

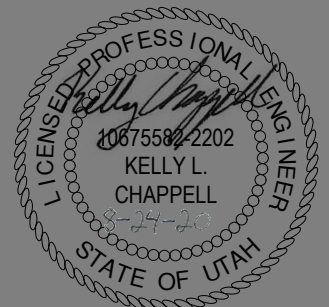
2020

SUNSET CITY WATER MASTER PLAN REPORT



ENSIGN ENGINEERING & LAND SURVEYING

225 North 100 East
Richfield, Utah 84701
435.896.2983



Kelly Chappell
ENSIGN ENGINEERING
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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Introduction

Sunset City is a residential suburb community located in Davis County, Utah. Sunset City has a population of 5,417 people according to the most recent census data (GOMB 2010 census and growth projections). Sunset City provides culinary water for approximately 1,659 residential (single-family and multi-family), 66 commercial and 1 motel. All connections utilize culinary water for both indoor and outdoor use. This document will discuss the existing system and make recommendations for the system to meet State requirements and future needs of the community.

Use of this Water Master Plan Report

This master plan document and the calculations included were performed using known and accepted methods. Actual information (usage numbers, water rate fees, population baselines) were used when available. If such information was not found, engineering estimates and assumptions were made. All such estimates or assumptions are duly noted throughout the document. Estimated figures are specific to the region, Davis County, and water systems of comparable size within the region.

It is anticipated that this master plan document will be used as a prominent planning tool when considering the future growth of Sunset City. The information herein will allow Sunset to be informed and aware of the current overall functioning status of their culinary water system and of any existing deficiencies.

Sources & Facilities

Sunset City owns a single well that it leases to Weber Basin Water Conservancy District (WBWCD) as part of a water purchasing agreement between the two entities. In 2017, improvements were made to the well by Weber Basin resulting in a well yield of 1,300 gpm.

Sunset City owns water rights for 2.78 cfs of water. As part of the water purchasing agreement between Sunset and Weber Basin, these water rights are leased to Weber Basin. In addition, Weber Basin provides Sunset City with the source and storage needed to meet State requirements.

Culinary water from Weber Basin is delivered to Sunset City at four locations along or near Main Street. The water is delivered through 948 liner feet of 12" and 5,140 liner feet of 8" diameter transmission pipe along main street. The total length of transmission line is 6,088 liner feet. The distribution system consists 19,177 liner feet of 8", 65,317 liner feet of 6", 11,372 liner feet of 4", and 821 liner feet of 3" diameter pipes. The total length of distribution piping is 96,687 liner feet. The total length of pipe within the system is 102,775 linear feet.

Existing and Future Connections

Sunset City currently provides water to 1,726 connections; 1,659 residential (single-family and multi-family), 66 commercial (churches, schools and businesses) and 1 Motel connections. Multi-family units are typically smaller and use less water than single-family residence. For this reason, each multi-family unit was counted as 0.66 Equivalent Residential Connections (ERCs) and each single-family residential connection was counted as a single ERC. Commercial usage was converted to ERCs based on State Rule R309 for minimum residential usage. All of the connections use culinary water for indoor and outdoor purposes. By reviewing usage data, it was determined that the total ERCs for Sunset City is 2,082.

Based on the Governor's Office of Management and Budget (GOMB) and the 2010 Census, Sunset City serves an estimated population of 5,417 individuals¹. The growth rates for Sunset City over the next 40 years are expected to range from 0.04% to 0.16%. However, due to the recent housing demand in Utah, growth rate for high density/multi-family housing is anticipated to be significant higher. Sunset City currently has a total of 403 multi-family units and have approved an additional 400 units to be completed within the next few years. This is equal to a growth rate of 6.9% for multi-family units within the next few years. Understanding this growth rate is not likely to continue beyond the first 10 years, the multi-family growth rate was reduced to 1.5% for the remaining 30 years. Based on these assumptions, the future connections for Sunset City will be approximately 2,165 residential connections, 69 commercial connections and 1 motel connection. The total future Equivalent Residential Connections based on future connections is 2,735 ERCs.

Water Demand Criteria

According to State requirements for the existing system water demand, Sunset City must be able to provide 1,569 gpm for peak day demand for both indoor and outdoor purposes. In 2017 improvements were made to Sunset City's well resulting in a yield of 1,300 gpm. The average yearly demand for Sunset City is 1,131 acre-feet. Sunset City owns 2,009 acre-feet of water all of which is designated for municipal use. North Davis Fire District provides fire protection to Sunset City. Fire flow demands are typically 1,500 gpm for 2 hours for residential building. However, because Sunset city does have several commercial buildings, warehouses, schools and churches, the fire flow storage was increased to 1,525 gpm for 2 hours based on the square footage of each building and assumed fire suppression systems. Existing peak day and fire flow storage demands for Sunset City are approximately 1.31 million gallons. Weber Basin is able to provide the source and storage demands required by the State.

In the year 2060 Sunset will be required by the State to provide 2,061 gpm for peak day demand for the entire system. The average yearly demand required will be 1,486 acre-feet. Sunset City

¹ 5,417 individuals based on 2010 census and growth projects.

currently owns a sufficient amount of water rights to supply the yearly demand. The future storage capacity required by the State will be approximately 1.66 million gallons. Sunset City will need to verify with their source and storage provider that this future source and storage will be available.

Hydraulic Model Analysis and Results

Bentley WaterCAD was used to analyze and model the existing and future water system of Sunset City. The scenarios modeled are Peak Day Demand, Peak Instantaneous Demand, and to see if Fire Flow constraints were met during Peak Day Demand. These scenarios were analyzed on the existing system for existing demands and future demands. These scenarios were also analyzed for the proposed improvements to the system with future demands.

The results of the model were calibrated with existing pressure and flow data from recent fire hydrant tests and other information provided by the system operator. The results of the model show that the water system meets Peak Day and Peak Instantaneous Pressures, but does not meet Fire Flow in a few locations.

Proposed System Improvements

Sunset City has a purchase agreement in place with Weber Basin for their source and storage. Sunset City will need to verify with Weber Basin that future source and storage demands will continue to be met.

Sunset City is currently providing proper peak day and peak instantaneous pressures, while fire flow is lacking at a few locations. While it does provide the peak day and peak instantaneous pressures, much of the system is very old and well beyond its expected service life. With its close proximity to Hill Air Force Base, much of the development within Sunset City occurred during and shortly after World War II. Some piping from that era still remains in service today. Because of the old piping, the City experiences greater maintenance cost associated with water line breaks and leaks. It is recommended that Sunset City replace all of the old 4" and smaller piping within their system with new 8" PVC. This would include 11,371 liner feet of 4" and 821 liner feet of 3" piping.

Water Conservation

Utah has a goal of reducing the total per capita usage 25%. The total current per capita use for Sunset City is 143 gallons/day (total use). This value is 14% less than the average state usage of 167 gpd per capita. In order to reduce per capita water use in the future, Sunset should consider further indoor and outdoor conservation practices. This can be accomplished through education and promotion of best management practices for both indoor and outdoor use.

Water Rate Study

Sunset City updated their water rate structure in July of 2020. A water rate study was performed utilizing actual water usage data provided by Sunset City and covering the time frame from January 2019 to December 2019. The rate structure is dependent on the type of connection that is used. It was found that every residential connection in Sunset used on average 9,724 gallons per month and 21,317 gallons per summer month. Based on the current water rate structure the average monthly residential water bill for 2019 was \$28.13. It was found that every commercial connection in Sunset used on average 49,298 gallons per month and 122,478 gallons per summer month. Based on the current water rate structure the average monthly commercial water bill for 2019 was \$126.79. Average monthly water bill for all users is \$33.48. The maximum affordable bill for Sunset City is \$58.92.

The current water rate structure was analyzed according to its effectiveness in promoting water conservation and also the effectiveness of providing revenue for the system to stay self-sustaining and operational. Proposed water rate structures were determined to promote water conservation and to be in accordance with the Utah Division of Drinking Water's "Maximum Affordable Water Bill."

Impact Fee

Sunset City currently does not charge an impact fee, but they do charge a connection fees of \$30 for new customer sign up, \$400 for new home connection and \$540 for parts and labor. An impact fee study has been performed to determine the appropriate amount to cover impact costs for the system.

For Sunset City the maximum allowable impact fee is \$1,580 per ERC. It is recommended that Sunset City starts charging the maximum allowable impact fee of \$1,580.

SECTION 1

INTRODUCTION

1 PROJECT OVERVIEW

In cooperation with Sunset City, Ensign Engineering was selected to evaluate the public water system, including supply, storage, and distribution. Based on the information and analysis of the system, Ensign Engineering prepared this Water Master Plan Report. The use of this water master plan will provide Sunset City the necessary information for upgrading and improving the existing water system and help the City plan and budget for future growth and expansion as more demand is placed on the water system.

Sunset City is nearly fully developed, few vacant lots remain within the city limits. As a result, growth in Sunset City is minimal. The current projected population for Sunset City is around 5,417² individuals. Based on Governor's Office of Management and Budget the projected growth rates over the next 4 decades for Sunset City are as follow: 0.12% 2020 – 2030, 0.04% 2030 – 2040, 0.16% 2040 – 2050, and 0.14% 2050 – 2060. While these growth rates do not indicate significant projected growth, the State of Utah is currently experiencing a housing crisis which has resulted in increased demand for high density multi-family housing. Sunset City currently has a total of 403 multi-family units and has given approval to developers to construct an additional 400 units that will be completed within the next few years. This equates to a multi-family housing growth of 6.9%. Due to the demand for multi-family housing it is anticipated that Sunset City will experience higher growth than that which is projected by the GOMB.

This water master plan will discuss water management options that will encourage conservation within the City (the State conservation plan requires a 25% reduction in use by 2050). Furthermore, this water master plan will help identify system deficiency as well as discuss corrective measures that promote sustainable design for future projects.

Sunset City is located in Davis County in the State of Utah. Sunset City service area consists of approximately 1.47 square miles of land with an average elevation of 4,518 ft. The current service area consists of 1,726 connections (1,659 residential, 66 commercials, 1 motel).

This master plan document makes recommendations for needed system improvements to remedy any current deficiencies. Ensign determined the demands exerted by future population growth. A Capital Improvements Plan (CIP) was created to address those portions of the system which are inadequate. The master plan identifies those portions which do not meet the current state regulations. The cost estimates for these

² Population estimates based on Governor's Office of Management and Budget and water connection data.

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recommended improvements are included. These studies will be used to assist the City in planning and generating revenue to fund future system improvements.

Ensign began the master planning study by collecting all pertinent data required to develop the base map and water system model. As-Built information combined with the information from the survey provided Ensign with the information needed to accurately model and produce the final maps for Sunset City water system. The final produced maps should prove valuable to the City, as they now have an up to date complete system mapped. The base map development also creates a method to digitally store the water system data in a GIS database. Utilization of GIS allows for a “living” record of information for the water system. Future analyses are expedited since all data will be stored in the database.

The majority of the data collected for this study was obtained from available City and County records. Descriptions of the data collected for the study is summarized in the following list:

- Population data (U.S. Census Bureau website)
- Population projection (Utah Governors office website)
- Water use data (obtained from City billing records)
- Water system details (obtained from as-built drawings and existing water basemap provide Sunset City)
- City)
 - Locations of pipes
 - Length of each pipe
 - Beginning and ending elevations
- Water valve locations (survey points collected for this study and provided by Sunset City)
- Aerial map (obtained from the Utah Automated Geographic Reference Center (AGRC) & Environmental Systems Research Institute (ESRI))
- Current water rates (provided by Sunset City)
- Water Purchasing Agreement
- Terms and Conditions (provided by Sunset City)
- Land use data (obtained from the Utah Automated Geographic Reference Center (AGRC))

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Aerial images were collected for the City from AGRC and ESRI. The pipes for the city's water system were digitized to produce the maps shown. Modeling was performed using Bentley's WaterCAD, modeling data was imported into a GIS database. The GIS database was further expanded to contain the attributes of the system.

SECTION 2

SOURCES AND FACILITIES

2 EXISTING SYSTEM

Three parts of Sunset City's water system are evaluated and discussed in this section. The first is source. This will consider water rights and source capacities. The second is storage. This will consider the City's water tank/storage capacity. The third is the distribution system regarding pipe sizing capacity. Maps showing the existing system are shown in the drawings Sunset City Water Master Plan-2020 located in the Appendix of this report.

2.1 Existing Source Production

Sunset City owns a single well located at 1800 North 70 West in the parking lot of the City park. As part of the water purchasing agreement between Sunset City and Weber Basin Water Conservancy District (WBWCD), WBWCD agrees to provide Sunset City with the required source needed for their system at a reduced price. In exchange, Sunset City leases their water rights and well to WBWCD. Improvement were made to the well in 2017 which yielded 1,300 gpm during the test pump.

2.2 Water Rights

2.2.1 Methods

The water rights research began by searching the Utah State Division of Water Rights web page for Sunset City. This resulted in a list of the water rights owned by the City. The list contains water right numbers, the total annual volume allotted to the water right and for what use the water right was given. As mentioned before these water rights are currently being leased by Weber Basin as part of the water purchasing agreement.

2.2.2 Current Rights

Sunset City owns 4 certified water rights for a total of 2.776 cfs each right has an unevaluated annual acre-foot. The designated use for all 2.776 cfs is for municipal purposes. A list of all water rights is shown in Table 2-1 Current Water Rights and Table 2-2 Current Water Rights Place of Use and Points of Diversion.

Table 2-1 Current Water Rights

Owner	Source	Base WR #	Priority	APP/ Claim#	Changes	Supplemental Group	Diversion Type	Type of Use	Flow CFS	Acre Ft.	Period of Use	Cert #
Sunset City Corporation	Underground Well	31-695	1962	A34200	-		Underground	Municipal	1.353		01/01 to 12/31	6843
Sunset City Corporation	Underground Well	31-815	1939	A11838	a3967		Underground	Municipal	0.446		01/01 to 12/31	3755
Sunset City Corporation	Martin Spring & Unnamed Spring	31-2309	1941	A14148	-		Surface	Municipal	0.067		01/01 to 12/31	3757
Sunset City Corporation	Underground Well	31-2409	1944	A15541	a3968		Underground	Municipal	0.91		01/01 to 12/31	a416
								TOTAL	2.776			

Table 2-2 Current Water Rights Place of Use and Points of Diversion

Owner	Source	Base WR #	Points of Diversion
Sunset City Corporation	Underground Well	31-695	S 245 feet W 363 feet from E4 corner, Sec 26 T 5N R 2W SLBM (Underground)
Sunset City Corporation	Underground Well	31-815	S 245 feet W 363 feet from E4 corner, Sec 26 T 5N R 2W SLBM (Underground)
Sunset City Corporation	Martin Spring & Unnamed Spring	31-2309	N 33 feet W 930 feet from E4 corner, Sec 26 T 5N R 2W SLBM (Surface)
Sunset City Corporation	Underground Well	31-2409	S 245 feet W 363 feet from E4 corner, Sec 26 T 5N R 2W SLBM (Underground)

2.2.3 Water Right Dedication Policy

One acre-foot of water is insufficient to satisfy the state’s water requirements for lots larger than ½ acre. Table 2-3 State Requirements shows the state’s water right requirements for different lot sizes. For each of the lot sizes, the indoor use requirement remains the same. The required volume for outdoor irrigation increases as the availability of land to be irrigated increases. A user on a larger lot will likely use more water than one acre-foot of water. Water right dedications should be correlated to the possible amount of water that will be used, based on the size of the lot. Otherwise, users in the water service boundary may use more water than the City has available.

Table 2-3 State Requirements

Lot Size (acres)	5	2	1	0.5
Irrigated Acreage (acres)	4	1.6	0.8	0.4
Outdoor Use (AF)	6.64	2.66	1.33	0.66
Indoor Use (AF)	0.45	0.45	0.45	0.45
Total Required Water Right	7.09	3.11	1.78	1.11

All water rights have a depletion amount. Depletion is the amount of water that can be consumed from a water right. The depletion amount depends on the use of the water. Uses like stock watering have 100% depletion and uses like irrigation have around a 50% depletion amount³. The depletion amount for municipal use water varies. In the past, water companies and municipalities have been able to convert irrigation water to municipal use by specifying that the depletion amount of the municipal right will remain the same as the depletion for the irrigation.

³ The remainder of the water right is assumed to return to the aquifer

2.3 Existing Storage

Sunset City does not own any storage tanks. Storage for their system is provide by Weber Basin as part of a water purchasing agreement.

2.4 Existing Distribution System

Due to its close proximity to Hill Air Force Base, Sunset City experienced rapid growth and development during and after World War II. Many of the 4” diameter and smaller water lines installed during that time still remain in service today. Figure 2 Existing System Pipelines shows the existing distribution system. Table 2-4 Existing Distribution System summarizes the diameter and length of all pipelines for the system, including the transmission line that extends along Main Street which serves.

Table 2-4 Existing Distribution System

Existing Water Lines	Diameter (in)	Length (ft)
Transmission Lines	12”	3,792
	8”	5,140
	Total	8,932
Distribution Lines	8”	19,178
	6”	65,317
	4”	11,372
	3”	821
	Total	96,668
Total Length		105,620

SECTION 3

EXISTING AND FUTURE CONNECTIONS

3 EXISTING AND FUTURE CONNECTIONS

3.1 Service Area

Sunset City provides water to all residential and commercial connections located within the City boundary. The system serves a total of 1,659 residential connections (1,452 single-family, 205 multi-family shared connections), 66 commercial and 1 motel connections.

Sunset City has very few vacant lots and is nearing a 100% built-out state which has limited their growth over the past decade. However, the State of Utah is currently experiencing a housing crisis which has resulted in high demand for high density multi-family dwellings. Sunset City currently has approximately 403 multi-family units and has given approval to construct an additional 400 multi-family units within the next few years. These multi-family units will include commercial business spaces on the main level and will be considered a mixed-use connection. It is anticipated that as the housing crisis continues the majority of development/redevelopment that will occur within Sunset will result in multi-family units/connections.

3.2 ERC Evaluation

3.2.1 Existing ERC Evaluation

Sunset City currently provides water to 1,726 connections; 1,659 residential (single-family and multi-family), 66 commercial (churches, schools and businesses) and 1 Motel connections. Because multi-family units are typically smaller than single-family residence, the number of Equivalent Residential Connections (ERCs) per multi-family unit was reduced to 0.66 ERCs. Sunset City currently provides water to 403 multi-family units and 1,454 single family connections. This equates to 1,454 single-family and 266 multi-family residential ERCs. From usage records provided by Sunset City, it was determined that the average residential usage during peak months was 758 gal/day which includes indoor and outdoor usage. To convert commercial usage to equivalent residential connections, the State recommends using a conversion value of 800 gal/day in conjunction with actual usage data. This value was used along with commercial usage records provided by Sunset City to convert commercial usage to ERCs. This equates to 360 ERCs for commercial connections. Using the same process to convert the motel usage to ERCs, equates to 2 ERCs for the motel. The total number of ERCs for the system is 2,082 ERCs.

3.2.2 Future ERC Evaluation

Based on the Governor's Office of Management and Budget (GOMB) 2010 Census data, Sunset City currently serves an estimated population of 5,417 individuals. The growth rates for Sunset City over the next 40 years are expected to be very low, ranging from 0.04% to 0.16% (see Table 3-1 below). These growth rates were used to project future ERCs for single-family residential, commercial and motel connections. However, due to the recent housing crisis in Utah, growth rate for high density/multi-family housing is anticipated to be significant higher. Sunset City

currently has a total of 403 multi-family units and has approved an additional 400 units to be completed within the next few years. This is equal to a growth rate of 6.9% for multi-family units. Understanding this growth rate is not likely to continue beyond the first 10 years, the multi-family growth rate was reduced to 1.5% for the remaining 30 years. Based on these assumptions and maintaining the 0.66 ERCs per multi-family unit, the future Equivalent Residential Connections for Sunset City will be 1,524 ERCs for single-family connections, 831 ERCs for multi-family units, 377 ERCs for commercial connections and 2 ERCs for motels, for a total of 2,735 ERCs by the year 2060 (see Table 3-2 below).

Table 3-1 Sunset City GOMB Projected Growth Rates

Decade	Growth Rate
2010-2020	0.56%
2020-2030	0.12%
2030-2040	0.04%
2040-2050	0.16%
2050-2060	0.14%
Average Rate between 2020-2060	0.115%

Table 3-2 Sunset City Water System Future ERC Projections

Year	Est. Single-Family Residential ERC's	Est. Multi-Family Residential ERC's	Est. Commercial ERC's	Est. Motel ERC's	Total ERC's
2020	1454	266	360	2	2,082
2030	1472	530	364	2	2,369
2040	1479	616	366	2	2,463
2050	1503	715	372	2	2,592
2060	1524	831	377	2	2,735

SECTION 4

WATER DEMAND CRITERIA

4 WATER DEMAND CRITERIA

There are three main state requirements⁴ that must be considered when evaluating a system for compliance with state regulations. The first requirement is source capacity, which considers water rights and source production. Second is storage, which considers water tank capacity. The third requirement is the distribution system which considers the pipe size capacity. It is essential that all three requirements are satisfied to meet state requirements. This section of the master plan will examine each requirement individually. As part of the water purchasing agreement, Weber Basin provides Sunset City the required source and storage for their system.

4.1 Indoor Source Demand

In order to have adequate source sizing, a system must have capacity to deliver on the day of the highest water consumption (**peak day demand**) and have sufficient water rights to supply water (**average yearly demand**). First, this report will look at the capacity to deliver water under peak day demand and the required water rights for the average yearly demand.

4.1.1 Existing Peak Day Demand

The state requires that a minimum of 800 gallons per day per Equivalent Residential Connection⁵ (gpd/ERC) be used in determining indoor peak day demand. If there is a high confidence that more or less water is used and proof through past usage data, this water can be adjusted accordingly. In this case Ensign Engineering used the state required minimum of 800 gallons per day per ERC. As described in the previous section the total ERCs for Sunset City is 2,082. According to state rules, Sunset City must be able to provide 1,664,640 gpd or 1,156 gallons per minute (gpm) for their total indoor peak day use.

4.1.2 Future Peak Day Demand

The total number of future ERCs is 2,735 in the year 2060. Based on the state minimum requirement of 800 gpd per ERC, Sunset City must be able to provide 2,187,360 gpd or 1,519 gpm for their total future indoor peak day use.

⁴ State of Utah Drinking water system requirements are found in the Administrative Rules R309-510.

⁵ One Equivalent Residential Connection (ERC) refers to the amount of water used in a typical residence for both indoor and outdoor use. Each connection in a system is assigned a number of ERCs based on the amount of water that is used. A typical residence connection will be assigned one ERC. A connection that uses more than a typical residence (such as a laundromat) will be assigned more than one ERC. A connection that uses less than a typical residence (such as a townhome) will be assigned less than one ERC.

4.2 Outdoor Source Demand

4.2.1 Existing Peak Day Demand

Based on the Irrigated Crop Consumptive Use Zones and Normal Annual Effective Precipitation Map, Sunset City is located in map zone 4 and the State requires 3.96 gpm per irrigated acre for outdoor use. All residential connections in the system use culinary water for outdoor irrigation purposes for their homes. The estimated amount of land that is watered with culinary water for each ERC is estimated at 0.05 acres. Sunset City must be able to provide 593,280 gpd or 412 gpm for outdoor use.

4.2.2 Future Peak Day Demand

The future demand for outdoor demand was determined by assuming that all connections will continue to utilize culinary water for irrigation. Assuming 0.05 acre being irrigated per connection. This results in the City needing to provided 779,040 gpd or 541 gpm for outdoor irrigation.

4.3 Total Source Demand

To meet the requirement for source (summing indoor and outdoor use requirements), Sunset City must be able to deliver 2,259,040 gpd or 1,568 gpm to the system (see Table 4-1).

Table 4-1 Existing State Requirements for Indoor and Outdoor Use-Entire System

Peak Day Demand	800 gal/day/ERC
ERCs	2,082
TOTAL INDOOR	1,664,640 gpd or 1,156 gpm
Outdoor Peak Day Demand	3.96 gal/min/irrigated acre
Irrigated Acres/ERC	0.05 acres
TOTAL OUTDOOR	593,280 gpd or 412 gpm
TOTAL REQUIRED	2,257,920 gpd or 1,568 gpm
TOTAL AVAILABLE	Weber Basin Supplied

In the future the total source required by the state for Sunset City is 2,966,400 gpd or 2,060 gpm to the system. Reference Table 4-2 Future State Requirements for Water Use-Entire System in the future years to come.

Table 4-2 Future State Requirements for Indoor and Outdoor Use-Entire System

Peak Day Demand	800 gal/day/ERC
ERCs	2,735
TOTAL INDOOR	2,187,360 gpd or 1,519 gpm
Outdoor Peak Day Demand	3.96 gal/min/irrigated acre
Irrigated Acres/ERC	0.05 acres
TOTAL OUTDOOR	779,040 gpd or 541 gpm
TOTAL REQUIRED	2,966,400 gpd or 2,060 gpm
TOTAL AVAILABLE	Weber Basin Supplied

4.3.1 Average Yearly Demand

Using the minimum state requirements, Sunset City needs a minimum of 1,131 acre-feet per year of water rights for both indoor and outdoor use. Reference Table 4-3 Average Yearly Demand.

Using the minimum state requirements, Sunset City needs a minimum of 1,486 acre-feet per year of water rights for future indoor and outdoor use. Reference Table 4-4 Future Average Yearly Demand.

Table 4-3 Average Yearly Demand

Indoor Yearly Demand	0.45 af/ERC
ERCs	2082
TOTAL INDOOR	937 acre-feet
Outdoor Yearly Demand	1.87 af/irrigated acre
Irrigated Acres per ERC	0.05
TOTAL OUTDOOR	194 acre-feet
TOTAL REQUIRED	1,131 acre-feet
TOTAL AVAILABLE	1,998 acre-feet

Table 4-4 Future Average Yearly Demand

Indoor Yearly Demand	0.45 af/ERC
ERCs	2,735
TOTAL INDOOR	1,230 acre-feet
Outdoor Yearly Demand	1.87 af/irrigated acre
Irrigated Acres per ERC	0.05

TOTAL OUTDOOR	256 acre-feet
TOTAL REQUIRED	1,486 acre-feet
TOTAL AVAILABLE	1,998 acre-feet

Sunset City owns sufficient water rights to meet the existing and future average yearly demand. However, their water rights have been leased to Weber Basin as part of their water purchasing agreement.

4.4 Distribution System Requirements

4.4.1 Fire Flow

Sunset City has existing fire hydrants that cover all of the connections within the system. The City is covered by the North Davis Fire District, which has two stations located in Clearfield and West Point. Typical fire flow requirements are 1,500 gpm for residential buildings. Sunset City provides fire protection to commercial building, warehouses, schools and churches. Based on the square footage of these buildings and assumed fire suppression systems within, a weight average of fire flow demands was calculated. To meet the North Davis Fire District fire requirements, Sunset City water system must be able to deliver fire flows (1,525 gpm) at a minimum pressure of 20 pounds per square inch (psi) during peak day demand throughout the system. Additionally, the system must meet the commercial fire flow demand which is dependent on building size and fire suppression features within the building.

4.4.2 State Requirements for Distribution System

The distribution system must be sized to meet three requirements. First, the system must be able to deliver fire flows (1,525 gpm) at a minimum pressure of 20 pounds per square inch (psi) during peak day demand throughout the system⁶. Second, the system must be able to deliver the estimated peak instantaneous demand at a minimum pressure of 30 psi. This is an estimate of the maximum amount of water that will be used in the system at one time. The peak instantaneous demand is two times the peak day demand for indoor outdoor use. Sunset City does not have daily data to determine peak instantaneous demand and peaking factor so two was used as a conservative peaking factor value. Third, the system must be able to deliver the peak day demand and maintain a minimum pressure of 40 psi (see Table 4-5 below).

⁶ 1,500 gpm is based on the maximum flow the Big Water Fire Department is capable of producing.

Table 4-5 State Requirements for Distribution System

Peak Day Pressure	40 psi
Peak Instantaneous Pressure	30 psi
Fire Flow Pressure	20 psi
Fire Flow Required	1,525 gpm

4.5 Storage Sizing

For adequate storage sizing, the storage should be sized according to the local fire authority. Sunset City is serviced by North Davis Fire District which requires 1,500 gpm of fire flow for two hours for residential connections. Additional fire flow for commercial buildings, warehouses, churches, and schools was calculated based on the building size and assumed fire suppression system. A weighted average of the fire flow requirements and connection type was calculated. This equates to a fire flow of 1,525 gpm for 2 hrs. The State requires 400 gal/ERC of storage for peak day indoor use. Peak day outdoor storage requirements are based off the State consumptive use zones map and irrigated acres per ERC. The minimum State storage requirement for fire flow is 183,000 gallons, 832,800 gallons for indoor peak day storage, and 296,477 gallons for outdoor peak day storage for a total required storage 1.31 million gallons. Reference Table 4-6 Existing State Requirements for Storage.

Table 4-6-Existing State Requirements for Storage

Fire Flow	1,525 gpm
Duration	2 hrs
FIRE FLOW STORAGE	183,000 gallons
<hr/>	
Indoor Peak Day Storage	400 gal/ERC
ERCs	2082
INDOOR PEAK DAY STORAGE	832,800 gallons
<hr/>	
Outdoor Peak Day Storage	2,848 gal/irrigated acre
Irrigated Acres per ERC	0.05
OUTDOOR PEAK DAY STORAGE	296,477 gallons
TOTAL REQUIRED STORAGE	1.31 Million gallons
TOTAL AVAILABLE STORAGE	Weber Basin Supplied

The future storage requirements are based on the same ERCs determined in Section 3. The future storage required by Sunset City for fire flow is 183,000 gallons storage, 1.09 million gallons for

indoor peak day storage, and 51,833 gallons for outdoor peak day storage for a total required storage of 389,464 gallons. Reference Table 4-7 Future State Storage Requirements.

Table 4-7 Future State Storage Requirements

Fire Flow	1,525 gpm
Duration	2 hrs
FIRE FLOW STORAGE	183,000 gallons
<hr/>	
Indoor Peak Day Storage	400 gal/ERC
ERCs	2,735
INDOOR PEAK DAY STORAGE	1.09 milliom gallons
<hr/>	
Outdoor Peak Day Storage	2,848 gal/irrigated acre
Irrigated Acres per ERC	0.05
OUTDOOR PEAK DAY STORAGE	389,464 gallons
TOTAL REQUIRED STORAGE	1.66 million gallons
TOTAL AVAILABLE STORAGE	Weber Basin Supplied

Sunset City will need verify with Weber Basin Water Conservancy District that they are able to provide the existing and future peak day plus fire flow storage demands for indoor and outdoor use required by the State.

