112.95	0.18	0.013
P-190EX	16.0	5,727.93	120.0	112.95	0.18	0.013
P-200EX	16.0	888.87	120.0	-142.72	0.23	0.020
P-210EX	16.0	509.51	120.0	-142.72	0.23	0.020
P-220EX	16.0	2,908.75	120.0	335.72	0.54	0.096
P-240EX	16.0	1,386.71	120.0	-751.60	1.20	0.427
P-250EX	16.0	2,610.66	120.0	211.37	0.34	0.041
P-310	30.0	4,936.64	120.0	739.17	0.34	0.019
P-340EX	16.0	5,775.00	120.0	52.76	0.08	0.003
P-410EX	16.0	5,368.22	120.0	112.95	0.18	0.013
P-970	24.0	1,001.45	120.0	464.33	0.33	0.024
P-980	24.0	1,934.58	120.0	162.22	0.12	0.003
P-1060EX	16.0	1,328.19	120.0	-10.75	0.02	0.000
P-1070EX	16.0	1,257.47	120.0	-10.75	0.02	0.000
P-1630EX	16.0	1,793.28	120.0	9.10	0.01	0.000
P-1640EX	16.0	1,447.45	120.0	9.30	0.01	0.000
P-1780	24.0	1,527.79	120.0	464.33	0.33	0.024
P-1790	24.0	1,115.45	120.0	464.33	0.33	0.024
P-1940EX	16.0	1,171.38	120.0	-155.75	0.25	0.023
P-1950EX	16.0	1,440.76	120.0	-212.99	0.34	0.041
P-1970EX	16.0	816.47	120.0	-62.92	0.10	0.004
P-1980EX	16.0	1,103.17	120.0	-83.22	0.13	0.007
P-2000EX	16.0	1,599.24	120.0	-10.75	0.02	0.000
P-2040EX	16.0	10,634.81	120.0	-61.37	0.10	0.004
P-2055EX	16.0	10,453.02	120.0	170.32	0.27	0.027
P-2070EX	24.0	5,328.61	120.0	-240.01	0.17	0.007
P-2500EX	24.0	2,750.22	120.0	91.72	0.07	0.001
P-2510EX	24.0	2,726.43	120.0	77.08	0.05	0.001
P-2540EX	12.0	2,624.38	120.0	107.99	0.31	0.048
P-2570EX	16.0	2,640.03	120.0	322.17	0.51	0.089
P-2655EX	16.0	2,870.17	120.0	130.18	0.21	0.017
P-2660EX	24.0	2,796.67	120.0	149.53	0.11	0.003
P-2665EX	16.0	2,715.77	120.0	130.18	0.21	0.017
P-2690EX	16.0	2,914.43	120.0	-50.23	0.08	0.003
P-2700EX	16.0	3,115.09	120.0	161.13	0.26	0.025
P-2710EX	16.0	1,822.64	120.0	123.29	0.20	0.015
P-2720EX	12.0	3,042.02	120.0	-37.84	0.11	0.007
P-2800	24.0	5,785.85	120.0	-60.19	0.04	0.001
P-2830	16.0	2,890.37	120.0	-6.89	0.01	0.000
P-2860EX	24.0	761.21	120.0	149.53	0.11	0.003
P-2880EX	12.0	382.67	120.0	0.00	0.00	0.000
P-2890EX	8.0	3,147.74	120.0	-4.98	0.03	0.001
P-2900	24.0	1,422.97	120.0	138.44	0.10	0.003
P-2910EX	24.0	496.51	120.0	144.55	0.10	0.003
P-2950	12.0	1,088.63	120.0	14.64	0.04	0.001
P-2970EX	12.0	1,118.68	120.0	28.68	0.08	0.004
P-2990EX	8.0	2,810.72	120.0	-0.31	0.00	0.000
P-3010EX	12.0	471.37	120.0	4.98	0.01	0.000
P-3020EX	12.0	1,167.01	120.0	28.37	0.08	0.004
P-3030EX	12.0	378.09	120.0	0.00	0.00	0.000

Eastmark Master Water Report

Active Scenario: Avg Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-3040EX	8.0	3,081.05	120.0	3.86	0.02	0.001
P-3060EX	12.0	595.31	120.0	0.00	0.00	0.000
P-3070EX	8.0	2,921.51	120.0	32.23	0.21	0.037
P-3080EX	12.0	1,396.97	120.0	119.61	0.34	0.058
P-3090EX	12.0	1,108.96	120.0	95.02	0.27	0.038
P-3100EX	12.0	694.82	120.0	-12.97	0.04	0.001
P-3110EX	12.0	664.35	120.0	11.63	0.03	0.001
P-3120EX	8.0	1,851.06	120.0	24.59	0.16	0.022
P-3130EX	12.0	1,154.91	120.0	-32.23	0.09	0.005
P-3140EX	16.0	1,782.97	120.0	278.31	0.44	0.068
P-3150EX	16.0	958.12	120.0	322.17	0.51	0.089
P-3160EX	8.0	3,801.45	120.0	43.85	0.28	0.065
P-3170EX	8.0	2,837.60	120.0	-6.11	0.04	0.002
P-3180EX	8.0	735.68	120.0	8.84	0.06	0.003
P-3190EX	30.0	2,558.57	120.0	1,971.23	0.89	0.119
P-3240EX	16.0	1,262.86	120.0	-120.37	0.19	0.014
P-3250EX	12.0	844.21	120.0	-124.35	0.35	0.062
P-3260EX	16.0	1,108.49	120.0	335.72	0.54	0.096
P-3270EX	16.0	1,509.41	120.0	246.66	0.39	0.054
P-3280EX	12.0	2,890.26	120.0	-89.06	0.25	0.033
P-3290EX	12.0	2,432.48	120.0	35.30	0.10	0.006
P-3930EX	16.0	794.17	120.0	-332.91	0.53	0.094
P-3940EX	16.0	509.16	120.0	-332.91	0.53	0.094
P-3970EX	16.0	1,445.13	120.0	332.91	0.53	0.094
P-4720EX	16.0	1,215.66	120.0	213.82	0.34	0.042
P-4730EX	16.0	455.51	120.0	187.82	0.30	0.033
P-4750EX	16.0	715.18	120.0	187.82	0.30	0.033
P-4760EX	16.0	774.38	120.0	18.34	0.03	0.000
P-4780EX	24.0	2,143.12	120.0	239.65	0.17	0.007
P-4790EX	16.0	1,816.22	120.0	56.18	0.09	0.003
P-4860EX	24.0	985.98	120.0	-239.65	0.17	0.007
P-4870EX	24.0	619.54	120.0	-239.65	0.17	0.007
P-5700EX	16.0	1,175.56	120.0	535.19	0.85	0.227
P-5710EX	16.0	1,171.19	120.0	535.19	0.85	0.227
P-5740	24.0	1,547.92	120.0	-239.65	0.17	0.007
P-5780	16.0	683.67	120.0	270.54	0.43	0.064
P-6064	16.0	846.07	120.0	-179.45	0.29	0.030
P-6065	16.0	3,442.89	120.0	-179.45	0.29	0.030
P-6070	16.0	247.15	120.0	-155.79	0.25	0.023
P-6160	48.0	931.87	120.0	3,444.21	0.61	0.034
P-6161	48.0	820.29	120.0	3,444.21	0.61	0.034
P-6166EX	16.0	1,247.08	120.0	-10.75	0.02	0.000
P-6167EX	16.0	2,351.14	120.0	-142.72	0.23	0.020
P-6198	30.0	1,017.19	120.0	1,971.23	0.89	0.119
P-6218	30.0	619.03	120.0	1,971.23	0.89	0.119
P-6219	30.0	1,060.99	120.0	1,562.11	0.71	0.077
P-6223	16.0	619.09	120.0	-120.37	0.19	0.014
P-6224	16.0	424.41	120.0	288.74	0.46	0.073
P-6226	20.0	157.83	120.0	-409.12	0.42	0.046
P-6236EX	24.0	2,939.36	130.0	-77.42	0.05	0.001
P-7000	12.0	741.92	120.0	-88.29	0.25	0.033
P-COMWTREX	36.0	1,202.28	120.0	471.70	0.15	0.000

Eastmark Master Water Report

Active Scenario: Avg Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-DU-3-4-080	12.0	797.04	120.0	15.72	0.04	0.001
P-DU-3-4-090	12.0	702.19	120.0	36.02	0.10	0.006
P-DU-3-4-100	12.0	909.19	120.0	-48.92	0.14	0.011
P-DU-3-4-110	16.0	597.34	120.0	72.54	0.12	0.006
P-DU-3-4-120	16.0	1,153.09	120.0	16.14	0.03	0.000
P-DU-3-4-130	12.0	706.88	120.0	75.84	0.22	0.025
P-DU-3-4-70	12.0	1,647.45	120.0	61.77	0.18	0.017
P-DU-3S-130	16.0	2,122.39	120.0	-155.08	0.25	0.023
P-DU2-010	12.0	1,013.72	130.0	45.69	0.13	0.008
P-DU2-020	12.0	1,725.80	130.0	-63.81	0.18	0.015
P-DU2-030	8.0	1,591.16	130.0	20.83	0.13	0.014
P-DU2-040	8.0	2,223.38	130.0	-0.64	0.00	0.000
P-DU2-060	12.0	1,757.77	120.0	56.12	0.16	0.014
P-DU2-070	12.0	951.56	120.0	119.93	0.34	0.058
P-DU2-080	20.0	631.03	120.0	0.37	0.00	0.000
P-DU2-090	20.0	1,106.44	120.0	56.12	0.06	0.001
P-DU3-4-010A	12.0	1,447.93	120.0	46.94	0.13	0.010
P-DU3-4-010B	12.0	847.20	120.0	-46.96	0.13	0.010
P-DU3-4-020	24.0	1,289.68	120.0	-34.00	0.02	0.000
P-DU3-4-060	12.0	733.41	120.0	-143.63	0.41	0.081
P-DU3-4-160	12.0	578.86	120.0	46.04	0.13	0.010
P-DU3-4-170	16.0	1,187.74	120.0	-54.72	0.09	0.003
P-DU3-4-180	16.0	876.41	120.0	-69.62	0.11	0.005
P-DU3-4-190	20.0	1,405.86	120.0	-195.05	0.20	0.012
P-DU3-4-200	8.0	1,000.70	120.0	36.12	0.23	0.045
P-DU3-4-210	8.0	1,083.47	120.0	-34.67	0.22	0.042
P-DU3-4-220	8.0	2,361.07	120.0	23.30	0.15	0.020
P-DU3-4-30	24.0	1,116.54	120.0	-145.65	0.10	0.003
P-DU3-4-40	24.0	496.31	120.0	-199.45	0.14	0.005
P-DU3-4-50	24.0	1,092.47	120.0	-271.37	0.19	0.009
P-DU3S-010	8.0	260.69	120.0	67.50	0.43	0.144
P-DU3S-020	8.0	1,373.83	120.0	27.10	0.17	0.027
P-DU3S-030	8.0	1,542.05	120.0	16.10	0.10	0.010
P-DU3S-040	8.0	1,241.65	120.0	1.10	0.01	0.000
P-DU3S-050	8.0	1,016.55	120.0	10.60	0.07	0.005
P-DU3S-060	8.0	974.34	120.0	0.71	0.00	0.000
P-DU3S-070	8.0	1,383.69	120.0	-11.39	0.07	0.005
P-DU3S-080	8.0	1,241.43	120.0	-23.19	0.15	0.020
P-DU3S-090	8.0	620.85	120.0	-30.19	0.19	0.032
P-DU3S-100	16.0	788.42	120.0	-86.15	0.14	0.008
P-DU3S-110	16.0	1,850.66	120.0	-43.31	0.07	0.002
P-DU3S-120	16.0	822.09	120.0	-97.11	0.15	0.010
P-DU5N-030	16.0	528.70	120.0	-111.97	0.18	0.013
P-DU5N-040	12.0	2,743.45	120.0	-131.97	0.37	0.069
P-DU5N-050	20.0	419.19	120.0	56.12	0.06	0.001
P-DU6-010	12.0	1,162.55	120.0	42.70	0.12	0.009
P-DU6-020	16.0	123.88	120.0	608.89	0.97	0.289
P-DU6-050	12.0	2,221.22	120.0	-42.81	0.12	0.009
P-DU6-060	12.0	2,209.31	120.0	42.70	0.12	0.009
P-DU6-070	16.0	142.12	120.0	779.91	1.24	0.457
P-DU6-080	12.0	1,134.59	120.0	42.81	0.12	0.009
P-DU6-180	12.0	1,701.72	120.0	-49.10	0.14	0.011