SECTION 5

HYDRAULIC MODEL METHODOLOGY AND ANALYSIS

5 HYDRAULIC MODEL METHODOLOGY AND ANALYSIS

5.1 Hydraulic Model Used

The distribution system computer model was developed in Bentley WaterCAD 2020 which allowed the water system to be graphically input into the program. Once the system pipes, springs and storage tanks were in the model, the attributes of each individual component were entered. The details included pipe material, length of pipes, elevation of the ends of each pipe, slope of each pipe. The storage tank location, size, and elevation were assumed to provide the existing pressures provide by Weber Basin at each of the points of interconnection. Sunset City water system was analyzed using the Hazen-Williams method. This method allowed for the head loss (friction loss) for each pipe, valve, and fitting to be calculated, and is a commonly used method for water system master planning. Once the model was fully developed, the existing system and proposed system was then analyzed to determine the current system performance and assess problem areas and potential weaknesses in the distribution system.

5.2 Hydraulic Model Input

The entire water system for Sunset City was input into the Hydraulic Model. A summary of the pipe sizes is shown in Section 2 of this report. See Attached maps in Appendix for spatial locations of items input into model. Most of the pipes in the system are PVC and were assigned a Hazen-Williams coefficient of friction of 150.

The demand for the model and each node is the Total Demand (both indoor and outdoor) for Peak Day and Peak Instantaneous demands. Nodes were assigned to every intersection of pipe where a fire hydrant was nearby, as well as other locations that may be of concern. Each Node was assigned the demand according to how many ERCs would be serviced from said node. Each node received demands for Peak Day and Peak Instantaneous for existing conditions and for future demand requirements.

5.3 Hydraulic Model Analysis

The existing system was analyzed according to the peak day demand (which included fire flow analysis), peak instantaneous demand, future peak day, future peak instantaneous demand scenarios. After identifying the problem areas in the system, proposed system improvements were incorporated to address the problem areas and future peak day (including fire flow) and peak instantaneous demand were analyzed again. Each of these scenarios were analyzed to see if the required pressures were maintained throughout the system and if any additional deficiencies were noticeable.

Sunset City's water system is fed off of 4 connections with Weber Basin along Main Street. Weber Basin was contacted to verify the pressures at these connections. Because the analysis is focused on Sunset's water system and not Weber Basin an assumed tank, size and elevation was incorporated into the model to provide the required pressures at these connections. Assuming

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Weber Basin has the source and storage available to meet the existing and future demands of Sunset's system. All model inputs and results are included in the Appendix.

SECTION 6

HYDRAULIC MODEL RESULTS

6 HYDRAULIC MODEL RESULTS

6.1 Existing System Model Results

Three different scenarios were ran in the model: first, peak day demand, second, fire flow, and third, instantaneous peak demand. To add these demands to the system, nodes were inserted at valve and fire hydrant locations with elevations and assigned ERCs. Peak day demand includes flows for both indoor and outdoor use and models how the system functions during the summer. The water system will function at or below peak day demand 80% of the time. Peak instantaneous demand is the highest water demand that the system will see during a year. Fire flows assumes a fire occurs during peak day demand use and the design of a water distribution system is typically controlled by either peak instantaneous demand or fire flows. Maps of the existing system are shown in the maps located in the Appendix of this report. A table of individual node pressures and flows and a map showing node locations for all three scenarios is located in the Appendix.

The first scenario analyzed was peak day demand. Peak day demand shows the pressures in the system that would occur for water demands during a peak day. Flows for the peak day demand are in gallons per day and match the state demand requirements (Reference Section 4 Water Demand Criteria).

The resulting pressures from the peak day demand scenario are shown on sheet MR-100 in the Appendix. For peak day demand, the pressures in the system are in the acceptable range of greater than 40 psi. The average pressure for the system is 78 psi with a max pressure of 103 with a min of 53.

The second scenario was for fire flows. North Davis Fire District requires a minimum flow of 1,500 gpm at minimum pressure of 20 psi during a peak day demand and that the max velocity through any pipe in the system is below 10 feet per second. However, if the fire flow available is within the 1,200 to 1,500 gpm range, or within 300 gpm of the required fire flow, these were considered acceptable, but cautionary. Fire flow demands for certain commercial connections were determined based on building size and existing fire suppression. The specific nodes surrounding these commercial nodes have larger fire flow requirements than most connections for residential connections. These requirements vary from 1,750 gpm for smaller commercial sites, 2,000 gpm for churches, and up to 3,000 gpm for schools and large commercial connections. Sheet MR-103 shows the nodes that were and were not able to deliver required fire flows. Based on the Model, approximately 77% of the nodes within the system meet fire flow requirements, with an additional 11% of the nodes are acceptable, but cautionary.

The third scenario was for peak instantaneous demand. The peak instantaneous demand is in gallons per minute and is 2 times the peak day demand for indoor use and 2 times peak day demand for outdoor use. Sunset City does not monitor the peak usage and so it is difficult to

determine the actual peaking factor for the system. The peaking factor of 2 is a conservative estimate and for this purpose was used for the City. The resulting pressure from the peak instantaneous demand scenario is shown in Sheet MR-101 in the Appendix. In this scenario all pressures exceeded the minimum pressure constraint of 30 psi. The average pressure for the system is 77 psi with a max pressure of 101 with a min of 52.

6.2 Future and Proposed System Model Results

The same scenarios were modeled on the existing system with the projected future demand. The results proved to be quite similar with all of the nodes still being able to provide the proper fire flows and pressures for both peak instantaneous and peak day demand. The existing deficiencies of fire flow remained as well, seeing no improvements to the system were made. The results of the model for the future system are included in the maps in the Appendix and are located on sheets MR-200, MR-201, and MR-203

The same scenarios were then applied to the system for the proposed improvements that will be recommended for the City. These recommendations will be covered in detail in Section 8 of this report. The Hydraulic Model results of the proposed improvements shows improvement to the system fire flows, pressures and overall production for the entire system. Improvements were focused on replacing undersized and old 4" pipe with 8" pipe. These improvements improved flows and pressures for the areas around the improvements. Two alternatives were analyzed: the first alternative analyzed the system with only replacing all existing pipes under 4" in diameter, the second analyzed the system with pipes replaced to get fire flow protection to all of the system.

The resulting pressures from the proposed peak day demand scenario for alternative 1 resulted in an average of 78 psi with a max of 102 psi and a min of 53 psi. The peak inst. scenario resulted in an average of 76 psi with a max of 100 psi and a min of 51 psi. By replacing all the 4" pipe with 8" pipe, the fire flow protection improved to have 83% of the nodes meeting fire flow with an additional 12% nodes are acceptable, but cautionary.

The resulting pressures from the proposed peak day demand scenario for alternative 2 resulted in an average of 78 psi with a max of 103 psi and a min of 53 psi. The peak inst. scenario resulted in an average of 77 psi with a max of 101 psi and a min of 52 psi. By replacing all the 4" pipe and some of the existing 6" with 8" pipe, the fire flow protection improved to have 91% of the nodes meeting fire flow with an additional 6% nodes are acceptable, but cautionary.

6.3 Conclusion

Sunset Water System currently is providing sufficient pressure for all peak day and peak instantaneous scenarios within the system for all connections.

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Based on the model, the main deficiency in the system is that fire flow is not met for the approximately 25% of the system. Other deficiencies within the system, are due to the age of certain pipes. Many water mains within the system are over 50 years old. If the proposed actions are not implemented the system will not be able to provide proper fire protection to the City, but more importantly due to the age of the pipes there could be significant failures to the system if not replaced.

The proposed future connections would not have an overwhelming negative effect on the system and the system will still be able to provide sufficient pressures and flows to the entire system with the proposed improvements. The existing deficiencies of fire flow will remain unless further action is taken. The proposed actions to the existing system described in section 8 of this report were modeled and showed that these improvements satisfy the hydraulic requirements and improve the quality of water within the system.

SECTION 7

WATER CONSERVATION PLAN

7 WATER CONSERVATION PLAN

7.1 Introduction

Water conservation plans are to be updated every five years. This water conservation plan is prepared to meet the Utah Board of Water Resources requirements and to address the goals of Sunset City. Water conservation is a key element to provide for future water needs. Conservation can delay the need for expensive water projects, preserve the environment, and save taxpayers money. It is necessary for the City to implement a water conservation plan in order to receive funds from various funding agencies.

Sunset City water consumption was broken down to residential and commercial connections. For the year 2019, the combined usage was 233 million gallons. The combined use averaged 369 gpd per connection. On average, the existing water system delivers 369 gpd per connection or 117 gpd per capita.⁷ This value is 30% lower than the average state usage of 167 gpd per capita⁸. The purpose of this plan is to present a planning document for the District, which will guide its water conservation activities for the future to help maintain the 25% reduction requirement. Water conservation will benefit the City, the users, and the environment. The possible benefits include:

- Improved water service and more effective use of available water supply.
- Reduced operation and maintenance (O & M) costs, including lowering pumping costs.
- Development of additional water supply capabilities and diminished groundwater overdraft.
- Postponed need for new or expanded water supplies and infrastructure.
- Reduced impact of drought.

It is important to mention here that conservation can suppress water sales and lower water revenues. The revenue loss impacts can be mitigated by periodic rate adjustments if reduction occurs slowly. These adjustments would be handled similarly to operating cost increases and can be integrated into financial planning.

7.2 Water Conservation Goals

The City can reduce per capita consumption by promoting and expanding water conservation. Currently there are many homes that do not have landscaping, but as landscaping is added water consumption per capita will increase substantially. As conservation goals and standards are integrated within the City, increase in per capita consumption can be avoided.

The State of Utah has proposed a goal to reduce the per capita water demand of the public systems by 25% from 1995 to 2050. To achieve this Ensign proposes several conservation goals:

⁷ These values were computed using data from the period January 2019 through December 2019.

⁸ From Table 6, "Domestic water withdrawals and deliveries", USGS Circular 1405

1. **Goal #1: Reduce current consumption per capita by 25% by the year 2050.** This would mean Sunset City would have to maintain per capita consumption below 167 gpd per capita. This can be accomplished by providing proper information to the community on good water conservation practices for both indoor and outdoor usage.
2. **Goal # 2: Maintain a financially viable water system.** This can be done by adopting a conservation-oriented rate structure. A conservation-oriented rate structure will have the largest effect on conservation.
3. **Goal #3: Promote xeriscaping for landscapes, open spaces and yards.** Improved irrigation practices and water-efficient landscaping can enhance the appearance of the City and save water. Also promote a City ordinance that prevents users from watering during the hotter times of day during the summer months.

7.2.1 Past Water Conservation Efforts

Sunset City has implemented an aggressive rate structure to deter users from using more than 10,000 gallons of water each month. This is one example the City has already implemented to help conserve water.

7.2.2 Water Conservation Efforts in Surrounding Communities

Roy, Clearfield, and Clinton have also implemented very aggressive rate structures that deter users from using excessive water.

7.3 Recommended Water Conservation Measures for Sunset City

The latest water conservation measures are known as “Best Management Practices (BMPs)” and many of these measures are discussed in this section. The intent of all the measures is the same: to encourage utilities to use these measures as the cornerstone of their water conservation program. The following programs are proposed:

7.3.1 Rate Structure

Implementing an even more aggressive rate structure will help with water conservation by deterring users from using an excessive amount of water.

7.3.2 Public Information Program

The water users of Sunset City should be informed of specific measures to establish or enhance a water conservation ethic among City customers. The programs could include:

- Poster contests.
- T-shirt design contests.
- Presentations and tours with hands-on demonstrations.
- Advertisements on the radio and television.

Printed educational material such as bill inserts (providing information on the customer's bills showing water usage for the last billing period compared to the same period the year before), and Coordinating with other towns, agencies, industry groups, public interest groups, and the media.

- The following steps could be used to design a public information program:
- Develop a clean and persuasive statement of purpose.
- Choose an appropriate theme.
- Identify key target groups.
- Select citizens for a water conservation committee.
- Identify communication paths, resource materials, and volunteers.
- Design and implement specific campaigns.
- Ensure effective coordination and follow-through.

The program will target all customers within the City boundaries. The purpose and a water conservation theme of the public information program will be decided upon. Examples of possible themes and slogans are:

- Save Water.
- Use Water Wisely.
- Save Water, Save Money, Save Energy.
- Save Water, It's Your Future.
- Save Water Today for Tomorrow.
- Water is Life, Don't Waste It.

A program logo reflecting the theme then can be selected or use the State's existing logo. The image could be realistic, stylized, or a friendly caricature with a suitable name. This theme can be retained or modified as needed in the future.

7.3.3 Public/Consumer Education Program

Public education can ensure long-term water conservation. Through public involvement, people become more aware of the hydrologic cycle and the limitations nature places on water availability. Public education can provide examples of practical ways for more efficient use. This can result in public realization of the value of water, reasons to conserve water and the benefits of implementing long term water conservation efforts. Consequently, significant water use reductions can be achieved and more public support for the conservation program can be generated.

The City can develop plans for a consumer education program focusing on the need for water conservation, community water problems, and feasible alternatives. The potential for water

conservation programs will be discussed, including the rationale behind proposed actions and monetary benefits to the customers.

The free distribution of water conservation kits consisting of leak detection dye tablets, shower and faucet flow restrictors and faucet aerators kits can assist in reducing indoor domestic water use.

A water conservation program will be initiated in institutions (such as schools, churches and public buildings) including a leak detection program, metering and refitting of public facilities with water saving devices, and training seminars for public employees.

Public education programs on water conservation prove to be the best way of bringing about substantial water savings. Long term, on-going programs will promote a conservation ethic, making people more receptive to the idea of reducing water use to conserve limited water resources.

7.3.4 Identify High Water Users

The high-water users in the commercial and industrial sectors such as gas stations, restaurants, and individual industrial plants should be identified. The high-water users should be approached with specific water conservation plans for their facilities.

7.3.5 Refitting Program with Water Saving Devices

A refitting program using water saving devices such as toilet displacement bottles, flow control-aerators and shower flow control should be planned. A pilot test program should be started before a large-scale program is begun.

7.3.6 Water Survey Programs for Single and Multifamily Residential Customers

The City could offer an indoor and outdoor water survey of single- and multi-family residential customers. Specific activities for each indoor and outdoor survey should include the following:

- Indoors
 - Check for leaks including toilets, faucets, and meter check.
 - Check flow rates for showerheads and faucets and offer to replace or recommend replacement with low flow models as appropriate.
 - Check toilet flow rates and offer to install or recommend installation of displacement devices or direct customer to Ultra Low Flush Toilet (ULFT) replacement program, as appropriate; replace leaking toilet flapper, as necessary.
- Outdoors
 - Check irrigation system and timer
 - Review or develop customer irrigation schedule in minutes of watering time per week for spring, summer, and fall.
 - Provide a rain shut-off device (optional)
 - Measure currently landscaped area (optional).
 - Measure total irrigation area (optional).

7.3.7 Conservation-Oriented Billing Rate Structures

Sunset City recently adopted a new water rate structure which consist of a base amount of water to be used at a base rate and water used beyond the base amount of overage tier rates. Up to 10,000 gallons may be used per connection per month for the (low) base rate of \$24.75 for residential and \$29.00 for commercial connections. After the base amount is used the rate of \$0.14 per 100 gallons is applied for the next 20,000 gallons. After the 20,000 gallons is used the rate jumps again to \$0.16 per 100 gallons for the remaining usage. This is the same for commercial connections with the exception that for commercial the overage rate is \$0.16 per 100 gallons and \$0.18 per 100 gallons. This rate structure may be adequate for the time being, but a more aggressive structure should be implemented that promotes conservation by affecting users financially if water is used frivolously.

7.3.8 Landscaping Schemes with Low Water Consumption Rates

Since landscaping creates one of the greatest impacts on current water supplies, the City should promote water conservation through landscape planning by education and through the use of xeriscaping, the use of no- or low-water plants. See relevant Internet links. Xeriscaping has the greatest potential for water saving where new construction is involved.

7.3.9 High Efficiency Washing Machine Rebate

The City could start a rebate program to encourage residents using a more conservation-oriented higher-efficiency washing machine than their existing one. Front-loading washing machines typically use half as much water as top-loading machines. The City could set goals, criteria, objectives, and timetables for implementation of a program.

7.3.10 Linking With Useful Internet Sites

Sunset City could create an internet website that could be used for posting monthly City-wide water consumption, recommended lawn-watering rates and times, and other water conservation-related information. The City's website could display links to the following useful sites, which City residents could visit to learn about different strategies for water conservation.

- <http://extension.usu.edu/waterquality/html/conservation>: Utah State University Extension provides many useful educational tools and links for water conservation.
- (<http://www.conservewater.utah.gov>): Utah Division of Water Resources site.
- (<http://utahrivers.org/2015/08/20/saving-water-tips/>): Utah River Council site. The site includes information on strategy to reduce water use, xeriscaping, other water conservation links and books on water conservation.
- (www.watereducation.utah.gov/conservation/default.asp): Sites for Water Conservation for Kids
- (<http://www.awra.org>): The American Water Resources District is an excellent source of water-related information and literature.
- (<http://www.slccgov.com/waterconservation>): Salt Lake City conservation website.
- (<http://www.epa.gov/watersense>): How to Conserve Water and Use It Effectively (EPA).

7.3.11 The Water Conservation Checklist

The following list of 23 “Water Conservation Tips” could be posted to City’s bulletin to educate residents:

- **Check your toilet for leaks:** A leak in your toilet may be wasting more than 100 gallons of water a day. To check, put a little food coloring in your toilet tank. If, without flushing, the coloring begins to appear in the bowl, you have a leak. Adjust or replace the flush valve or call a plumber.
- **Stop using your toilet as a wastebasket:** Every time you flush a piece of lint, facial tissue or other small bit of trash down the toilet, you waste five to seven gallons of water.
- **Put one or two plastic bottles in your five-gallon or larger toilet tank:** Your toilet can flush just as efficiently with less water than it now uses. To cut down on waste, put an inch or two of sand or pebbles in each of one or two plastic quart bottles to weigh them down. Fill them with water, screw on the lid and put them in your toilet tank, safely away from the operating mechanisms. Better yet, replace your old toilet with a new low-flush toilet. They are readily available in a variety of styles and colors.
- **Take shorter showers:** Long hot showers waste five to ten gallons of water every unneeded minute. Limit your showers to the time it takes to soap up, wash down and rinse off.
- **Install water-saving shower heads or flow restrictors:** Most shower heads put out five to ten gallons of water each minute, while three gallons is actually enough for a refreshing cleansing shower. Your local hardware or plumbing supply store stocks inexpensive water-saving shower heads that you can install yourself. For even less money, you can purchase a small plastic insert that will limit flow through your present shower head.
- **Turn off the water after you wet your toothbrush:** After you have wet your toothbrush and filled a glass for rinsing your mouth, there is no need to keep water pouring down the drain. The savings are small but frequent, and the message you send your children or grandchildren is huge.
- **Rinse your razor in the sink:** Before shaving, partially fill your sink with a few inches of warm water. This will rinse your blade just as efficiently as running water, and far less wastefully.
- **Check faucets and pipes for leaks:** Even the smallest drip from a worn washer can waste 50 or more gallons of water a day. Larger leaks can waste hundreds of gallons a day, enough to supply a whole family.
- **Use your automatic dishwasher only for full loads:** Every time you run your dishwasher, you use about 25 gallons of water. Consider replacing your older model with a newer water- and energy-efficient dishwasher. You would be surprised at the savings.
- **If you wash dishes by hand, don't leave the water running for rinsing:** If you have two sinks, fill one with soapy water and one with rinse water. If you have but one sink, gather all the washed dishes in the dish rack and rinse them with an inexpensive spray device.
- **Don't let the faucet run while you clean vegetables:** You can serve the same purpose by putting a stopper in the sink and filling the sink with clean water.

- **Keep a jug of drinking water in the refrigerator:** This ends the wasteful practice of running tap water to cool it off for drinking.
- **Use your automatic washing machine only for full loads:** Your automatic washer uses 30 to 35 gallons of water in a cycle. That's a lot of water for three T-shirts. Consider replacing your older model with a newer water- and energy-efficient machine.
- **Plant drought-resistant trees and plants:** There are many beautiful trees and plants that thrive in Utah with far less watering than other species. See Appendix for lists of trees, shrubs, grasses and flowers that are suitable for our area, but require less water.
- **Put a layer of mulch around trees and plants:** A layer of mulch will slow the evaporation of moisture.
- **Use a broom to clean driveways, sidewalks and steps:** Using a hose to push around a few leaves and scraps of paper can waste hundreds and hundreds of gallons of water.
- **Don't run the hose while washing your car:** Soap down your car with a pail of soapy water. Then use a hose just to rinse it off.
- **Teach your children that your hose and sprinklers are not toys:** There are a few things more cheerful than the sound of happy children playing under a hose or sprinkler on a hot day. Unfortunately, there are also few things more wasteful of precious water.
- **Water your lawn and other plants only when they need it:** Watering frequently can be very wasteful as it doesn't allow for cool spells or rainfall that can reduce the need for watering. A good way to see if your lawn needs watering is to step on some grass. If the grass springs back up when you move, it doesn't need water. Look at links on the City's website for Agricultural Extension sites that provide lawn-watering guides, to make sure you are applying enough and only enough water on your landscaping.
- **Deep-soak your lawn:** When you do water your lawn, do it just long enough for water to seep down to the roots, where it won't evaporate quickly and where it will do the most good. A light sprinkling which sits on the surface, will simply evaporate and be wasted. In addition it encourages shallow inefficient root systems. A slow steady fall of water is the best way to irrigate your lawn.
- **Water during the cool parts of the day:** Less water is lost to evaporation when the ground and the air are cool. Early mornings are better than at dusk, since it helps preventing the growth of fungus.
- **Don't water the gutter:** Adjust your sprinkler patterns in such a way that water lands on your lawn or garden, not on concrete or asphalt, where it does no good. Avoid watering on windy days when much of your water may be carried off before it ever hits the ground.
- **Check for leaks in pipes, hoses, faucets and couplings:** Leaks outside the house may not seem as unbearable since they don't mess up the floor or drive you crazy at night. But they can be just as wasteful as leaks in the line from the water meter, even more wasteful. Excess watering and leaks around foundations can cause subsidence and damage walls.

7.3.12 Additional Best Management Practices (BMPs) as Conservation Measures

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In addition to the water conservation measures that the City currently employs, the following best management practices (BMPs) are recommended (Utah's M & I Water Conservation Plan, July 2003):

- BMP 1 – Water Conservation Ordinances
 - Adopt an ordinance requiring water-efficient landscaping which include irrigation system efficiency standards and an acceptable plant materials lists.
 - Adopt an ordinance prohibiting the general waste of water. Then encourage citizens to call in reports of any water running down the street, so that leaks can be identified, and owners notified for repair action.
- BMP 2 – Water Conservation Coordinator
 - Designate a water conservation coordinator to facilitate water conservation programs.
- BMP 3 – System Water Audits, Leak Detection and Repair
 - Set specific goals to reduce unaccounted for water to an acceptable level.
 - Set standards for annual water system accounting that will quantify system losses and trigger repair and replacement programs, using methods consistent with American Water Works Town's Water Audit and Leak Detection Guidebook.
- BMP 4 – Large Landscape Conservation Programs and Incentives
 - Encourage all large landscape facility managers and workers to attend specialized training in water conservation.
 - Provide outdoor water audits to customers with large amenity landscapes.
- BMP 5 – Water Survey Programs for Residential Customers
 - Implement residential indoor and outdoor water audits to educate residents on how to save water.
- BMP 6 – Plumbing Standards
 - Review existing plumbing codes and revise them as necessary to ensure water-conserving measures in all new construction.
 - Identify homes, office building and other structures built prior to **1992** and develop a strategy to require, distribute or install high-efficiency plumbing fixtures such as ultra low-flow toilets, showerheads, faucet aerators, etc.
- BMP 7 – Conservation Programs for Commercial and Agricultural users.
 - Change business license requirements to require water reuse and recycling in new commercial and industrial facilities where feasible.

- Provide comprehensive site water audits to those customers known to be large water users. Install separate meters for secondary irrigation water.
- BMP 9– Reclaimed Water Use
 - Use reclaimed or recycled water where feasible.
 - Encourage or enforce water-wise landscaping.

7.4 Progressive Water User Rates to Achieve Conservation

This BMP was mentioned in Section 5.3.8. A recent completed study by the Utah Town of Conservation Districts with the Utah Division of Water Resources, Utah State University Center for Water Efficient Landscape and USU Extension investigated using an “increasing block” price structure. The study found significant reductions in water usage when an increasing price block was used with a base fee. The City’s current rate structure follows the states recommendations. The City’s current Water Rate Schedule is shown in Table 9-1 Current Water Rate Structure.

During the summer, water use is highest due to outdoor irrigation. Currently, the average monthly bill in Sunset City is approximately \$33.48. The average monthly bill is based on the rate structure that promotes conservation. The assumption for the rates is that the majority of water users will not want their bills to increase and will reduce their water use to keep the cost the same under the new rate schedule. To keep their water bill from increasing, users will have to use less water by reducing the amount of area that is irrigated.

Sunset City can help assure that there is sufficient water for future residents by promoting aggressive outdoor conservation. Using a more conservation minded rate schedule will push water users to landscape more efficiently, using xeriscaping and drought resistant grass. The reductions do not have to occur immediately but can take place over a period of time to allow users to adjust to the conservation rates. Conservation is the least expensive means of assuring there will be sufficient water for future needs.

7.5 Water Conservation Program to Meet Goals

To ensure that the water conservation goals outlined in this report are achieved, the City should plan to participate in the following programs in the future.

- Public Information and Education Campaign
- Water Conservation Demonstration Garden
- Model Water-Efficient Residential and Commercial Landscape Ordinances
- Ultra-Low Flush Toilet Replacement Program
- Residential, Commercial and Industrial Water Audits
- Water-Wise Landscaping Classes
- Large Water User Workshops
- Water Quest: Saving Water by the Yard

- City Facilities Re-Landscaping
- Water-Wise Landscape Awards
- Member Agency Assistance Program
- Water Conservation Plan Update
- Efficient use of surface water to reduce pumping groundwater.

7.6 Water Conservation Plan Implementation Considerations

Water conservation planning is a good investment for the City. The cost to develop an equivalent amount of water, treat it, and deliver it to residents is likely to be much higher.

7.7 Staffing

If these responsibilities have not already been assigned, they would need to be given to a member or members of the current staff to conduct the following tasks:

- Implement public information program as described above.
- Conduct leak detection and repair.
- Coordinate water conservation program.

7.8 Method to Track Water Conservation Progress

The City should implement the following procedure to track water conservation progress:

- After first year of water conservation campaign, the City will compare monthly water supply data for each category of usage.
- The water supplied data and metered data will be compared to identify any leaks in the system. The detection and repair of the leaks will assist in estimating actual volume of water conservation.

Add more conservation measures when and if necessary.

SECTION 8

PROPOSED SYSTEM IMPROVEMENTS

8 PROPOSED SYSTEM IMPROVEMENTS

8.1 Distribution Pipeline Recommendations

The existing distribution system for Sunset City is currently providing sufficient peak day and peak instantaneous pressures for the entire system. However, the deficiencies in the distribution system is that the required fire flow is not met at several locations throughout the system. These deficiencies within the system are caused from pipes being undersized. These issues are not pressing, however proper fire protection for a City should be a priority. have suggested that the City should update the undersized lines to solve all of the fire flow deficiencies within the system.

Generally, Sunset City's Water Distribution System is operating correctly, but there are some projects that can be done to improve the system and allow for future development. Ensign Engineering has looked at different options on how to improve the system as well as analyzed which projects are of the highest priority and benefit for the community. The proposed projects are listed below:

8.1.1 1st Priority-Replace All 4" and Smaller Water Mains

The Sunset City distribution system consist of mostly 8" and 6" piping. However, the system does still have approximately 12,192 liner feet of 4" and smaller pipe dating back to the World War II era. The areas where the old 4" and smaller water mains are located also happen to be some of the same areas that do not meet the required fire flow. It is recommended that the City replace all of the 4" and smaller water mains.

8.1.2 2nd Priority-Update Distribution System for Fire Flow

As described in section 6 of this report, there are several locations within the system that fire flow demands are not satisfied. Typically, this is due to pipes being undersized, or pipes dead ending and not looping back to the system. Increasing some pipe sizes to a minimum of 8" pipe will improve fire flow capacity in a system greatly.

8.2 Source and Storage Recommendations

Sunset City currently has a water purchasing agreement in place with Weber Basin Water Conservancy District in which Sunset City leases their water rights and well to Weber Basin. In return, Weber Basin provides Sunset City with source and storage for their system. Sunset City will need to verify with Weber Basin over the years that they are still able to provide the required source and storage.

8.3 Funding Options

Funding for these improvements can be obtained from the funds collected from billing and through loans and grants from various funding agencies. A cost estimate for the recommended improvements is shown in Table 8-1 Proposed Distribution Improvements Cost Estimate.

8.3.1 Owner Funded

Sunset City recently adjusted their existing rate structure. Depending on the projects that are pursued by Sunset City, an additional adjustment to the rate schedule may be required. The cost estimates for the distribution projects are shown in Tables 8-1.

8.3.2 Funding Agencies

There are many different funding agencies available for the City to receive financial help to complete these projects. This water master plan report will provide the necessary information when submitting applications and preparing reports to receive funding. Agencies include: United States Department of Agriculture Rural Utility Service (USDA RUS), and Division of Drinking Water.

Table 8-1 Proposed Distribution Improvements Cost Estimates

1ST PRIORITY-REPLACE ALL 4" AND SMALLER WATER MAINS					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
1. CONSTRUCTION WATER LINE ITEMS					
1	Mobilization	LS	1	\$ 88,000.00	\$ 88,000.00
2	Traffic Control	LS	1	\$ 16,500.00	\$ 16,500.00
3	Sawcut and Remove Asphalt	SF	64,500	\$ 3.30	\$ 212,850.00
4	Install 3" HMA w/ 8" Basecourse	SF	64,500	\$ 6.60	\$ 425,700.00
5	Replace Existing 4" and Smaller, Install 8" C900 DR-18 PVC Lines, Fittings, Tracer Wire, Bedding, Backfill	LF	10,500	\$ 40.70	\$ 427,350.00
6	3/4" Saddle, Corp Stop, and Service Lateral Pipe	EA	250	\$ 2,200.00	\$ 550,000.00
7	Valves, Fittings, Connections and Tie-ins	EA	35	\$ 2,750.00	\$ 96,250.00
8	Install Fire Hydrant Assembly	EA	20	\$ 6,050.00	\$ 121,000.00
9	Remove and Replace 4" Thick Concrete Flatwork and Basecourse	SF	8,640	\$ 14.30	\$ 123,552.00
10	Remove and Replace 2.5' Wide Curb and Gutter and Basecourse	LF	5,700	\$ 49.50	\$ 282,150.00
11	Contingency		15%	\$ 2,343,352.00	\$ 351,502.00
				TOTAL	\$ 2,694,854.00
2. MISCELLANEOUS					
1	Engineering	LS	1	\$ 198,000.00	\$ 198,000.00
2	Construction Management	LS	1	\$ 99,000.00	\$ 99,000.00
3	Legal	LS	1	\$ 22,000.00	\$ 22,000.00
4	Environmental	LS	1	\$ 8,250.00	\$ 8,250.00
5	Surveying	LS	1	\$ 27,500.00	\$ 27,500.00
				GRAND TOTAL	\$ 3,050,000.00

2ND PRIORITY UPDATE DISTRIBUTION SYSTEM FOR FIRE FLOW					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
1. SYSTEM UPDATES FOR FIRE FLOW					
1	Mobilization	LS	1	\$ 154,000.00	\$ 154,000.00
2	Traffic Control	LS	1	\$ 22,000.00	\$ 22,000.00
3	Sawcut and Remove Asphalt	SF	169,940	\$ 3.30	\$ 560,802.00
4	Install 8" C900 DR-18 PVC Lines, Fittings, Tracer Wire, Bedding, Backfill	LF	23,988	\$ 40.70	\$ 976,311.60
5	3/4" Saddle, Corp Stop, and Service Lateral Pipe	EA	510	\$ 2,200.00	\$ 1,122,000.00
6	Valves, Fittings, Connecitons and Tie-ins	EA	80	\$ 2,200.00	\$ 176,000.00
7	Install Fire Hydrant Assembly	EA	55	\$ 6,050.00	\$ 332,750.00
8	Install 3" HMA w/Base	SF	169,940	\$ 4.40	\$ 747,736.00
9	Remove and Salvage Existing Valves, Fittings, Fire Hydrants, etc.	LS	1	\$ 22,000.00	\$ 22,000.00
10	Remove and Replace 4" Thick Concrete Flatwork and	SF	18,080	\$ 14.30	\$ 258,544.00
11	Remove and Replace 2.5' Wide Curb and Gutter and B	LF	11,300	\$ 49.50	\$ 559,350.00
12	Contingency		15%	\$ 4,931,493.60	\$ 739,724.04
				TOTAL	\$ 5,671,217.64
2. MISCELLANEOUS					
1	Engineering	LS	1	\$ 352,000.00	\$ 352,000.00
2	Construction Management	LS	1	\$ 154,000.00	\$ 154,000.00
3	Legal	LS	1	\$ 55,000.00	\$ 55,000.00
4	Environmental	LS	1	\$ 22,000.00	\$ 22,000.00
5	Surveying	LS	1	\$ 55,000.00	\$ 55,000.00
				GRAND TOTAL	\$ 6,310,000.00

SECTION 9

WATER USAGE & REVENUE-USER RATES & CONNECTION FEES

9 WATER USAGE & REVENUE-USER RATES & CONNECTION FEES

9.1 Purpose of Study

This water rate study analyzes the revenue from water user rates and recommends modifications that should be made to Sunset City's water user rates to enable the City to continue to serve water to their customers. This study projects operating expenses and debt service and determines the rates to produce operating revenues required to properly offset these expenses. Based upon the Water Master Plan Report (see previous Sections), the City needs to plan for future capital improvements. These improvements will increase capacity of the distribution facilities to support the City's growth and to repair, replace, and improve existing facilities to continue to reliably serve existing and future customers.

The *AWWA Manual of Water Supply Practices M1* describes seven objectives that are common to most water utilities. Sunset City's water rate structure was analyzed according to these objectives which are listed below.

- Yielding necessary revenue in a stable and predictable manner
- Minimizing unexpected changes to customer bills
- Discouraging wasteful use and promoting justified uses
- Promoting fairness and equity
- Avoiding discrimination
- Maintaining simplicity, certainty, convenience, feasibility, and freedom from controversy
- Compliance with all applicable laws

This rate study is prepared as a part of this Water Master Plan Report but can be extracted to stand alone to satisfy State requirements. Based upon the recommended capital improvements from the master planning process, several capital improvements have been identified. To finance these proposed projects, this study determined the indebtedness that will be incurred, and the annual operating and capacity revenues that will be required to offset projected operational and capital expenditures.

9.2 Study Assumptions

The basis of this study is the Capital Improvements Plan. The following were assumed in order to complete this study:

Growth and Capital Improvements:

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- Equivalent Residential Connections (ERCs) will be added to the system annually beginning in FY2020 as predicted by the Governor’s Office of Planning and Budget’s population forecast. Assumed growth from multi-family units were also considered in the section as explained in previous section.
- New accounts will contribute operational revenue for six months of the first fiscal year of their existence and for 12 months per year thereafter.
- The City’s preference of financing capital projects is grants, followed by cash reserves, and finally debt.
- Sunset City reads water meters on a monthly basis.
- Sunset City will continue to purchase water from Weber Basin.

The following were used as bases for this study and are included in the appendix:

- Resolutions outlining water user rates and impact fees
- Water usage records from the District (Jan. 2019 –Dec. 2019)

As mentioned previously, Sunset City recently raised water rates in July 2020. Ensign researched the City’s current water rate structure based on 2019 usage records, and looked at various rate structures, selected and recommend a method of analysis. After research into the standard American Water Works Association (AWWA) methods of structuring a rate schedule, it was determined that the City’s current rate structure format is appropriate to fit the nature and type of water users in Sunset City and promotes water conservation at the same time. The current rate structure consists of base rate and three different tiers based on the amount of water consumption for every type of connection within the system.

9.3 Disclosure Statement

Numerous assumptions were made to project future revenue, expenses, and debt for Sunset City over the length of the study period for this rate study. These assumptions were based on several documents and sources, including those listed at the beginning of the master plan.

Several factors may influence the projected revenue, expense, and debt of the City’s Water Budget. These include:

- Weber Basin water purchasing terms and conditions;
- The interest rate on bond issuances;
- The actual number, type, and schedule of additional accounts during the study period;
- Unforeseen regulatory and water quality requirements;
- Abnormal weather that affects water consumption and irrigation;

- Projected expenses, such as utility, permitting, and pumping costs;
- Variation in the population projections: and the possible reaction, and changing conservation practices of existing customers in response to rises in water rates;

The financial projections presented in this report, may prove inaccurate as time passes and should be reviewed in comparison to the changes in the above factors.

9.4 Description of Current Water Rates

Water usage charges for Sunset City are based on the recently approved water rate schedule and usage records from 2019 shown in Table 9-1 Sunset City Rate Structure. Sunset City water rates were recently increased to help meet the increasing water rates of Weber Basin. The water rate increase were needed to help rebuild other utility funds that were used to meet the annual rate increase from Weber Basin.

The rate structure is tiered rate structure. The rate structure is dependent on the connection type. This type of rate structure can, when properly designed, incentivize conservation.

Table 9-1 Sunset City Rate Structure

Sunset City Rate Structure (as of July 2020)			
Connection	Schedule	Gallons/Month	Charges
Residential	Base	0 - 10,000	\$24.75
	Tier 1	10,001 - 30,000	Base + \$0.14/100 gal
	Tier 2	30,001 and above	Base + Tier 1 + \$0.16/100 gal)
Commercial	Base	0 - 10,000	\$29.00
	Tier 1	10,001 - 30,000	Base + \$0.16/100 gal
	Tier 2	30,001 and above	Base + Tier 1 + \$0.18/100 gal)
Motel	Base	0 - 10,000	\$29.00
	Tier 1	10,001 - 30,000	Base + \$0.14/100 gal
	Tier 2	30,001 and above	Base + Tier 1 + \$0.16/100 gal)

9.5 Monthly Bill

9.5.1 Average Monthly Bill

Based on 2019 water usage records and ERCs, the average monthly bill for all users is \$33.48. The average monthly bill for all residential users is \$30.37, and \$126.79 for commercial users.

9.5.2 *Maximum Affordable Water Bill*

The Division of Drinking Water determines funding and grant eligibility based upon the State Average Water Bill and an entities average water bill compared to what the state deems to be a “maximum affordable water bill” for the water system. This is calculated as 1.75% of the local MAGI (Median Adjusted Gross Income) for the service area. The MAGI is taken from the most recent data from the Utah State Tax Commission. It was determined that:

1. The State Average Water Bill is \$47.03
2. The MAGI during 2018 for Sunset City is \$40,400
 - a. The “maximum affordable monthly water bill” = 1.75% of \$40,400 / 12 months = \$58.91
 - b. Sunset City actual average water bill = \$26.48

Figure 9-1 Total Average Monthly Bill gives the average water bills for all connections as well as the average monthly water bill for all residential, and commercial connections.

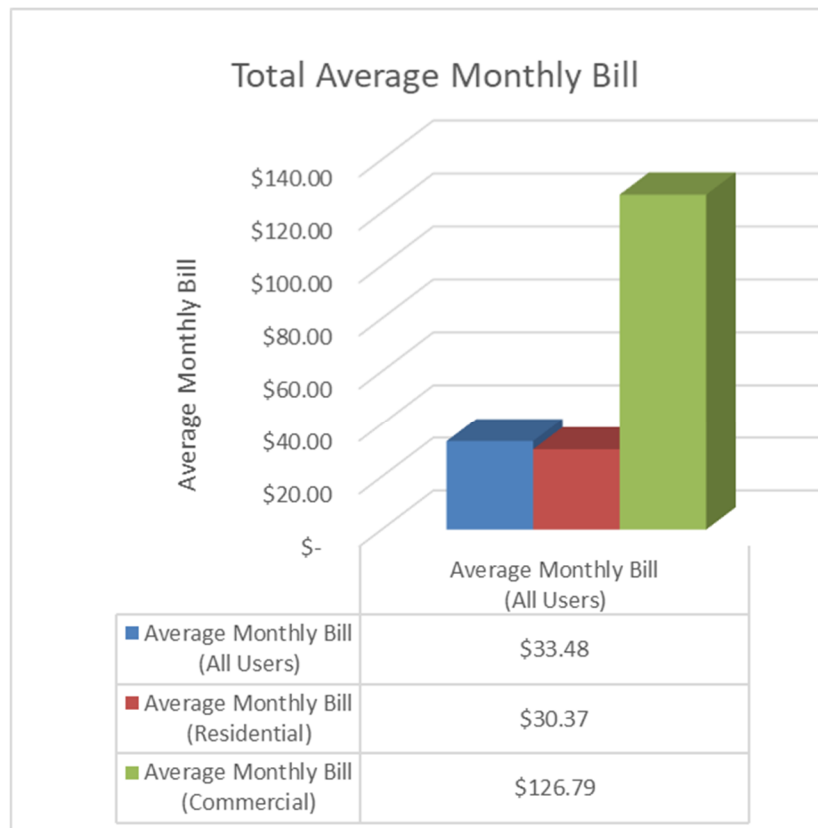


Figure 9-1 Total Average Monthly Bill

9.5.3 Revenue – Tier Distribution

The rate schedule was further analyzed to show the distributions of users and revenue based on the current water rate structure. This analysis was performed for all combined water users. Figure 9-2 Water Sales Revenue by Percentages gives a summary of how much revenue comes from each connection. Figure 9-2 Yearly Revenue by Connection gives a breakdown of the total amount of revenue generated from January 2019-December 2019 for all of the users in Sunset City water limits as well as the total revenue generated for all connections broken down by connection type.

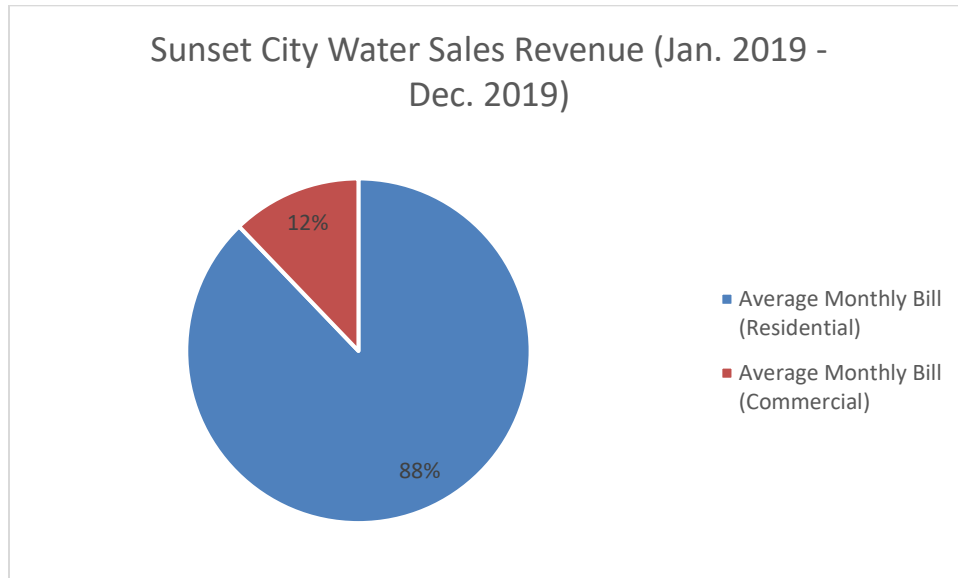


Figure 9-2 Water Sales Revenue by Percentage

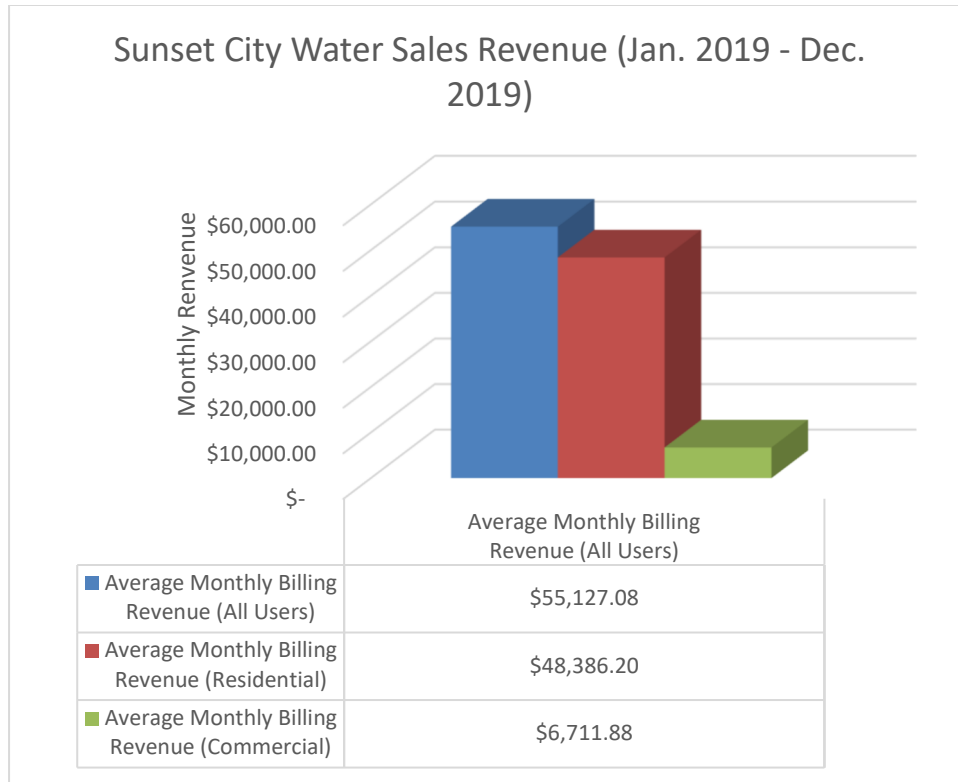


Figure 9-3 Yearly Revenue by Connection

Based on the 2019 water usage data and the recently approved Sunset City water rate structure, Sunset City should generate approximately \$55,127.08 per month and \$661,524.96 per year from water revenues. These revenues are gross revenues and do not take into account operating expenses such as maintenance and water purchasing from Weber Basin.

9.6 Water Rate Comparison

The current Sunset City water user rate schedule was compared to existing rate schedules in nearby communities for a single-family home located within the City limits. The comparison includes the existing rate.

Table 9-2 Water Rate Comparison

Sunset City Rate Structure			
Schedule	Gallons/Month	Charges	Revenue
Base	0-10,000	\$24.75	\$24.75
Tier 1	10,001 – 30,000	Base + \$0.14/100 gal	\$52.75
Tier 2	30,001 and above	Tier 1 + \$0.16/100 gal	

Clearfield City Rate Structure			
Schedule	Gallons/Month	Charges	Revenue

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Base	-	\$13.38	\$13.38
Tier 1	0 - 10,000	Base + \$0.91/1,000 gal	\$22.48
Tier 2	10,001 to 40,000	Tier 1 + \$1.06/1,000 gal	\$54.28
Tier 3	40,001 to 60,000	Tier 2 + \$1.21/1,000 gal	\$78.48
Tier 4	60,001 to 80,000	Tier 3 + \$1.39/1,000 gal	\$106.28
Tier 5	80,001 and above	Tier 4 + \$1.54/1,000 gal	

Roy City Rate Structure (Bi Monthly Readings)			
Schedule	Gallons/Month	Charges	Revenue
Base	-	\$22.77	\$22.77
Tier 1	0 to 18,000	Base + \$0.86/1,000 gal	\$38.25
Tier 2	18,001 to 30,000	Tier 1 + \$1.54/1,000 gal	\$56.73
Tier 3	30,001 to 40,000	Tier 2 + \$1.75/1,000 gal	\$74.23
Tier 4	40,001 to above	Tier 3 + \$2.00/1,000 gal	

Clinton City Rate Structure			
Schedule	Gallons/Month	Charges	Revenue
Base	0 to 10,000	\$21.50	\$21.50
Tier 2	10,001 to above	Base + \$2.15/1,000 gal	

West Point City Rate Structure			
Schedule	Gallons/Month	Charges	Revenue
Base	0 to 6,000	\$23.75	\$23.75
Tier 1	6,001 to 10,000	Base + \$1.40/1,000 gal	\$29.35
Tier 2	10,001 to above	Tier 1 + \$1.65/1,000 gal	

9.7 Proposed Water Rate Structures

According to Sunset City, the current rate structure was approved in July 2020 to help maintain increasing water costs from Weber Basin. Based on the newly approved water rate structure and 2019 usage records Sunset City should generate approximately \$55,127 per month from their water system. Billing records from Weber Basin indicate that approximately 43% (\$23,673 per month) of the projected revenues will go to Weber Basin to cover source and storage cost. The remainder of the water revenues are used to cover operation and maintenance cost as well as cover staff salaries and training. The current water rates will properly serve the existing system and encourage water conservation but provides little funding for capital facility improvement projects. Ensign Engineering has looked at two different projects for Sunset City and have come up with cost estimates for each. The more financially feasible of the two projects is the one involving removing all of the old 4” and smaller World War II era piping. The other option is the updating the distribution system to meet fire flow. In order to fund these projects Sunset City

would have to increase their water rates again. The estimated cost for removing all of the 4” and smaller World War II era piping is \$3,050,000 and the estimated cost to update the distribution system to meet fire flow is 6,310,000.

The grant to loan amount varies for each of the proposed projects based on need and cost of the project. For both of the proposed projects it is assumed a 10% grant and 90% loan of the remaining costs for 30 years at 2.5%. This results in loans, payments and approximate rate increases as shown in the following table.

Table 9-3 Project Cost Summary

Project	Remove All 4" and Smaller Piping	Updating the Distribution System to Meet Fire Flow
Capitol Cost	\$3,050,000.00	\$6,310,000.00
Grant (10%)	\$305,000.00	\$631,000.00
Loan (90%)	\$2,745,000.00	\$5,679,000.00
Payment Per Year	(\$131,149.62)	(\$271,329.22)
Minimum Rate Increase	(\$6.33)	(\$13.10)

It is not practical for the City to implement the proposed rate structures all at once, seeing it is quite a large jump in the average bill and given the fact that a similar rate increase was just approved. It is recommended that the City increase their rates incrementally every year depending on the needs of the City to pay back their loans. This proposed rate structure is more of a planning tool that the City can use for future planning if the proposed capital improvements are constructed.

Below are 2 different proposed rate structures one for each proposed project. The proposed rate structures were based on the usage and billing records provided by Sunset City during the year 2019. The proposed rate structures analyzed the usage over the year 2019 to calculate the proposed revenue that could be potentially developed.

Proposed Rate Structure (Remove 4” and Smaller Piping) Table 9-3 and Table 9-4 show the proposed rate structure to replace all the 4” and smaller pipes or updating the system to meet fire flow with 8” C-900 PVC water line.

Table 9-3 Proposed Rate Structure (Remove 4’ and Smaller Piping)

Proposed Rate Structure			
Connection	Schedule	Gallons/Month	Charges
Residential	Base	0-10,000	\$31.50

	Tier 1	10,001-30,000	Base + \$0.14/100 gal
	Tier 2	30,001 and above	Tier 1 + \$0.16/100 gal
Commercial	Base	0 – 10,000	\$37.50
	Tier 1	10,001 – 30,000	Base + \$0.16/100 gal
	Tier 2	30,001 and above	Tier 1 + \$0.18/100 gal

Table 9-4 Proposed Rate Structure (Updating the Distribution System to Meet Fire Flow)

Proposed Rate Structure			
Connection	Schedule	Gallons/Month	Charges
Residential	Base	0-10,000	\$38.25
	Tier 1	10,001-30,000	Base + \$0.14/100 gal
	Tier 2	30,001 and above	Tier 1 + \$0.16/100 gal
Commercial	Base	0-10,000	\$48.00
	Tier 1	10,001-30,000	Base + \$0.16/100 gal
	Tier 2	30,001 and above	Tier 1 + \$0.18/100 gal

The average monthly bills for each proposed rate structure based on 2019 usage and billing records are shown in Tables 9-5 Proposed Rate Structure Average Monthly Bill.

Table 9-5 Proposed Rate Structure Average Monthly Bill

	Proposed Rate Structure
Total Average Monthly Remove 4” and Smaller	\$40.32
Total Average Monthly Meet Fire Flow	\$47.22

The proposed rate structures will provide sufficient revenue for the City to continue to operate and maintain the existing system as they presently are. This proposed rate will also cover the costs of proposed capital improvements projects to remove all 4” and smaller piping.

9.8 Current Water Usage

Using the water usage data provided by the City from January 2019 to December 2019, average water usage and water usage trends were analyzed. This average water analysis was performed for the all of the water users. Sunset City collects water data monthly through the year.

There are 1,726 total connections that are serviced by the Sunset City water system. There are 1,359 residential connections (single family and multi-family), 66 commercial connections and 1 motel connection. Figure 9-4 Sunset City Water Connections by Type gives a summary of how many of each connection exist within the system.

From January 2019 to December 2019 Sunset City used a total of 233.01 million gallons of water which is approximately 19.42 million gallons per month. During the summer months of June, July, and August the monthly average was 43.5 million gallons. For all residential users the average monthly usage for 2019 was 9,724 gallons per connection and a summer monthly average of 21,317 gallons per connection. The commercial connections had an average monthly usage of 49,298 gallons per connection and a summer monthly average of 122,478 gallons per connection. The average usage for all connections is 11,250 gallons per connection per month and 25,200 gallons per connection per summer month.

Figure 9-5 Total Water Usage gives a chart of the total usage for residential and commercial connections for the entire year. Figure 9-6 Average Usage per Connections gives a chart that gives the average usage per connection for each month, for residential, commercial, and combined.

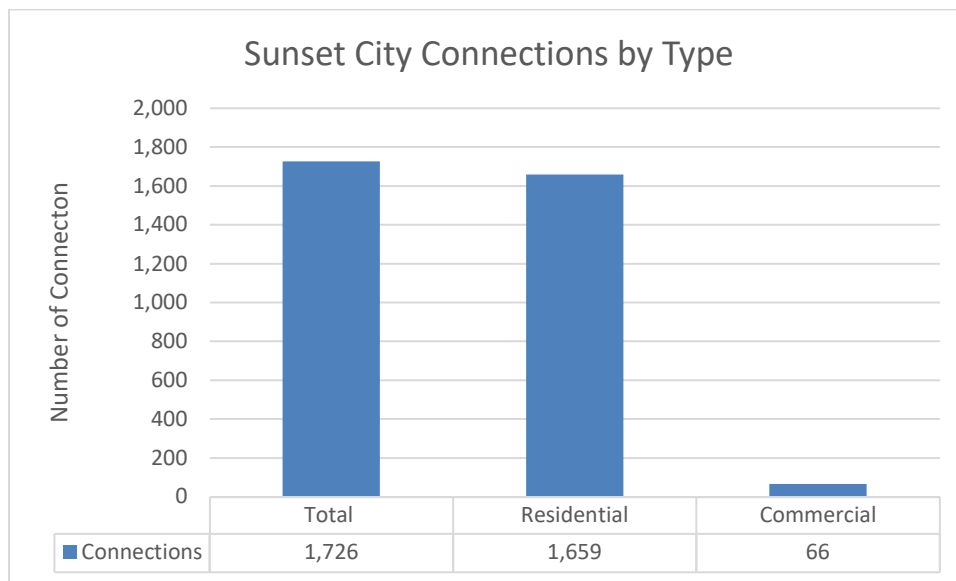


Figure 9-4 Sunset City Connections by Type

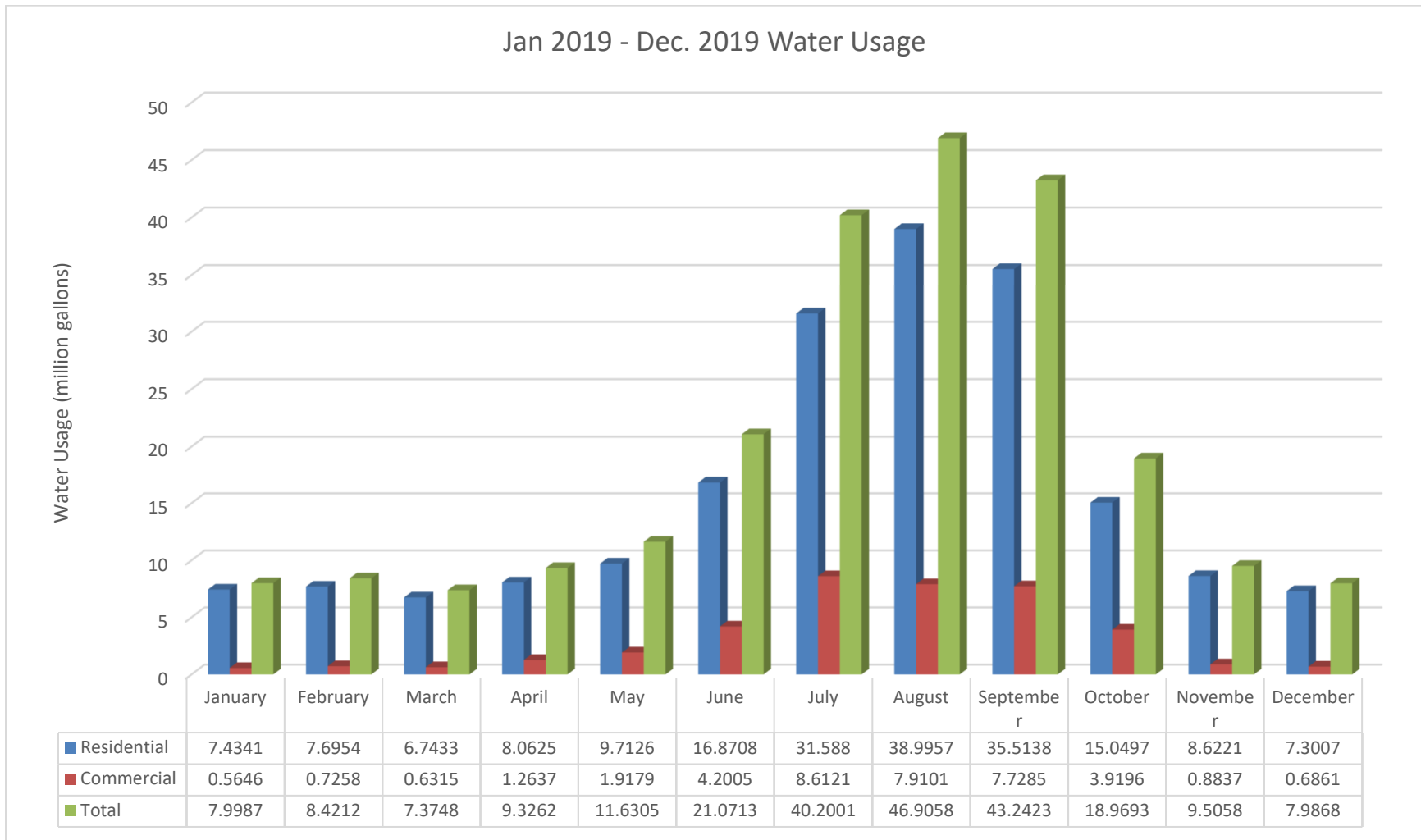


Figure 9-5 Total Water Usage

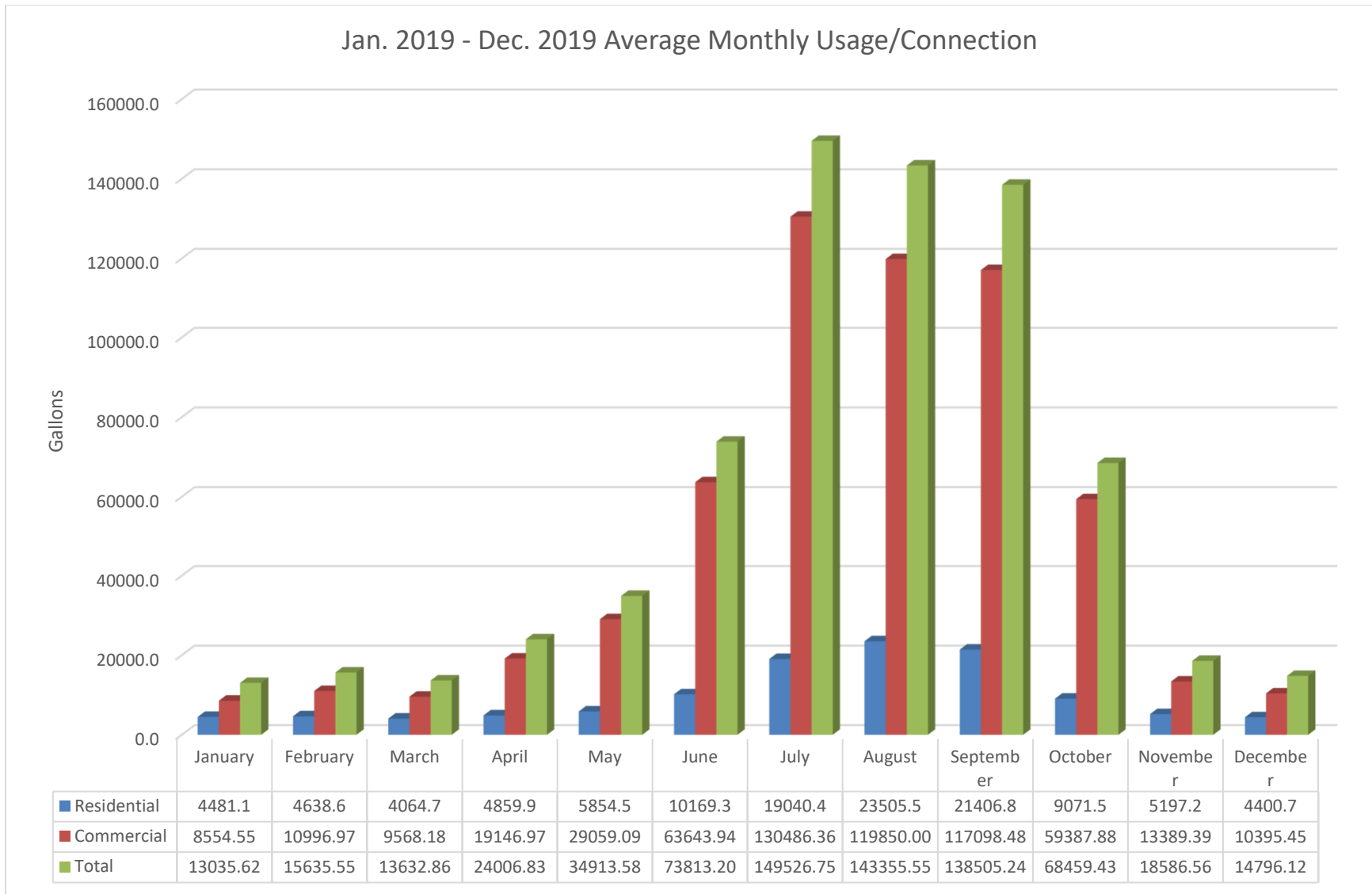


Figure 9-6 Average Usage per Connection

9.9 Connection Fee

Typically, a residential service connection involves the installation of connection facilities (including a corporation stop, service line, curb stop, and miscellaneous fittings) and customer facilities (including meter box, meter, and miscellaneous fittings). It is common practice for utilities to install equipment in the road right-of-way up to the customer's property line. This delineates a clear point of cost responsibility and establishes a level of consistency relative to the average cost of a service connection.