Eastmark Master Water Report

Active Scenario: Avg Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-DU6-190	12.0	1,447.65	120.0	73.18	0.21	0.023
P-DU6-200	12.0	1,510.55	120.0	-85.75	0.24	0.031
P-DU6-210	20.0	548.31	120.0	-150.40	0.15	0.007
P-DU6-220	20.0	1,003.42	120.0	-212.41	0.22	0.014
P-DU6-230	8.0	2,333.32	120.0	29.29	0.19	0.031
P-DU6-240	12.0	696.34	120.0	125.80	0.36	0.063
P-DU6-250	8.0	2,342.14	120.0	-18.98	0.12	0.014
P-DU6-260	8.0	656.01	120.0	-67.58	0.43	0.144
P-DU6-270	12.0	803.20	120.0	0.00	0.00	0.000
P-DU6-300	20.0	514.67	120.0	-175.70	0.18	0.010
P-DU6-310	12.0	1,616.85	120.0	111.97	0.32	0.051
P-DU7-010	12.0	1,114.60	120.0	100.68	0.29	0.042
P-DU7-020	12.0	1,146.78	120.0	-54.08	0.15	0.013
P-DU7-030	12.0	1,044.06	120.0	70.92	0.20	0.022
P-DU7-040	24.0	1,409.98	120.0	-504.73	0.36	0.028
P-DU7-050	24.0	1,075.39	120.0	-631.54	0.45	0.043
P-DU7-060	24.0	1,253.80	120.0	-642.54	0.46	0.044
P-DU7-070	24.0	1,205.32	120.0	-814.03	0.58	0.069
P-DU7-080	24.0	2,338.72	120.0	-922.11	0.65	0.086
P-DU7-090	16.0	941.19	120.0	-324.12	0.52	0.090
P-DU7-100	16.0	1,562.41	120.0	-295.42	0.47	0.076
P-DU7-110	16.0	1,741.52	120.0	-206.60	0.33	0.039
P-DU7-120	16.0	778.48	120.0	169.87	0.27	0.027
P-DU7-130	20.0	316.65	120.0	-132.81	0.14	0.006
P-DU7-140	20.0	1,206.89	120.0	-131.01	0.13	0.006
P-DU7-150	20.0	1,235.71	120.0	-142.69	0.15	0.007
P-DU7-160	20.0	891.94	120.0	-104.89	0.11	0.004
P-DU7-170	12.0	1,072.99	120.0	-45.69	0.13	0.010
P-DU7-180	12.0	827.71	120.0	21.69	0.06	0.003
P-DU7-190	12.0	398.61	120.0	-86.40	0.25	0.032
P-DU7-200	12.0	2,378.07	120.0	34.38	0.10	0.006
P-DU7-210	12.0	1,048.78	120.0	-169.48	0.48	0.110
P-DU7-220	12.0	1,053.72	120.0	-139.48	0.40	0.077
P-DU7-230	12.0	1,714.23	120.0	-97.39	0.28	0.039
P-DU7-240	12.0	1,014.45	120.0	-46.69	0.13	0.010
P-DU8-010	16.0	1,107.48	120.0	-96.08	0.15	0.009
P-DU8-020	16.0	713.88	120.0	-111.67	0.18	0.012
P-DU8-030	16.0	1,312.24	120.0	-129.16	0.21	0.016
P-DU8-040	16.0	1,371.08	120.0	-173.69	0.28	0.028
P-DU8-050	16.0	520.30	120.0	-216.63	0.35	0.043
P-DU8-060	16.0	1,021.04	120.0	-302.11	0.48	0.079
P-DU8-070	8.0	541.92	120.0	-19.09	0.12	0.014
P-DU8-080	8.0	253.35	120.0	-5.39	0.03	0.001
P-DU8-090	8.0	1,138.34	120.0	-20.79	0.13	0.016
P-DU8-100	12.0	598.81	120.0	94.40	0.27	0.037
P-DU8-110	12.0	709.10	120.0	41.94	0.12	0.008
P-DU8-120	8.0	678.33	120.0	-22.70	0.14	0.019
P-DU8-130	8.0	1,315.41	120.0	22.47	0.14	0.019
P-DU8-140	8.0	965.85	120.0	14.84	0.09	0.009
P-DU8-150	6.0	737.49	120.0	8.55	0.10	0.013
P-DU8-160	8.0	1,265.36	120.0	14.39	0.09	0.008
P-DU8-170	8.0	2,613.46	120.0	3.86	0.02	0.001

Eastmark Master Water Report

Active Scenario: Avg Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-DU8-180	8.0	1,777.60	120.0	-13.24	0.08	0.007
P-DU8-190	8.0	1,184.98	120.0	2.00	0.01	0.000
P-DU8-200	8.0	1,054.34	120.0	36.24	0.23	0.045
P-DU9-010	16.0	903.69	120.0	23.67	0.04	0.001
P-DU9-020	8.0	226.81	120.0	-15.59	0.10	0.010
P-DU9-030	8.0	1,616.12	120.0	19.56	0.12	0.015
P-DU9-040	8.0	745.70	120.0	-36.59	0.23	0.046
P-DU9-050	8.0	868.53	120.0	20.34	0.13	0.016
P-DU9-060	8.0	1,549.98	120.0	-35.98	0.23	0.045
P-DU9-070	8.0	1,000.62	120.0	10.46	0.07	0.005
P-DU9-080	8.0	643.77	120.0	2.66	0.02	0.000
P-DU9-090	8.0	3,091.64	120.0	13.26	0.08	0.007
P-DU9-100	8.0	1,618.99	120.0	-16.46	0.11	0.011
P-DU9-110	8.0	3,057.43	120.0	-1.78	0.01	0.000
P-DU9-120	8.0	901.10	120.0	22.21	0.14	0.018
P-DU9-130	8.0	878.92	120.0	-36.01	0.23	0.045
P-DU9-140	8.0	429.87	120.0	-85.48	0.55	0.223
P-DU9-150	8.0	4,470.55	120.0	-18.07	0.12	0.013

Max-Day Demand

Eastmark Master Water Report

Active Scenario: Max Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Reservoir Table

Label	Elevation (ft)	Zone	Flow (Out net) (gpm)	Hydraulic Grade (ft)
C.O.M. DW SUPPLY FROM NORTH	1,634.0	Desert Wells	751.39	1,634.0
SCAP DWPS	1,634.0	Desert Wells	5,361.35	1,634.0

Eastmark Master Water Report

Active Scenario: Max Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-100EX	1,406.0	0.00	97.9	1,632.2
J-110EX	1,418.0	0.00	92.7	1,632.2
J-120EX	1,462.0	0.00	74.4	1,633.9
J-135EX	1,460.0	0.00	75.0	1,633.3
J-150EX	1,472.0	0.00	69.4	1,632.4
J-160EX	1,435.0	0.00	85.1	1,631.7
J-170EX	1,430.0	0.00	87.3	1,631.7
J-180EX	1,410.0	0.00	95.9	1,631.7
J-190EX	1,395.0	0.00	102.3	1,631.5
J-200EX	1,385.0	0.00	106.5	1,631.2
J-220EX	1,480.0	0.00	66.3	1,633.2
J-230EX	1,475.0	0.00	68.3	1,632.8
J-250EX	1,452.0	15.60	78.0	1,632.4
J-260EX	1,453.0	36.40	77.7	1,632.5
J-270EX	1,429.0	0.00	87.7	1,631.8
J-280EX	1,460.0	0.00	74.3	1,631.8
J-300EX	1,392.0	35.40	103.4	1,631.0
J-320EX	1,422.0	0.00	90.8	1,631.8
J-330EX	1,455.0	0.00	76.6	1,632.1
J-340EX	1,440.0	0.00	83.0	1,631.9
J-360EX	1,400.0	0.00	100.1	1,631.4
J-550EX	1,425.0	0.00	89.5	1,631.8
J-590EX	1,413.0	0.00	94.9	1,632.2
J-920EX	1,434.0	0.00	85.7	1,632.0
J-960EX	1,402.0	0.00	99.4	1,631.8
J-970EX	1,397.0	72.80	101.3	1,631.2
J-1000EX	1,455.0	0.00	77.4	1,633.9
J-1010EX	1,485.0	0.00	64.4	1,633.9
J-1020EX	1,425.0	0.00	90.1	1,633.3
J-1030EX	1,480.0	0.00	66.6	1,634.0
J-1040EX	1,428.0	0.00	88.4	1,632.3
J-1050EX	1,445.0	0.00	81.0	1,632.2
J-1120EX	1,456.0	0.00	76.4	1,632.7
J-1130EX	1,445.0	0.00	81.1	1,632.6
J-1160EX	1,445.0	0.00	81.7	1,633.9
J-1170EX	1,470.0	0.00	70.9	1,633.9
J-1180EX	1,440.0	0.00	83.8	1,633.6
J-1190EX	1,420.0	0.00	92.1	1,632.8
J-1200EX	1,445.0	0.00	81.6	1,633.6
J-1210EX	1,455.0	0.00	77.4	1,633.9
J-1220EX	1,475.0	0.00	68.7	1,633.9
J-1230EX	1,460.0	0.00	74.4	1,631.9
J-1235EX	1,440.0	0.00	83.1	1,632.1
J-1240EX	1,455.0	0.00	76.7	1,632.2
J-1280	1,410.0	0.00	95.9	1,631.7
J-1290EX	1,480.0	0.00	66.6	1,633.9
J-1300EX	1,465.0	0.00	73.1	1,633.9
J-1310EX	1,480.0	0.00	66.6	1,633.9
J-1330EX	1,465.0	0.00	73.1	1,633.9
J-1340EX	1,450.0	0.00	79.6	1,633.9
J-1350EX	1,465.0	0.00	73.1	1,633.9
J-1360EX	1,445.0	0.00	81.7	1,633.9
J-1370EX	1,430.0	0.00	88.1	1,633.6

Eastmark Master Water Report

Active Scenario: Max Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-1380EX	1,450.0	0.00	79.5	1,633.7
J-1390EX	1,430.0	0.00	88.1	1,633.6
J-1400EX	1,430.0	0.00	88.1	1,633.6
J-1410	1,458.0	0.00	75.8	1,633.1
J-1410EX	1,420.0	0.00	92.2	1,633.0
J-1420EX	1,460.0	0.00	74.7	1,632.7
J-1430EX	1,455.0	0.00	76.9	1,632.8
J-1440EX	1,478.0	0.00	67.1	1,633.0
J-1680EX	1,401.0	0.00	99.8	1,631.6
J-1990EX	1,447.0	52.00	80.1	1,632.2
J-2000EX	1,442.0	0.00	82.3	1,632.1
J-2010EX	1,419.0	0.00	92.0	1,631.7
J-2040EX	1,427.0	0.00	88.6	1,631.8
J-2120EX	1,453.0	0.00	77.8	1,632.7
J-2140EX	1,450.0	0.00	79.0	1,632.7
J-2295	1,415.0	0.00	93.6	1,631.3
J-2340EX	1,434.0	0.00	85.8	1,632.3
J-2353	1,456.0	0.00	76.5	1,632.8
J-2361	1,454.5	0.00	77.1	1,632.6
J-2364	1,454.2	0.00	77.2	1,632.6
J-DU2-010	1,407.0	79.20	97.0	1,631.1
J-DU2-020	1,411.5	110.20	95.0	1,631.1
J-DU2-030	1,408.0	0.00	96.6	1,631.2
J-DU3-4-010	1,405.0	107.60	97.8	1,631.0
J-DU3-4-020	1,402.0	107.60	99.1	1,631.1
J-DU3-4-030	1,392.0	129.40	103.4	1,631.0
J-DU3-4-030A	1,394.5	187.80	102.3	1,631.0
J-DU3-4-040	1,403.0	71.60	98.7	1,631.1
J-DU3-4-050	1,408.0	205.40	96.5	1,631.0
J-DU3-4-060	1,408.0	0.00	96.5	1,631.0
J-DU3-4-070	1,404.0	40.60	98.2	1,631.0
J-DU3-4-080	1,400.0	25.80	100.0	1,631.0
J-DU3-4-090	1,393.0	46.60	103.0	1,631.0
J-DU3-4-100	1,391.0	67.60	103.9	1,631.0
J-DU3-4-110	1,393.0	40.60	103.0	1,631.1
J-DU3-4-120	1,393.0	0.00	103.0	1,631.1
J-DU3-4-130	1,395.0	112.80	102.1	1,631.1
J-DU3-4-140	1,403.0	81.40	98.7	1,631.1
J-DU3-4-150	1,407.0	59.60	96.9	1,631.0
J-DU3-4-160	1,406.0	29.80	97.4	1,631.1
J-DU3-4-170	1,410.0	251.60	95.7	1,631.1
J-DU3-4-200	1,412.5	46.60	94.6	1,631.0
J-DU3-4-210	1,406.0	188.20	97.3	1,630.9
J-DU3S-010	1,412.0	20.40	94.8	1,631.1
J-DU3S-020	1,407.0	22.00	96.9	1,631.0
J-DU3S-030	1,401.0	30.00	99.5	1,631.0
J-DU3S-040	1,399.0	22.00	100.4	1,631.0
J-DU3S-050	1,404.0	24.20	98.2	1,631.0
J-DU3S-060	1,410.0	23.60	95.6	1,631.0
J-DU3S-070	1,417.0	14.00	92.6	1,631.1
J-DU3S-080	1,396.0	143.80	101.7	1,631.0
J-DU5N-010	1,436.0	0.00	84.5	1,631.2
J-DU5N-020	1,424.5	0.00	89.6	1,631.6

Eastmark Master Water Report

Active Scenario: Max Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-DU5N-030	1,426.0	40.14	89.0	1,631.6
J-DU5N-040	1,414.0	0.00	93.9	1,631.1
J-DU5N-050	1,414.0	0.00	93.9	1,631.1
J-DU6-010	1,459.0	0.00	75.1	1,632.7
J-DU6-020	1,453.0	694.40	77.7	1,632.7
J-DU6-050	1,448.0	0.00	79.9	1,632.7
J-DU6-060	1,458.0	694.40	75.6	1,632.7
J-DU6-110	1,432.0	98.20	86.2	1,631.2
J-DU6-120	1,422.0	100.60	90.5	1,631.3
J-DU6-130	1,416.0	82.20	93.1	1,631.1
J-DU6-140	1,417.0	132.00	92.7	1,631.2
J-DU6-150	1,427.0	84.60	88.4	1,631.4
J-DU6-160	1,436.0	97.20	84.6	1,631.5
J-DU6-170	1,416.5	50.60	92.9	1,631.1
J-DU7-010	1,415.0	4.80	93.5	1,631.2
J-DU7-020	1,425.0	46.60	89.2	1,631.1
J-DU7-030	1,416.0	125.00	93.1	1,631.1
J-DU7-040	1,409.0	37.60	96.1	1,631.1
J-DU7-050	1,416.0	38.60	93.1	1,631.2
J-DU7-060	1,423.0	22.00	90.1	1,631.3
J-DU7-070	1,430.0	0.00	87.2	1,631.5
J-DU7-080	1,434.0	81.00	85.6	1,631.8
J-DU7-090	1,437.0	0.00	84.4	1,632.1
J-DU7-100	1,435.0	57.40	85.2	1,631.8
J-DU7-110	1,435.0	57.60	85.0	1,631.5
J-DU7-120	1,420.0	0.00	91.4	1,631.3
J-DU7-130	1,420.0	3.60	91.4	1,631.3
J-DU7-140	1,425.0	70.00	89.2	1,631.2
J-DU7-150	1,419.0	75.60	91.8	1,631.2
J-DU7-160	1,435.0	48.00	85.0	1,631.5
J-DU7-170	1,432.0	21.40	86.3	1,631.5
J-DU7-180	1,433.0	37.40	85.9	1,631.5
J-DU7-190	1,437.0	60.00	84.3	1,631.8
J-DU7-200	1,432.0	101.40	86.2	1,631.3
J-DU8-010	1,420.0	0.00	91.4	1,631.3
J-DU8-020	1,419.5	0.00	91.6	1,631.3
J-DU8-030	1,421.0	0.00	91.0	1,631.4
J-DU8-040	1,418.0	13.40	92.4	1,631.5
J-DU8-050	1,422.0	0.00	90.7	1,631.6
J-DU8-060	1,420.0	18.00	91.4	1,631.3
J-DU8-070	1,420.0	30.80	91.4	1,631.3
J-DU8-080	1,422.0	8.80	90.6	1,631.4
J-DU8-090	1,424.0	22.00	89.7	1,631.3
J-DU8-100	1,425.0	18.40	89.3	1,631.4
J-DU8-110	1,430.0	66.00	87.1	1,631.3
J-DU8-120	1,431.0	34.20	86.7	1,631.3
J-DU8-130	1,427.0	42.00	88.4	1,631.3
J-DU9-010	1,419.0	39.40	91.8	1,631.3
J-DU9-020	1,415.0	71.60	93.5	1,631.2
J-DU9-030	1,416.0	65.20	93.1	1,631.1
J-DU9-040	1,416.0	15.60	93.1	1,631.1
J-DU9-050	1,419.0	0.00	91.8	1,631.1
J-DU9-060	1,422.0	62.80	90.5	1,631.2

Eastmark Master Water Report

Active Scenario: Max Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-DU9-070	1,414.0	63.00	93.9	1,631.0
J-DU9-080	1,419.0	77.00	91.7	1,631.0
J-DU9-090	1,414.0	0.00	94.0	1,631.3
J-DU9-100	1,414.0	0.00	94.0	1,631.4

Eastmark Master Water Report

Active Scenario: Max Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-160EX	16.0	2,721.65	120.0	96.43	0.15	0.010
P-170EX	16.0	5,365.91	120.0	96.43	0.15	0.010
P-180EX	16.0	5,395.89	120.0	204.23	0.33	0.038
P-190EX	16.0	5,727.93	120.0	204.23	0.33	0.038
P-200EX	16.0	888.87	120.0	-375.49	0.60	0.118
P-210EX	16.0	509.51	120.0	-375.49	0.60	0.118
P-220EX	16.0	2,908.75	120.0	526.62	0.84	0.221
P-240EX	16.0	1,386.71	120.0	-1,070.25	1.71	0.821
P-250EX	16.0	2,610.66	120.0	405.32	0.65	0.136
P-310	30.0	4,936.64	120.0	1,371.60	0.62	0.061
P-340EX	16.0	5,775.00	120.0	96.43	0.15	0.010
P-410EX	16.0	5,368.22	120.0	204.23	0.33	0.038
P-970	24.0	1,001.45	120.0	861.01	0.61	0.076
P-980	24.0	1,934.58	120.0	293.58	0.21	0.010
P-1060EX	16.0	1,328.19	120.0	-111.08	0.18	0.012
P-1070EX	16.0	1,257.47	120.0	-111.08	0.18	0.012
P-1630EX	16.0	1,793.28	120.0	-24.50	0.04	0.001
P-1640EX	16.0	1,447.45	120.0	-7.78	0.01	0.000
P-1780	24.0	1,527.79	120.0	861.01	0.61	0.076
P-1790	24.0	1,115.45	120.0	861.01	0.61	0.076
P-1940EX	16.0	1,171.38	120.0	-291.17	0.46	0.074
P-1950EX	16.0	1,440.76	120.0	-404.61	0.65	0.136
P-1970EX	16.0	816.47	120.0	-109.19	0.17	0.012
P-1980EX	16.0	1,103.17	120.0	-149.79	0.24	0.022
P-2000EX	16.0	1,599.24	120.0	-111.08	0.18	0.012
P-2040EX	16.0	10,634.81	120.0	-96.31	0.15	0.009
P-2055EX	16.0	10,453.02	120.0	276.41	0.44	0.067
P-2070EX	24.0	5,328.61	120.0	-378.68	0.27	0.017
P-2500EX	24.0	2,750.22	120.0	138.91	0.10	0.003
P-2510EX	24.0	2,726.43	120.0	115.02	0.08	0.002
P-2540EX	12.0	2,624.38	120.0	176.05	0.50	0.118
P-2570EX	16.0	2,640.03	120.0	523.86	0.84	0.219
P-2655EX	16.0	2,870.17	120.0	241.03	0.38	0.052
P-2660EX	24.0	2,796.67	120.0	227.53	0.16	0.006
P-2665EX	16.0	2,715.77	120.0	241.03	0.38	0.052
P-2690EX	16.0	2,914.43	120.0	-103.52	0.17	0.011
P-2700EX	16.0	3,115.09	120.0	301.80	0.48	0.079
P-2710EX	16.0	1,822.64	120.0	230.49	0.37	0.048
P-2720EX	12.0	3,042.02	120.0	-71.31	0.20	0.022
P-2800	24.0	5,785.85	120.0	-107.80	0.08	0.002
P-2830	16.0	2,890.37	120.0	-10.54	0.02	0.000
P-2860EX	24.0	761.21	120.0	227.53	0.16	0.006
P-2880EX	12.0	382.67	120.0	0.00	0.00	0.000
P-2890EX	8.0	3,147.74	120.0	-7.18	0.05	0.002
P-2900	24.0	1,422.97	120.0	211.32	0.15	0.006
P-2910EX	24.0	496.51	120.0	220.36	0.16	0.006
P-2950	12.0	1,088.63	120.0	23.90	0.07	0.003
P-2970EX	12.0	1,118.68	120.0	44.90	0.13	0.009
P-2990EX	8.0	2,810.72	120.0	1.06	0.01	0.000
P-3010EX	12.0	471.37	120.0	7.18	0.02	0.000
P-3020EX	12.0	1,167.01	120.0	45.97	0.13	0.010
P-3030EX	12.0	378.09	120.0	0.00	0.00	0.000

Eastmark Master Water Report

Active Scenario: Max Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-3040EX	8.0	3,081.05	120.0	6.62	0.04	0.002
P-3060EX	12.0	595.31	120.0	0.00	0.00	0.000
P-3070EX	8.0	2,921.51	120.0	52.59	0.34	0.091
P-3080EX	12.0	1,396.97	120.0	194.86	0.55	0.142
P-3090EX	12.0	1,108.96	120.0	154.80	0.44	0.093
P-3100EX	12.0	694.82	120.0	-21.25	0.06	0.002
P-3110EX	12.0	664.35	120.0	18.81	0.05	0.002
P-3120EX	8.0	1,851.06	120.0	40.06	0.26	0.055
P-3130EX	12.0	1,154.91	120.0	-52.59	0.15	0.013
P-3140EX	16.0	1,782.97	120.0	452.46	0.72	0.167
P-3150EX	16.0	958.12	120.0	523.86	0.84	0.219
P-3160EX	8.0	3,801.45	120.0	71.40	0.46	0.160
P-3170EX	8.0	2,837.60	120.0	-9.03	0.06	0.003
P-3180EX	8.0	735.68	120.0	13.80	0.09	0.008
P-3190EX	30.0	2,558.57	120.0	3,188.87	1.45	0.290
P-3240EX	16.0	1,262.86	120.0	230.41	0.37	0.048
P-3250EX	12.0	844.21	120.0	-121.31	0.34	0.059
P-3260EX	16.0	1,108.49	120.0	526.62	0.84	0.221
P-3270EX	16.0	1,509.41	120.0	396.17	0.63	0.130
P-3280EX	12.0	2,890.26	120.0	-130.45	0.37	0.068
P-3290EX	12.0	2,432.48	120.0	-9.15	0.03	0.001
P-3930EX	16.0	794.17	120.0	-634.94	1.01	0.312
P-3940EX	16.0	509.16	120.0	-634.94	1.01	0.312
P-3970EX	16.0	1,445.13	120.0	634.94	1.01	0.312
P-4720EX	16.0	1,215.66	120.0	398.97	0.64	0.132
P-4730EX	16.0	455.51	120.0	346.97	0.55	0.102
P-4750EX	16.0	715.18	120.0	346.97	0.55	0.102
P-4760EX	16.0	774.38	120.0	31.46	0.05	0.001
P-4780EX	24.0	2,143.12	120.0	438.18	0.31	0.022
P-4790EX	16.0	1,816.22	120.0	102.77	0.16	0.011
P-4860EX	24.0	985.98	120.0	-438.18	0.31	0.022
P-4870EX	24.0	619.54	120.0	-438.18	0.31	0.022
P-5700EX	16.0	1,175.56	120.0	803.14	1.28	0.482
P-5710EX	16.0	1,171.19	120.0	803.14	1.28	0.482
P-5740	24.0	1,547.92	120.0	-438.18	0.31	0.022
P-5780	16.0	683.67	120.0	516.36	0.82	0.213
P-6064	16.0	846.07	120.0	-330.38	0.53	0.093
P-6065	16.0	3,442.89	120.0	-330.38	0.53	0.093
P-6070	16.0	247.15	120.0	-276.78	0.44	0.067
P-6160	48.0	931.87	120.0	5,361.35	0.95	0.077
P-6161	48.0	820.29	120.0	5,361.35	0.95	0.077
P-6166EX	16.0	1,247.08	120.0	-111.08	0.18	0.012
P-6167EX	16.0	2,351.14	120.0	-375.49	0.60	0.118
P-6198	30.0	1,017.19	120.0	3,188.87	1.45	0.290
P-6218	30.0	619.03	120.0	3,188.87	1.45	0.290
P-6219	30.0	1,060.99	120.0	2,866.51	1.30	0.238
P-6223	16.0	619.09	120.0	230.41	0.37	0.048
P-6224	16.0	424.41	120.0	552.76	0.88	0.242
P-6226	20.0	157.83	120.0	-322.35	0.33	0.030
P-6236EX	24.0	2,939.36	130.0	-144.60	0.10	0.002
P-7000	12.0	741.92	120.0	-149.35	0.42	0.087
P-COMWTREX	36.0	1,202.28	120.0	751.39	0.24	0.012

Eastmark Master Water Report

Active Scenario: Max Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-DU-3-4-080	12.0	797.04	120.0	-11.59	0.03	0.001
P-DU-3-4-090	12.0	702.19	120.0	29.01	0.08	0.004
P-DU-3-4-100	12.0	909.19	120.0	-54.81	0.16	0.014
P-DU-3-4-110	16.0	597.34	120.0	141.38	0.23	0.019
P-DU-3-4-120	16.0	1,153.09	120.0	28.58	0.05	0.001
P-DU-3-4-130	12.0	706.88	120.0	102.36	0.29	0.043
P-DU-3-4-70	12.0	1,647.45	120.0	31.17	0.09	0.005
P-DU-3S-130	16.0	2,122.39	120.0	-287.80	0.46	0.072
P-DU2-010	12.0	1,013.72	130.0	76.20	0.22	0.022
P-DU2-020	12.0	1,725.80	130.0	-121.25	0.34	0.051
P-DU2-030	8.0	1,591.16	130.0	40.64	0.26	0.048
P-DU2-040	8.0	2,223.38	130.0	6.49	0.04	0.002
P-DU2-060	12.0	1,757.77	120.0	109.07	0.31	0.049
P-DU2-070	12.0	951.56	120.0	230.32	0.65	0.194
P-DU2-080	20.0	631.03	120.0	5.36	0.01	0.000
P-DU2-090	20.0	1,106.44	120.0	109.07	0.11	0.004
P-DU3-4-010A	12.0	1,447.93	120.0	98.54	0.28	0.040
P-DU3-4-010B	12.0	847.20	120.0	-89.26	0.25	0.033
P-DU3-4-020	24.0	1,289.68	120.0	-84.32	0.06	0.001
P-DU3-4-060	12.0	733.41	120.0	-174.23	0.49	0.116
P-DU3-4-160	12.0	578.86	120.0	42.76	0.12	0.009
P-DU3-4-170	16.0	1,187.74	120.0	-78.98	0.13	0.007
P-DU3-4-180	16.0	876.41	120.0	-108.78	0.17	0.012
P-DU3-4-190	20.0	1,405.86	120.0	-355.01	0.36	0.036
P-DU3-4-200	8.0	1,000.70	120.0	72.72	0.46	0.165
P-DU3-4-210	8.0	1,083.47	120.0	-65.09	0.42	0.134
P-DU3-4-220	8.0	2,361.07	120.0	50.38	0.32	0.084
P-DU3-4-30	24.0	1,116.54	120.0	-312.26	0.22	0.012
P-DU3-4-40	24.0	496.31	120.0	-419.86	0.30	0.020
P-DU3-4-50	24.0	1,092.47	120.0	-564.18	0.40	0.035
P-DU3S-010	8.0	260.69	120.0	127.43	0.81	0.467
P-DU3S-020	8.0	1,373.83	120.0	50.34	0.32	0.084
P-DU3S-030	8.0	1,542.05	120.0	28.34	0.18	0.029
P-DU3S-040	8.0	1,241.65	120.0	-1.66	0.01	0.000
P-DU3S-050	8.0	1,016.55	120.0	28.77	0.18	0.030
P-DU3S-060	8.0	974.34	120.0	5.11	0.03	0.001
P-DU3S-070	8.0	1,383.69	120.0	-19.09	0.12	0.014
P-DU3S-080	8.0	1,241.43	120.0	-42.69	0.27	0.062
P-DU3S-090	8.0	620.85	120.0	-56.69	0.36	0.104
P-DU3S-100	16.0	788.42	120.0	-193.33	0.31	0.035
P-DU3S-110	16.0	1,850.66	120.0	-68.51	0.11	0.005
P-DU3S-120	16.0	822.09	120.0	-176.11	0.28	0.029
P-DU5N-030	16.0	528.70	120.0	-224.27	0.36	0.045
P-DU5N-040	12.0	2,743.45	120.0	-264.41	0.75	0.250
P-DU5N-050	20.0	419.19	120.0	109.07	0.11	0.004
P-DU6-010	12.0	1,162.55	120.0	0.54	0.00	0.000
P-DU6-020	16.0	123.88	120.0	694.76	1.11	0.369
P-DU6-050	12.0	2,221.22	120.0	0.90	0.00	0.000
P-DU6-060	12.0	2,209.31	120.0	0.54	0.00	0.000
P-DU6-070	16.0	142.12	120.0	694.04	1.11	0.368
P-DU6-080	12.0	1,134.59	120.0	-0.90	0.00	0.000
P-DU6-180	12.0	1,701.72	120.0	-98.20	0.28	0.040