9.9.1 Current Connection Fee

Sunset City currently charges \$30 for a new customer sign-up fee, \$400 for new home connections, and \$540 for new meter, meter box, and cover. The customer is also responsible to purchase parts and pay for labor.

SECTION 10

STATUTORY IMPACT FEE STUDY

10 STATUTORY IMPACT FEE STUDY

10.1 Introduction

The use of impact fees to finance public facilities is a concept that has already gained wide acceptance. The impact fee is frequently used as a source of capital financing in large and medium sized urban areas for system expansion. The theory, practical models, and legislation for determining growth-related costs and calculating impact-fees for new construction are well developed.

The Sunset City Water Master Plan incorporates the city's ability to facilitate future growth. These projects will be needed in order for the city to facilitate the anticipated growth of multi-family dwellings. Impact fees will help economically sustain these projects. An evaluation of this impact fee compared to impact fees in surrounding city's will be included.

This study discusses the framework for estimating an impact fee. It also quantifies the maximum amount that a developer or builder will be required to contribute to pay for the costs of the proposed water system.

The proposed source development and infrastructure improvement projects are expected to be funded by various state and federal agencies, in addition to the water service charges and impact fees.

10.2 Definition of Impact Fee

According to the Utah State Legislative Code 11-36-102, "Impact fee is a payment of money imposed upon development activity as a condition of development approval. Impact fee does not mean a tax, a special assessment, a building permit fee, and a hookup fee, a fee for project improvements, or other reasonable permit or application fee."

An impact fee is a one-time charge on new construction, typically collected at the time of building permit issuance or connection to the water system. Impact fees are designed to ensure that new development contributes a fair share of the cost of the capital improvements needed to serve growth. The premise on which impact fees are based is that development should pay for the cost of providing the facilities necessary to accommodate growth. The costs of projects needed to support growth are financed with impact fees based on some measurement of a development's impact on future needs.

10.3 Purpose of Impact Fees

The impact fees are designed to cover the costs associated with providing new facilities in Sunset and to allow new users to connect to the city's water system. The broad purpose of impact fees is to protect the public health, safety and general welfare by providing an adequate, safe, and reliable water supply. The specific purpose of the impact fees calculated in this study is to fund

the construction of the proposed water source improvements and infrastructure improvement project. This report documents the data, methodology, and results of the impact fee study.

10.4 Legal Framework and Regulatory Requirement

The methods used to calculate impact fees in this study are intended to satisfy all legal requirements governing such fees, including provisions of the U. S. Constitution, and Utah State Legislative Statutes.

1. U. S. Constitution: Like all land use regulations, impact fees are subject to the Fifth Amendment prohibition on taking of private property for public use without compensation. Both state and federal courts have recognized the imposition of impact fees on development as a legitimate form of land use regulation, provided the fees meet standards intended to protect against regulatory takings. To comply with the Fifth Amendment, development regulations must be shown to substantially advance a legitimate governmental interest. In the case of impact fees, that interest is in the protection of public health, safety, and welfare by ensuring that development is not detrimental to the quality of essential public services.

2. Utah State Legislative Statutes: Based on the Utah Impact Fee Act, a political entity such as county, municipality, or a special district imposing impact fees must prepare a written analysis of each impact fee that:

- Identifies the impact on system improvements required by the development activity.
- Demonstrates how those impacts on system improvements are reasonably related to the development activity.
- Estimates the proportionate share of the costs of the impacts on system improvements that are reasonably related to the new development activity; and identifies how the impact fee was calculated.

Utah Impact Fee Act includes the following Utah State Legislative Codes:

Utah State Legislative Codes	Subject
11-36-101	Title
11-36-102	Definitions
11-36-201	Impact Fees - Analysis, Capital Facilities Plan, Notice of Plan, Summary and Exemptions
11-36-202	Impact Fees - Enactment and Required Provisions
11-36-301	Impact Fees - Accounting
11-36-302	Impact Fees - Expenditure
11-36-303	Refunds
11-36-401	Impact Fees - Challenges and Appeals
11-36-402	Challenging an Impact Fee by Arbitration, Procedure, Appeal, and Costs
44-36-501	Private Entity Assessment of Impact Fees, Notice and Hearing, and Audit

Based on the Utah Impact Fee Act (Utah State Legislative Code 11-36-201), an impact fee study is a prerequisite for a capital facility plan for a political entity such as county, municipality, or a special district. The political entity may only impose impact fees on development activities when its plan for financing system improvements establishes that impact fees are necessary to achieve equitable allocation to the costs borne in the past and to be borne in the future, in comparison to the benefits already received and yet to be received. The capital facility plan should include impacts that the proposed facility may have on the affected entity.

In calculating the impact fee, the following cost items may be included (Utah Impact Fee Act, Utah State Legislative Code 11-36-202):

- The construction contract price;
- The cost of acquiring land, improvements, materials, and fixtures;
- The planning, surveying, and engineering fees for services provided for and directly related to the construction of the system improvements; and
- The debt service charges, if the political subdivision might use impact fees as a revenue stream to pay the principal and interest on bonds, notes, or other obligations issued to finance the system improvements.

10.5 Legal Issues Related to Impact Fee Analysis Methodology

The preliminary planning to establish an impact fee includes a review of the legal authority and issues associated with capital recovery in the utility’s operating environment. Legal authority may be granted through enabling legislation, ordinances, statutes regarding general law or home rule authorities, home charter, utility operation permits, utility service certifications, or judicial

rulings. A primary legal issue related to impact fee is establishing a reasonable connection between the amount of impact fees and the cost associated with serving new development.

10.6 Methodology

Any one of the applicable methods described below may be used to calculate impact fees. The choice of a particular method depends primarily on the service characteristics and planning requirements for the facility type being addressed. Each method has advantages and disadvantages in a particular situation, and to some extent they are interchangeable, because they all allocate facility costs in proportion to the needs created by development.

Reduced to its simplest terms, the process of calculating impact fees involves only two steps: determining the cost of development-related capital improvements, and allocating those costs equitably to various types of development. In practice, however, the calculation of impact fees can become quite complicated because of the many variables involved in defining the relationship between development and the need for facilities. There are two common methods used in determining impact fees which will be described in further detail below.

10.6.1 Incremental Cost Method

The incremental cost method provides a method of upgrading the current system to meet future needs without major impacts on the current users. The major component of this method is determining periods of growth, growth rates, type of growth, and needed improvements to support these growths. This system of developing impact fees is recommended for growing cities or towns that need major improvements. This allows for the current users to avoid as much impact as possible from the needed improvements. This method was not chosen for the Sunset City impact fee study.

10.6.2 Equity (Buy-In) Method

This method assumes that all the existing users have built up equity in the system and that the impact fees are representative of that equity. This allows for the new users to buy into the equity that the existing users have built up. The largest component to this method is determining the equity of the system. This includes determining assets, depreciation, and liabilities. Once these components are determined, the equity of the system is computed and the impact fees can be assessed. This is a common method when the system is not in need of major improvements. Although Sunset City is in need of improvements, the equity method was chosen to simplify rates and projections moving forward. Incremental Cost would require Sunset City to adjust impact fees yearly, which might put strain on the city council. Additionally, although Sunset City is expecting a substantial increase in multi-family homes, there will be minimal growth in single-family and commercial connections due to minimal space to expand. Due to this reason and Incremental Cost Method isn't justified.

10.7 Equity (Buy-In) Method Chosen

This section calculates impact fees for new development on the basis of achieving equity between new and existing customers. The calculation of the impact fee in this section recognizes

that each user has built up a certain amount of equity in the system and that new development is responsible to pay for that equity through impact fees. The goal of this analysis is to achieve level of equity from new customers by collecting an impact fee representative of the average equity attributable to existing customers.

Sunset City currently doesn't own their own storage tank and they lease their well to Weber Basin. In return Weber basin provides them with source and storage through their water purchasing agreement. Therefore, Sunset city still pays for storage and source through Weber Basin. In order to receive water from Weber Basin their drinking water system includes use from wells, tanks, transmission lines, and distribution lines.

For the impact fee analysis, it was necessary to complete an Impact Fee Facilities Plan (IFFP). The drinking water system for Sunset City was analyzed for existing and future capacity. Currently serving 5,417 people. The peak day water demand is 1,568 gpm. In the next 10 years Sunset City population is projected to grow to an estimated 6,140 with a peak day demand of 1,777 gpm. Since Sunset City purchases water from Weber Basin it is Weber Basins obligation to provide Sunset City with the needed peak day source demand. Since it is Weber Basins obligation to always provide Sunset City with the water needed, we have assumed the current capacity of the system is 1,777 gpm. Given these numbers the total value of excess capacity is calculated in table 10-1 and table 10-2 below.

Table 10-1 Drinking Water % Excess Capacity

Current Use (gpm)	2030 Future Use (gpm)	% Current Excess Capacity	% Future Excess Capacity	% 10 Year Growth
1,568	1,777	11.76%	0%	11.76%

Table 10-2 Drinking Water Source

Water Source Assets	Replacement Costs
Source	\$ 1,000,000
Total	\$ 1,000,000
% 10 Year Growth Excess Capacity	\$ 117,600

The current IFFP identifies the existing infrastructure facilities with existing excess capacity and new facilities that have been constructed, budgeted, or bonded to serve the existing and future developments. Table 10-3 shows the projects included in the drinking water IFFP.

Table 10-3 Drinking Water IFFP

Approx. Time Frame	Costs	Cost to New ERCs for the Next 10 Years	Total Capacity (gpm)	% Capacity Used by Existing Users	% Capacity for Development for the Next 10 Years
2022	\$2,773,000	\$326,105	1,777	88.24%	100%
2026	\$10,000	\$10,000	0	0%	100%

10.8 Maximum Allowable Impact Fee

Each project in the IFFP are required to serve the growth of Sunset City. During the next 10 years there will be a few projects that will strictly serve only the growth of Sunset City. The first is a water system improvements project. This project will help the growth of Sunset City by upgrading undersized lines. The other is the master plan update. The maximum allowable impact fee per ERC is shown in Table 10-4.

Table 10-4 Drinking Water Maximum Allowable Impact Fee/ERC

Total Value of 10 Year Excess Capacity (From Table 10-2)	\$117,600
Total Cost of IFFP	\$336,105
# of New ERCs	287
Buy-in Cost/ERC	\$409
IFFP Cost/ERC	\$1,171
Maximum Allowable Impact Fee/ERC	\$1,580

10.9 Summary and Recommendations

The impact fee estimate provided in this report is a planning tool. This fee may change as changes occur in the district that affects the master plan. Based on this study, the district could justify the proposed fees for all new development. As a result of this study the maximum allowable impact fee that could be charged is \$1,580. Sunset City does not currently charge an impact fee. It is recommended that Sunset City charges an impact fee of \$1,580 per ERC.

APPENDIX – A

MODEL RESULTS

11 APPENDIX – A
Exhibit 11-1 Existing Peak Day

Scenario: Existing Peak Day
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Elevation (ft)	Zone	Demand Collection	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)	Fire Flow (Available) (gpm)	Fire Flow (Needed) (gpm)	Satisfies Fire Flow Constraints?
30	J-1	4,459.00	<None>	<Collection: 1 item>	5	4,692.00	101	1,394	1,500	False
31	J-2	4,469.00	<None>	<Collection: 1 item>	5	4,692.00	96	1,509	1,500	True
32	J-3	4,475.00	<None>	<Collection: 1 item>	5	4,692.01	94	1,405	1,500	False
33	J-4	4,482.00	<None>	<Collection: 1 item>	8	4,692.06	91	874	1,500	False
34	J-5	4,491.00	<None>	<Collection: 1 item>	8	4,692.11	87	873	1,500	False
35	J-6	4,505.00	<None>	<Collection: 1 item>	9	4,692.15	81	872	1,500	False
36	J-7	4,518.00	<None>	<Collection: 1 item>	6	4,692.19	75	1,411	1,500	False
37	J-8	4,524.00	<None>	<Collection: 1 item>	4	4,692.22	73	1,634	1,500	True
38	J-9	4,531.00	<None>	<Collection: 1 item>	2	4,692.26	70	1,435	1,500	False
39	J-10	4,459.00	<None>	<Collection: 1 item>	5	4,692.00	101	1,762	1,500	True
40	J-11	4,469.00	<None>	<Collection: 1 item>	5	4,692.01	96	1,507	1,500	True
41	J-12	4,475.00	<None>	<Collection: 1 item>	5	4,692.02	94	1,369	1,500	False
42	J-13	4,482.00	<None>	<Collection: 1 item>	4	4,692.06	91	1,569	1,500	True
43	J-14	4,491.00	<None>	<Collection: 1 item>	4	4,692.11	87	1,744	1,500	True
44	J-15	4,501.00	<None>	<Collection: 1 item>	5	4,692.15	83	1,512	1,500	True
45	J-16	4,518.00	<None>	<Collection: 1 item>	5	4,692.19	75	2,108	1,500	True
46	J-17	4,524.00	<None>	<Collection: 1 item>	8	4,692.22	73	1,925	1,500	True
47	J-18	4,531.00	<None>	<Collection: 1 item>	3	4,692.28	70	1,779	1,500	True
48	J-19	4,551.00	<None>	<Collection: 1 item>	2	4,692.61	61	2,237	2,000	True
49	J-20	4,469.00	<None>	<Collection: 1 item>	8	4,692.00	96	1,504	1,500	True
50	J-21	4,524.00	<None>	<Collection: 1 item>	7	4,692.22	73	1,930	1,500	True
51	J-22	4,459.00	<None>	<Collection: 1 item>	6	4,692.00	101	1,990	1,500	True
52	J-23	4,472.00	<None>	<Collection: 1 item>	6	4,692.01	95	1,675	1,500	True
53	J-24	4,475.00	<None>	<Collection: 1 item>	7	4,692.02	94	1,596	1,500	True
54	J-25	4,475.00	<None>	<Collection: 1 item>	6	4,692.04	94	1,741	1,500	True
55	J-26	4,475.00	<None>	<Collection: 1 item>	7	4,692.04	94	1,583	1,500	True
56	J-27	4,462.00	<None>	<Collection: 1 item>	7	4,692.05	100	1,919	1,500	True
57	J-28	4,459.00	<None>	<Collection: 1 item>	7	4,692.03	101	1,843	1,500	True
58	J-29	4,459.00	<None>	<Collection: 1 item>	7	4,692.01	101	2,006	1,500	True
59	J-30	4,465.00	<None>	<Collection: 1 item>	8	4,692.09	98	1,338	1,500	False
60	J-31	4,478.00	<None>	<Collection: 1 item>	12	4,692.05	93	1,677	1,500	True
61	J-32	4,485.00	<None>	<Collection: 1 item>	10	4,692.10	90	1,661	1,500	True
62	J-33	4,498.00	<None>	<Collection: 1 item>	8	4,692.17	84	1,831	1,500	True
63	J-34	4,518.00	<None>	<Collection: 1 item>	29	4,692.17	75	1,641	2,000	False
64	J-35	4,482.00	<None>	<Collection: 1 item>	11	4,692.07	91	1,975	1,500	True
65	J-36	4,485.00	<None>	<Collection: 1 item>	18	4,692.12	90	1,793	1,750	True
66	J-37	4,495.00	<None>	<Collection: 1 item>	6	4,692.26	85	1,345	1,750	False
67	J-38	4,485.00	<None>	<Collection: 1 item>	14	4,692.11	90	1,995	1,500	True
68	J-39	4,491.00	<None>	<Collection: 1 item>	8	4,692.14	87	2,003	1,500	True
69	J-40	4,498.00	<None>	<Collection: 1 item>	11	4,692.23	84	2,225	1,500	True
70	J-41	4,511.00	<None>	<Collection: 1 item>	6	4,692.38	78	1,759	1,500	True
71	J-42	4,524.00	<None>	<Collection: 1 item>	37	4,692.44	73	1,649	2,500	False
72	J-43	4,537.00	<None>	<Collection: 1 item>	4	4,692.55	67	1,918	1,500	True
73	J-44	4,557.00	<None>	<Collection: 1 item>	1	4,692.76	59	3,083	1,750	True
74	J-45	4,498.00	<None>	<Collection: 1 item>	10	4,692.24	84	1,695	1,500	True
75	J-46	4,518.00	<None>	<Collection: 1 item>	16	4,692.41	75	3,368	2,500	True
76	J-47	4,528.00	<None>	<Collection: 1 item>	4	4,692.50	71	3,244	2,500	True
77	J-48	4,554.00	<None>	<Collection: 1 item>	1	4,692.79	60	3,500	1,500	True
78	J-49	4,469.00	<None>	<Collection: 1 item>	8	4,692.21	97	1,528	1,500	True
79	J-50	4,469.00	<None>	<Collection: 1 item>	8	4,692.17	97	2,275	1,500	True
80	J-51	4,472.00	<None>	<Collection: 1 item>	8	4,692.19	95	1,947	1,500	True
81	J-52	4,475.00	<None>	<Collection: 1 item>	9	4,692.20	94	1,680	1,500	True
82	J-53	4,482.00	<None>	<Collection: 1 item>	12	4,692.22	91	1,608	1,500	True
83	J-54	4,482.00	<None>	<Collection: 1 item>	11	4,692.26	91	1,304	1,500	False
84	J-55	4,488.00	<None>	<Collection: 1 item>	8	4,692.20	88	1,692	1,500	True
85	J-56	4,488.00	<None>	<Collection: 1 item>	4	4,692.24	88	1,282	1,500	False
86	J-57	4,491.00	<None>	<Collection: 1 item>	5	4,692.26	87	1,799	1,500	True
87	J-58	4,491.00	<None>	<Collection: 1 item>	8	4,692.26	87	1,739	1,500	True
88	J-59	4,465.00	<None>	<Collection: 1 item>	11	4,692.27	90	1,963	1,500	True
89	J-60	4,478.00	<None>	<Collection: 1 item>	11	4,692.27	93	2,207	1,500	True
90	J-61	4,482.00	<None>	<Collection: 1 item>	7	4,692.24	91	1,459	1,500	False
91	J-62	4,488.00	<None>	<Collection: 1 item>	6	4,692.31	88	2,146	1,500	True
92	J-63	4,491.00	<None>	<Collection: 1 item>	5	4,692.57	87	1,585	1,500	True
93	J-64	4,498.00	<None>	<Collection: 1 item>	14	4,692.96	84	2,707	1,750	True
94	J-65	4,482.00	<None>	<Collection: 1 item>	8	4,692.20	91	1,516	1,500	True
95	J-66	4,485.00	<None>	<Collection: 1 item>	10	4,692.22	90	1,530	1,500	True
96	J-67	4,485.00	<None>	<Collection: 1 item>	7	4,692.26	90	1,304	1,500	False
97	J-68	4,498.00	<None>	<Collection: 1 item>	6	4,692.30	84	3,500	1,500	True
98	J-69	4,498.00	<None>	<Collection: 1 item>	12	4,692.32	84	2,841	1,500	True
99	J-70	4,501.00	<None>	<Collection: 1 item>	11	4,692.37	83	2,806	1,500	True
100	J-71	4,501.00	<None>	<Collection: 1 item>	10	4,692.44	83	3,776	2,500	True
101	J-72	4,505.00	<None>	<Collection: 1 item>	12	4,692.85	81	3,763	2,500	True
102	J-73	4,508.00	<None>	<Collection: 1 item>	8	4,692.94	80	3,500	1,500	True
103	J-74	4,511.00	<None>	<Collection: 1 item>	9	4,692.39	78	1,827	1,500	True
104	J-75	4,521.00	<None>	<Collection: 1 item>	7	4,692.44	74	1,110	1,500	False
105	J-76	4,537.00	<None>	<Collection: 1 item>	8	4,692.54	67	1,895	1,500	True
106	J-77	4,511.00	<None>	<Collection: 1 item>	9	4,692.39	78	1,617	1,500	True
107	J-78	4,534.00	<None>	<Collection: 1 item>	7	4,692.39	69	874	1,500	False
108	J-79	4,511.00	<None>	<Collection: 1 item>	8	4,692.41	78	2,100	1,500	True
109	J-80	4,524.00	<None>	<Collection: 1 item>	8	4,692.43	73	1,678	1,500	True
110	J-81	4,528.00	<None>	<Collection: 1 item>	4	4,692.45	71	2,150	1,500	True
111	J-82	4,514.00	<None>	<Collection: 1 item>	41	4,692.42	77	1,802	1,500	True
112	J-83	4,534.00	<None>	<Collection: 1 item>	17	4,692.58	69	1,558	1,500	True

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113	J-84	4,560.00	<None>	<Collection: 1 item>	2	4,692.80	57	1,765	2,000	False
114	J-85	4,511.00	<None>	<Collection: 1 item>	8	4,692.89	79	3,454	1,500	True
115	J-86	4,537.00	<None>	<Collection: 1 item>	11	4,692.92	67	2,604	1,500	True
116	J-87	4,541.00	<None>	<Collection: 1 item>	9	4,692.93	66	3,123	1,500	True
117	J-88	4,547.00	<None>	<Collection: 1 item>	12	4,692.96	63	2,810	1,500	True
118	J-89	4,518.00	<None>	<Collection: 1 item>	5	4,692.94	76	3,409	1,500	True
119	J-90	4,514.00	<None>	<Collection: 1 item>	11	4,692.92	77	3,338	1,500	True
120	J-91	4,564.00	<None>	<Collection: 1 item>	3	4,693.06	56	967	2,000	False
121	J-92	4,524.00	<None>	<Collection: 1 item>	4	4,692.95	73	2,876	1,500	True
122	J-93	4,491.00	<None>	<Collection: 1 item>	8	4,693.06	87	2,332	2,000	True
123	J-94	4,485.00	<None>	<Collection: 1 item>	8	4,693.15	90	2,352	1,500	True
124	J-95	4,478.00	<None>	<Collection: 1 item>	6	4,693.24	93	2,441	1,500	True
125	J-96	4,482.00	<None>	<Collection: 1 item>	5	4,693.44	91	2,256	1,500	True
126	J-97	4,485.00	<None>	<Collection: 1 item>	3	4,693.55	90	2,039	1,500	True
127	J-98	4,488.00	<None>	<Collection: 1 item>	6	4,693.56	89	970	1,500	False
128	J-99	4,485.00	<None>	<Collection: 1 item>	11	4,693.34	90	685	1,500	False
129	J-100	4,495.00	<None>	<Collection: 1 item>	10	4,693.53	86	898	1,500	False
130	J-101	4,491.00	<None>	<Collection: 1 item>	11	4,693.21	87	745	1,500	False
131	J-102	4,505.00	<None>	<Collection: 1 item>	9	4,693.50	82	922	1,500	False
132	J-103	4,498.00	<None>	<Collection: 1 item>	12	4,693.13	84	743	1,500	False
133	J-104	4,514.00	<None>	<Collection: 1 item>	3	4,693.69	78	1,548	3,000	False
134	J-105	4,508.00	<None>	<Collection: 1 item>	8	4,693.08	80	1,442	1,500	False
135	J-106	4,511.00	<None>	<Collection: 1 item>	83	4,693.25	79	1,444	3,000	False
136	J-107	4,485.00	<None>	<Collection: 1 item>	5	4,693.91	90	2,496	1,500	True
137	J-108	4,491.00	<None>	<Collection: 1 item>	10	4,693.91	88	1,976	1,500	True
138	J-109	4,498.00	<None>	<Collection: 1 item>	10	4,694.01	85	1,759	1,500	True
139	J-110	4,508.00	<None>	<Collection: 1 item>	11	4,694.44	81	2,276	1,500	True
140	J-111	4,518.00	<None>	<Collection: 1 item>	9	4,694.46	76	2,859	1,500	True
141	J-112	4,528.00	<None>	<Collection: 1 item>	9	4,694.83	72	2,220	1,500	True
142	J-113	4,541.00	<None>	<Collection: 1 item>	10	4,694.99	67	2,227	1,500	True
143	J-114	4,554.00	<None>	<Collection: 1 item>	5	4,695.10	61	2,186	1,500	True
144	J-115	4,521.00	<None>	<Collection: 1 item>	11	4,694.97	75	2,362	1,500	True
145	J-116	4,534.00	<None>	<Collection: 1 item>	11	4,694.97	70	2,377	1,500	True
146	J-117	4,551.00	<None>	<Collection: 1 item>	8	4,695.04	62	2,238	1,500	True
147	J-118	4,560.00	<None>	<Collection: 1 item>	8	4,695.22	59	1,784	1,500	True
148	J-119	4,567.00	<None>	<Collection: 1 item>	14	4,695.50	56	1,449	1,500	False
149	J-120	4,573.00	<None>	<Collection: 1 item>	0	4,696.01	53	4,000	2,000	True
150	J-121	4,564.00	<None>	<Collection: 1 item>	12	4,695.22	57	1,459	1,500	False
151	J-122	4,491.00	<None>	<Collection: 1 item>	6	4,694.15	88	1,905	1,500	True
152	J-123	4,495.00	<None>	<Collection: 1 item>	11	4,693.73	86	373	1,500	False
153	J-124	4,505.00	<None>	<Collection: 1 item>	12	4,693.84	82	373	1,500	False
154	J-125	4,514.00	<None>	<Collection: 1 item>	12	4,694.67	78	2,909	1,500	True
155	J-126	4,495.00	<None>	<Collection: 1 item>	8	4,694.41	86	1,571	1,500	True
156	J-127	4,501.00	<None>	<Collection: 1 item>	8	4,693.70	83	373	1,500	False
157	J-128	4,511.00	<None>	<Collection: 1 item>	7	4,693.82	79	373	1,500	False
158	J-129	4,521.00	<None>	<Collection: 1 item>	8	4,694.92	75	2,282	2,000	True
159	J-130	4,531.00	<None>	<Collection: 1 item>	3	4,695.69	71	3,500	1,500	True
160	J-131	4,544.00	<None>	<Collection: 1 item>	3	4,695.88	66	1,704	1,500	True
161	J-132	4,554.00	<None>	<Collection: 1 item>	3	4,696.02	61	1,962	1,500	True
162	J-133	4,557.00	<None>	<Collection: 1 item>	0	4,696.12	60	2,441	1,500	True
163	J-134	4,573.00	<None>	<Collection: 1 item>	0	4,696.58	53	3,500	1,500	True
164	J-135	4,508.00	<None>	<Collection: 1 item>	10	4,695.02	81	2,303	1,500	True
165	J-136	4,508.00	<None>	<Collection: 1 item>	10	4,695.19	81	1,908	1,500	True
166	J-137	4,514.00	<None>	<Collection: 1 item>	10	4,695.49	79	1,497	1,500	False
167	J-138	4,528.00	<None>	<Collection: 1 item>	6	4,695.61	73	1,652	1,500	True
168	J-139	4,544.00	<None>	<Collection: 1 item>	47	4,695.81	66	2,050	2,500	False
169	J-140	4,518.00	<None>	<Collection: 1 item>	8	4,695.20	77	1,526	1,500	True
170	J-141	4,521.00	<None>	<Collection: 1 item>	9	4,695.23	75	1,584	1,500	True
171	J-142	4,534.00	<None>	<Collection: 1 item>	12	4,695.29	70	1,886	1,500	True
172	J-143	4,528.00	<None>	<Collection: 1 item>	16	4,695.03	72	2,449	1,500	True
173	J-144	4,518.00	<None>	<Collection: 1 item>	8	4,695.02	77	1,641	1,500	True
174	J-145	4,534.00	<None>	<Collection: 1 item>	8	4,695.90	70	3,145	1,500	True
175	J-146	4,537.00	<None>	<Collection: 1 item>	10	4,696.04	69	3,384	1,500	True
176	J-147	4,541.00	<None>	<Collection: 1 item>	9	4,696.16	67	3,354	1,500	True
177	J-148	4,541.00	<None>	<Collection: 1 item>	11	4,696.31	67	3,221	1,750	True
178	J-149	4,544.00	<None>	<Collection: 1 item>	17	4,696.46	66	3,094	1,750	True
179	J-150	4,554.00	<None>	<Collection: 1 item>	9	4,696.02	61	2,418	1,500	True
180	J-151	4,557.00	<None>	<Collection: 1 item>	7	4,696.06	60	2,049	1,500	True
181	J-152	4,557.00	<None>	<Collection: 1 item>	8	4,696.16	60	1,831	1,500	True
182	J-153	4,554.00	<None>	<Collection: 1 item>	7	4,696.26	62	1,697	1,500	True
183	J-154	4,551.00	<None>	<Collection: 1 item>	0	4,696.67	63	3,136	3,000	True
184	J-155	4,570.00	<None>	<Collection: 1 item>	1	4,696.02	55	4,000	2,500	True
185	J-156	4,518.00	<None>	<Collection: 1 item>	14	4,696.20	77	2,374	1,500	True
186	J-157	4,518.00	<None>	<Collection: 1 item>	11	4,696.37	77	1,876	1,500	True
187	J-158	4,518.00	<None>	<Collection: 1 item>	7	4,696.45	77	1,417	1,500	False
188	J-159	4,541.00	<None>	<Collection: 1 item>	11	4,696.42	67	2,781	1,500	True
189	J-160	4,537.00	<None>	<Collection: 1 item>	10	4,696.52	69	1,924	1,500	True
190	J-161	4,537.00	<None>	<Collection: 1 item>	8	4,696.82	69	2,127	1,500	True
191	J-162	4,547.00	<None>	<Collection: 1 item>	10	4,698.22	65	1,431	1,500	False
192	J-163	4,560.00	<None>	<Collection: 1 item>	7	4,699.91	61	4,000	2,000	True
193	J-164	4,564.00	<None>	<Collection: 1 item>	5	4,698.65	58	1,316	1,500	False
194	J-165	4,557.00	<None>	<Collection: 1 item>	7	4,698.04	61	1,536	1,500	True
195	J-166	4,551.00	<None>	<Collection: 1 item>	8	4,697.43	63	1,665	1,500	True
196	J-167	4,547.00	<None>	<Collection: 1 item>	8	4,696.89	65	1,451	1,500	False
197	J-168	4,570.00	<None>	<Collection: 1 item>	0	4,699.63	58	3,500	1,500	True
198	J-169	4,514.00	<None>	<Collection: 1 item>	8	4,695.64	79	2,313	1,500	True
199	J-170	4,534.00	<None>	<Collection: 1 item>	5	4,695.59	70	2,086	1,500	True
200	J-171	4,560.00	<None>	<Collection: 1 item>	2	4,696.12	59	1,721	1,500	True
201	J-172	4,554.00	<None>	<Collection: 1 item>	7	4,695.07	61	1,702	1,500	True
202	J-173	4,573.00	<None>	<Collection: 1 item>	4	4,695.61	53	3,500	1,500	True
203	J-174	4,570.00	<None>	<Collection: 1 item>	5	4,694.97	54	3,378	2,000	True
204	J-175	4,551.00	<None>	<Collection: 1 item>	5	4,695.02	62	1,515	1,500	True
206	J-176	4,462.00	<None>	<Collection: 0 items>	0	4,692.00	100	1,675	1,500	True
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218	J-177	4,478.50	<None>	<Collection: 0 items>	0	4,692.05	92	1,856	1,500	True
218	J-178	4,486.50	<None>	<Collection: 0 items>	0	4,692.09	89	1,892	1,500	True
222	J-179	4,496.00	<None>	<Collection: 0 items>	0	4,692.15	85	1,937	1,500	True
236	J-180	4,553.00	<None>	<Collection: 0 items>	0	4,692.73	60	1,886	2,000	False
252	J-181	4,470.00	<None>	<Collection: 0 items>	0	4,692.11	96	2,042	1,500	True
258	J-182	4,517.50	<None>	<Collection: 0 items>	0	4,692.41	76	2,846	1,500	True
261	J-183	4,530.50	<None>	<Collection: 0 items>	0	4,692.49	70	2,915	1,500	True
268	J-184	4,475.00	<None>	<Collection: 0 items>	0	4,692.04	94	1,276	1,500	False
284	J-185	4,495.00	<None>	<Collection: 0 items>	0	4,692.24	85	1,413	1,500	False
301	J-186	4,495.00	<None>	<Collection: 0 items>	0	4,692.29	85	2,746	1,500	True
338	J-187	4,564.00	<None>	<Collection: 0 items>	0	4,693.08	56	3,500	1,500	True
367	J-188	4,504.00	<None>	<Collection: 0 items>	0	4,694.66	82	2,471	1,500	True
396	J-189	4,573.00	<None>	<Collection: 0 items>	0	4,695.63	53	3,500	1,500	True
413	J-190	4,534.00	<None>	<Collection: 0 items>	0	4,695.02	70	881	2,500	False
427	J-191	4,557.00	<None>	<Collection: 0 items>	0	4,696.12	60	2,519	1,500	True
431	J-192	4,547.50	<None>	<Collection: 0 items>	0	4,696.35	64	2,493	1,500	True
436	J-193	4,554.00	<None>	<Collection: 0 items>	0	4,695.15	61	1,726	1,500	True
493	J-1001	4,455.00	<None>	<Collection: 1 item>	16	4,692.00	103	1,838	1,500	True
497	J-1002	4,455.00	<None>	<Collection: 1 item>	13	4,692.00	103	1,877	1,500	True
499	J-1003	4,455.00	<None>	<Collection: 1 item>	7	4,692.00	103	1,894	1,500	True
519	J-202	4,501.00	<None>	<Collection: 0 items>	0	4,694.71	84	1,508	1,500	True
522	J-203	4,511.26	<None>	<Collection: 0 items>	0	4,694.82	79	1,501	1,500	True