Eastmark Master Water Report

Active Scenario: Max Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-DU6-190	12.0	1,447.65	120.0	130.24	0.37	0.067
P-DU6-200	12.0	1,510.55	120.0	-155.71	0.44	0.094
P-DU6-210	20.0	548.31	120.0	-281.51	0.29	0.023
P-DU6-220	20.0	1,003.42	120.0	-411.66	0.42	0.047
P-DU6-230	8.0	2,333.32	120.0	52.45	0.33	0.090
P-DU6-240	12.0	696.34	120.0	235.74	0.67	0.202
P-DU6-250	8.0	2,342.14	120.0	-31.54	0.20	0.035
P-DU6-260	8.0	656.01	120.0	-128.74	0.82	0.476
P-DU6-270	12.0	803.20	120.0	0.00	0.00	0.000
P-DU6-300	20.0	514.67	120.0	-332.11	0.34	0.032
P-DU6-310	12.0	1,616.85	120.0	224.27	0.64	0.184
P-DU7-010	12.0	1,114.60	120.0	152.81	0.43	0.091
P-DU7-020	12.0	1,146.78	120.0	-55.82	0.16	0.014
P-DU7-030	12.0	1,044.06	120.0	69.18	0.20	0.021
P-DU7-040	24.0	1,409.98	120.0	-845.18	0.60	0.074
P-DU7-050	24.0	1,075.39	120.0	-1,139.62	0.81	0.128
P-DU7-060	24.0	1,253.80	120.0	-1,161.62	0.82	0.133
P-DU7-070	24.0	1,205.32	120.0	-1,490.48	1.06	0.210
P-DU7-080	24.0	2,338.72	120.0	-1,700.22	1.21	0.268
P-DU7-090	16.0	941.19	120.0	-602.82	0.96	0.284
P-DU7-100	16.0	1,562.41	120.0	-545.42	0.87	0.236
P-DU7-110	16.0	1,741.52	120.0	-369.37	0.59	0.114
P-DU7-120	16.0	778.48	120.0	296.06	0.47	0.076
P-DU7-130	20.0	316.65	120.0	-229.01	0.23	0.016
P-DU7-140	20.0	1,206.89	120.0	-225.41	0.23	0.015
P-DU7-150	20.0	1,235.71	120.0	-231.42	0.24	0.016
P-DU7-160	20.0	891.94	120.0	-155.82	0.16	0.008
P-DU7-170	12.0	1,072.99	120.0	-93.12	0.26	0.036
P-DU7-180	12.0	827.71	120.0	45.12	0.13	0.010
P-DU7-190	12.0	398.61	120.0	-153.69	0.44	0.092
P-DU7-200	12.0	2,378.07	120.0	64.41	0.18	0.018
P-DU7-210	12.0	1,048.78	120.0	-315.51	0.90	0.347
P-DU7-220	12.0	1,053.72	120.0	-255.51	0.72	0.235
P-DU7-230	12.0	1,714.23	120.0	-177.42	0.50	0.120
P-DU7-240	12.0	1,014.45	120.0	-76.02	0.22	0.025
P-DU8-010	16.0	1,107.48	120.0	-155.69	0.25	0.023
P-DU8-020	16.0	713.88	120.0	-184.07	0.29	0.031
P-DU8-030	16.0	1,312.24	120.0	-228.11	0.36	0.047
P-DU8-040	16.0	1,371.08	120.0	-318.28	0.51	0.087
P-DU8-050	16.0	520.30	120.0	-400.75	0.64	0.133
P-DU8-060	16.0	1,021.04	120.0	-567.43	0.91	0.253
P-DU8-070	8.0	541.92	120.0	-30.23	0.19	0.032
P-DU8-080	8.0	253.35	120.0	-7.52	0.05	0.002
P-DU8-090	8.0	1,138.34	120.0	-38.32	0.24	0.050
P-DU8-100	12.0	598.81	120.0	182.86	0.52	0.126
P-DU8-110	12.0	709.10	120.0	80.82	0.23	0.028
P-DU8-120	8.0	678.33	120.0	-40.71	0.26	0.056
P-DU8-130	8.0	1,315.41	120.0	45.32	0.29	0.069
P-DU8-140	8.0	965.85	120.0	31.31	0.20	0.035
P-DU8-150	6.0	737.49	120.0	18.50	0.21	0.053
P-DU8-160	8.0	1,265.36	120.0	28.64	0.18	0.029
P-DU8-170	8.0	2,613.46	120.0	7.97	0.05	0.003

Eastmark Master Water Report

Active Scenario: Max Day Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-DU8-180	8.0	1,777.60	120.0	-26.23	0.17	0.025
P-DU8-190	8.0	1,184.98	120.0	0.84	0.01	0.000
P-DU8-200	8.0	1,054.34	120.0	69.07	0.44	0.150
P-DU9-010	16.0	903.69	120.0	53.60	0.09	0.003
P-DU9-020	8.0	226.81	120.0	-28.38	0.18	0.029
P-DU9-030	8.0	1,616.12	120.0	42.58	0.27	0.061
P-DU9-040	8.0	745.70	120.0	-74.27	0.47	0.172
P-DU9-050	8.0	868.53	120.0	45.24	0.29	0.069
P-DU9-060	8.0	1,549.98	120.0	-71.67	0.46	0.161
P-DU9-070	8.0	1,000.62	120.0	24.16	0.15	0.021
P-DU9-080	8.0	643.77	120.0	8.56	0.05	0.003
P-DU9-090	8.0	3,091.64	120.0	27.56	0.18	0.027
P-DU9-100	8.0	1,618.99	120.0	-32.80	0.21	0.038
P-DU9-110	8.0	3,057.43	120.0	-2.64	0.02	0.000
P-DU9-120	8.0	901.10	120.0	44.58	0.28	0.067
P-DU9-130	8.0	878.92	120.0	-68.82	0.44	0.149
P-DU9-140	8.0	429.87	120.0	-166.68	1.06	0.767
P-DU9-150	8.0	4,470.55	120.0	-35.06	0.22	0.043

Peak-Hour Demand

Eastmark Master Water Report

Active Scenario: Peak Hour Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Reservoir Table

Label	Elevation (ft)	Zone	Flow (Out net) (gpm)	Hydraulic Grade (ft)
C.O.M. DW SUPPLY FROM NORTH	1,634.0	Desert Wells	1,035.94	1,634.0
SCAP DWPS	1,634.0	Desert Wells	7,273.67	1,634.0

Eastmark Master Water Report

Active Scenario: Peak Hour Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-100EX	1,406.0	0.00	97.2	1,630.7
J-110EX	1,418.0	0.00	92.1	1,630.8
J-120EX	1,462.0	0.00	74.3	1,633.8
J-135EX	1,460.0	0.00	74.8	1,632.8
J-150EX	1,472.0	0.00	68.8	1,631.1
J-160EX	1,435.0	0.00	84.2	1,629.7
J-170EX	1,430.0	0.00	86.4	1,629.7
J-180EX	1,410.0	0.00	95.0	1,629.5
J-190EX	1,395.0	0.00	101.3	1,629.1
J-200EX	1,385.0	0.00	105.4	1,628.7
J-220EX	1,480.0	0.00	66.0	1,632.7
J-230EX	1,475.0	0.00	67.9	1,631.9
J-250EX	1,452.0	23.40	77.4	1,631.0
J-260EX	1,453.0	54.60	77.1	1,631.3
J-270EX	1,429.0	0.00	86.9	1,629.8
J-280EX	1,460.0	0.00	73.5	1,629.8
J-300EX	1,392.0	53.10	102.2	1,628.3
J-320EX	1,422.0	0.00	89.9	1,629.7
J-330EX	1,455.0	0.00	75.9	1,630.4
J-340EX	1,440.0	0.00	82.2	1,630.0
J-360EX	1,400.0	0.00	99.1	1,628.9
J-550EX	1,425.0	0.00	88.6	1,629.8
J-590EX	1,413.0	0.00	94.2	1,630.7
J-920EX	1,434.0	0.00	84.9	1,630.2
J-960EX	1,402.0	0.00	98.5	1,629.8
J-970EX	1,397.0	109.20	100.2	1,628.5
J-1000EX	1,455.0	0.00	77.4	1,633.8
J-1010EX	1,485.0	0.00	64.4	1,633.8
J-1020EX	1,425.0	0.00	89.9	1,632.7
J-1030EX	1,480.0	0.00	66.6	1,634.0
J-1040EX	1,428.0	0.00	87.8	1,630.9
J-1050EX	1,445.0	0.00	80.3	1,630.6
J-1120EX	1,456.0	0.00	76.0	1,631.6
J-1130EX	1,445.0	0.00	80.7	1,631.6
J-1160EX	1,445.0	0.00	81.7	1,633.8
J-1170EX	1,470.0	0.00	70.9	1,633.8
J-1180EX	1,440.0	0.00	83.6	1,633.3
J-1190EX	1,420.0	0.00	91.6	1,631.8
J-1200EX	1,445.0	0.00	81.5	1,633.3
J-1210EX	1,455.0	0.00	77.4	1,633.8
J-1220EX	1,475.0	0.00	68.7	1,633.8
J-1230EX	1,460.0	0.00	73.6	1,630.1
J-1235EX	1,440.0	0.00	82.4	1,630.4
J-1240EX	1,455.0	0.00	76.0	1,630.6
J-1280	1,410.0	0.00	95.0	1,629.6
J-1290EX	1,480.0	0.00	66.5	1,633.8
J-1300EX	1,465.0	0.00	73.0	1,633.8
J-1310EX	1,480.0	0.00	66.5	1,633.8
J-1330EX	1,465.0	0.00	73.0	1,633.8
J-1340EX	1,450.0	0.00	79.5	1,633.8
J-1350EX	1,465.0	0.00	73.0	1,633.8
J-1360EX	1,445.0	0.00	81.7	1,633.8
J-1370EX	1,430.0	0.00	88.0	1,633.3

Eastmark Master Water Report

Active Scenario: Peak Hour Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-1380EX	1,450.0	0.00	79.4	1,633.5
J-1390EX	1,430.0	0.00	88.0	1,633.3
J-1400EX	1,430.0	0.00	88.0	1,633.3
J-1410	1,458.0	0.00	75.4	1,632.4
J-1410EX	1,420.0	0.00	91.8	1,632.2
J-1420EX	1,460.0	0.00	74.4	1,631.9
J-1430EX	1,455.0	0.00	76.6	1,631.9
J-1440EX	1,478.0	0.00	66.7	1,632.2
J-1680EX	1,401.0	0.00	98.8	1,629.5
J-1990EX	1,447.0	78.00	79.5	1,630.7
J-2000EX	1,442.0	0.00	81.5	1,630.4
J-2010EX	1,419.0	0.00	91.1	1,629.6
J-2040EX	1,427.0	0.00	87.7	1,629.8
J-2120EX	1,453.0	0.00	77.4	1,632.0
J-2140EX	1,450.0	0.00	78.7	1,631.8
J-2295	1,415.0	0.00	92.5	1,628.7
J-2340EX	1,434.0	0.00	85.2	1,630.9
J-2353	1,456.0	0.00	76.1	1,631.8
J-2361	1,454.5	0.00	76.6	1,631.5
J-2364	1,454.2	0.00	76.7	1,631.5
J-DU2-010	1,407.0	118.80	95.8	1,628.4
J-DU2-020	1,411.5	165.30	93.9	1,628.4
J-DU2-030	1,408.0	0.00	95.4	1,628.6
J-DU3-4-010	1,405.0	161.40	96.6	1,628.3
J-DU3-4-020	1,402.0	161.40	97.9	1,628.3
J-DU3-4-030	1,392.0	194.10	102.2	1,628.3
J-DU3-4-030A	1,394.5	281.70	101.1	1,628.2
J-DU3-4-040	1,403.0	107.40	97.5	1,628.4
J-DU3-4-050	1,408.0	205.40	95.3	1,628.3
J-DU3-4-060	1,408.0	0.00	95.3	1,628.3
J-DU3-4-070	1,404.0	60.90	97.0	1,628.3
J-DU3-4-080	1,400.0	38.70	98.8	1,628.3
J-DU3-4-090	1,393.0	69.90	101.8	1,628.3
J-DU3-4-100	1,391.0	101.40	102.7	1,628.3
J-DU3-4-110	1,393.0	60.90	101.8	1,628.3
J-DU3-4-120	1,393.0	0.00	101.8	1,628.4
J-DU3-4-130	1,395.0	169.20	101.0	1,628.3
J-DU3-4-140	1,403.0	122.10	97.5	1,628.3
J-DU3-4-150	1,407.0	89.40	95.7	1,628.3
J-DU3-4-160	1,406.0	44.70	96.2	1,628.4
J-DU3-4-170	1,410.0	377.40	94.5	1,628.4
J-DU3-4-200	1,412.5	69.90	93.4	1,628.3
J-DU3-4-210	1,406.0	282.30	96.1	1,628.0
J-DU3S-010	1,412.0	30.60	93.7	1,628.5
J-DU3S-020	1,407.0	33.00	95.7	1,628.2
J-DU3S-030	1,401.0	45.00	98.3	1,628.2
J-DU3S-040	1,399.0	33.00	99.1	1,628.2
J-DU3S-050	1,404.0	36.30	97.0	1,628.2
J-DU3S-060	1,410.0	35.40	94.4	1,628.2
J-DU3S-070	1,417.0	21.00	91.4	1,628.4
J-DU3S-080	1,396.0	215.70	100.5	1,628.2
J-DU5N-010	1,436.0	0.00	83.3	1,628.6
J-DU5N-020	1,424.5	0.00	88.6	1,629.4

Eastmark Master Water Report

Active Scenario: Peak Hour Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-DU5N-030	1,426.0	60.30	88.0	1,629.4
J-DU5N-040	1,414.0	0.00	92.8	1,628.4
J-DU5N-050	1,414.0	0.00	92.8	1,628.4
J-DU6-010	1,459.0	0.00	74.8	1,631.9
J-DU6-020	1,453.0	694.40	77.4	1,631.9
J-DU6-050	1,448.0	0.00	79.6	1,631.9
J-DU6-060	1,458.0	694.40	75.2	1,631.9
J-DU6-110	1,432.0	147.30	85.1	1,628.6
J-DU6-120	1,422.0	150.90	89.5	1,628.8
J-DU6-130	1,416.0	123.30	91.9	1,628.5
J-DU6-140	1,417.0	198.00	91.5	1,628.5
J-DU6-150	1,427.0	126.90	87.4	1,628.9
J-DU6-160	1,436.0	145.80	83.5	1,629.1
J-DU6-170	1,416.5	75.90	91.7	1,628.5
J-DU7-010	1,415.0	7.20	92.4	1,628.6
J-DU7-020	1,425.0	69.90	88.0	1,628.4
J-DU7-030	1,416.0	125.00	91.9	1,628.4
J-DU7-040	1,409.0	56.40	94.9	1,628.4
J-DU7-050	1,416.0	57.90	92.0	1,628.6
J-DU7-060	1,423.0	33.00	89.1	1,628.9
J-DU7-070	1,430.0	0.00	86.2	1,629.2
J-DU7-080	1,434.0	121.50	84.7	1,629.7
J-DU7-090	1,437.0	0.00	83.7	1,630.4
J-DU7-100	1,435.0	86.10	84.3	1,629.9
J-DU7-110	1,435.0	86.40	84.0	1,629.1
J-DU7-120	1,420.0	0.00	90.3	1,628.7
J-DU7-130	1,420.0	5.40	90.3	1,628.7
J-DU7-140	1,425.0	105.00	88.1	1,628.7
J-DU7-150	1,419.0	113.40	90.7	1,628.6
J-DU7-160	1,435.0	72.00	84.0	1,629.2
J-DU7-170	1,432.0	32.10	85.3	1,629.1
J-DU7-180	1,433.0	56.10	84.9	1,629.2
J-DU7-190	1,437.0	90.00	83.4	1,629.7
J-DU7-200	1,432.0	152.10	85.1	1,628.7
J-DU8-010	1,420.0	0.00	90.3	1,628.8
J-DU8-020	1,419.5	0.00	90.6	1,628.8
J-DU8-030	1,421.0	0.00	90.0	1,628.9
J-DU8-040	1,418.0	20.10	91.4	1,629.2
J-DU8-050	1,422.0	0.00	89.7	1,629.3
J-DU8-060	1,420.0	27.00	90.4	1,628.8
J-DU8-070	1,420.0	46.20	90.4	1,628.8
J-DU8-080	1,422.0	13.20	89.5	1,628.9
J-DU8-090	1,424.0	33.00	88.6	1,628.8
J-DU8-100	1,425.0	27.60	88.2	1,629.0
J-DU8-110	1,430.0	99.00	86.0	1,628.8
J-DU8-120	1,431.0	51.30	85.6	1,628.8
J-DU8-130	1,427.0	63.00	87.3	1,628.8
J-DU9-010	1,419.0	59.10	90.8	1,628.8
J-DU9-020	1,415.0	107.40	92.4	1,628.5
J-DU9-030	1,416.0	97.80	91.9	1,628.4
J-DU9-040	1,416.0	23.40	91.9	1,628.4
J-DU9-050	1,419.0	0.00	90.6	1,628.4
J-DU9-060	1,422.0	94.20	89.4	1,628.6

Eastmark Master Water Report

Active Scenario: Peak Hour Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-DU9-070	1,414.0	94.50	92.7	1,628.2
J-DU9-080	1,419.0	115.50	90.5	1,628.2
J-DU9-090	1,414.0	0.00	92.9	1,628.8
J-DU9-100	1,414.0	0.00	93.0	1,628.9

Eastmark Master Water Report

Active Scenario: Peak Hour Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-160EX	16.0	2,721.65	120.0	140.24	0.22	0.019
P-170EX	16.0	5,365.91	120.0	140.24	0.22	0.019
P-180EX	16.0	5,395.89	120.0	295.87	0.47	0.076
P-190EX	16.0	5,727.93	120.0	295.87	0.47	0.076
P-200EX	16.0	888.87	120.0	-599.30	0.96	0.281
P-210EX	16.0	509.51	120.0	-599.30	0.96	0.280
P-220EX	16.0	2,908.75	120.0	707.75	1.13	0.382
P-240EX	16.0	1,386.71	120.0	-1,375.15	2.19	1.306
P-250EX	16.0	2,610.66	120.0	622.53	0.99	0.301
P-310	30.0	4,936.64	120.0	2,002.01	0.91	0.123
P-340EX	16.0	5,775.00	120.0	140.24	0.22	0.019
P-410EX	16.0	5,368.22	120.0	295.87	0.47	0.076
P-970	24.0	1,001.45	120.0	1,258.67	0.89	0.154
P-980	24.0	1,934.58	120.0	425.38	0.30	0.021
P-1060EX	16.0	1,328.19	120.0	-202.24	0.32	0.038
P-1070EX	16.0	1,257.47	120.0	-202.24	0.32	0.038
P-1630EX	16.0	1,793.28	120.0	-56.62	0.09	0.004
P-1640EX	16.0	1,447.45	120.0	-34.45	0.05	0.001
P-1780	24.0	1,527.79	120.0	1,258.67	0.89	0.154
P-1790	24.0	1,115.45	120.0	1,258.67	0.89	0.154
P-1940EX	16.0	1,171.38	120.0	-424.96	0.68	0.148
P-1950EX	16.0	1,440.76	120.0	-594.14	0.95	0.276
P-1970EX	16.0	816.47	120.0	-156.56	0.25	0.023
P-1980EX	16.0	1,103.17	120.0	-217.46	0.35	0.043
P-2000EX	16.0	1,599.24	120.0	-202.24	0.32	0.037
P-2040EX	16.0	10,634.81	120.0	-131.22	0.21	0.017
P-2055EX	16.0	10,453.02	120.0	385.40	0.61	0.124
P-2070EX	24.0	5,328.61	120.0	-519.31	0.37	0.030
P-2500EX	24.0	2,750.22	120.0	184.83	0.13	0.004
P-2510EX	24.0	2,726.43	120.0	147.45	0.10	0.003
P-2540EX	12.0	2,624.38	120.0	246.09	0.70	0.219
P-2570EX	16.0	2,640.03	120.0	731.22	1.17	0.405
P-2655EX	16.0	2,870.17	120.0	352.24	0.56	0.105
P-2660EX	24.0	2,796.67	120.0	304.71	0.22	0.011
P-2665EX	16.0	2,715.77	120.0	352.24	0.56	0.105
P-2690EX	16.0	2,914.43	120.0	-174.98	0.28	0.029
P-2700EX	16.0	3,115.09	120.0	447.55	0.71	0.163
P-2710EX	16.0	1,822.64	120.0	341.30	0.54	0.099
P-2720EX	12.0	3,042.02	120.0	-106.25	0.30	0.046
P-2800	24.0	5,785.85	120.0	-155.62	0.11	0.003
P-2830	16.0	2,890.37	120.0	-10.95	0.02	0.000
P-2860EX	24.0	761.21	120.0	304.71	0.22	0.011
P-2880EX	12.0	382.67	120.0	0.00	0.00	0.000
P-2890EX	8.0	3,147.74	120.0	-8.81	0.06	0.003
P-2900	24.0	1,422.97	120.0	278.67	0.20	0.009
P-2910EX	24.0	496.51	120.0	295.90	0.21	0.011
P-2950	12.0	1,088.63	120.0	37.38	0.11	0.006
P-2970EX	12.0	1,118.68	120.0	62.19	0.18	0.017
P-2990EX	8.0	2,810.72	120.0	1.72	0.01	0.000
P-3010EX	12.0	471.37	120.0	8.81	0.03	0.000
P-3020EX	12.0	1,167.01	120.0	63.91	0.18	0.018
P-3030EX	12.0	378.09	120.0	0.00	0.00	0.000

Eastmark Master Water Report

Active Scenario: Peak Hour Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-3040EX	8.0	3,081.05	120.0	9.62	0.06	0.004
P-3060EX	12.0	595.31	120.0	0.00	0.00	0.000
P-3070EX	8.0	2,921.51	120.0	73.53	0.47	0.169
P-3080EX	12.0	1,396.97	120.0	272.30	0.77	0.264
P-3090EX	12.0	1,108.96	120.0	216.31	0.61	0.173
P-3100EX	12.0	694.82	120.0	-29.78	0.08	0.004
P-3110EX	12.0	664.35	120.0	26.21	0.07	0.003
P-3120EX	8.0	1,851.06	120.0	55.98	0.36	0.102
P-3130EX	12.0	1,154.91	120.0	-73.53	0.21	0.023
P-3140EX	16.0	1,782.97	120.0	631.49	1.01	0.309
P-3150EX	16.0	958.12	120.0	731.22	1.17	0.405
P-3160EX	8.0	3,801.45	120.0	99.73	0.64	0.296
P-3170EX	8.0	2,837.60	120.0	-17.23	0.11	0.005
P-3180EX	8.0	735.68	120.0	18.44	0.12	0.013
P-3190EX	30.0	2,558.57	120.0	4,447.76	2.02	0.537
P-3240EX	16.0	1,262.86	120.0	519.99	0.83	0.216
P-3250EX	12.0	844.21	120.0	-85.22	0.24	0.031
P-3260EX	16.0	1,108.49	120.0	707.75	1.13	0.382
P-3270EX	16.0	1,509.41	120.0	545.36	0.87	0.236
P-3280EX	12.0	2,890.26	120.0	-162.39	0.46	0.101
P-3290EX	12.0	2,432.48	120.0	-77.18	0.22	0.026
P-3930EX	16.0	794.17	120.0	-933.47	1.49	0.637
P-3940EX	16.0	509.16	120.0	-933.47	1.49	0.637
P-3970EX	16.0	1,445.13	120.0	933.47	1.49	0.637
P-4720EX	16.0	1,215.66	120.0	583.46	0.93	0.267
P-4730EX	16.0	455.51	120.0	505.46	0.81	0.205
P-4750EX	16.0	715.18	120.0	505.46	0.81	0.205
P-4760EX	16.0	774.38	120.0	43.54	0.07	0.002
P-4780EX	24.0	2,143.12	120.0	637.37	0.45	0.044
P-4790EX	16.0	1,816.22	120.0	149.79	0.24	0.022
P-4860EX	24.0	985.98	120.0	-637.37	0.45	0.044
P-4870EX	24.0	619.54	120.0	-637.37	0.45	0.044
P-5700EX	16.0	1,175.56	120.0	1,047.71	1.67	0.789
P-5710EX	16.0	1,171.19	120.0	1,047.71	1.67	0.789
P-5740	24.0	1,547.92	120.0	-637.37	0.45	0.044
P-5780	16.0	683.67	120.0	753.33	1.20	0.428
P-6064	16.0	846.07	120.0	-481.75	0.77	0.187
P-6065	16.0	3,442.89	120.0	-481.75	0.77	0.187
P-6070	16.0	247.15	120.0	-398.66	0.64	0.132
P-6160	48.0	931.87	120.0	7,273.67	1.29	0.135
P-6161	48.0	820.29	120.0	7,273.67	1.29	0.135
P-6166EX	16.0	1,247.08	120.0	-202.24	0.32	0.037
P-6167EX	16.0	2,351.14	120.0	-599.30	0.96	0.280
P-6198	30.0	1,017.19	120.0	4,447.76	2.02	0.537
P-6218	30.0	619.03	120.0	4,447.76	2.02	0.537
P-6219	30.0	1,060.99	120.0	4,159.81	1.89	0.475
P-6223	16.0	619.09	120.0	519.99	0.83	0.216
P-6224	16.0	424.41	120.0	807.93	1.29	0.488
P-6226	20.0	157.83	120.0	-287.94	0.29	0.024
P-6236EX	24.0	2,939.36	130.0	-212.00	0.15	0.005
P-7000	12.0	741.92	120.0	-210.87	0.60	0.165
P-COMWTREX	36.0	1,202.28	120.0	1,035.94	0.33	0.012