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Exhibit 11-2 Existing Peak Instantaneous

Scenario: Existing Peak Inst.
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Elevation (ft)	Zone	Demand Collection	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)	Fire Flow (Available) (gpm)	Fire Flow (Needed) (gpm)	Satisfies Fire Flow Constraints?
30	J-1	4,459.00	<None>	<Collection: 1 item>	9	4,688.09	99	(N/A)	1,500	False
31	J-2	4,469.00	<None>	<Collection: 1 item>	9	4,688.11	95	(N/A)	1,500	False
32	J-3	4,475.00	<None>	<Collection: 1 item>	9	4,688.14	92	(N/A)	1,500	False
33	J-4	4,482.00	<None>	<Collection: 1 item>	15	4,688.34	89	(N/A)	1,500	False
34	J-5	4,491.00	<None>	<Collection: 1 item>	17	4,688.55	85	(N/A)	1,500	False
35	J-6	4,505.00	<None>	<Collection: 1 item>	18	4,688.76	80	(N/A)	1,500	False
36	J-7	4,518.00	<None>	<Collection: 1 item>	12	4,688.98	74	(N/A)	1,500	False
37	J-8	4,524.00	<None>	<Collection: 1 item>	8	4,689.12	71	(N/A)	1,500	False
38	J-9	4,531.00	<None>	<Collection: 1 item>	5	4,689.29	68	(N/A)	1,500	False
39	J-10	4,459.00	<None>	<Collection: 1 item>	10	4,688.09	99	(N/A)	1,500	False
40	J-11	4,469.00	<None>	<Collection: 1 item>	9	4,688.11	95	(N/A)	1,500	False
41	J-12	4,475.00	<None>	<Collection: 1 item>	9	4,688.17	92	(N/A)	1,500	False
42	J-13	4,482.00	<None>	<Collection: 1 item>	8	4,688.35	89	(N/A)	1,500	False
43	J-14	4,491.00	<None>	<Collection: 1 item>	8	4,688.56	85	(N/A)	1,500	False
44	J-15	4,501.00	<None>	<Collection: 1 item>	9	4,688.77	81	(N/A)	1,500	False
45	J-16	4,518.00	<None>	<Collection: 1 item>	9	4,688.94	74	(N/A)	1,500	False
46	J-17	4,524.00	<None>	<Collection: 1 item>	17	4,689.12	71	(N/A)	1,500	False
47	J-18	4,531.00	<None>	<Collection: 1 item>	6	4,689.38	69	(N/A)	1,500	False
48	J-19	4,551.00	<None>	<Collection: 1 item>	3	4,690.96	61	(N/A)	2,000	False
49	J-20	4,469.00	<None>	<Collection: 1 item>	15	4,688.11	95	(N/A)	1,500	False
50	J-21	4,524.00	<None>	<Collection: 1 item>	14	4,689.12	71	(N/A)	1,500	False
51	J-22	4,459.00	<None>	<Collection: 1 item>	13	4,688.09	99	(N/A)	1,500	False
52	J-23	4,472.00	<None>	<Collection: 1 item>	12	4,688.11	94	(N/A)	1,500	False
53	J-24	4,475.00	<None>	<Collection: 1 item>	14	4,688.15	92	(N/A)	1,500	False
54	J-25	4,475.00	<None>	<Collection: 1 item>	12	4,688.23	92	(N/A)	1,500	False
55	J-26	4,475.00	<None>	<Collection: 1 item>	14	4,688.23	92	(N/A)	1,500	False
56	J-27	4,482.00	<None>	<Collection: 1 item>	14	4,688.24	98	(N/A)	1,500	False
57	J-28	4,459.00	<None>	<Collection: 1 item>	14	4,688.18	99	(N/A)	1,500	False
58	J-29	4,459.00	<None>	<Collection: 1 item>	14	4,688.13	99	(N/A)	1,500	False
59	J-30	4,465.00	<None>	<Collection: 1 item>	15	4,688.37	97	(N/A)	1,500	False
60	J-31	4,478.00	<None>	<Collection: 1 item>	24	4,688.29	91	(N/A)	1,500	False
61	J-32	4,485.00	<None>	<Collection: 1 item>	20	4,688.48	88	(N/A)	1,500	False
62	J-33	4,498.00	<None>	<Collection: 1 item>	17	4,688.81	83	(N/A)	1,500	False
63	J-34	4,518.00	<None>	<Collection: 1 item>	57	4,688.81	74	(N/A)	2,000	False
64	J-35	4,482.00	<None>	<Collection: 1 item>	21	4,688.35	89	(N/A)	1,500	False
65	J-36	4,485.00	<None>	<Collection: 1 item>	35	4,688.54	88	(N/A)	1,750	False
66	J-37	4,495.00	<None>	<Collection: 1 item>	13	4,688.04	84	(N/A)	1,750	False
67	J-38	4,485.00	<None>	<Collection: 1 item>	29	4,688.44	88	(N/A)	1,500	False
68	J-39	4,491.00	<None>	<Collection: 1 item>	15	4,688.59	85	(N/A)	1,500	False
69	J-40	4,498.00	<None>	<Collection: 1 item>	22	4,688.96	83	(N/A)	1,500	False
70	J-41	4,511.00	<None>	<Collection: 1 item>	12	4,689.54	77	(N/A)	1,500	False
71	J-42	4,524.00	<None>	<Collection: 1 item>	74	4,689.96	72	(N/A)	2,500	False
72	J-43	4,537.00	<None>	<Collection: 1 item>	8	4,690.47	66	(N/A)	1,500	False
73	J-44	4,557.00	<None>	<Collection: 1 item>	1	4,691.47	58	(N/A)	1,750	False
74	J-45	4,498.00	<None>	<Collection: 1 item>	19	4,688.97	83	(N/A)	1,500	False
75	J-46	4,518.00	<None>	<Collection: 1 item>	32	4,689.78	74	(N/A)	2,500	False
76	J-47	4,528.00	<None>	<Collection: 1 item>	8	4,690.27	70	(N/A)	2,500	False
77	J-48	4,554.00	<None>	<Collection: 1 item>	2	4,691.80	60	(N/A)	1,500	False
78	J-49	4,469.00	<None>	<Collection: 1 item>	17	4,688.63	95	(N/A)	1,500	False
79	J-50	4,469.00	<None>	<Collection: 1 item>	15	4,688.56	95	(N/A)	1,500	False
80	J-51	4,472.00	<None>	<Collection: 1 item>	15	4,688.59	94	(N/A)	1,500	False
81	J-52	4,475.00	<None>	<Collection: 1 item>	18	4,688.60	92	(N/A)	1,500	False
82	J-53	4,482.00	<None>	<Collection: 1 item>	24	4,688.62	89	(N/A)	1,500	False
83	J-54	4,482.00	<None>	<Collection: 1 item>	21	4,688.71	89	(N/A)	1,500	False
84	J-55	4,488.00	<None>	<Collection: 1 item>	17	4,688.66	87	(N/A)	1,500	False
85	J-56	4,488.00	<None>	<Collection: 1 item>	8	4,688.83	87	(N/A)	1,500	False
86	J-57	4,491.00	<None>	<Collection: 1 item>	9	4,688.89	86	(N/A)	1,500	False
87	J-58	4,491.00	<None>	<Collection: 1 item>	17	4,688.88	86	(N/A)	1,500	False
88	J-59	4,485.00	<None>	<Collection: 1 item>	23	4,688.88	88	(N/A)	1,500	False
89	J-60	4,478.00	<None>	<Collection: 1 item>	23	4,688.79	91	(N/A)	1,500	False
90	J-61	4,482.00	<None>	<Collection: 1 item>	14	4,688.70	89	(N/A)	1,500	False
91	J-62	4,488.00	<None>	<Collection: 1 item>	12	4,688.84	87	(N/A)	1,500	False
92	J-63	4,491.00	<None>	<Collection: 1 item>	11	4,689.32	86	(N/A)	1,500	False
93	J-64	4,498.00	<None>	<Collection: 1 item>	29	4,690.10	83	(N/A)	1,750	False
94	J-65	4,482.00	<None>	<Collection: 1 item>	17	4,688.62	89	(N/A)	1,500	False
95	J-66	4,485.00	<None>	<Collection: 1 item>	20	4,688.70	88	(N/A)	1,500	False
96	J-67	4,485.00	<None>	<Collection: 1 item>	14	4,688.71	88	(N/A)	1,500	False
97	J-68	4,498.00	<None>	<Collection: 1 item>	12	4,689.12	83	(N/A)	1,500	False
98	J-69	4,498.00	<None>	<Collection: 1 item>	25	4,689.16	83	(N/A)	1,500	False
99	J-70	4,501.00	<None>	<Collection: 1 item>	21	4,689.24	81	(N/A)	1,500	False
100	J-71	4,501.00	<None>	<Collection: 1 item>	20	4,689.44	82	(N/A)	2,500	False
101	J-72	4,505.00	<None>	<Collection: 1 item>	24	4,690.15	80	(N/A)	2,500	False
102	J-73	4,508.00	<None>	<Collection: 1 item>	17	4,690.19	79	(N/A)	1,500	False
103	J-74	4,511.00	<None>	<Collection: 1 item>	18	4,689.53	77	(N/A)	1,500	False
104	J-75	4,521.00	<None>	<Collection: 1 item>	14	4,689.94	73	(N/A)	1,500	False
105	J-76	4,537.00	<None>	<Collection: 1 item>	15	4,690.44	66	(N/A)	1,500	False
106	J-77	4,511.00	<None>	<Collection: 1 item>	18	4,689.50	77	(N/A)	1,500	False
107	J-78	4,534.00	<None>	<Collection: 1 item>	14	4,689.49	67	(N/A)	1,500	False
108	J-79	4,511.00	<None>	<Collection: 1 item>	15	4,689.50	77	(N/A)	1,500	False
109	J-80	4,524.00	<None>	<Collection: 1 item>	17	4,689.58	72	(N/A)	1,500	False
110	J-81	4,528.00	<None>	<Collection: 1 item>	8	4,689.69	70	(N/A)	1,500	False
111	J-82	4,514.00	<None>	<Collection: 1 item>	81	4,689.48	76	(N/A)	1,500	False
112	J-83	4,534.00	<None>	<Collection: 1 item>	33	4,690.40	68	(N/A)	1,500	False

113	J-84	4,560.00	<None>	<Collection: 1 item>	4	4,691.50	57	(N/A)	2,000	False
114	J-85	4,511.00	<None>	<Collection: 1 item>	17	4,690.34	78	(N/A)	1,500	False
115	J-86	4,537.00	<None>	<Collection: 1 item>	21	4,690.50	66	(N/A)	1,500	False
116	J-87	4,541.00	<None>	<Collection: 1 item>	18	4,690.59	65	(N/A)	1,500	False
117	J-88	4,547.00	<None>	<Collection: 1 item>	24	4,690.95	62	(N/A)	1,500	False
118	J-89	4,518.00	<None>	<Collection: 1 item>	11	4,690.40	75	(N/A)	1,500	False
119	J-90	4,514.00	<None>	<Collection: 1 item>	23	4,690.40	76	(N/A)	1,500	False
120	J-91	4,564.00	<None>	<Collection: 1 item>	6	4,692.32	56	(N/A)	2,000	False
121	J-92	4,524.00	<None>	<Collection: 1 item>	8	4,690.59	72	(N/A)	1,500	False
122	J-93	4,491.00	<None>	<Collection: 1 item>	17	4,690.11	86	(N/A)	2,000	False
123	J-94	4,485.00	<None>	<Collection: 1 item>	15	4,690.13	89	(N/A)	1,500	False
124	J-95	4,478.00	<None>	<Collection: 1 item>	12	4,690.16	92	(N/A)	1,500	False
125	J-96	4,482.00	<None>	<Collection: 1 item>	11	4,690.25	90	(N/A)	1,500	False
126	J-97	4,485.00	<None>	<Collection: 1 item>	6	4,690.31	89	(N/A)	1,500	False
127	J-98	4,488.00	<None>	<Collection: 1 item>	12	4,690.30	88	(N/A)	1,500	False
128	J-99	4,485.00	<None>	<Collection: 1 item>	21	4,690.14	89	(N/A)	1,500	False
129	J-100	4,495.00	<None>	<Collection: 1 item>	20	4,690.29	84	(N/A)	1,500	False
130	J-101	4,491.00	<None>	<Collection: 1 item>	21	4,690.11	86	(N/A)	1,500	False
131	J-102	4,505.00	<None>	<Collection: 1 item>	18	4,690.29	80	(N/A)	1,500	False
132	J-103	4,498.00	<None>	<Collection: 1 item>	24	4,690.10	83	(N/A)	1,500	False
133	J-104	4,514.00	<None>	<Collection: 1 item>	6	4,690.58	76	(N/A)	3,000	False
134	J-105	4,508.00	<None>	<Collection: 1 item>	15	4,690.16	79	(N/A)	1,500	False
135	J-106	4,511.00	<None>	<Collection: 1 item>	166	4,690.15	78	(N/A)	3,000	False
136	J-107	4,485.00	<None>	<Collection: 1 item>	11	4,690.55	89	(N/A)	1,500	False
137	J-108	4,491.00	<None>	<Collection: 1 item>	20	4,690.53	86	(N/A)	1,500	False
138	J-109	4,498.00	<None>	<Collection: 1 item>	20	4,690.65	83	(N/A)	1,500	False
139	J-110	4,508.00	<None>	<Collection: 1 item>	21	4,691.26	79	(N/A)	1,500	False
140	J-111	4,518.00	<None>	<Collection: 1 item>	18	4,691.41	75	(N/A)	1,500	False
141	J-112	4,528.00	<None>	<Collection: 1 item>	18	4,692.10	71	(N/A)	1,500	False
142	J-113	4,541.00	<None>	<Collection: 1 item>	20	4,692.52	66	(N/A)	1,500	False
143	J-114	4,554.00	<None>	<Collection: 1 item>	11	4,692.96	60	(N/A)	1,500	False
144	J-115	4,521.00	<None>	<Collection: 1 item>	23	4,692.20	74	(N/A)	1,500	False
145	J-116	4,534.00	<None>	<Collection: 1 item>	21	4,692.25	68	(N/A)	1,500	False
146	J-117	4,551.00	<None>	<Collection: 1 item>	17	4,692.54	61	(N/A)	1,500	False
147	J-118	4,560.00	<None>	<Collection: 1 item>	17	4,693.01	58	(N/A)	1,500	False
148	J-119	4,567.00	<None>	<Collection: 1 item>	29	4,693.47	55	(N/A)	1,500	False
149	J-120	4,573.00	<None>	<Collection: 1 item>	0	4,694.32	52	(N/A)	2,000	False
150	J-121	4,564.00	<None>	<Collection: 1 item>	24	4,693.08	56	(N/A)	1,500	False
151	J-122	4,491.00	<None>	<Collection: 1 item>	12	4,690.77	86	(N/A)	1,500	False
152	J-123	4,495.00	<None>	<Collection: 1 item>	23	4,689.90	84	(N/A)	1,500	False
153	J-124	4,505.00	<None>	<Collection: 1 item>	24	4,690.06	80	(N/A)	1,500	False
154	J-125	4,514.00	<None>	<Collection: 1 item>	24	4,691.43	77	(N/A)	1,500	False
155	J-126	4,495.00	<None>	<Collection: 1 item>	17	4,691.02	85	(N/A)	1,500	False
156	J-127	4,501.00	<None>	<Collection: 1 item>	15	4,689.79	82	(N/A)	1,500	False
157	J-128	4,511.00	<None>	<Collection: 1 item>	14	4,689.96	77	(N/A)	1,500	False
158	J-129	4,521.00	<None>	<Collection: 1 item>	17	4,691.67	74	(N/A)	2,000	False
159	J-130	4,531.00	<None>	<Collection: 1 item>	6	4,692.84	70	(N/A)	1,500	False
160	J-131	4,544.00	<None>	<Collection: 1 item>	6	4,693.17	65	(N/A)	1,500	False
161	J-132	4,554.00	<None>	<Collection: 1 item>	6	4,693.44	60	(N/A)	1,500	False
162	J-133	4,557.00	<None>	<Collection: 1 item>	0	4,693.66	59	(N/A)	1,500	False
163	J-134	4,573.00	<None>	<Collection: 1 item>	0	4,694.99	53	(N/A)	1,500	False
164	J-135	4,508.00	<None>	<Collection: 1 item>	20	4,691.61	79	(N/A)	1,500	False
165	J-136	4,508.00	<None>	<Collection: 1 item>	20	4,691.77	80	(N/A)	1,500	False
166	J-137	4,514.00	<None>	<Collection: 1 item>	20	4,692.16	77	(N/A)	1,500	False
167	J-138	4,528.00	<None>	<Collection: 1 item>	12	4,692.35	71	(N/A)	1,500	False
168	J-139	4,544.00	<None>	<Collection: 1 item>	93	4,692.73	64	(N/A)	2,500	False
169	J-140	4,518.00	<None>	<Collection: 1 item>	15	4,691.78	75	(N/A)	1,500	False
170	J-141	4,521.00	<None>	<Collection: 1 item>	18	4,691.81	74	(N/A)	1,500	False
171	J-142	4,534.00	<None>	<Collection: 1 item>	24	4,691.92	68	(N/A)	1,500	False
172	J-143	4,528.00	<None>	<Collection: 1 item>	32	4,691.67	71	(N/A)	1,500	False
173	J-144	4,518.00	<None>	<Collection: 1 item>	17	4,691.62	75	(N/A)	1,500	False
174	J-145	4,534.00	<None>	<Collection: 1 item>	17	4,693.20	69	(N/A)	1,500	False
175	J-146	4,537.00	<None>	<Collection: 1 item>	20	4,693.43	68	(N/A)	1,500	False
176	J-147	4,541.00	<None>	<Collection: 1 item>	18	4,693.65	66	(N/A)	1,500	False
177	J-148	4,541.00	<None>	<Collection: 1 item>	23	4,693.88	66	(N/A)	1,750	False
178	J-149	4,544.00	<None>	<Collection: 1 item>	33	4,694.15	65	(N/A)	1,750	False
179	J-150	4,554.00	<None>	<Collection: 1 item>	18	4,693.41	60	(N/A)	1,500	False
180	J-151	4,557.00	<None>	<Collection: 1 item>	14	4,693.49	59	(N/A)	1,500	False
181	J-152	4,557.00	<None>	<Collection: 1 item>	17	4,693.65	59	(N/A)	1,500	False
182	J-153	4,554.00	<None>	<Collection: 1 item>	14	4,693.80	60	(N/A)	1,500	False
183	J-154	4,551.00	<None>	<Collection: 1 item>	0	4,694.52	62	(N/A)	3,000	False
184	J-155	4,570.00	<None>	<Collection: 1 item>	2	4,697.02	55	(N/A)	2,500	False
185	J-156	4,518.00	<None>	<Collection: 1 item>	27	4,693.19	76	(N/A)	1,500	False
186	J-157	4,518.00	<None>	<Collection: 1 item>	21	4,693.44	76	(N/A)	1,500	False
187	J-158	4,518.00	<None>	<Collection: 1 item>	14	4,693.57	76	(N/A)	1,500	False
188	J-159	4,541.00	<None>	<Collection: 1 item>	21	4,693.58	66	(N/A)	1,500	False
189	J-160	4,537.00	<None>	<Collection: 1 item>	20	4,693.73	68	(N/A)	1,500	False
190	J-161	4,537.00	<None>	<Collection: 1 item>	15	4,694.23	68	(N/A)	1,500	False
191	J-162	4,547.00	<None>	<Collection: 1 item>	20	4,696.71	65	(N/A)	1,500	False
192	J-163	4,560.00	<None>	<Collection: 1 item>	14	4,699.83	60	(N/A)	2,000	False
193	J-164	4,564.00	<None>	<Collection: 1 item>	11	4,697.47	58	(N/A)	1,500	False
194	J-165	4,557.00	<None>	<Collection: 1 item>	14	4,696.35	60	(N/A)	1,500	False
195	J-166	4,551.00	<None>	<Collection: 1 item>	15	4,695.27	62	(N/A)	1,500	False
196	J-167	4,547.00	<None>	<Collection: 1 item>	15	4,694.34	64	(N/A)	1,500	False
197	J-168	4,570.00	<None>	<Collection: 1 item>	0	4,699.45	56	(N/A)	1,500	False
198	J-169	4,514.00	<None>	<Collection: 1 item>	15	4,692.38	77	(N/A)	1,500	False
199	J-170	4,534.00	<None>	<Collection: 1 item>	11	4,692.34	69	(N/A)	1,500	False
200	J-171	4,560.00	<None>	<Collection: 1 item>	5	4,693.63	58	(N/A)	1,500	False
201	J-172	4,554.00	<None>	<Collection: 1 item>	4	4,693.09	60	(N/A)	1,500	False
202	J-173	4,573.00	<None>	<Collection: 1 item>	8	4,693.93	52	(N/A)	1,500	False
203	J-174	4,570.00	<None>	<Collection: 1 item>	11	4,693.34	53	(N/A)	2,000	False
204	J-175	4,551.00	<None>	<Collection: 1 item>	11	4,693.20	62	(N/A)	1,500	False
206	J-176	4,462.00	<None>	<Collection: 0 items>	0	4,688.09	98	(N/A)	1,500	False
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218	J-177	4,478.50	<None>	<Collection: 0 items>	0	4,688.28	91	(N/A)	1,500	False
222	J-178	4,486.50	<None>	<Collection: 0 items>	0	4,688.47	87	(N/A)	1,500	False
236	J-179	4,496.00	<None>	<Collection: 0 items>	0	4,688.73	83	(N/A)	1,500	False
252	J-180	4,553.00	<None>	<Collection: 0 items>	0	4,691.52	60	(N/A)	2,000	False
258	J-181	4,470.00	<None>	<Collection: 0 items>	0	4,688.43	95	(N/A)	1,500	False
261	J-182	4,517.50	<None>	<Collection: 0 items>	0	4,689.77	75	(N/A)	1,500	False
268	J-183	4,530.50	<None>	<Collection: 0 items>	0	4,690.21	69	(N/A)	1,500	False
284	J-184	4,475.00	<None>	<Collection: 0 items>	0	4,688.22	92	(N/A)	1,500	False
301	J-185	4,495.00	<None>	<Collection: 0 items>	0	4,688.99	84	(N/A)	1,500	False
338	J-186	4,495.00	<None>	<Collection: 0 items>	0	4,689.15	84	(N/A)	1,500	False
367	J-187	4,564.00	<None>	<Collection: 0 items>	0	4,692.38	56	(N/A)	1,500	False
396	J-188	4,504.00	<None>	<Collection: 0 items>	0	4,691.30	81	(N/A)	1,500	False
413	J-189	4,573.00	<None>	<Collection: 0 items>	0	4,693.95	52	(N/A)	1,500	False
427	J-190	4,534.00	<None>	<Collection: 0 items>	0	4,693.20	69	(N/A)	2,500	False
431	J-191	4,557.00	<None>	<Collection: 0 items>	0	4,693.61	59	(N/A)	1,500	False
436	J-192	4,547.50	<None>	<Collection: 0 items>	0	4,693.96	63	(N/A)	1,500	False
493	J-193	4,554.00	<None>	<Collection: 0 items>	0	4,693.00	60	(N/A)	1,500	False
497	J-1001	4,455.00	<None>	<Collection: 1 item>	32	4,688.07	101	(N/A)	1,500	False
499	J-1002	4,455.00	<None>	<Collection: 1 item>	27	4,688.07	101	(N/A)	1,500	False
519	J-1003	4,455.00	<None>	<Collection: 1 item>	14	4,688.07	101	(N/A)	1,500	False
522	J-202	4,501.00	<None>	<Collection: 0 items>	0	4,691.37	82	(N/A)	1,500	False
	J-203	4,511.26	<None>	<Collection: 0 items>	0	4,691.52	76	(N/A)	1,500	False

P:\19821\Civil\Water CAD\Sunset Water Model.wtg

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Exhibit 11-3 Future Peak Day