Eastmark Master Water Report

Active Scenario: Peak Hour Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-DU-3-4-080	12.0	797.04	120.0	-47.39	0.13	0.010
P-DU-3-4-090	12.0	702.19	120.0	13.51	0.04	0.001
P-DU-3-4-100	12.0	909.19	120.0	-52.21	0.15	0.012
P-DU-3-4-110	16.0	597.34	120.0	207.50	0.33	0.039
P-DU-3-4-120	16.0	1,153.09	120.0	38.30	0.06	0.002
P-DU-3-4-130	12.0	706.88	120.0	121.26	0.34	0.059
P-DU-3-4-70	12.0	1,647.45	120.0	-15.54	0.04	0.001
P-DU-3S-130	16.0	2,122.39	120.0	-421.00	0.67	0.146
P-DU2-010	12.0	1,013.72	130.0	106.60	0.30	0.040
P-DU2-020	12.0	1,725.80	130.0	-177.60	0.50	0.103
P-DU2-030	8.0	1,591.16	130.0	59.98	0.38	0.100
P-DU2-040	8.0	2,223.38	130.0	12.18	0.08	0.005
P-DU2-060	12.0	1,757.77	120.0	161.73	0.46	0.101
P-DU2-070	12.0	951.56	120.0	339.33	0.96	0.397
P-DU2-080	20.0	631.03	120.0	8.61	0.01	0.000
P-DU2-090	20.0	1,106.44	120.0	161.73	0.17	0.008
P-DU3-4-010A	12.0	1,447.93	120.0	150.70	0.43	0.088
P-DU3-4-010B	12.0	847.20	120.0	-131.00	0.37	0.068
P-DU3-4-020	24.0	1,289.68	120.0	-123.57	0.09	0.002
P-DU3-4-060	12.0	733.41	120.0	-220.94	0.63	0.180
P-DU3-4-160	12.0	578.86	120.0	31.86	0.09	0.005
P-DU3-4-170	16.0	1,187.74	120.0	-98.46	0.16	0.010
P-DU3-4-180	16.0	876.41	120.0	-143.16	0.23	0.020
P-DU3-4-190	20.0	1,405.86	120.0	-511.95	0.52	0.071
P-DU3-4-200	8.0	1,000.70	120.0	109.56	0.70	0.353
P-DU3-4-210	8.0	1,083.47	120.0	-95.88	0.61	0.275
P-DU3-4-220	8.0	2,361.07	120.0	76.86	0.49	0.183
P-DU3-4-30	24.0	1,116.54	120.0	-468.37	0.33	0.025
P-DU3-4-40	24.0	496.31	120.0	-629.77	0.45	0.043
P-DU3-4-50	24.0	1,092.47	120.0	-846.73	0.60	0.074
P-DU3S-010	8.0	260.69	120.0	187.79	1.20	0.957
P-DU3S-020	8.0	1,373.83	120.0	73.80	0.47	0.170
P-DU3S-030	8.0	1,542.05	120.0	40.80	0.26	0.057
P-DU3S-040	8.0	1,241.65	120.0	-4.20	0.03	0.001
P-DU3S-050	8.0	1,016.55	120.0	46.51	0.30	0.072
P-DU3S-060	8.0	974.34	120.0	9.30	0.06	0.004
P-DU3S-070	8.0	1,383.69	120.0	-27.00	0.17	0.026
P-DU3S-080	8.0	1,241.43	120.0	-62.40	0.40	0.124
P-DU3S-090	8.0	620.85	120.0	-83.40	0.53	0.213
P-DU3S-100	16.0	788.42	120.0	-299.39	0.48	0.077
P-DU3S-110	16.0	1,850.66	120.0	-93.82	0.15	0.009
P-DU3S-120	16.0	822.09	120.0	-255.22	0.41	0.058
P-DU5N-030	16.0	528.70	120.0	-336.75	0.54	0.096
P-DU5N-040	12.0	2,743.45	120.0	-397.05	1.13	0.531
P-DU5N-050	20.0	419.19	120.0	161.73	0.17	0.008
P-DU6-010	12.0	1,162.55	120.0	-40.67	0.12	0.008
P-DU6-020	16.0	123.88	120.0	775.85	1.24	0.452
P-DU6-050	12.0	2,221.22	120.0	40.78	0.12	0.008
P-DU6-060	12.0	2,209.31	120.0	-40.67	0.12	0.008
P-DU6-070	16.0	142.12	120.0	612.95	0.98	0.292
P-DU6-080	12.0	1,134.59	120.0	-40.78	0.12	0.008
P-DU6-180	12.0	1,701.72	120.0	-147.30	0.42	0.085

Eastmark Master Water Report

Active Scenario: Peak Hour Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-DU6-190	12.0	1,447.65	120.0	187.09	0.53	0.132
P-DU6-200	12.0	1,510.55	120.0	-225.64	0.64	0.187
P-DU6-210	20.0	548.31	120.0	-409.61	0.42	0.047
P-DU6-220	20.0	1,003.42	120.0	-607.88	0.62	0.097
P-DU6-230	8.0	2,333.32	120.0	75.63	0.48	0.178
P-DU6-240	12.0	696.34	120.0	345.57	0.98	0.411
P-DU6-250	8.0	2,342.14	120.0	-44.04	0.28	0.065
P-DU6-260	8.0	656.01	120.0	-189.84	1.21	0.976
P-DU6-270	12.0	803.20	120.0	0.00	0.00	0.000
P-DU6-300	20.0	514.67	120.0	-485.51	0.50	0.064
P-DU6-310	12.0	1,616.85	120.0	336.75	0.96	0.392
P-DU7-010	12.0	1,114.60	120.0	206.12	0.58	0.158
P-DU7-020	12.0	1,146.78	120.0	-59.36	0.17	0.016
P-DU7-030	12.0	1,044.06	120.0	65.64	0.19	0.019
P-DU7-040	24.0	1,409.98	120.0	-1,189.71	0.84	0.139
P-DU7-050	24.0	1,075.39	120.0	-1,649.12	1.17	0.254
P-DU7-060	24.0	1,253.80	120.0	-1,682.12	1.19	0.263
P-DU7-070	24.0	1,205.32	120.0	-2,167.92	1.54	0.421
P-DU7-080	24.0	2,338.72	120.0	-2,479.26	1.76	0.540
P-DU7-090	16.0	941.19	120.0	-882.19	1.41	0.574
P-DU7-100	16.0	1,562.41	120.0	-796.09	1.27	0.475
P-DU7-110	16.0	1,741.52	120.0	-532.83	0.85	0.226
P-DU7-120	16.0	778.48	120.0	423.45	0.68	0.147
P-DU7-130	20.0	316.65	120.0	-324.73	0.33	0.030
P-DU7-140	20.0	1,206.89	120.0	-319.33	0.33	0.029
P-DU7-150	20.0	1,235.71	120.0	-319.77	0.33	0.030
P-DU7-160	20.0	891.94	120.0	-206.37	0.21	0.013
P-DU7-170	12.0	1,072.99	120.0	-140.22	0.40	0.077
P-DU7-180	12.0	827.71	120.0	68.22	0.19	0.020
P-DU7-190	12.0	398.61	120.0	-221.41	0.63	0.180
P-DU7-200	12.0	2,378.07	120.0	94.41	0.27	0.037
P-DU7-210	12.0	1,048.78	120.0	-461.92	1.31	0.703
P-DU7-220	12.0	1,053.72	120.0	-371.92	1.06	0.471
P-DU7-230	12.0	1,714.23	120.0	-257.54	0.73	0.238
P-DU7-240	12.0	1,014.45	120.0	-105.44	0.30	0.046
P-DU8-010	16.0	1,107.48	120.0	-215.34	0.34	0.042
P-DU8-020	16.0	713.88	120.0	-256.71	0.41	0.058
P-DU8-030	16.0	1,312.24	120.0	-327.34	0.52	0.091
P-DU8-040	16.0	1,371.08	120.0	-463.18	0.74	0.174
P-DU8-050	16.0	520.30	120.0	-585.22	0.93	0.268
P-DU8-060	16.0	1,021.04	120.0	-833.29	1.33	0.516
P-DU8-070	8.0	541.92	120.0	-41.31	0.26	0.058
P-DU8-080	8.0	253.35	120.0	-9.62	0.06	0.004
P-DU8-090	8.0	1,138.34	120.0	-55.82	0.36	0.101
P-DU8-100	12.0	598.81	120.0	271.26	0.77	0.262
P-DU8-110	12.0	709.10	120.0	119.67	0.34	0.058
P-DU8-120	8.0	678.33	120.0	-58.69	0.37	0.111
P-DU8-130	8.0	1,315.41	120.0	68.16	0.44	0.146
P-DU8-140	8.0	965.85	120.0	47.79	0.31	0.076
P-DU8-150	6.0	737.49	120.0	28.41	0.32	0.118
P-DU8-160	8.0	1,265.36	120.0	42.86	0.27	0.062
P-DU8-170	8.0	2,613.46	120.0	12.02	0.08	0.006

Eastmark Master Water Report

Active Scenario: Peak Hour Demand-Served by SCAP (for DU 2 FBO Condition)

FlexTable: Pipe Table

Label	Diameter (in)	Length (Scaled) (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-DU8-180	8.0	1,777.60	120.0	-39.28	0.25	0.053
P-DU8-190	8.0	1,184.98	120.0	-0.34	0.00	0.000
P-DU8-200	8.0	1,054.34	120.0	101.94	0.65	0.309
P-DU9-010	16.0	903.69	120.0	83.09	0.13	0.007
P-DU9-020	8.0	226.81	120.0	-41.37	0.26	0.058
P-DU9-030	8.0	1,616.12	120.0	65.36	0.42	0.136
P-DU9-040	8.0	745.70	120.0	-111.94	0.71	0.367
P-DU9-050	8.0	868.53	120.0	69.90	0.45	0.153
P-DU9-060	8.0	1,549.98	120.0	-107.43	0.69	0.340
P-DU9-070	8.0	1,000.62	120.0	37.68	0.24	0.049
P-DU9-080	8.0	643.77	120.0	14.28	0.09	0.008
P-DU9-090	8.0	3,091.64	120.0	41.85	0.27	0.059
P-DU9-100	8.0	1,618.99	120.0	-49.14	0.31	0.080
P-DU9-110	8.0	3,057.43	120.0	-3.51	0.02	0.001
P-DU9-120	8.0	901.10	120.0	66.91	0.43	0.142
P-DU9-130	8.0	878.92	120.0	-101.78	0.65	0.308
P-DU9-140	8.0	429.87	120.0	-248.07	1.58	1.602
P-DU9-150	8.0	4,470.55	120.0	-52.09	0.33	0.089

Max-Day Demand plus Fire Flow

Eastmark Master Water Report

Active Scenario: Max Day Demand + FF-Served by SCAP (for DU 2 FBO Condition)

Fire Flow Node FlexTable: Fire Flow Report

Label	Elevation (ft)	Satisfies Fire Flow Constraints?	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Junction w/ Minimum Pressure (Zone)	Velocity of Maximum Pipe (ft/s)	Pipe w/ Maximum Velocity
J-100EX	1,406.0	True	2,000.00	4,000.00	20.0	92.8	J-1010EX	2.70	P-240EX
J-110EX	1,418.0	True	2,000.00	4,000.00	20.0	85.7	J-1010EX	3.33	P-1070EX
J-120EX	1,462.0	True	2,000.00	4,000.00	20.0	73.0	J-1010EX	1.59	P-240EX
J-135EX	1,460.0	True	2,000.00	4,000.00	20.0	71.8	J-1010EX	4.16	P-5700EX
J-150EX	1,472.0	True	2,000.00	4,000.00	20.0	65.3	J-1010EX	2.43	P-6218
J-160EX	1,435.0	True	2,000.00	4,000.00	20.0	73.3	J-1010EX	3.53	P-340EX
J-170EX	1,430.0	True	2,000.00	4,000.00	20.0	75.5	J-1010EX	3.48	P-170EX
J-180EX	1,410.0	True	2,000.00	4,000.00	20.0	90.1	J-1010EX	2.50	P-6218
J-190EX	1,395.0	True	2,000.00	4,000.00	20.0	89.6	J-1010EX	3.78	P-180EX
J-200EX	1,385.0	True	2,000.00	4,000.00	20.0	93.9	J-1010EX	3.72	P-410EX
J-220EX	1,480.0	True	2,000.00	4,000.00	20.0	61.4	J-1440EX	3.54	P-220EX
J-230EX	1,475.0	True	2,000.00	4,000.00	20.0	63.6	J-220EX	2.84	P-3250EX
J-250EX	1,452.0	True	2,015.60	4,015.60	20.0	75.6	J-1010EX	2.57	P-6218
J-260EX	1,453.0	True	2,036.40	4,036.40	20.0	74.8	J-1010EX	3.89	P-6224
J-270EX	1,429.0	True	2,000.00	4,000.00	20.0	83.8	J-1010EX	2.50	P-6218
J-280EX	1,460.0	True	2,000.00	4,000.00	20.0	69.9	J-1010EX	2.50	P-6218
J-300EX	1,392.0	True	2,035.40	4,035.40	20.0	97.8	J-1010EX	2.82	P-1630EX
J-320EX	1,422.0	True	2,000.00	4,000.00	20.0	86.5	J-1010EX	2.50	P-6218
J-330EX	1,455.0	True	2,000.00	4,000.00	20.0	71.9	J-1010EX	2.52	P-6218
J-340EX	1,440.0	True	2,000.00	4,000.00	20.0	79.5	J-1010EX	2.51	P-6218
J-360EX	1,400.0	True	2,000.00	4,000.00	20.0	94.7	J-1010EX	2.95	P-3970EX
J-550EX	1,425.0	True	2,000.00	4,000.00	20.0	85.9	J-1010EX	2.51	P-6218
J-590EX	1,413.0	True	2,000.00	4,000.00	20.0	88.4	J-1010EX	3.83	P-1060EX
J-920EX	1,434.0	True	2,000.00	4,000.00	20.0	82.3	J-1010EX	2.51	P-6218
J-960EX	1,402.0	True	2,000.00	4,000.00	20.0	93.7	J-1010EX	3.58	P-3970EX
J-970EX	1,397.0	True	2,072.80	4,072.80	20.0	95.4	J-1010EX	3.03	P-1950EX
J-1000EX	1,455.0	True	2,000.00	4,000.00	20.0	76.5	J-1010EX	1.79	P-240EX
J-1010EX	1,485.0	True	2,000.00	4,000.00	20.0	63.5	J-1310EX	1.73	P-240EX
J-1020EX	1,425.0	True	2,000.00	4,000.00	20.0	84.2	J-1010EX	2.89	P-2540EX
J-1030EX	1,480.0	True	2,000.00	4,000.00	20.0	66.6	J-1010EX	1.71	P-240EX
J-1040EX	1,428.0	True	2,000.00	4,000.00	20.0	81.5	J-1010EX	3.67	P-6166EX
J-1050EX	1,445.0	True	2,000.00	4,000.00	20.0	76.5	J-1010EX	3.48	P-4720EX
J-1120EX	1,456.0	True	2,000.00	4,000.00	20.0	73.3	J-1010EX	3.75	P-6223
J-1130EX	1,445.0	True	2,000.00	4,000.00	20.0	75.8	J-1010EX	4.25	P-210EX
J-1160EX	1,445.0	True	2,000.00	4,000.00	20.0	59.6	J-1010EX	11.35	P-3030EX
J-1170EX	1,470.0	True	2,000.00	4,000.00	20.0	69.9	J-1010EX	1.76	P-240EX
J-1180EX	1,440.0	True	2,000.00	4,000.00	20.0	75.0	J-1010EX	5.21	P-3080EX
J-1190EX	1,420.0	True	2,000.00	4,000.00	20.0	85.7	J-1010EX	3.39	P-3150EX
J-1200EX	1,445.0	True	2,000.00	4,000.00	20.0	46.4	J-1370EX	11.35	P-3060EX
J-1210EX	1,455.0	True	2,000.00	3,752.65	20.0	43.0	J-1300EX	12.00	P-3180EX
J-1220EX	1,475.0	True	2,000.00	4,000.00	20.0	67.6	J-1010EX	1.67	P-240EX
J-1230EX	1,460.0	True	2,000.00	4,000.00	20.0	67.6	J-1010EX	3.19	P-2655EX
J-1235EX	1,440.0	True	2,000.00	4,000.00	20.0	78.9	J-1010EX	2.75	P-4760EX
J-1240EX	1,455.0	True	2,000.00	4,000.00	20.0	71.6	J-1010EX	2.61	P-2700EX
J-1280	1,410.0	True	2,000.00	4,000.00	20.0	91.3	J-1010EX	2.50	P-6218
J-1290EX	1,480.0	True	2,000.00	4,000.00	20.0	65.5	J-1010EX	1.69	P-240EX
J-1300EX	1,465.0	True	2,000.00	3,752.65	20.0	44.3	J-1350EX	12.00	P-3180EX
J-1310EX	1,480.0	True	2,000.00	4,000.00	20.0	65.5	J-1010EX	1.70	P-240EX
J-1330EX	1,465.0	True	2,000.00	4,000.00	20.0	65.4	J-1010EX	6.74	P-2950
J-1340EX	1,450.0	True	2,000.00	4,000.00	20.0	70.5	J-1010EX	7.33	P-2970EX
J-1350EX	1,465.0	True	2,000.00	3,665.73	20.0	48.3	J-1300EX	12.00	P-3180EX