Scenario: Future Peak Day
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Elevation (ft)	Zone	Demand Collection	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)	Fire Flow (Available) (gpm)	Fire Flow (Needed) (gpm)	Satisfies Fire Flow Constraints?
30	J-1	4,459.00	<None>	<Collection: 1 item>	5	4,691.56	101	1,394	1,500	False
31	J-2	4,469.00	<None>	<Collection: 1 item>	5	4,691.57	96	1,504	1,500	True
32	J-3	4,475.00	<None>	<Collection: 1 item>	5	4,691.58	94	1,405	1,500	False
33	J-4	4,482.00	<None>	<Collection: 1 item>	8	4,691.64	91	873	1,500	False
34	J-5	4,491.00	<None>	<Collection: 1 item>	9	4,691.70	87	873	1,500	False
35	J-6	4,505.00	<None>	<Collection: 1 item>	9	4,691.75	81	872	1,500	False
36	J-7	4,518.00	<None>	<Collection: 1 item>	6	4,691.82	75	1,411	1,500	False
37	J-8	4,524.00	<None>	<Collection: 1 item>	4	4,691.85	73	1,633	1,500	True
38	J-9	4,531.00	<None>	<Collection: 1 item>	6	4,691.90	70	1,430	1,500	False
39	J-10	4,459.00	<None>	<Collection: 1 item>	5	4,691.56	101	1,756	1,500	True
40	J-11	4,469.00	<None>	<Collection: 1 item>	5	4,691.57	96	1,502	1,500	True
41	J-12	4,475.00	<None>	<Collection: 1 item>	5	4,691.59	94	1,365	1,500	False
42	J-13	4,482.00	<None>	<Collection: 1 item>	4	4,691.64	91	1,563	1,500	True
43	J-14	4,491.00	<None>	<Collection: 1 item>	4	4,691.70	87	1,749	1,500	True
44	J-15	4,501.00	<None>	<Collection: 1 item>	5	4,691.76	83	1,515	1,500	True
45	J-16	4,518.00	<None>	<Collection: 1 item>	5	4,691.81	75	2,086	1,500	True
46	J-17	4,524.00	<None>	<Collection: 1 item>	8	4,691.86	73	1,905	1,500	True
47	J-18	4,531.00	<None>	<Collection: 1 item>	3	4,691.93	70	1,761	1,500	True
48	J-19	4,551.00	<None>	<Collection: 1 item>	2	4,692.40	61	2,226	2,000	True
49	J-20	4,469.00	<None>	<Collection: 1 item>	8	4,691.57	96	1,499	1,500	False
50	J-21	4,524.00	<None>	<Collection: 1 item>	7	4,691.85	73	1,910	1,500	True
51	J-22	4,459.00	<None>	<Collection: 1 item>	7	4,691.56	101	1,983	1,500	True
52	J-23	4,472.00	<None>	<Collection: 1 item>	6	4,691.57	95	1,674	1,500	True
53	J-24	4,475.00	<None>	<Collection: 1 item>	7	4,691.58	94	1,595	1,500	True
54	J-25	4,475.00	<None>	<Collection: 1 item>	6	4,691.61	94	1,738	1,500	True
55	J-26	4,475.00	<None>	<Collection: 1 item>	7	4,691.61	94	1,583	1,500	True
56	J-27	4,482.00	<None>	<Collection: 1 item>	7	4,691.61	99	1,917	1,500	True
57	J-28	4,459.00	<None>	<Collection: 1 item>	7	4,691.59	101	1,843	1,500	True
58	J-29	4,459.00	<None>	<Collection: 1 item>	7	4,691.58	101	2,006	1,500	True
59	J-30	4,465.00	<None>	<Collection: 1 item>	8	4,691.65	98	1,338	1,500	False
60	J-31	4,478.00	<None>	<Collection: 1 item>	12	4,691.62	92	1,677	1,500	True
61	J-32	4,485.00	<None>	<Collection: 1 item>	10	4,691.68	89	1,661	1,500	True
62	J-33	4,498.00	<None>	<Collection: 1 item>	9	4,691.77	84	1,822	1,500	True
63	J-34	4,518.00	<None>	<Collection: 1 item>	29	4,691.77	75	1,638	2,000	False
64	J-35	4,482.00	<None>	<Collection: 1 item>	11	4,691.64	91	1,976	1,500	True
65	J-36	4,485.00	<None>	<Collection: 1 item>	18	4,691.70	89	1,793	1,750	True
66	J-37	4,495.00	<None>	<Collection: 1 item>	6	4,691.84	85	1,750	1,500	False
67	J-38	4,485.00	<None>	<Collection: 1 item>	15	4,691.67	89	1,990	1,500	True
68	J-39	4,491.00	<None>	<Collection: 1 item>	8	4,691.71	87	2,002	1,500	True
69	J-40	4,498.00	<None>	<Collection: 1 item>	11	4,691.81	84	2,217	1,500	True
70	J-41	4,511.00	<None>	<Collection: 1 item>	6	4,691.96	78	1,741	1,500	True
71	J-42	4,524.00	<None>	<Collection: 1 item>	37	4,692.10	73	1,636	2,500	False
72	J-43	4,537.00	<None>	<Collection: 1 item>	4	4,692.26	67	1,928	1,500	True
73	J-44	4,557.00	<None>	<Collection: 1 item>	1	4,692.58	59	3,052	1,750	True
74	J-45	4,498.00	<None>	<Collection: 1 item>	10	4,691.82	84	1,695	1,500	True
75	J-46	4,518.00	<None>	<Collection: 1 item>	17	4,692.05	75	3,325	2,500	True
76	J-47	4,528.00	<None>	<Collection: 1 item>	4	4,692.20	71	3,176	2,500	True
77	J-48	4,554.00	<None>	<Collection: 1 item>	1	4,692.66	60	3,500	1,500	True
78	J-49	4,469.00	<None>	<Collection: 1 item>	9	4,691.76	96	1,527	1,500	True
79	J-50	4,469.00	<None>	<Collection: 1 item>	8	4,691.72	96	2,270	1,500	True
80	J-51	4,472.00	<None>	<Collection: 1 item>	8	4,691.74	95	1,942	1,500	True
81	J-52	4,475.00	<None>	<Collection: 1 item>	9	4,691.75	94	1,676	1,500	True
82	J-53	4,482.00	<None>	<Collection: 1 item>	12	4,691.76	91	1,607	1,500	True
83	J-54	4,482.00	<None>	<Collection: 1 item>	11	4,691.80	91	1,304	1,500	False
84	J-55	4,488.00	<None>	<Collection: 1 item>	9	4,691.75	88	1,691	1,500	True
85	J-56	4,488.00	<None>	<Collection: 1 item>	4	4,691.80	88	1,282	1,500	False
86	J-57	4,491.00	<None>	<Collection: 1 item>	5	4,691.82	87	1,795	1,500	True
87	J-58	4,491.00	<None>	<Collection: 1 item>	9	4,691.82	87	1,740	1,500	True
88	J-59	4,485.00	<None>	<Collection: 1 item>	12	4,691.82	89	1,960	1,500	True
89	J-60	4,478.00	<None>	<Collection: 1 item>	12	4,691.81	93	2,203	1,500	True
90	J-61	4,482.00	<None>	<Collection: 1 item>	7	4,691.78	91	1,458	1,500	False
91	J-62	4,488.00	<None>	<Collection: 1 item>	6	4,691.85	88	2,142	1,500	True
92	J-63	4,491.00	<None>	<Collection: 1 item>	6	4,692.07	87	1,588	1,500	True
93	J-64	4,498.00	<None>	<Collection: 1 item>	15	4,692.43	84	2,686	1,750	True
94	J-65	4,482.00	<None>	<Collection: 1 item>	9	4,691.75	91	1,515	1,500	True
95	J-66	4,485.00	<None>	<Collection: 1 item>	10	4,691.77	89	1,530	1,500	True
96	J-67	4,485.00	<None>	<Collection: 1 item>	7	4,691.80	89	1,304	1,500	False
97	J-68	4,498.00	<None>	<Collection: 1 item>	6	4,691.87	84	3,500	1,500	True
98	J-69	4,498.00	<None>	<Collection: 1 item>	13	4,691.88	84	2,850	1,500	True
99	J-70	4,501.00	<None>	<Collection: 1 item>	11	4,691.91	83	2,831	1,500	True
100	J-71	4,501.00	<None>	<Collection: 1 item>	10	4,691.96	83	3,782	2,500	True
101	J-72	4,505.00	<None>	<Collection: 1 item>	47	4,692.33	81	3,583	2,500	True
102	J-73	4,508.00	<None>	<Collection: 1 item>	9	4,692.43	80	3,500	1,500	True
103	J-74	4,511.00	<None>	<Collection: 1 item>	9	4,691.95	78	1,808	1,500	True
104	J-75	4,521.00	<None>	<Collection: 1 item>	7	4,692.09	74	1,106	1,500	False
105	J-76	4,537.00	<None>	<Collection: 1 item>	8	4,692.25	67	1,893	1,500	True
106	J-77	4,511.00	<None>	<Collection: 1 item>	10	4,691.92	78	1,643	1,500	True
107	J-78	4,534.00	<None>	<Collection: 1 item>	7	4,691.91	68	874	1,500	False
108	J-79	4,511.00	<None>	<Collection: 1 item>	8	4,691.91	78	2,075	1,500	True
109	J-80	4,524.00	<None>	<Collection: 1 item>	83	4,691.88	73	1,602	1,500	True
110	J-81	4,528.00	<None>	<Collection: 1 item>	4	4,691.96	71	2,078	1,500	True
111	J-82	4,514.00	<None>	<Collection: 1 item>	41	4,691.93	77	1,754	1,500	True
112	J-83	4,534.00	<None>	<Collection: 1 item>	17	4,692.22	68	1,523	1,500	True

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113	J-84	4,560.00	<None>	<Collection: 1 item>	5	4,692.60	57	1,682	2,000	False
114	J-85	4,511.00	<None>	<Collection: 1 item>	9	4,692.41	78	3,295	1,500	True
115	J-86	4,537.00	<None>	<Collection: 1 item>	11	4,692.45	67	2,598	1,500	True
116	J-87	4,541.00	<None>	<Collection: 1 item>	10	4,692.48	66	2,983	1,500	True
117	J-88	4,547.00	<None>	<Collection: 1 item>	12	4,692.58	63	2,697	1,500	True
118	J-89	4,518.00	<None>	<Collection: 1 item>	6	4,692.44	75	3,255	1,500	True
119	J-90	4,514.00	<None>	<Collection: 1 item>	12	4,692.44	77	3,189	1,500	True
120	J-91	4,564.00	<None>	<Collection: 1 item>	10	4,692.96	56	928	2,000	False
121	J-92	4,524.00	<None>	<Collection: 1 item>	42	4,692.47	73	2,859	1,500	True
122	J-93	4,491.00	<None>	<Collection: 1 item>	9	4,692.48	87	2,312	2,000	True
123	J-94	4,485.00	<None>	<Collection: 1 item>	8	4,692.52	90	2,336	1,500	True
124	J-95	4,478.00	<None>	<Collection: 1 item>	6	4,692.57	93	2,431	1,500	True
125	J-96	4,482.00	<None>	<Collection: 1 item>	6	4,692.69	91	2,269	1,500	True
126	J-97	4,485.00	<None>	<Collection: 1 item>	3	4,692.75	90	2,053	1,500	True
127	J-98	4,488.00	<None>	<Collection: 1 item>	6	4,692.76	89	971	1,500	False
128	J-99	4,485.00	<None>	<Collection: 1 item>	11	4,692.62	90	685	1,500	False
129	J-100	4,495.00	<None>	<Collection: 1 item>	10	4,692.74	86	901	1,500	False
130	J-101	4,491.00	<None>	<Collection: 1 item>	11	4,692.54	87	744	1,500	False
131	J-102	4,505.00	<None>	<Collection: 1 item>	9	4,692.73	81	923	1,500	False
132	J-103	4,498.00	<None>	<Collection: 1 item>	12	4,692.49	84	741	1,500	False
133	J-104	4,514.00	<None>	<Collection: 1 item>	3	4,692.88	77	1,556	3,000	False
134	J-105	4,508.00	<None>	<Collection: 1 item>	8	4,692.43	80	1,434	1,500	False
135	J-106	4,511.00	<None>	<Collection: 1 item>	83	4,692.56	79	1,449	3,000	False
136	J-107	4,485.00	<None>	<Collection: 1 item>	6	4,692.99	90	2,513	1,500	True
137	J-108	4,491.00	<None>	<Collection: 1 item>	10	4,692.99	87	1,981	1,500	True
138	J-109	4,498.00	<None>	<Collection: 1 item>	10	4,693.06	84	1,769	1,500	True
139	J-110	4,508.00	<None>	<Collection: 1 item>	11	4,693.40	80	2,238	1,500	True
140	J-111	4,518.00	<None>	<Collection: 1 item>	9	4,693.45	76	2,878	1,500	True
141	J-112	4,528.00	<None>	<Collection: 1 item>	9	4,693.86	72	2,237	1,500	True
142	J-113	4,541.00	<None>	<Collection: 1 item>	10	4,694.11	66	2,209	1,500	True
143	J-114	4,554.00	<None>	<Collection: 1 item>	6	4,694.33	61	2,157	1,500	True
144	J-115	4,521.00	<None>	<Collection: 1 item>	72	4,693.89	75	2,290	1,500	True
145	J-116	4,534.00	<None>	<Collection: 1 item>	11	4,693.94	69	2,338	1,500	True
146	J-117	4,551.00	<None>	<Collection: 1 item>	9	4,694.13	62	2,173	1,500	True
147	J-118	4,560.00	<None>	<Collection: 1 item>	8	4,694.43	58	1,720	1,500	True
148	J-119	4,567.00	<None>	<Collection: 1 item>	14	4,694.79	55	1,404	1,500	False
149	J-120	4,573.00	<None>	<Collection: 1 item>	0	4,695.41	53	4,000	2,000	True
150	J-121	4,564.00	<None>	<Collection: 1 item>	12	4,694.47	56	1,464	1,500	False
151	J-122	4,491.00	<None>	<Collection: 1 item>	6	4,693.16	87	1,915	1,500	True
152	J-123	4,495.00	<None>	<Collection: 1 item>	12	4,692.80	86	372	1,500	False
153	J-124	4,505.00	<None>	<Collection: 1 item>	12	4,692.88	81	372	1,500	False
154	J-125	4,514.00	<None>	<Collection: 1 item>	12	4,693.50	78	2,737	1,500	True
155	J-126	4,495.00	<None>	<Collection: 1 item>	9	4,693.34	86	1,582	1,500	True
156	J-127	4,501.00	<None>	<Collection: 1 item>	8	4,692.77	83	372	1,500	False
157	J-128	4,511.00	<None>	<Collection: 1 item>	7	4,692.85	79	372	1,500	False
158	J-129	4,521.00	<None>	<Collection: 1 item>	133	4,693.63	75	2,160	2,000	True
159	J-130	4,531.00	<None>	<Collection: 1 item>	37	4,694.66	71	3,500	1,500	True
160	J-131	4,544.00	<None>	<Collection: 1 item>	3	4,694.94	65	1,694	1,500	True
161	J-132	4,554.00	<None>	<Collection: 1 item>	3	4,695.15	61	1,937	1,500	True
162	J-133	4,557.00	<None>	<Collection: 1 item>	0	4,695.30	60	2,391	1,500	True
163	J-134	4,573.00	<None>	<Collection: 1 item>	0	4,696.02	53	3,500	1,500	True
164	J-135	4,508.00	<None>	<Collection: 1 item>	10	4,693.89	80	2,317	1,500	True
165	J-136	4,508.00	<None>	<Collection: 1 item>	10	4,694.11	81	1,919	1,500	True
166	J-137	4,514.00	<None>	<Collection: 1 item>	10	4,694.50	78	1,490	1,500	False
167	J-138	4,528.00	<None>	<Collection: 1 item>	6	4,694.65	72	1,654	1,500	True
168	J-139	4,544.00	<None>	<Collection: 1 item>	47	4,694.89	65	2,027	2,500	False
169	J-140	4,518.00	<None>	<Collection: 1 item>	8	4,694.14	76	1,527	1,500	True
170	J-141	4,521.00	<None>	<Collection: 1 item>	9	4,694.17	75	1,582	1,500	True
171	J-142	4,534.00	<None>	<Collection: 1 item>	12	4,694.24	69	1,869	1,500	True
172	J-143	4,528.00	<None>	<Collection: 1 item>	16	4,693.90	72	2,472	1,500	True
173	J-144	4,518.00	<None>	<Collection: 1 item>	9	4,693.89	76	1,639	1,500	True
174	J-145	4,534.00	<None>	<Collection: 1 item>	9	4,694.97	70	3,190	1,500	True
175	J-146	4,537.00	<None>	<Collection: 1 item>	10	4,695.17	68	3,421	1,500	True
176	J-147	4,541.00	<None>	<Collection: 1 item>	9	4,695.34	67	3,382	1,500	True
177	J-148	4,541.00	<None>	<Collection: 1 item>	12	4,695.53	67	3,250	1,750	True
178	J-149	4,544.00	<None>	<Collection: 1 item>	17	4,695.72	66	3,077	1,750	True
179	J-150	4,554.00	<None>	<Collection: 1 item>	9	4,695.14	61	2,414	1,500	True
180	J-151	4,557.00	<None>	<Collection: 1 item>	7	4,695.20	60	2,041	1,500	True
181	J-152	4,557.00	<None>	<Collection: 1 item>	9	4,695.34	60	1,837	1,500	True
182	J-153	4,554.00	<None>	<Collection: 1 item>	7	4,695.46	61	1,692	1,500	True
183	J-154	4,551.00	<None>	<Collection: 1 item>	0	4,695.98	63	3,089	3,000	True
184	J-155	4,570.00	<None>	<Collection: 1 item>	1	4,697.68	55	4,000	2,500	True
185	J-156	4,518.00	<None>	<Collection: 1 item>	14	4,695.39	77	2,364	1,500	True
186	J-157	4,518.00	<None>	<Collection: 1 item>	11	4,695.59	77	1,884	1,500	True
187	J-158	4,518.00	<None>	<Collection: 1 item>	7	4,695.69	77	1,419	1,500	False
188	J-159	4,541.00	<None>	<Collection: 1 item>	11	4,695.65	67	2,813	1,500	True
189	J-160	4,537.00	<None>	<Collection: 1 item>	10	4,695.78	69	1,931	1,500	True
190	J-161	4,537.00	<None>	<Collection: 1 item>	8	4,696.15	69	2,134	1,500	True
191	J-162	4,547.00	<None>	<Collection: 1 item>	10	4,697.84	65	1,410	1,500	False
192	J-163	4,560.00	<None>	<Collection: 1 item>	35	4,699.88	61	4,000	2,000	True
193	J-164	4,564.00	<None>	<Collection: 1 item>	6	4,698.36	58	1,299	1,500	False
194	J-165	4,557.00	<None>	<Collection: 1 item>	7	4,697.62	61	1,519	1,500	True
195	J-166	4,551.00	<None>	<Collection: 1 item>	8	4,696.88	63	1,678	1,500	True
196	J-167	4,547.00	<None>	<Collection: 1 item>	8	4,696.22	65	1,465	1,500	False
197	J-168	4,570.00	<None>	<Collection: 1 item>	0	4,699.57	58	3,500	1,500	True
198	J-169	4,514.00	<None>	<Collection: 1 item>	8	4,694.69	78	2,295	1,500	True
199	J-170	4,534.00	<None>	<Collection: 1 item>	6	4,694.62	69	2,067	1,500	True
200	J-171	4,560.00	<None>	<Collection: 1 item>	2	4,695.29	59	1,727	1,500	True
201	J-172	4,554.00	<None>	<Collection: 1 item>	41	4,694.33	61	1,680	1,500	True
202	J-173	4,573.00	<None>	<Collection: 1 item>	4	4,695.01	53	3,500	1,500	True
203	J-174	4,570.00	<None>	<Collection: 1 item>	5	4,694.37	54	3,398	2,000	True
204	J-175	4,551.00	<None>	<Collection: 1 item>	6	4,694.35	62	1,489	1,500	False
206	J-176	4,462.00	<None>	<Collection: 0 items>	0	4,691.56	99	1,670	1,500	True
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218	J-177	4,478.50	<None>	<Collection: 0 items>	0	4,691.62	92	1,848	1,500	True
218	J-178	4,486.50	<None>	<Collection: 0 items>	0	4,691.67	89	1,888	1,500	True
222	J-179	4,496.00	<None>	<Collection: 0 items>	0	4,691.74	85	1,929	1,500	True
236	J-180	4,553.00	<None>	<Collection: 0 items>	0	4,692.57	60	1,875	2,000	False
252	J-181	4,470.00	<None>	<Collection: 0 items>	0	4,691.67	96	2,044	1,500	True
258	J-182	4,517.50	<None>	<Collection: 0 items>	0	4,692.04	76	2,825	1,500	True
261	J-183	4,530.50	<None>	<Collection: 0 items>	0	4,692.18	70	2,926	1,500	True
268	J-184	4,475.00	<None>	<Collection: 0 items>	0	4,691.60	94	1,275	1,500	False
284	J-185	4,495.00	<None>	<Collection: 0 items>	0	4,691.83	85	1,409	1,500	False
301	J-186	4,495.00	<None>	<Collection: 0 items>	0	4,691.87	85	2,753	1,500	True
338	J-187	4,564.00	<None>	<Collection: 0 items>	0	4,692.98	56	3,500	1,500	True
367	J-188	4,504.00	<None>	<Collection: 0 items>	0	4,693.52	82	2,453	1,500	True
396	J-189	4,573.00	<None>	<Collection: 0 items>	0	4,695.03	53	3,500	1,500	True
413	J-190	4,534.00	<None>	<Collection: 0 items>	0	4,694.35	69	881	2,500	False
427	J-191	4,557.00	<None>	<Collection: 0 items>	0	4,695.29	60	2,516	1,500	True
431	J-192	4,547.50	<None>	<Collection: 0 items>	0	4,695.57	64	2,482	1,500	True
436	J-193	4,554.00	<None>	<Collection: 0 items>	0	4,694.39	61	1,742	1,500	True
493	J-1001	4,455.00	<None>	<Collection: 1 item>	16	4,691.56	102	1,831	1,500	True
497	J-1002	4,455.00	<None>	<Collection: 1 item>	14	4,691.56	102	1,871	1,500	True
499	J-1003	4,455.00	<None>	<Collection: 1 item>	7	4,691.56	102	1,888	1,500	True
519	J-202	4,501.00	<None>	<Collection: 0 items>	0	4,693.54	83	1,496	1,500	False
522	J-203	4,511.26	<None>	<Collection: 0 items>	0	4,693.59	79	1,518	1,500	True

P:\9821\Civil\Water CAD\Sunset Water Model.wtg

Exhibit 11-4 Future Peak Instantaneous

Scenario: Future Peak Inst.
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Elevation (ft)	Zone	Demand Collection	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)	Fire Flow (Available) (gpm)	Fire Flow (Needed) (gpm)	Satisfies Fire Flow Constraints?
30	J-1	4,459.00	<None>	<Collection: 1 item>	10	4,685.73	98	(N/A)	1,500	False
31	J-2	4,469.00	<None>	<Collection: 1 item>	10	4,685.75	94	(N/A)	1,500	False
32	J-3	4,475.00	<None>	<Collection: 1 item>	10	4,685.79	91	(N/A)	1,500	False
33	J-4	4,482.00	<None>	<Collection: 1 item>	16	4,686.04	88	(N/A)	1,500	False
34	J-5	4,491.00	<None>	<Collection: 1 item>	17	4,686.32	85	(N/A)	1,500	False
35	J-6	4,505.00	<None>	<Collection: 1 item>	19	4,686.62	79	(N/A)	1,500	False
36	J-7	4,518.00	<None>	<Collection: 1 item>	13	4,686.96	73	(N/A)	1,500	False
37	J-8	4,524.00	<None>	<Collection: 1 item>	8	4,687.15	71	(N/A)	1,500	False
38	J-9	4,531.00	<None>	<Collection: 1 item>	12	4,687.39	68	(N/A)	1,500	False
39	J-10	4,459.00	<None>	<Collection: 1 item>	11	4,685.72	98	(N/A)	1,500	False
40	J-11	4,469.00	<None>	<Collection: 1 item>	10	4,685.75	94	(N/A)	1,500	False
41	J-12	4,475.00	<None>	<Collection: 1 item>	10	4,685.82	91	(N/A)	1,500	False
42	J-13	4,482.00	<None>	<Collection: 1 item>	8	4,686.04	88	(N/A)	1,500	False
43	J-14	4,491.00	<None>	<Collection: 1 item>	8	4,686.33	85	(N/A)	1,500	False
44	J-15	4,501.00	<None>	<Collection: 1 item>	10	4,686.63	80	(N/A)	1,500	False
45	J-16	4,518.00	<None>	<Collection: 1 item>	10	4,686.89	73	(N/A)	1,500	False
46	J-17	4,524.00	<None>	<Collection: 1 item>	7	4,687.16	71	(N/A)	1,500	False
47	J-18	4,531.00	<None>	<Collection: 1 item>	6	4,687.53	68	(N/A)	1,500	False
48	J-19	4,551.00	<None>	<Collection: 1 item>	3	4,689.81	60	(N/A)	2,000	False
49	J-20	4,469.00	<None>	<Collection: 1 item>	16	4,685.75	94	(N/A)	1,500	False
50	J-21	4,524.00	<None>	<Collection: 1 item>	14	4,687.15	71	(N/A)	1,500	False
51	J-22	4,459.00	<None>	<Collection: 1 item>	13	4,685.72	98	(N/A)	1,500	False
52	J-23	4,472.00	<None>	<Collection: 1 item>	13	4,685.75	92	(N/A)	1,500	False
53	J-24	4,475.00	<None>	<Collection: 1 item>	14	4,685.78	91	(N/A)	1,500	False
54	J-25	4,475.00	<None>	<Collection: 1 item>	13	4,685.86	87	(N/A)	1,500	False
55	J-26	4,475.00	<None>	<Collection: 1 item>	14	4,685.86	91	(N/A)	1,500	False
56	J-27	4,482.00	<None>	<Collection: 1 item>	15	4,685.86	97	(N/A)	1,500	False
57	J-28	4,459.00	<None>	<Collection: 1 item>	14	4,685.81	98	(N/A)	1,500	False
58	J-29	4,459.00	<None>	<Collection: 1 item>	14	4,685.76	98	(N/A)	1,500	False
59	J-30	4,465.00	<None>	<Collection: 1 item>	16	4,685.97	96	(N/A)	1,500	False
60	J-31	4,478.00	<None>	<Collection: 1 item>	25	4,685.96	90	(N/A)	1,500	False
61	J-32	4,485.00	<None>	<Collection: 1 item>	20	4,686.20	87	(N/A)	1,500	False
62	J-33	4,498.00	<None>	<Collection: 1 item>	17	4,686.65	82	(N/A)	1,500	False
63	J-34	4,518.00	<None>	<Collection: 1 item>	58	4,686.69	73	(N/A)	2,000	False
64	J-35	4,482.00	<None>	<Collection: 1 item>	22	4,686.01	88	(N/A)	1,500	False
65	J-36	4,485.00	<None>	<Collection: 1 item>	36	4,686.25	87	(N/A)	1,750	False
66	J-37	4,495.00	<None>	<Collection: 1 item>	13	4,686.80	83	(N/A)	1,750	False
67	J-38	4,485.00	<None>	<Collection: 1 item>	29	4,686.09	87	(N/A)	1,500	False
68	J-39	4,491.00	<None>	<Collection: 1 item>	16	4,686.29	84	(N/A)	1,500	False
69	J-40	4,498.00	<None>	<Collection: 1 item>	23	4,686.73	82	(N/A)	1,500	False
70	J-41	4,511.00	<None>	<Collection: 1 item>	13	4,687.39	76	(N/A)	1,500	False
71	J-42	4,524.00	<None>	<Collection: 1 item>	75	4,688.16	71	(N/A)	2,500	False
72	J-43	4,537.00	<None>	<Collection: 1 item>	8	4,688.90	66	(N/A)	1,500	False
73	J-44	4,557.00	<None>	<Collection: 1 item>	1	4,690.31	58	(N/A)	1,750	False
74	J-45	4,498.00	<None>	<Collection: 1 item>	19	4,686.73	82	(N/A)	1,500	False
75	J-46	4,518.00	<None>	<Collection: 1 item>	33	4,687.86	73	(N/A)	2,500	False
76	J-47	4,528.00	<None>	<Collection: 1 item>	8	4,688.63	69	(N/A)	2,500	False
77	J-48	4,554.00	<None>	<Collection: 1 item>	2	4,691.02	59	(N/A)	1,500	False
78	J-49	4,469.00	<None>	<Collection: 1 item>	17	4,686.10	94	(N/A)	1,500	False
79	J-50	4,469.00	<None>	<Collection: 1 item>	15	4,686.09	94	(N/A)	1,500	False
80	J-51	4,472.00	<None>	<Collection: 1 item>	16	4,686.09	93	(N/A)	1,500	False
81	J-52	4,475.00	<None>	<Collection: 1 item>	19	4,686.09	91	(N/A)	1,500	False
82	J-53	4,482.00	<None>	<Collection: 1 item>	25	4,686.09	88	(N/A)	1,500	False
83	J-54	4,482.00	<None>	<Collection: 1 item>	22	4,686.15	88	(N/A)	1,500	False
84	J-55	4,488.00	<None>	<Collection: 1 item>	17	4,686.18	86	(N/A)	1,500	False
85	J-56	4,488.00	<None>	<Collection: 1 item>	8	4,686.34	86	(N/A)	1,500	False
86	J-57	4,491.00	<None>	<Collection: 1 item>	10	4,686.40	85	(N/A)	1,500	False
87	J-58	4,491.00	<None>	<Collection: 1 item>	17	4,686.37	85	(N/A)	1,500	False
88	J-59	4,485.00	<None>	<Collection: 1 item>	23	4,686.36	87	(N/A)	1,500	False
89	J-60	4,478.00	<None>	<Collection: 1 item>	23	4,686.23	90	(N/A)	1,500	False
90	J-61	4,482.00	<None>	<Collection: 1 item>	14	4,686.16	88	(N/A)	1,500	False
91	J-62	4,488.00	<None>	<Collection: 1 item>	13	4,686.25	86	(N/A)	1,500	False
92	J-63	4,491.00	<None>	<Collection: 1 item>	11	4,686.58	85	(N/A)	1,500	False
93	J-64	4,498.00	<None>	<Collection: 1 item>	29	4,687.13	82	(N/A)	1,750	False
94	J-65	4,482.00	<None>	<Collection: 1 item>	17	4,686.12	88	(N/A)	1,500	False
95	J-66	4,485.00	<None>	<Collection: 1 item>	20	4,686.19	87	(N/A)	1,500	False
96	J-67	4,485.00	<None>	<Collection: 1 item>	14	4,686.15	87	(N/A)	1,500	False
97	J-68	4,498.00	<None>	<Collection: 1 item>	13	4,686.69	82	(N/A)	1,500	False
98	J-69	4,498.00	<None>	<Collection: 1 item>	26	4,686.69	82	(N/A)	1,500	False
99	J-70	4,501.00	<None>	<Collection: 1 item>	22	4,686.71	80	(N/A)	1,500	False
100	J-71	4,501.00	<None>	<Collection: 1 item>	21	4,686.82	80	(N/A)	2,500	False
101	J-72	4,505.00	<None>	<Collection: 1 item>	94	4,687.33	79	(N/A)	2,500	False
102	J-73	4,508.00	<None>	<Collection: 1 item>	17	4,687.34	78	(N/A)	1,500	False
103	J-74	4,511.00	<None>	<Collection: 1 item>	19	4,687.29	76	(N/A)	1,500	False
104	J-75	4,521.00	<None>	<Collection: 1 item>	14	4,688.08	72	(N/A)	1,500	False
105	J-76	4,537.00	<None>	<Collection: 1 item>	16	4,688.85	66	(N/A)	1,500	False
106	J-77	4,511.00	<None>	<Collection: 1 item>	19	4,686.93	76	(N/A)	1,500	False
107	J-78	4,534.00	<None>	<Collection: 1 item>	14	4,686.92	66	(N/A)	1,500	False
108	J-79	4,511.00	<None>	<Collection: 1 item>	16	4,686.83	76	(N/A)	1,500	False
109	J-80	4,524.00	<None>	<Collection: 1 item>	166	4,686.75	70	(N/A)	1,500	False
110	J-81	4,528.00	<None>	<Collection: 1 item>	8	4,687.09	69	(N/A)	1,500	False
111	J-82	4,514.00	<None>	<Collection: 1 item>	82	4,686.83	75	(N/A)	1,500	False
112	J-83	4,534.00	<None>	<Collection: 1 item>	34	4,688.41	67	(N/A)	1,500	False