Eastmark Master Water Report

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Fire Flow Node FlexTable: Fire Flow Report

Label	Elevation (ft)	Satisfies Fire Flow Constraints?	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Junction w/ Minimum Pressure (Zone)	Velocity of Maximum Pipe (ft/s)	Pipe w/ Maximum Velocity
J-1360EX	1,445.0	True	2,000.00	4,000.00	20.0	65.8	J-1010EX	7.50	P-3020EX
J-1370EX	1,430.0	True	2,000.00	4,000.00	20.0	62.8	J-1200EX	8.70	P-3130EX
J-1380EX	1,450.0	True	2,000.00	4,000.00	20.0	71.0	J-1010EX	6.43	P-3080EX
J-1390EX	1,430.0	True	2,000.00	4,000.00	20.0	76.4	J-1010EX	6.76	P-3100EX
J-1400EX	1,430.0	True	2,000.00	4,000.00	20.0	72.6	J-1010EX	7.71	P-3110EX
J-1410	1,458.0	True	2,000.00	4,000.00	20.0	73.8	J-1010EX	2.79	P-3190EX
J-1410EX	1,420.0	True	2,000.00	4,000.00	20.0	85.9	J-1010EX	3.20	P-3140EX
J-1420EX	1,460.0	True	2,000.00	4,000.00	20.0	71.9	J-1010EX	2.86	P-5710EX
J-1430EX	1,455.0	True	2,000.00	4,000.00	20.0	70.8	J-1010EX	5.69	P-3250EX
J-1440EX	1,478.0	True	2,000.00	4,000.00	20.0	62.4	J-220EX	2.95	P-3250EX
J-1680EX	1,401.0	True	2,000.00	4,000.00	20.0	94.1	J-1010EX	3.33	P-3970EX
J-1990EX	1,447.0	True	2,052.00	4,052.00	20.0	75.8	J-1010EX	3.94	P-4720EX
J-2000EX	1,442.0	True	2,000.00	4,000.00	20.0	78.0	J-1010EX	2.78	P-4760EX
J-2010EX	1,419.0	True	2,000.00	4,000.00	20.0	87.5	J-1010EX	2.50	P-6218
J-2040EX	1,427.0	True	2,000.00	4,000.00	20.0	84.5	J-1010EX	2.50	P-6218
J-2120EX	1,453.0	True	2,000.00	4,000.00	20.0	74.3	J-1010EX	4.42	P-240EX
J-2140EX	1,450.0	True	2,000.00	4,000.00	20.0	74.7	J-1010EX	4.79	P-210EX
J-2295	1,415.0	True	2,000.00	4,000.00	20.0	87.9	J-1010EX	5.40	P-DU9-020
J-2340EX	1,434.0	True	2,000.00	4,000.00	20.0	79.8	J-1010EX	3.29	P-240EX
J-2353	1,456.0	True	2,000.00	4,000.00	20.0	74.3	J-1010EX	2.68	P-6198
J-2361	1,454.5	True	2,000.00	4,000.00	20.0	74.8	J-1010EX	2.61	P-6218
J-2364	1,454.2	True	2,000.00	4,000.00	20.0	74.9	J-1010EX	2.93	P-6226
J-DU2-010	1,407.0	True	2,079.20	4,079.20	20.0	89.0	J-1010EX	5.19	P-DU2-010
J-DU2-020	1,411.5	True	2,110.20	4,110.20	20.0	89.6	J-DU2-020	3.26	P-DU2-080
J-DU2-030	1,408.0	True	2,000.00	4,000.00	20.0	89.1	J-1010EX	4.80	P-DU2-070
J-DU3-4-010	1,405.0	True	2,107.60	4,107.60	20.0	90.9	J-1010EX	3.41	P-DU3S-120
J-DU3-4-020	1,402.0	True	2,107.60	4,107.60	20.0	94.8	J-1010EX	2.53	P-240EX
J-DU3-4-030	1,392.0	True	2,129.40	4,129.40	20.0	99.0	J-1010EX	2.53	P-240EX
J-DU3-4-030A	1,394.5	True	2,187.80	4,187.80	20.0	92.3	J-1010EX	6.57	P-DU3-4-010B
J-DU3-4-040	1,403.0	True	2,071.60	4,071.60	20.0	94.5	J-1010EX	2.53	P-240EX
J-DU3-4-050	1,408.0	True	2,205.40	4,205.40	20.0	86.9	J-1010EX	7.66	P-DU3-4-060
J-DU3-4-060	1,408.0	True	2,000.00	4,000.00	20.0	88.1	J-1010EX	4.77	P-DU-3-4-130
J-DU3-4-070	1,404.0	True	2,040.60	4,040.60	20.0	87.2	J-1010EX	6.19	P-DU-3-4-080
J-DU3-4-080	1,400.0	True	2,025.80	4,025.80	20.0	89.4	J-1010EX	6.77	P-DU-3-4-100
J-DU3-4-090	1,393.0	True	2,046.60	4,046.60	20.0	97.5	J-1010EX	3.14	P-1640EX
J-DU3-4-100	1,391.0	True	2,067.60	4,067.60	20.0	99.3	J-1010EX	2.53	P-240EX
J-DU3-4-110	1,393.0	True	2,040.60	4,040.60	20.0	97.1	J-1010EX	3.28	P-1970EX
J-DU3-4-120	1,393.0	True	2,000.00	4,000.00	20.0	97.6	J-1010EX	2.58	P-240EX
J-DU3-4-130	1,395.0	True	2,112.80	4,112.80	20.0	96.3	J-1010EX	3.60	P-DU-3-4-110
J-DU3-4-140	1,403.0	True	2,081.40	4,081.40	20.0	93.4	J-1010EX	2.58	P-240EX
J-DU3-4-150	1,407.0	True	2,059.60	4,059.60	20.0	88.3	J-1010EX	6.47	P-DU-3-4-130
J-DU3-4-160	1,406.0	True	2,029.80	4,029.80	20.0	91.7	J-1010EX	3.56	P-DU3-4-180
J-DU3-4-170	1,410.0	True	2,251.60	4,251.60	20.0	90.7	J-1010EX	2.60	P-DU3-4-190
J-DU3-4-200	1,412.5	True	2,046.60	4,046.60	20.0	88.0	J-1010EX	3.41	P-DU-3S-130
J-DU3-4-210	1,406.0	True	2,188.20	4,188.20	20.0	70.9	J-1010EX	10.41	P-DU3-4-200
J-DU3S-010	1,412.0	True	2,020.40	2,396.71	20.0	85.3	J-1010EX	12.00	P-DU3S-010
J-DU3S-020	1,407.0	True	2,022.00	2,748.15	20.0	55.0	J-1010EX	12.00	P-DU3S-010
J-DU3S-030	1,401.0	True	2,030.00	3,170.22	20.0	43.7	J-1010EX	12.00	P-DU3S-010
J-DU3S-040	1,399.0	True	2,022.00	3,388.05	20.0	67.2	J-1010EX	12.00	P-DU3S-050
J-DU3S-050	1,404.0	True	2,024.20	3,034.90	20.0	49.3	J-DU3S-060	12.00	P-DU3S-060
J-DU3S-060	1,410.0	True	2,023.60	2,850.34	20.0	46.9	J-1010EX	12.00	P-DU3S-010

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J-DU3S-070	1,417.0	True	2,014.00	2,592.46	20.0	64.9	J-1010EX	12.00	P-DU3S-090
J-DU3S-080	1,396.0	True	2,143.80	4,143.80	20.0	95.9	J-1010EX	3.15	P-DU3S-100
J-DU5N-010	1,436.0	True	2,000.00	4,000.00	20.0	33.4	J-DU6-110	11.63	P-DU6-180
J-DU5N-020	1,424.5	True	2,000.00	4,000.00	20.0	75.0	J-1010EX	6.19	P-DU6-310
J-DU5N-030	1,426.0	True	2,040.14	4,040.14	20.0	74.2	J-1010EX	6.04	P-DU6-310
J-DU5N-040	1,414.0	True	2,000.00	4,000.00	20.0	87.7	J-1010EX	3.17	P-DU2-090
J-DU5N-050	1,414.0	True	2,000.00	4,000.00	20.0	87.5	J-1010EX	3.11	P-DU2-090
J-DU6-010	1,459.0	True	2,000.00	4,000.00	20.0	65.3	J-1010EX	6.54	P-DU6-010
J-DU6-020	1,453.0	True	2,694.40	4,694.40	20.0	74.0	J-1010EX	5.44	P-DU6-020
J-DU6-050	1,448.0	True	2,000.00	4,000.00	20.0	70.3	J-1010EX	6.69	P-DU6-080
J-DU6-060	1,458.0	True	2,694.40	4,694.40	20.0	72.3	J-1010EX	5.87	P-DU6-070
J-DU6-110	1,432.0	True	2,098.20	4,098.20	20.0	48.5	J-DU5N-010	11.63	P-DU6-180
J-DU6-120	1,422.0	True	2,100.60	4,100.60	20.0	82.3	J-1010EX	4.64	P-DU6-200
J-DU6-130	1,416.0	True	2,082.20	4,082.20	20.0	88.7	J-1010EX	2.56	P-240EX
J-DU6-140	1,417.0	True	2,132.00	4,132.00	20.0	88.5	J-1010EX	2.84	P-DU6-220
J-DU6-150	1,427.0	True	2,084.60	4,084.60	20.0	81.5	J-1010EX	6.23	P-DU6-240
J-DU6-160	1,436.0	True	2,097.20	2,814.16	20.0	63.9	J-1010EX	12.00	P-DU6-260
J-DU6-170	1,416.5	True	2,050.60	4,050.60	20.0	88.5	J-1010EX	2.67	P-DU6-300
J-DU7-010	1,415.0	True	2,004.80	4,004.80	20.0	89.1	J-1010EX	3.35	P-DU7-120
J-DU7-020	1,425.0	True	2,046.60	4,046.60	20.0	79.5	J-1010EX	6.08	P-DU7-010
J-DU7-030	1,416.0	True	2,125.00	4,125.00	20.0	82.6	J-1010EX	6.84	P-DU7-030
J-DU7-040	1,409.0	True	2,037.60	4,037.60	20.0	92.2	J-1010EX	2.53	P-240EX
J-DU7-050	1,416.0	True	2,038.60	4,038.60	20.0	89.5	J-1010EX	2.53	P-240EX
J-DU7-060	1,423.0	True	2,022.00	4,022.00	20.0	86.6	J-1010EX	2.52	P-240EX
J-DU7-070	1,430.0	True	2,000.00	4,000.00	20.0	83.8	J-1010EX	2.52	P-DU7-080
J-DU7-080	1,434.0	True	2,081.00	4,081.00	20.0	82.3	J-1010EX	2.77	P-DU7-080
J-DU7-090	1,437.0	True	2,000.00	4,000.00	20.0	81.4	J-1010EX	2.53	P-6218
J-DU7-100	1,435.0	True	2,057.40	4,057.40	20.0	80.7	J-1010EX	4.29	P-DU7-090
J-DU7-110	1,435.0	True	2,057.60	4,057.60	20.0	80.6	J-1010EX	2.73	P-DU7-090
J-DU7-120	1,420.0	True	2,000.00	4,000.00	20.0	87.6	J-1010EX	2.50	P-240EX
J-DU7-130	1,420.0	True	2,003.60	4,003.60	20.0	87.5	J-1010EX	2.58	P-DU7-130
J-DU7-140	1,425.0	True	2,070.00	4,070.00	20.0	85.2	J-1010EX	2.51	P-240EX
J-DU7-150	1,419.0	True	2,075.60	4,075.60	20.0	87.9	J-1010EX	2.52	P-240EX
J-DU7-160	1,435.0	True	2,048.00	4,048.00	20.0	76.5	J-1010EX	5.97	P-DU7-170
J-DU7-170	1,432.0	True	2,021.40	4,021.40	20.0	79.5	J-1010EX	5.12	P-DU7-190
J-DU7-180	1,433.0	True	2,037.40	4,037.40	20.0	79.2	J-1010EX	4.80	P-DU7-190
J-DU7-190	1,437.0	True	2,060.00	4,060.00	20.0	75.3	J-1010EX	6.30	P-DU7-210
J-DU7-200	1,432.0	True	2,101.40	4,101.40	20.0	76.2	J-1010EX	6.79	P-DU7-240
J-DU8-010	1,420.0	True	2,000.00	4,000.00	20.0	86.7	J-1010EX	4.15	P-DU9-020
J-DU8-020	1,419.5	True	2,000.00	4,000.00	20.0	86.5	J-1010EX	3.31	P-DU8-020
J-DU8-030	1,421.0	True	2,000.00	4,000.00	20.0	85.3	J-1010EX	3.17	P-DU8-060
J-DU8-040	1,418.0	True	2,013.40	4,013.40	20.0	86.8	J-1010EX	3.85	P-DU8-060
J-DU8-050	1,422.0	True	2,000.00	4,000.00	20.0	85.5	J-1010EX	4.23	P-DU8-060
J-DU8-060	1,420.0	True	2,018.00	4,018.00	20.0	73.7	J-1010EX	11.08	P-DU8-070
J-DU8-070	1,420.0	True	2,030.80	2,952.06	20.0	76.0	J-1010EX	12.00	P-DU8-080
J-DU8-080	1,422.0	True	2,008.80	4,008.80	20.0	78.2	J-1010EX	6.95	P-DU8-100
J-DU8-090	1,424.0	True	2,022.00	4,022.00	20.0	66.1	J-1010EX	9.47	P-DU8-150
J-DU8-100	1,425.0	True	2,018.40	4,018.40	20.0	80.8	J-1010EX	7.54	P-DU8-100
J-DU8-110	1,430.0	True	2,066.00	4,066.00	20.0	47.4	J-DU8-120	11.04	P-DU8-130
J-DU8-120	1,431.0	True	2,034.20	3,356.65	20.0	20.0	J-1010EX	11.77	P-DU8-180
J-DU8-130	1,427.0	True	2,042.00	4,042.00	20.0	53.3	J-DU8-120	11.96	P-DU8-200