113	J-84	4,560.00	<None>	<Collection: 1 item>	11	4,690.27	56	(N/A)	2,000	False
114	J-85	4,511.00	<None>	<Collection: 1 item>	17	4,687.62	76	(N/A)	1,500	False
115	J-86	4,537.00	<None>	<Collection: 1 item>	22	4,687.92	65	(N/A)	1,500	False
116	J-87	4,541.00	<None>	<Collection: 1 item>	19	4,688.06	64	(N/A)	1,500	False
117	J-88	4,547.00	<None>	<Collection: 1 item>	25	4,688.69	61	(N/A)	1,500	False
118	J-89	4,518.00	<None>	<Collection: 1 item>	11	4,687.70	73	(N/A)	1,500	False
119	J-90	4,514.00	<None>	<Collection: 1 item>	23	4,687.71	75	(N/A)	1,500	False
120	J-91	4,564.00	<None>	<Collection: 1 item>	20	4,691.22	55	(N/A)	2,000	False
121	J-92	4,524.00	<None>	<Collection: 1 item>	84	4,687.95	71	(N/A)	1,500	False
122	J-93	4,491.00	<None>	<Collection: 1 item>	17	4,687.12	85	(N/A)	2,000	False
123	J-94	4,485.00	<None>	<Collection: 1 item>	16	4,687.12	87	(N/A)	1,500	False
124	J-95	4,478.00	<None>	<Collection: 1 item>	13	4,687.12	90	(N/A)	1,500	False
125	J-96	4,482.00	<None>	<Collection: 1 item>	11	4,687.14	89	(N/A)	1,500	False
126	J-97	4,485.00	<None>	<Collection: 1 item>	7	4,687.15	87	(N/A)	1,500	False
127	J-98	4,488.00	<None>	<Collection: 1 item>	13	4,687.13	86	(N/A)	1,500	False
128	J-99	4,485.00	<None>	<Collection: 1 item>	22	4,687.08	87	(N/A)	1,500	False
129	J-100	4,495.00	<None>	<Collection: 1 item>	20	4,687.13	83	(N/A)	1,500	False
130	J-101	4,491.00	<None>	<Collection: 1 item>	22	4,687.08	85	(N/A)	1,500	False
131	J-102	4,505.00	<None>	<Collection: 1 item>	19	4,687.13	79	(N/A)	1,500	False
132	J-103	4,498.00	<None>	<Collection: 1 item>	25	4,687.07	82	(N/A)	1,500	False
133	J-104	4,514.00	<None>	<Collection: 1 item>	7	4,687.40	75	(N/A)	3,000	False
134	J-105	4,508.00	<None>	<Collection: 1 item>	16	4,687.21	78	(N/A)	1,500	False
135	J-106	4,511.00	<None>	<Collection: 1 item>	166	4,687.13	76	(N/A)	3,000	False
136	J-107	4,485.00	<None>	<Collection: 1 item>	11	4,687.22	87	(N/A)	1,500	False
137	J-108	4,491.00	<None>	<Collection: 1 item>	20	4,687.20	85	(N/A)	1,500	False
138	J-109	4,498.00	<None>	<Collection: 1 item>	20	4,687.26	82	(N/A)	1,500	False
139	J-110	4,508.00	<None>	<Collection: 1 item>	22	4,687.65	78	(N/A)	1,500	False
140	J-111	4,518.00	<None>	<Collection: 1 item>	19	4,687.99	74	(N/A)	1,500	False
141	J-112	4,528.00	<None>	<Collection: 1 item>	19	4,688.89	70	(N/A)	1,500	False
142	J-113	4,541.00	<None>	<Collection: 1 item>	20	4,689.61	64	(N/A)	1,500	False
143	J-114	4,554.00	<None>	<Collection: 1 item>	11	4,690.39	59	(N/A)	1,500	False
144	J-115	4,521.00	<None>	<Collection: 1 item>	144	4,688.63	73	(N/A)	1,500	False
145	J-116	4,534.00	<None>	<Collection: 1 item>	22	4,688.96	67	(N/A)	1,500	False
146	J-117	4,551.00	<None>	<Collection: 1 item>	17	4,689.61	60	(N/A)	1,500	False
147	J-118	4,560.00	<None>	<Collection: 1 item>	17	4,690.47	56	(N/A)	1,500	False
148	J-119	4,567.00	<None>	<Collection: 1 item>	29	4,691.24	54	(N/A)	1,500	False
149	J-120	4,573.00	<None>	<Collection: 1 item>	0	4,692.59	52	(N/A)	2,000	False
150	J-121	4,564.00	<None>	<Collection: 1 item>	24	4,690.60	55	(N/A)	1,500	False
151	J-122	4,491.00	<None>	<Collection: 1 item>	13	4,687.33	85	(N/A)	1,500	False
152	J-123	4,495.00	<None>	<Collection: 1 item>	23	4,686.52	83	(N/A)	1,500	False
153	J-124	4,505.00	<None>	<Collection: 1 item>	25	4,686.62	79	(N/A)	1,500	False
154	J-125	4,514.00	<None>	<Collection: 1 item>	25	4,687.67	75	(N/A)	1,500	False
155	J-126	4,495.00	<None>	<Collection: 1 item>	17	4,687.47	83	(N/A)	1,500	False
156	J-127	4,501.00	<None>	<Collection: 1 item>	16	4,686.40	80	(N/A)	1,500	False
157	J-128	4,511.00	<None>	<Collection: 1 item>	14	4,686.52	76	(N/A)	1,500	False
158	J-129	4,521.00	<None>	<Collection: 1 item>	266	4,687.71	72	(N/A)	2,000	False
159	J-130	4,531.00	<None>	<Collection: 1 item>	74	4,689.64	69	(N/A)	1,500	False
160	J-131	4,544.00	<None>	<Collection: 1 item>	7	4,690.25	63	(N/A)	1,500	False
161	J-132	4,554.00	<None>	<Collection: 1 item>	7	4,690.72	59	(N/A)	1,500	False
162	J-133	4,557.00	<None>	<Collection: 1 item>	0	4,691.10	58	(N/A)	1,500	False
163	J-134	4,573.00	<None>	<Collection: 1 item>	0	4,693.39	52	(N/A)	1,500	False
164	J-135	4,508.00	<None>	<Collection: 1 item>	20	4,687.97	78	(N/A)	1,500	False
165	J-136	4,508.00	<None>	<Collection: 1 item>	20	4,688.26	78	(N/A)	1,500	False
166	J-137	4,514.00	<None>	<Collection: 1 item>	20	4,688.87	76	(N/A)	1,500	False
167	J-138	4,528.00	<None>	<Collection: 1 item>	13	4,689.14	70	(N/A)	1,500	False
168	J-139	4,544.00	<None>	<Collection: 1 item>	94	4,689.65	63	(N/A)	2,500	False
169	J-140	4,518.00	<None>	<Collection: 1 item>	16	4,688.28	74	(N/A)	1,500	False
170	J-141	4,521.00	<None>	<Collection: 1 item>	19	4,688.32	72	(N/A)	1,500	False
171	J-142	4,534.00	<None>	<Collection: 1 item>	25	4,689.46	67	(N/A)	1,500	False
172	J-143	4,528.00	<None>	<Collection: 1 item>	32	4,687.97	69	(N/A)	1,500	False
173	J-144	4,518.00	<None>	<Collection: 1 item>	17	4,687.97	74	(N/A)	1,500	False
174	J-145	4,534.00	<None>	<Collection: 1 item>	17	4,690.29	68	(N/A)	1,500	False
175	J-146	4,537.00	<None>	<Collection: 1 item>	20	4,690.71	67	(N/A)	1,500	False
176	J-147	4,541.00	<None>	<Collection: 1 item>	19	4,691.06	65	(N/A)	1,500	False
177	J-148	4,541.00	<None>	<Collection: 1 item>	23	4,691.43	65	(N/A)	1,750	False
178	J-149	4,544.00	<None>	<Collection: 1 item>	34	4,691.83	64	(N/A)	1,750	False
179	J-150	4,554.00	<None>	<Collection: 1 item>	19	4,690.69	59	(N/A)	1,500	False
180	J-151	4,557.00	<None>	<Collection: 1 item>	14	4,690.81	58	(N/A)	1,500	False
181	J-152	4,557.00	<None>	<Collection: 1 item>	17	4,691.07	58	(N/A)	1,500	False
182	J-153	4,554.00	<None>	<Collection: 1 item>	14	4,691.31	59	(N/A)	1,500	False
183	J-154	4,551.00	<None>	<Collection: 1 item>	0	4,692.38	61	(N/A)	3,000	False
184	J-155	4,570.00	<None>	<Collection: 1 item>	2	4,696.01	55	(N/A)	2,500	False
185	J-156	4,518.00	<None>	<Collection: 1 item>	28	4,690.44	75	(N/A)	1,500	False
186	J-157	4,518.00	<None>	<Collection: 1 item>	22	4,690.82	75	(N/A)	1,500	False
187	J-158	4,518.00	<None>	<Collection: 1 item>	14	4,691.00	75	(N/A)	1,500	False
188	J-159	4,541.00	<None>	<Collection: 1 item>	22	4,690.98	65	(N/A)	1,500	False
189	J-160	4,537.00	<None>	<Collection: 1 item>	20	4,691.21	67	(N/A)	1,500	False
190	J-161	4,537.00	<None>	<Collection: 1 item>	16	4,691.94	67	(N/A)	1,500	False
191	J-162	4,547.00	<None>	<Collection: 1 item>	21	4,695.42	64	(N/A)	1,500	False
192	J-163	4,560.00	<None>	<Collection: 1 item>	69	4,699.72	60	(N/A)	2,000	False
193	J-164	4,564.00	<None>	<Collection: 1 item>	11	4,696.49	57	(N/A)	1,500	False
194	J-165	4,557.00	<None>	<Collection: 1 item>	14	4,694.93	60	(N/A)	1,500	False
195	J-166	4,551.00	<None>	<Collection: 1 item>	16	4,693.41	62	(N/A)	1,500	False
196	J-167	4,547.00	<None>	<Collection: 1 item>	16	4,692.09	63	(N/A)	1,500	False
197	J-168	4,570.00	<None>	<Collection: 1 item>	0	4,699.26	58	(N/A)	1,500	False
198	J-169	4,514.00	<None>	<Collection: 1 item>	16	4,689.20	76	(N/A)	1,500	False
199	J-170	4,534.00	<None>	<Collection: 1 item>	11	4,689.11	67	(N/A)	1,500	False
200	J-171	4,560.00	<None>	<Collection: 1 item>	5	4,691.05	57	(N/A)	1,500	False
201	J-172	4,554.00	<None>	<Collection: 1 item>	81	4,690.61	59	(N/A)	1,500	False
202	J-173	4,573.00	<None>	<Collection: 1 item>	8	4,692.23	52	(N/A)	1,500	False
203	J-174	4,570.00	<None>	<Collection: 1 item>	11	4,691.72	53	(N/A)	2,000	False
204	J-175	4,551.00	<None>	<Collection: 1 item>	11	4,691.12	61	(N/A)	1,500	False
206	J-176	4,462.00	<None>	<Collection: 0 items>	0	4,685.73	97	(N/A)	1,500	False
214										

218	J-177	4,478.50	<None>	<Collection: 0 items>	0	4,685.95	90	(N/A)	1,500	False
222	J-178	4,486.50	<None>	<Collection: 0 items>	0	4,686.19	86	(N/A)	1,500	False
236	J-179	4,496.00	<None>	<Collection: 0 items>	0	4,686.56	82	(N/A)	1,500	False
252	J-180	4,553.00	<None>	<Collection: 0 items>	0	4,690.62	60	(N/A)	2,000	False
258	J-181	4,470.00	<None>	<Collection: 0 items>	0	4,686.03	93	(N/A)	1,500	False
261	J-182	4,517.50	<None>	<Collection: 0 items>	0	4,687.83	74	(N/A)	1,500	False
268	J-183	4,530.50	<None>	<Collection: 0 items>	0	4,688.53	68	(N/A)	1,500	False
284	J-184	4,475.00	<None>	<Collection: 0 items>	0	4,685.85	91	(N/A)	1,500	False
301	J-185	4,495.00	<None>	<Collection: 0 items>	0	4,685.76	83	(N/A)	1,500	False
338	J-186	4,495.00	<None>	<Collection: 0 items>	0	4,686.91	83	(N/A)	1,500	False
367	J-187	4,564.00	<None>	<Collection: 0 items>	0	4,691.31	55	(N/A)	1,500	False
396	J-188	4,504.00	<None>	<Collection: 0 items>	0	4,687.63	79	(N/A)	1,500	False
413	J-189	4,573.00	<None>	<Collection: 0 items>	0	4,692.25	52	(N/A)	1,500	False
427	J-190	4,534.00	<None>	<Collection: 0 items>	0	4,691.12	68	(N/A)	2,500	False
431	J-191	4,557.00	<None>	<Collection: 0 items>	0	4,691.01	58	(N/A)	1,500	False
436	J-192	4,547.50	<None>	<Collection: 0 items>	0	4,691.54	62	(N/A)	1,500	False
493	J-193	4,554.00	<None>	<Collection: 0 items>	0	4,690.46	59	(N/A)	1,500	False
497	J-1001	4,455.00	<None>	<Collection: 1 item>	33	4,685.70	100	(N/A)	1,500	False
499	J-1002	4,455.00	<None>	<Collection: 1 item>	27	4,685.70	100	(N/A)	1,500	False
519	J-1003	4,455.00	<None>	<Collection: 1 item>	14	4,685.71	100	(N/A)	1,500	False
522	J-202	4,501.00	<None>	<Collection: 0 items>	0	4,687.64	81	(N/A)	1,500	False
	J-203	4,511.26	<None>	<Collection: 0 items>	0	4,687.68	76	(N/A)	1,500	False

P:\19821\Civil\Water CAD\Sunset Water Model.wtg

Exhibit 11-5 Alternative 1 Peak Day

Scenario: Proposed Peak Day Alt. 1
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Elevation (ft)	Zone	Demand Collection	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)	Fire Flow (Available) (gpm)	Fire Flow (Needed) (gpm)	Satisfies Fire Flow Constraints?
30	J-1	4,459.00	<None>	<Collection: 1 item>	5	4,691.72	101	1,392	1,500	False
31	J-2	4,469.00	<None>	<Collection: 1 item>	5	4,691.72	96	1,516	1,500	True
32	J-3	4,475.00	<None>	<Collection: 1 item>	5	4,691.73	94	1,405	1,500	False
33	J-4	4,482.00	<None>	<Collection: 1 item>	8	4,691.79	91	873	1,500	False
34	J-5	4,491.00	<None>	<Collection: 1 item>	9	4,691.84	87	873	1,500	False
35	J-6	4,505.00	<None>	<Collection: 1 item>	9	4,691.89	81	872	1,500	False
36	J-7	4,518.00	<None>	<Collection: 1 item>	6	4,691.95	75	1,410	1,500	False
37	J-8	4,524.00	<None>	<Collection: 1 item>	4	4,691.98	73	1,633	1,500	True
38	J-9	4,531.00	<None>	<Collection: 1 item>	6	4,692.02	70	1,431	1,500	False
39	J-10	4,459.00	<None>	<Collection: 1 item>	5	4,691.72	101	1,777	1,500	True
40	J-11	4,469.00	<None>	<Collection: 1 item>	5	4,691.73	96	1,514	1,500	True
41	J-12	4,475.00	<None>	<Collection: 1 item>	5	4,691.74	94	1,373	1,500	False
42	J-13	4,482.00	<None>	<Collection: 1 item>	4	4,691.79	91	1,568	1,500	True
43	J-14	4,491.00	<None>	<Collection: 1 item>	4	4,691.84	87	1,744	1,500	True
44	J-15	4,501.00	<None>	<Collection: 1 item>	5	4,691.89	83	1,511	1,500	True
45	J-16	4,518.00	<None>	<Collection: 1 item>	5	4,691.94	75	2,098	1,500	True
46	J-17	4,524.00	<None>	<Collection: 1 item>	8	4,691.98	73	1,915	1,500	True
47	J-18	4,531.00	<None>	<Collection: 1 item>	3	4,692.04	70	1,770	1,500	True
48	J-19	4,551.00	<None>	<Collection: 1 item>	2	4,692.46	61	2,231	2,000	True
49	J-20	4,469.00	<None>	<Collection: 1 item>	8	4,691.72	96	1,511	1,500	True
50	J-21	4,524.00	<None>	<Collection: 1 item>	7	4,691.98	73	1,620	1,500	True
51	J-22	4,459.00	<None>	<Collection: 1 item>	7	4,691.72	101	2,016	1,500	True
52	J-23	4,472.00	<None>	<Collection: 1 item>	6	4,691.73	95	1,571	1,500	True
53	J-24	4,475.00	<None>	<Collection: 1 item>	7	4,691.74	94	1,799	1,500	True
54	J-25	4,475.00	<None>	<Collection: 1 item>	6	4,691.76	94	1,898	1,500	True
55	J-26	4,475.00	<None>	<Collection: 1 item>	7	4,691.76	94	1,575	1,500	True
56	J-27	4,462.00	<None>	<Collection: 1 item>	7	4,691.77	99	1,978	1,500	True
57	J-28	4,459.00	<None>	<Collection: 1 item>	7	4,691.76	101	1,878	1,500	True
58	J-29	4,459.00	<None>	<Collection: 1 item>	7	4,691.74	101	1,851	1,500	True
59	J-30	4,465.00	<None>	<Collection: 1 item>	8	4,691.81	98	1,351	1,500	False
60	J-31	4,478.00	<None>	<Collection: 1 item>	12	4,691.78	92	1,675	1,500	True
61	J-32	4,485.00	<None>	<Collection: 1 item>	10	4,691.83	89	1,660	1,500	True
62	J-33	4,498.00	<None>	<Collection: 1 item>	9	4,691.91	84	1,825	1,500	True
63	J-34	4,518.00	<None>	<Collection: 1 item>	29	4,691.93	75	1,641	2,300	False
64	J-35	4,482.00	<None>	<Collection: 1 item>	11	4,691.80	91	1,972	1,500	True
65	J-36	4,485.00	<None>	<Collection: 1 item>	18	4,691.85	89	1,791	1,750	True
66	J-37	4,495.00	<None>	<Collection: 1 item>	6	4,691.99	85	1,342	1,750	False
67	J-38	4,485.00	<None>	<Collection: 1 item>	15	4,691.83	89	1,992	1,500	True
68	J-39	4,491.00	<None>	<Collection: 1 item>	8	4,691.87	87	1,997	1,500	True
69	J-40	4,498.00	<None>	<Collection: 1 item>	11	4,691.97	84	2,222	1,500	True
70	J-41	4,511.00	<None>	<Collection: 1 item>	6	4,692.13	78	1,871	1,500	True
71	J-42	4,524.00	<None>	<Collection: 1 item>	37	4,692.19	73	2,239	2,500	False
72	J-43	4,537.00	<None>	<Collection: 1 item>	4	4,692.26	67	2,488	1,500	True
73	J-44	4,557.00	<None>	<Collection: 1 item>	1	4,692.60	59	2,752	1,750	True
74	J-45	4,498.00	<None>	<Collection: 1 item>	10	4,691.97	84	1,697	1,500	True
75	J-46	4,518.00	<None>	<Collection: 1 item>	17	4,692.17	75	3,176	2,500	True
76	J-47	4,528.00	<None>	<Collection: 1 item>	4	4,692.27	71	3,269	2,500	True
77	J-48	4,554.00	<None>	<Collection: 1 item>	1	4,692.68	60	3,500	1,500	True
78	J-49	4,469.00	<None>	<Collection: 1 item>	9	4,691.94	96	1,529	1,500	True
79	J-50	4,469.00	<None>	<Collection: 1 item>	8	4,691.89	96	2,279	1,500	True
80	J-51	4,472.00	<None>	<Collection: 1 item>	8	4,691.91	95	1,951	1,500	True
81	J-52	4,475.00	<None>	<Collection: 1 item>	9	4,691.93	94	1,684	1,500	True
82	J-53	4,482.00	<None>	<Collection: 1 item>	12	4,691.94	91	1,609	1,500	True
83	J-54	4,482.00	<None>	<Collection: 1 item>	11	4,691.99	91	1,302	1,500	False
84	J-55	4,488.00	<None>	<Collection: 1 item>	9	4,691.92	88	1,692	1,500	True
85	J-56	4,488.00	<None>	<Collection: 1 item>	4	4,691.97	88	1,282	1,500	False
86	J-57	4,491.00	<None>	<Collection: 1 item>	5	4,691.99	87	1,799	1,500	True
87	J-58	4,491.00	<None>	<Collection: 1 item>	9	4,691.99	87	1,738	1,500	True
88	J-59	4,485.00	<None>	<Collection: 1 item>	12	4,692.00	90	1,965	1,500	True
89	J-60	4,478.00	<None>	<Collection: 1 item>	12	4,692.00	93	2,213	1,500	True
90	J-61	4,482.00	<None>	<Collection: 1 item>	7	4,691.96	91	1,458	1,500	False
91	J-62	4,488.00	<None>	<Collection: 1 item>	6	4,692.05	88	2,160	1,500	True
92	J-63	4,491.00	<None>	<Collection: 1 item>	6	4,692.32	87	1,568	1,500	True
93	J-64	4,498.00	<None>	<Collection: 1 item>	15	4,692.75	84	3,492	1,750	True
94	J-65	4,482.00	<None>	<Collection: 1 item>	9	4,691.92	91	1,516	1,500	True
95	J-66	4,485.00	<None>	<Collection: 1 item>	10	4,691.94	90	1,530	1,500	True
96	J-67	4,485.00	<None>	<Collection: 1 item>	7	4,691.99	90	1,302	1,500	False
97	J-68	4,498.00	<None>	<Collection: 1 item>	6	4,692.03	84	3,079	1,500	True
98	J-69	4,498.00	<None>	<Collection: 1 item>	13	4,692.05	84	2,831	1,500	True
99	J-70	4,501.00	<None>	<Collection: 1 item>	11	4,692.09	83	2,793	1,500	True
100	J-71	4,501.00	<None>	<Collection: 1 item>	10	4,692.15	83	3,050	2,500	True
101	J-72	4,505.00	<None>	<Collection: 1 item>	47	4,692.60	81	3,511	2,500	True
102	J-73	4,508.00	<None>	<Collection: 1 item>	9	4,692.72	80	3,500	1,500	True
103	J-74	4,511.00	<None>	<Collection: 1 item>	9	4,692.16	78	2,895	1,500	True
104	J-75	4,521.00	<None>	<Collection: 1 item>	7	4,692.19	74	3,011	1,500	True
105	J-76	4,537.00	<None>	<Collection: 1 item>	8	4,692.22	67	2,953	1,500	True
106	J-77	4,511.00	<None>	<Collection: 1 item>	10	4,692.10	78	1,695	1,500	True
107	J-78	4,534.00	<None>	<Collection: 1 item>	7	4,692.10	68	874	1,500	False
108	J-79	4,511.00	<None>	<Collection: 1 item>	8	4,692.09	78	2,150	1,500	True
109	J-80	4,524.00	<None>	<Collection: 1 item>	83	4,692.06	73	1,619	1,500	True
110	J-81	4,528.00	<None>	<Collection: 1 item>	4	4,692.12	71	2,145	1,500	True
111	J-82	4,514.00	<None>	<Collection: 1 item>	41	4,692.10	77	1,785	1,500	True
112	J-83	4,534.00	<None>	<Collection: 1 item>	17	4,692.32	68	1,543	1,500	True