Eastmark Master Water Report

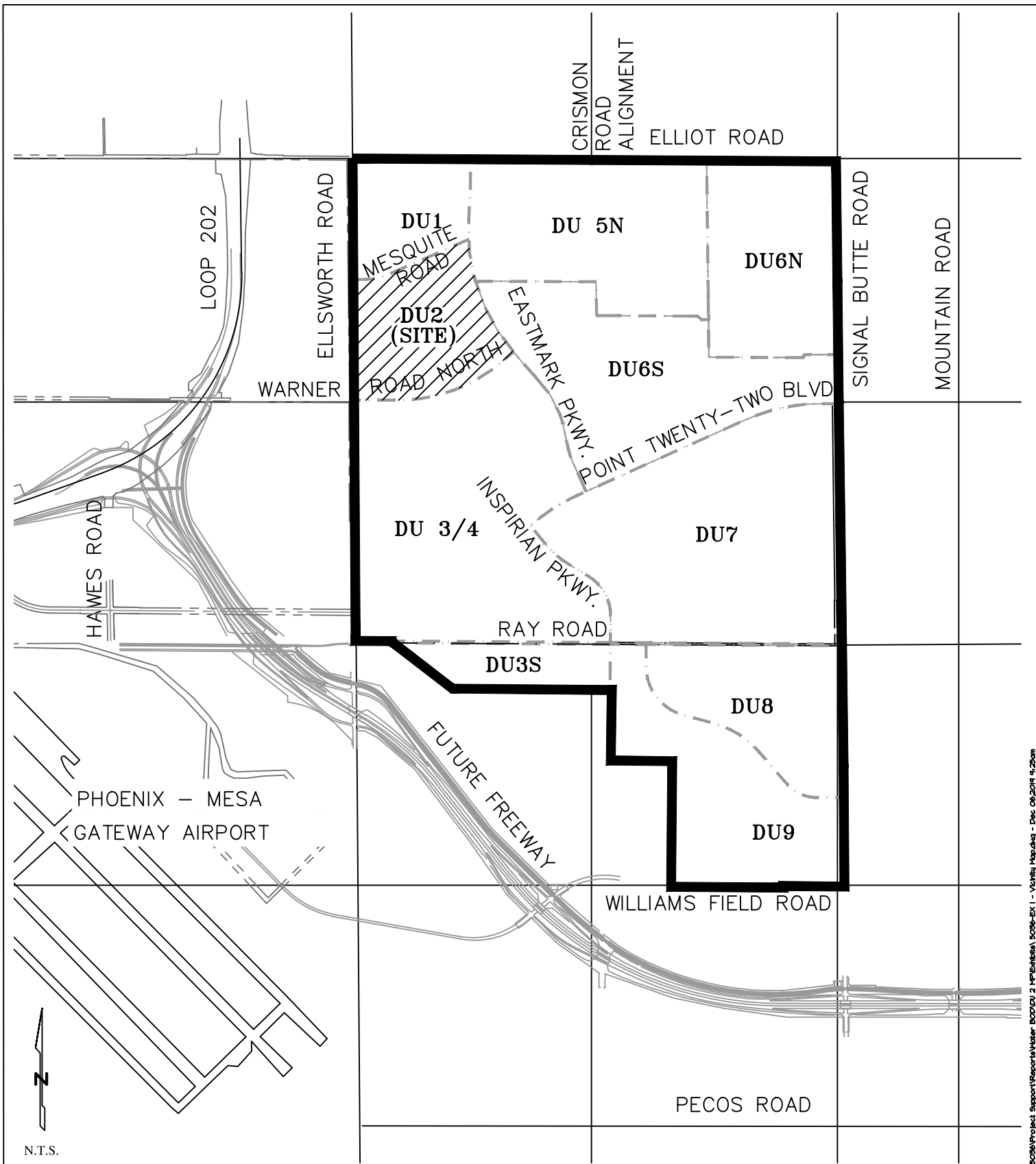
Active Scenario: Max Day Demand + FF-Served by SCAP (for DU 2 FBO Condition)

Fire Flow Node FlexTable: Fire Flow Report

Label	Elevation (ft)	Satisfies Fire Flow Constraints?	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Junction w/ Minimum Pressure (Zone)	Velocity of Maximum Pipe (ft/s)	Pipe w/ Maximum Velocity
J-DU9-010	1,419.0	True	2,039.40	4,039.40	20.0	85.3	J-1010EX	7.64	P-DU9-020
J-DU9-020	1,415.0	True	2,071.60	4,071.60	20.0	70.8	J-1010EX	10.95	P-DU9-040
J-DU9-030	1,416.0	True	2,065.20	4,065.20	20.0	65.1	J-1010EX	9.80	P-DU9-050
J-DU9-040	1,416.0	True	2,015.60	3,621.05	20.0	49.4	J-1010EX	12.00	P-DU9-080
J-DU9-050	1,419.0	True	2,000.00	3,373.64	20.0	62.5	J-1010EX	12.00	P-DU9-140
J-DU9-060	1,422.0	True	2,062.80	2,723.23	20.0	75.9	J-1010EX	12.00	P-DU9-140
J-DU9-070	1,414.0	True	2,063.00	3,813.82	20.0	33.1	J-DU9-080	12.00	P-DU9-140
J-DU9-080	1,419.0	True	2,077.00	3,301.73	20.0	47.6	J-1010EX	12.00	P-DU9-140
J-DU9-090	1,414.0	True	2,000.00	4,000.00	20.0	88.5	J-1010EX	5.74	P-DU9-020
J-DU9-100	1,414.0	True	2,000.00	4,000.00	20.0	87.7	J-1010EX	5.08	P-DU9-020

EXHIBIT 1

VICINITY MAP



TOWNSHIP 1 SOUTH, RANGE 7 EAST
 OF THE GILA AND SALT RIVER
 MERIDIAN, MARICOPA COUNTY, ARIZONA

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EXHIBIT 1: VICINITY MAP

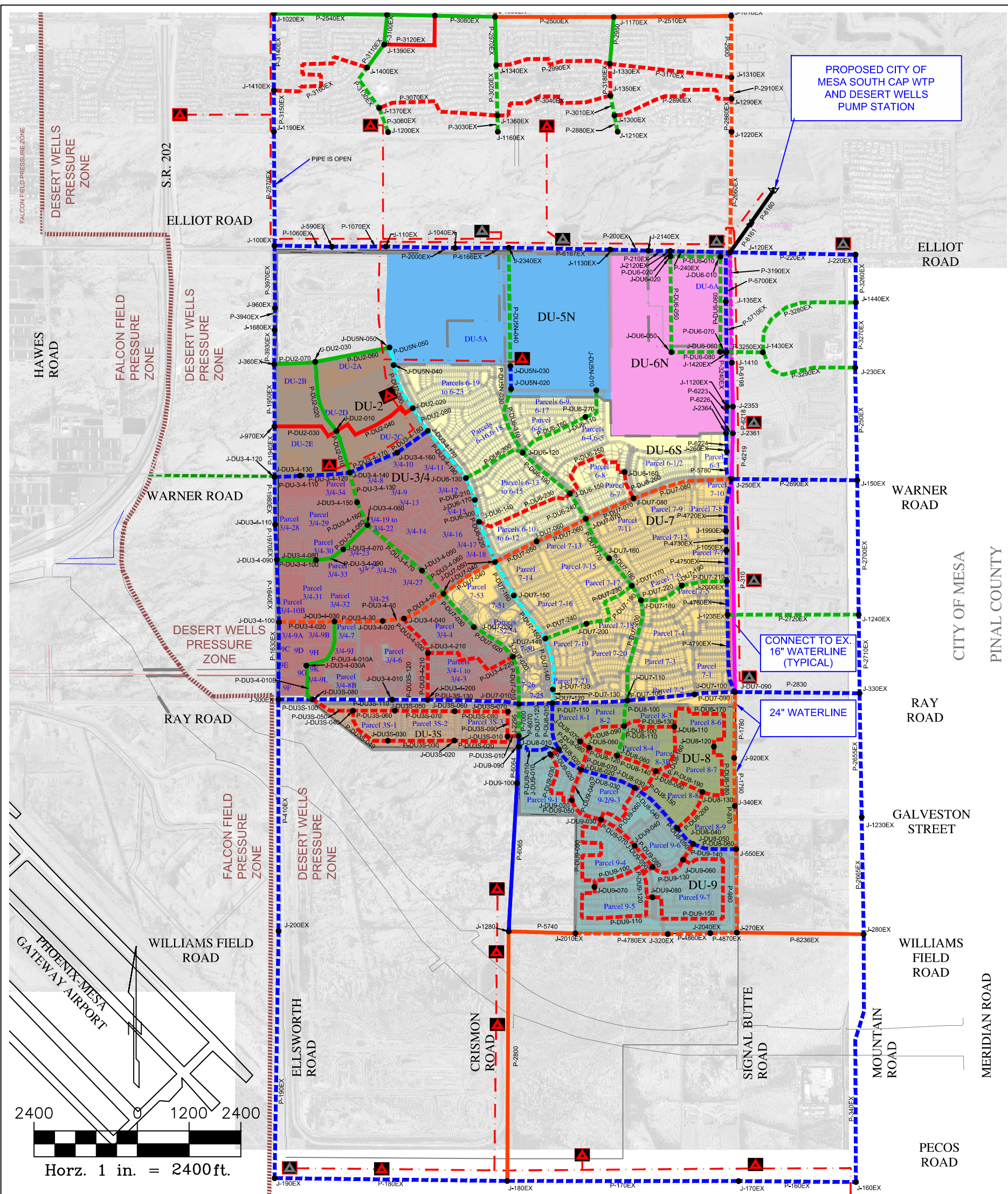
EASTMARK
 MESA, ARIZONA



NOT FOR CONSTRUCTION
 OR RECORDING

EXHIBIT 2

DU 2 MASTER WATER EXHIBIT



PROPOSED CITY OF MESA SOUTH CAP WTP AND DESERT WELLS PUMP STATION

CONNECT TO EX. 16" WATERLINE (TYPICAL)

24" WATERLINE

LEGEND

NOTES:
1. INFRASTRUCTURE SIZES AND LOCATIONS ARE CONCEPTUAL AND SUBJECT TO CHANGE.

PIPE DIAMETER	EXISTING	PLANNED		JUNCTION NODE	ON-SITE DEVELOPMENT UNITS
8-INCHES				J-XXX	DU-2
12-INCHES				J-XXXEX	DU-6S
16-INCHES			P-XXX	J-XXXEX	DU-7
20-INCHES			P-XXXEX	J-XXXEX	DU-8
24-INCHES			J-XXX	J-XXXEX	DU-9
30-INCHES			J-XXXEX	J-XXXEX	DU-XX
WELL SITE			MODELED PRESSURE ZONE :	DESERT WELLS	DU-XX DEVELOPMENT UNIT SUB-AREA
WELL COLLECTION LINE					SITE BOUNDARY
PRESSURE ZONE BOUNDARY					

EXHIBIT 2 - DU 2 MASTER WATER EXHIBIT

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EASTMARK MESA, ARIZONA



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