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113	J-84	4,560.00	<None>	<Collection: 1 item>	5	4,692.63	57	1,588	2,000	False
114	J-85	4,511.00	<None>	<Collection: 1 item>	9	4,692.67	79	3,500	1,500	True
115	J-86	4,537.00	<None>	<Collection: 1 item>	11	4,692.71	67	2,594	1,500	True
116	J-87	4,541.00	<None>	<Collection: 1 item>	10	4,692.73	66	3,128	1,500	True
117	J-88	4,547.00	<None>	<Collection: 1 item>	12	4,692.80	63	3,278	1,500	True
118	J-89	4,518.00	<None>	<Collection: 1 item>	6	4,692.73	76	3,374	1,500	True
119	J-90	4,514.00	<None>	<Collection: 1 item>	12	4,692.71	77	3,500	1,500	True
120	J-91	4,564.00	<None>	<Collection: 1 item>	10	4,692.94	56	1,008	2,000	False
121	J-92	4,524.00	<None>	<Collection: 1 item>	42	4,692.77	73	2,843	1,500	True
122	J-93	4,491.00	<None>	<Collection: 1 item>	9	4,692.83	87	3,072	2,000	True
123	J-94	4,485.00	<None>	<Collection: 1 item>	8	4,692.86	90	2,646	1,500	True
124	J-95	4,478.00	<None>	<Collection: 1 item>	6	4,692.87	93	2,423	1,500	True
125	J-96	4,482.00	<None>	<Collection: 1 item>	6	4,692.89	91	2,637	1,500	True
126	J-97	4,485.00	<None>	<Collection: 1 item>	3	4,692.91	90	3,275	1,500	True
127	J-98	4,488.00	<None>	<Collection: 1 item>	6	4,692.91	89	3,430	1,500	True
128	J-99	4,485.00	<None>	<Collection: 1 item>	11	4,692.89	90	2,754	1,500	True
129	J-100	4,495.00	<None>	<Collection: 1 item>	10	4,692.90	86	3,500	1,500	True
130	J-101	4,491.00	<None>	<Collection: 1 item>	11	4,692.85	87	3,088	1,500	True
131	J-102	4,505.00	<None>	<Collection: 1 item>	9	4,692.88	81	3,500	1,500	True
132	J-103	4,498.00	<None>	<Collection: 1 item>	12	4,692.81	84	3,012	1,500	True
133	J-104	4,514.00	<None>	<Collection: 1 item>	3	4,692.90	77	2,803	3,000	False
134	J-105	4,508.00	<None>	<Collection: 1 item>	8	4,692.72	80	1,499	1,500	False
135	J-106	4,511.00	<None>	<Collection: 1 item>	83	4,692.73	79	1,311	3,000	False
136	J-107	4,485.00	<None>	<Collection: 1 item>	6	4,692.95	90	2,406	1,500	True
137	J-108	4,491.00	<None>	<Collection: 1 item>	10	4,692.95	87	2,894	1,500	True
138	J-109	4,498.00	<None>	<Collection: 1 item>	10	4,692.97	84	3,500	1,500	True
139	J-110	4,508.00	<None>	<Collection: 1 item>	11	4,693.23	80	2,487	1,500	True
140	J-111	4,518.00	<None>	<Collection: 1 item>	9	4,693.37	76	3,022	1,500	True
141	J-112	4,528.00	<None>	<Collection: 1 item>	9	4,693.83	72	2,228	1,500	True
142	J-113	4,541.00	<None>	<Collection: 1 item>	10	4,694.14	66	2,152	1,500	True
143	J-114	4,554.00	<None>	<Collection: 1 item>	6	4,694.44	61	2,327	1,500	True
144	J-115	4,521.00	<None>	<Collection: 1 item>	72	4,693.82	75	2,275	1,500	True
145	J-116	4,534.00	<None>	<Collection: 1 item>	11	4,693.91	69	2,335	1,500	True
146	J-117	4,551.00	<None>	<Collection: 1 item>	9	4,694.14	62	2,224	1,500	True
147	J-118	4,560.00	<None>	<Collection: 1 item>	9	4,694.47	58	1,928	1,500	True
148	J-119	4,567.00	<None>	<Collection: 1 item>	14	4,694.74	55	1,498	1,500	False
149	J-120	4,573.00	<None>	<Collection: 1 item>	0	4,695.22	53	4,000	2,000	True
150	J-121	4,564.00	<None>	<Collection: 1 item>	12	4,694.52	56	1,439	1,500	False
151	J-122	4,491.00	<None>	<Collection: 1 item>	6	4,692.98	87	1,918	1,500	True
152	J-123	4,495.00	<None>	<Collection: 1 item>	12	4,692.98	86	3,002	1,500	True
153	J-124	4,505.00	<None>	<Collection: 1 item>	12	4,693.01	81	2,816	1,500	True
154	J-125	4,514.00	<None>	<Collection: 1 item>	12	4,693.25	78	3,006	1,500	True
155	J-126	4,495.00	<None>	<Collection: 1 item>	9	4,693.01	86	1,481	1,500	False
156	J-127	4,501.00	<None>	<Collection: 1 item>	8	4,693.04	83	2,280	1,500	True
157	J-128	4,511.00	<None>	<Collection: 1 item>	7	4,693.06	79	2,383	1,500	True
158	J-129	4,521.00	<None>	<Collection: 1 item>	133	4,693.29	75	2,483	2,000	True
159	J-130	4,531.00	<None>	<Collection: 1 item>	37	4,694.47	71	3,410	1,500	True
160	J-131	4,544.00	<None>	<Collection: 1 item>	3	4,694.75	65	1,700	1,500	True
161	J-132	4,554.00	<None>	<Collection: 1 item>	3	4,694.97	61	1,952	1,500	True
162	J-133	4,557.00	<None>	<Collection: 1 item>	0	4,695.12	60	2,428	1,500	True
163	J-134	4,573.00	<None>	<Collection: 1 item>	0	4,695.86	53	3,500	1,500	True
164	J-135	4,508.00	<None>	<Collection: 1 item>	10	4,693.54	80	2,222	1,500	True
165	J-136	4,508.00	<None>	<Collection: 1 item>	10	4,693.79	80	1,889	1,500	True
166	J-137	4,514.00	<None>	<Collection: 1 item>	10	4,694.22	78	1,498	1,500	False
167	J-138	4,528.00	<None>	<Collection: 1 item>	6	4,694.38	72	1,653	1,500	True
168	J-139	4,544.00	<None>	<Collection: 1 item>	47	4,694.66	65	2,044	2,500	False
169	J-140	4,518.00	<None>	<Collection: 1 item>	8	4,693.82	76	1,524	1,500	True
170	J-141	4,521.00	<None>	<Collection: 1 item>	9	4,693.85	75	1,584	1,500	True
171	J-142	4,534.00	<None>	<Collection: 1 item>	12	4,693.93	69	1,895	1,500	True
172	J-143	4,528.00	<None>	<Collection: 1 item>	16	4,693.55	72	2,435	1,500	True
173	J-144	4,518.00	<None>	<Collection: 1 item>	9	4,693.54	76	1,835	1,500	True
174	J-145	4,534.00	<None>	<Collection: 1 item>	9	4,694.79	70	3,148	1,500	True
175	J-146	4,537.00	<None>	<Collection: 1 item>	10	4,694.99	68	3,387	1,500	True
176	J-147	4,541.00	<None>	<Collection: 1 item>	9	4,695.16	67	3,358	1,500	True
177	J-148	4,541.00	<None>	<Collection: 1 item>	12	4,695.36	67	3,229	1,750	True
178	J-149	4,544.00	<None>	<Collection: 1 item>	17	4,695.56	66	3,088	1,750	True
179	J-150	4,554.00	<None>	<Collection: 1 item>	9	4,694.96	61	2,417	1,500	True
180	J-151	4,557.00	<None>	<Collection: 1 item>	7	4,695.03	60	2,046	1,500	True
181	J-152	4,557.00	<None>	<Collection: 1 item>	9	4,695.16	60	1,835	1,500	True
182	J-153	4,554.00	<None>	<Collection: 1 item>	7	4,695.30	61	1,694	1,500	True
183	J-154	4,551.00	<None>	<Collection: 1 item>	0	4,695.83	63	3,118	3,000	True
184	J-155	4,570.00	<None>	<Collection: 1 item>	1	4,697.59	55	4,000	2,500	True
185	J-156	4,518.00	<None>	<Collection: 1 item>	14	4,695.18	77	2,376	1,500	True
186	J-157	4,518.00	<None>	<Collection: 1 item>	11	4,695.40	77	1,877	1,500	True
187	J-158	4,518.00	<None>	<Collection: 1 item>	7	4,695.50	77	1,418	1,500	False
188	J-159	4,541.00	<None>	<Collection: 1 item>	11	4,695.45	67	2,779	1,500	True
189	J-160	4,537.00	<None>	<Collection: 1 item>	10	4,695.59	69	1,926	1,500	True
190	J-161	4,537.00	<None>	<Collection: 1 item>	8	4,695.98	69	2,131	1,500	True
191	J-162	4,547.00	<None>	<Collection: 1 item>	10	4,697.75	65	1,417	1,500	False
192	J-163	4,560.00	<None>	<Collection: 1 item>	35	4,699.87	61	4,000	2,000	True
193	J-164	4,564.00	<None>	<Collection: 1 item>	6	4,698.30	58	1,303	1,500	False
194	J-165	4,557.00	<None>	<Collection: 1 item>	7	4,697.52	61	1,525	1,500	True
195	J-166	4,551.00	<None>	<Collection: 1 item>	8	4,696.75	63	1,671	1,500	True
196	J-167	4,547.00	<None>	<Collection: 1 item>	8	4,696.06	64	1,457	1,500	False
197	J-168	4,570.00	<None>	<Collection: 1 item>	0	4,699.55	58	3,500	1,500	True
198	J-169	4,514.00	<None>	<Collection: 1 item>	8	4,694.43	78	2,321	1,500	True
199	J-170	4,534.00	<None>	<Collection: 1 item>	6	4,694.36	89	2,089	1,500	True
200	J-171	4,560.00	<None>	<Collection: 1 item>	2	4,695.12	58	1,723	1,500	True
201	J-172	4,554.00	<None>	<Collection: 1 item>	41	4,694.53	61	2,898	1,500	True
202	J-173	4,573.00	<None>	<Collection: 1 item>	4	4,694.73	53	3,500	1,500	True
203	J-174	4,570.00	<None>	<Collection: 1 item>	5	4,694.33	54	3,399	2,000	True
204	J-175	4,551.00	<None>	<Collection: 1 item>	6	4,694.42	62	1,720	1,500	True
206	J-176	4,462.00	<None>	<Collection: 0 items>	0	4,691.72	99	1,687	1,500	True
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218	J-177	4,478.50	<None>	<Collection: 0 items>	0	4,691.77	92	1,855	1,500	True
218	J-178	4,486.50	<None>	<Collection: 0 items>	0	4,691.82	89	1,888	1,500	True
222	J-179	4,496.00	<None>	<Collection: 0 items>	0	4,691.89	85	1,930	1,500	True
236	J-180	4,553.00	<None>	<Collection: 0 items>	0	4,692.61	60	1,879	2,000	False
252	J-181	4,470.00	<None>	<Collection: 0 items>	0	4,691.83	96	2,045	1,500	True
258	J-182	4,517.50	<None>	<Collection: 0 items>	0	4,692.16	76	2,710	1,500	True
261	J-183	4,530.50	<None>	<Collection: 0 items>	0	4,692.24	70	2,516	1,500	True
268	J-184	4,475.00	<None>	<Collection: 0 items>	0	4,691.76	94	1,521	1,500	True
284	J-185	4,495.00	<None>	<Collection: 0 items>	0	4,691.98	85	1,410	1,500	False
301	J-186	4,495.00	<None>	<Collection: 0 items>	0	4,692.03	85	2,750	1,500	True
338	J-187	4,564.00	<None>	<Collection: 0 items>	0	4,692.99	56	3,500	1,500	True
367	J-188	4,504.00	<None>	<Collection: 0 items>	0	4,693.06	82	1,876	1,500	True
396	J-189	4,573.00	<None>	<Collection: 0 items>	0	4,694.75	53	3,500	1,500	True
413	J-190	4,534.00	<None>	<Collection: 0 items>	0	4,694.42	69	881	2,500	False
427	J-191	4,557.00	<None>	<Collection: 0 items>	0	4,695.11	60	2,517	1,500	True
431	J-192	4,547.50	<None>	<Collection: 0 items>	0	4,695.41	64	2,488	1,500	True
436	J-193	4,554.00	<None>	<Collection: 0 items>	0	4,694.46	61	1,607	1,500	True
493	J-1001	4,455.00	<None>	<Collection: 1 item>	16	4,691.72	102	1,856	1,500	True
497	J-1002	4,455.00	<None>	<Collection: 1 item>	14	4,691.72	102	1,899	1,500	True
499	J-1003	4,455.00	<None>	<Collection: 1 item>	7	4,691.72	102	1,918	1,500	True
519	J-202	4,501.00	<None>	<Collection: 0 items>	0	4,693.04	83	2,449	1,500	True
522	J-203	4,511.26	<None>	<Collection: 0 items>	0	4,693.07	79	2,438	1,500	True

P:\9821\Civil\Water CAD\Sunset Water Model.wtg

Exhibit 11-6 Alternative 1 Peak Instantaneous

Scenario: Proposed Peak Inst. Alt 1
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Elevation (ft)	Zone	Demand Collection	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)	Fire Flow (Available) (gpm)	Fire Flow (Needed) (gpm)	Satisfies Fire Flow Constraints?
30	J-1	4,459.00	<None>	<Collection: 1 item>	10	4,686.38	98	(N/A)	1,500	False
31	J-2	4,469.00	<None>	<Collection: 1 item>	10	4,686.40	94	(N/A)	1,500	False
32	J-3	4,475.00	<None>	<Collection: 1 item>	10	4,686.44	91	(N/A)	1,500	False
33	J-4	4,482.00	<None>	<Collection: 1 item>	16	4,686.66	89	(N/A)	1,500	False
34	J-5	4,491.00	<None>	<Collection: 1 item>	17	4,686.92	85	(N/A)	1,500	False
35	J-6	4,505.00	<None>	<Collection: 1 item>	19	4,687.18	79	(N/A)	1,500	False
36	J-7	4,518.00	<None>	<Collection: 1 item>	13	4,687.48	73	(N/A)	1,500	False
37	J-8	4,524.00	<None>	<Collection: 1 item>	8	4,687.64	71	(N/A)	1,500	False
38	J-9	4,531.00	<None>	<Collection: 1 item>	12	4,687.85	68	(N/A)	1,500	False
39	J-10	4,459.00	<None>	<Collection: 1 item>	11	4,686.37	98	(N/A)	1,500	False
40	J-11	4,469.00	<None>	<Collection: 1 item>	10	4,686.40	94	(N/A)	1,500	False
41	J-12	4,475.00	<None>	<Collection: 1 item>	10	4,686.47	91	(N/A)	1,500	False
42	J-13	4,482.00	<None>	<Collection: 1 item>	8	4,686.67	89	(N/A)	1,500	False
43	J-14	4,491.00	<None>	<Collection: 1 item>	8	4,686.93	85	(N/A)	1,500	False
44	J-15	4,501.00	<None>	<Collection: 1 item>	10	4,687.19	81	(N/A)	1,500	False
45	J-16	4,518.00	<None>	<Collection: 1 item>	10	4,687.42	73	(N/A)	1,500	False
46	J-17	4,524.00	<None>	<Collection: 1 item>	17	4,687.65	71	(N/A)	1,500	False
47	J-18	4,531.00	<None>	<Collection: 1 item>	6	4,687.98	68	(N/A)	1,500	False
48	J-19	4,551.00	<None>	<Collection: 1 item>	3	4,690.00	60	(N/A)	2,000	False
49	J-20	4,469.00	<None>	<Collection: 1 item>	16	4,686.40	94	(N/A)	1,500	False
50	J-21	4,524.00	<None>	<Collection: 1 item>	14	4,687.64	71	(N/A)	1,500	False
51	J-22	4,459.00	<None>	<Collection: 1 item>	13	4,686.38	98	(N/A)	1,500	False
52	J-23	4,472.00	<None>	<Collection: 1 item>	13	4,686.40	93	(N/A)	1,500	False
53	J-24	4,475.00	<None>	<Collection: 1 item>	13	4,686.42	91	(N/A)	1,500	False
54	J-25	4,475.00	<None>	<Collection: 1 item>	13	4,686.51	92	(N/A)	1,500	False
55	J-26	4,475.00	<None>	<Collection: 1 item>	14	4,686.51	92	(N/A)	1,500	False
56	J-27	4,482.00	<None>	<Collection: 1 item>	15	4,686.52	97	(N/A)	1,500	False
57	J-28	4,459.00	<None>	<Collection: 1 item>	14	4,686.49	98	(N/A)	1,500	False
58	J-29	4,459.00	<None>	<Collection: 1 item>	14	4,686.42	98	(N/A)	1,500	False
59	J-30	4,465.00	<None>	<Collection: 1 item>	16	4,686.65	96	(N/A)	1,500	False
60	J-31	4,478.00	<None>	<Collection: 1 item>	25	4,686.60	90	(N/A)	1,500	False
61	J-32	4,485.00	<None>	<Collection: 1 item>	20	4,686.83	87	(N/A)	1,500	False
62	J-33	4,498.00	<None>	<Collection: 1 item>	17	4,687.23	82	(N/A)	1,500	False
63	J-34	4,518.00	<None>	<Collection: 1 item>	58	4,687.25	73	(N/A)	2,000	False
64	J-35	4,482.00	<None>	<Collection: 1 item>	22	4,686.66	89	(N/A)	1,500	False
65	J-36	4,485.00	<None>	<Collection: 1 item>	36	4,686.88	87	(N/A)	1,750	False
66	J-37	4,495.00	<None>	<Collection: 1 item>	13	4,687.41	83	(N/A)	1,750	False
67	J-38	4,485.00	<None>	<Collection: 1 item>	29	4,686.74	87	(N/A)	1,500	False
68	J-39	4,491.00	<None>	<Collection: 1 item>	16	4,686.93	85	(N/A)	1,500	False
69	J-40	4,498.00	<None>	<Collection: 1 item>	23	4,687.36	82	(N/A)	1,500	False
70	J-41	4,511.00	<None>	<Collection: 1 item>	13	4,688.12	77	(N/A)	1,500	False
71	J-42	4,524.00	<None>	<Collection: 1 item>	75	4,688.41	71	(N/A)	2,500	False
72	J-43	4,537.00	<None>	<Collection: 1 item>	8	4,688.76	66	(N/A)	1,500	False
73	J-44	4,557.00	<None>	<Collection: 1 item>	1	4,690.30	58	(N/A)	1,750	False
74	J-45	4,498.00	<None>	<Collection: 1 item>	19	4,687.36	82	(N/A)	1,500	False
75	J-46	4,518.00	<None>	<Collection: 1 item>	33	4,688.29	74	(N/A)	2,500	False
76	J-47	4,528.00	<None>	<Collection: 1 item>	8	4,688.87	70	(N/A)	2,500	False
77	J-48	4,554.00	<None>	<Collection: 1 item>	2	4,691.09	59	(N/A)	1,500	False
78	J-49	4,469.00	<None>	<Collection: 1 item>	17	4,686.83	94	(N/A)	1,500	False
79	J-50	4,469.00	<None>	<Collection: 1 item>	15	4,686.79	94	(N/A)	1,500	False
80	J-51	4,472.00	<None>	<Collection: 1 item>	16	4,686.81	93	(N/A)	1,500	False
81	J-52	4,475.00	<None>	<Collection: 1 item>	19	4,686.81	92	(N/A)	1,500	False
82	J-53	4,482.00	<None>	<Collection: 1 item>	25	4,686.82	89	(N/A)	1,500	False
83	J-54	4,482.00	<None>	<Collection: 1 item>	22	4,686.89	89	(N/A)	1,500	False
84	J-55	4,488.00	<None>	<Collection: 1 item>	17	4,686.89	86	(N/A)	1,500	False
85	J-56	4,488.00	<None>	<Collection: 1 item>	8	4,687.06	86	(N/A)	1,500	False
86	J-57	4,491.00	<None>	<Collection: 1 item>	10	4,687.12	85	(N/A)	1,500	False
87	J-58	4,491.00	<None>	<Collection: 1 item>	17	4,687.10	85	(N/A)	1,500	False
88	J-59	4,485.00	<None>	<Collection: 1 item>	23	4,687.09	87	(N/A)	1,500	False
89	J-60	4,478.00	<None>	<Collection: 1 item>	23	4,686.98	90	(N/A)	1,500	False
90	J-61	4,482.00	<None>	<Collection: 1 item>	14	4,686.90	89	(N/A)	1,500	False
91	J-62	4,488.00	<None>	<Collection: 1 item>	13	4,687.01	86	(N/A)	1,500	False
92	J-63	4,491.00	<None>	<Collection: 1 item>	11	4,687.11	85	(N/A)	1,500	False
93	J-64	4,498.00	<None>	<Collection: 1 item>	29	4,688.09	82	(N/A)	1,750	False
94	J-65	4,482.00	<None>	<Collection: 1 item>	17	4,686.84	89	(N/A)	1,500	False
95	J-66	4,485.00	<None>	<Collection: 1 item>	20	4,686.91	87	(N/A)	1,500	False
96	J-67	4,485.00	<None>	<Collection: 1 item>	14	4,686.89	87	(N/A)	1,500	False
97	J-68	4,498.00	<None>	<Collection: 1 item>	13	4,687.39	82	(N/A)	1,500	False
98	J-69	4,498.00	<None>	<Collection: 1 item>	26	4,687.41	82	(N/A)	1,500	False
99	J-70	4,501.00	<None>	<Collection: 1 item>	22	4,687.45	81	(N/A)	1,500	False
100	J-71	4,501.00	<None>	<Collection: 1 item>	21	4,687.60	81	(N/A)	2,500	False
101	J-72	4,505.00	<None>	<Collection: 1 item>	94	4,688.32	79	(N/A)	2,500	False
102	J-73	4,508.00	<None>	<Collection: 1 item>	17	4,688.34	78	(N/A)	1,500	False
103	J-74	4,511.00	<None>	<Collection: 1 item>	19	4,688.21	77	(N/A)	1,500	False
104	J-75	4,521.00	<None>	<Collection: 1 item>	14	4,688.40	72	(N/A)	1,500	False
105	J-76	4,537.00	<None>	<Collection: 1 item>	16	4,688.54	66	(N/A)	1,500	False
106	J-77	4,511.00	<None>	<Collection: 1 item>	19	4,687.75	76	(N/A)	1,500	False
107	J-78	4,534.00	<None>	<Collection: 1 item>	14	4,687.74	67	(N/A)	1,500	False
108	J-79	4,511.00	<None>	<Collection: 1 item>	16	4,687.60	76	(N/A)	1,500	False
109	J-80	4,524.00	<None>	<Collection: 1 item>	166	4,687.49	71	(N/A)	1,500	False
110	J-81	4,528.00	<None>	<Collection: 1 item>	8	4,687.77	69	(N/A)	1,500	False
111	J-82	4,514.00	<None>	<Collection: 1 item>	82	4,687.60	75	(N/A)	1,500	False
112	J-83	4,534.00	<None>	<Collection: 1 item>	34	4,688.78	67	(N/A)	1,500	False

113	J-84	4,560.00	<None>	<Collection: 1 item>	11	4,690.25	56	(N/A)	2,000	False
114	J-85	4,511.00	<None>	<Collection: 1 item>	17	4,688.69	77	(N/A)	1,500	False
115	J-86	4,537.00	<None>	<Collection: 1 item>	22	4,688.95	66	(N/A)	1,500	False
116	J-87	4,541.00	<None>	<Collection: 1 item>	19	4,688.08	64	(N/A)	1,500	False
117	J-88	4,547.00	<None>	<Collection: 1 item>	25	4,689.60	62	(N/A)	1,500	False
118	J-89	4,518.00	<None>	<Collection: 1 item>	11	4,688.85	74	(N/A)	1,500	False
119	J-90	4,514.00	<None>	<Collection: 1 item>	23	4,688.83	76	(N/A)	1,500	False
120	J-91	4,564.00	<None>	<Collection: 1 item>	20	4,690.96	55	(N/A)	2,000	False
121	J-92	4,524.00	<None>	<Collection: 1 item>	84	4,689.34	72	(N/A)	1,500	False
122	J-93	4,491.00	<None>	<Collection: 1 item>	17	4,688.08	85	(N/A)	2,000	False
123	J-94	4,485.00	<None>	<Collection: 1 item>	16	4,688.06	88	(N/A)	1,500	False
124	J-95	4,478.00	<None>	<Collection: 1 item>	13	4,688.06	91	(N/A)	1,500	False
125	J-96	4,482.00	<None>	<Collection: 1 item>	11	4,688.06	89	(N/A)	1,500	False
126	J-97	4,485.00	<None>	<Collection: 1 item>	7	4,688.06	88	(N/A)	1,500	False
127	J-98	4,488.00	<None>	<Collection: 1 item>	13	4,688.06	87	(N/A)	1,500	False
128	J-99	4,485.00	<None>	<Collection: 1 item>	22	4,688.06	88	(N/A)	1,500	False
129	J-100	4,495.00	<None>	<Collection: 1 item>	20	4,688.09	84	(N/A)	1,500	False
130	J-101	4,491.00	<None>	<Collection: 1 item>	22	4,688.08	85	(N/A)	1,500	False
131	J-102	4,505.00	<None>	<Collection: 1 item>	19	4,688.09	79	(N/A)	1,500	False
132	J-103	4,498.00	<None>	<Collection: 1 item>	25	4,688.09	82	(N/A)	1,500	False
133	J-104	4,514.00	<None>	<Collection: 1 item>	7	4,688.11	75	(N/A)	3,000	False
134	J-105	4,508.00	<None>	<Collection: 1 item>	16	4,688.10	78	(N/A)	1,500	False
135	J-106	4,511.00	<None>	<Collection: 1 item>	166	4,687.93	77	(N/A)	3,000	False
136	J-107	4,485.00	<None>	<Collection: 1 item>	11	4,688.07	88	(N/A)	1,500	False
137	J-108	4,491.00	<None>	<Collection: 1 item>	20	4,688.07	85	(N/A)	1,500	False
138	J-109	4,498.00	<None>	<Collection: 1 item>	20	4,688.10	82	(N/A)	1,500	False
139	J-110	4,508.00	<None>	<Collection: 1 item>	22	4,688.25	78	(N/A)	1,500	False
140	J-111	4,518.00	<None>	<Collection: 1 item>	19	4,688.61	74	(N/A)	1,500	False
141	J-112	4,528.00	<None>	<Collection: 1 item>	19	4,689.48	70	(N/A)	1,500	False
142	J-113	4,541.00	<None>	<Collection: 1 item>	20	4,690.19	65	(N/A)	1,500	False
143	J-114	4,554.00	<None>	<Collection: 1 item>	11	4,691.04	59	(N/A)	1,500	False
144	J-115	4,521.00	<None>	<Collection: 1 item>	144	4,689.17	73	(N/A)	1,500	False
145	J-116	4,534.00	<None>	<Collection: 1 item>	22	4,689.53	67	(N/A)	1,500	False
146	J-117	4,551.00	<None>	<Collection: 1 item>	17	4,690.20	60	(N/A)	1,500	False
147	J-118	4,560.00	<None>	<Collection: 1 item>	17	4,691.01	57	(N/A)	1,500	False
148	J-119	4,567.00	<None>	<Collection: 1 item>	29	4,691.55	54	(N/A)	1,500	False
149	J-120	4,573.00	<None>	<Collection: 1 item>	0	4,692.50	52	(N/A)	2,000	False
150	J-121	4,564.00	<None>	<Collection: 1 item>	24	4,691.13	55	(N/A)	1,500	False
151	J-122	4,491.00	<None>	<Collection: 1 item>	13	4,688.07	85	(N/A)	1,500	False
152	J-123	4,495.00	<None>	<Collection: 1 item>	23	4,688.07	84	(N/A)	1,500	False
153	J-124	4,505.00	<None>	<Collection: 1 item>	25	4,688.10	79	(N/A)	1,500	False
154	J-125	4,514.00	<None>	<Collection: 1 item>	25	4,688.24	75	(N/A)	1,500	False
155	J-126	4,495.00	<None>	<Collection: 1 item>	17	4,688.09	84	(N/A)	1,500	False
156	J-127	4,501.00	<None>	<Collection: 1 item>	16	4,688.10	81	(N/A)	1,500	False
157	J-128	4,511.00	<None>	<Collection: 1 item>	14	4,688.12	77	(N/A)	1,500	False
158	J-129	4,521.00	<None>	<Collection: 1 item>	266	4,688.24	72	(N/A)	2,000	False
159	J-130	4,531.00	<None>	<Collection: 1 item>	74	4,690.00	69	(N/A)	1,500	False
160	J-131	4,544.00	<None>	<Collection: 1 item>	7	4,690.55	63	(N/A)	1,500	False
161	J-132	4,554.00	<None>	<Collection: 1 item>	7	4,690.97	59	(N/A)	1,500	False
162	J-133	4,557.00	<None>	<Collection: 1 item>	0	4,691.32	58	(N/A)	1,500	False
163	J-134	4,573.00	<None>	<Collection: 1 item>	0	4,693.35	52	(N/A)	1,500	False
164	J-135	4,508.00	<None>	<Collection: 1 item>	20	4,688.44	78	(N/A)	1,500	False
165	J-136	4,508.00	<None>	<Collection: 1 item>	20	4,688.70	78	(N/A)	1,500	False
166	J-137	4,514.00	<None>	<Collection: 1 item>	20	4,689.27	76	(N/A)	1,500	False
167	J-138	4,528.00	<None>	<Collection: 1 item>	13	4,689.53	70	(N/A)	1,500	False
168	J-139	4,544.00	<None>	<Collection: 1 item>	94	4,690.01	63	(N/A)	2,500	False
169	J-140	4,518.00	<None>	<Collection: 1 item>	16	4,688.71	74	(N/A)	1,500	False
170	J-141	4,521.00	<None>	<Collection: 1 item>	19	4,688.75	73	(N/A)	1,500	False
171	J-142	4,534.00	<None>	<Collection: 1 item>	25	4,688.88	67	(N/A)	1,500	False
172	J-143	4,528.00	<None>	<Collection: 1 item>	32	4,688.44	69	(N/A)	1,500	False
173	J-144	4,518.00	<None>	<Collection: 1 item>	17	4,688.44	74	(N/A)	1,500	False
174	J-145	4,534.00	<None>	<Collection: 1 item>	17	4,690.59	68	(N/A)	1,500	False
175	J-146	4,537.00	<None>	<Collection: 1 item>	20	4,690.97	67	(N/A)	1,500	False
176	J-147	4,541.00	<None>	<Collection: 1 item>	19	4,691.29	65	(N/A)	1,500	False
177	J-148	4,541.00	<None>	<Collection: 1 item>	23	4,691.65	65	(N/A)	1,750	False
178	J-149	4,544.00	<None>	<Collection: 1 item>	34	4,692.02	64	(N/A)	1,750	False
179	J-150	4,554.00	<None>	<Collection: 1 item>	19	4,690.94	59	(N/A)	1,500	False
180	J-151	4,557.00	<None>	<Collection: 1 item>	14	4,691.06	58	(N/A)	1,500	False
181	J-152	4,557.00	<None>	<Collection: 1 item>	17	4,691.30	58	(N/A)	1,500	False
182	J-153	4,554.00	<None>	<Collection: 1 item>	14	4,691.53	60	(N/A)	1,500	False
183	J-154	4,551.00	<None>	<Collection: 1 item>	0	4,692.55	61	(N/A)	3,000	False
184	J-155	4,570.00	<None>	<Collection: 1 item>	2	4,696.01	55	(N/A)	2,500	False
185	J-156	4,518.00	<None>	<Collection: 1 item>	28	4,690.76	75	(N/A)	1,500	False
186	J-157	4,518.00	<None>	<Collection: 1 item>	22	4,691.12	75	(N/A)	1,500	False
187	J-158	4,518.00	<None>	<Collection: 1 item>	14	4,691.30	75	(N/A)	1,500	False
188	J-159	4,541.00	<None>	<Collection: 1 item>	22	4,691.28	65	(N/A)	1,500	False
189	J-160	4,537.00	<None>	<Collection: 1 item>	20	4,691.50	67	(N/A)	1,500	False
190	J-161	4,537.00	<None>	<Collection: 1 item>	16	4,692.20	67	(N/A)	1,500	False
191	J-162	4,547.00	<None>	<Collection: 1 item>	21	4,695.57	64	(N/A)	1,500	False
192	J-163	4,560.00	<None>	<Collection: 1 item>	69	4,699.73	60	(N/A)	2,000	False
193	J-164	4,564.00	<None>	<Collection: 1 item>	11	4,696.60	57	(N/A)	1,500	False
194	J-165	4,557.00	<None>	<Collection: 1 item>	14	4,695.09	60	(N/A)	1,500	False
195	J-166	4,551.00	<None>	<Collection: 1 item>	16	4,693.62	62	(N/A)	1,500	False
196	J-167	4,547.00	<None>	<Collection: 1 item>	16	4,692.35	63	(N/A)	1,500	False
197	J-168	4,570.00	<None>	<Collection: 1 item>	0	4,699.26	58	(N/A)	1,500	False
198	J-169	4,514.00	<None>	<Collection: 1 item>	16	4,689.58	76	(N/A)	1,500	False
199	J-170	4,534.00	<None>	<Collection: 1 item>	11	4,689.50	67	(N/A)	1,500	False
200	J-171	4,560.00	<None>	<Collection: 1 item>	5	4,691.27	57	(N/A)	1,500	False
201	J-172	4,554.00	<None>	<Collection: 1 item>	81	4,691.63	60	(N/A)	1,500	False
202	J-173	4,573.00	<None>	<Collection: 1 item>	8	4,691.98	51	(N/A)	1,500	False
203	J-174	4,570.00	<None>	<Collection: 1 item>	11	4,691.69	53	(N/A)	2,000	False
204	J-175	4,551.00	<None>	<Collection: 1 item>	11	4,691.65	61	(N/A)	1,500	False
206	J-176	4,462.00	<None>	<Collection: 0 items>	0	4,686.38	97	(N/A)	1,500	False
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218	J-177	4,478.50	<None>	<Collection: 0 items>	0	4,686.59	90	(N/A)	1,500	False
218	J-178	4,486.50	<None>	<Collection: 0 items>	0	4,686.81	87	(N/A)	1,500	False
222	J-179	4,496.00	<None>	<Collection: 0 items>	0	4,687.14	83	(N/A)	1,500	False
236	J-180	4,553.00	<None>	<Collection: 0 items>	0	4,690.74	60	(N/A)	2,000	False
252	J-181	4,470.00	<None>	<Collection: 0 items>	0	4,686.70	94	(N/A)	1,500	False
258	J-182	4,517.50	<None>	<Collection: 0 items>	0	4,688.28	74	(N/A)	1,500	False
261	J-183	4,530.50	<None>	<Collection: 0 items>	0	4,688.68	68	(N/A)	1,500	False
268	J-184	4,475.00	<None>	<Collection: 0 items>	0	4,686.49	92	(N/A)	1,500	False
284	J-185	4,495.00	<None>	<Collection: 0 items>	0	4,687.37	83	(N/A)	1,500	False
301	J-186	4,495.00	<None>	<Collection: 0 items>	0	4,687.52	83	(N/A)	1,500	False
338	J-187	4,564.00	<None>	<Collection: 0 items>	0	4,691.18	55	(N/A)	1,500	False
367	J-188	4,504.00	<None>	<Collection: 0 items>	0	4,688.12	80	(N/A)	1,500	False
396	J-189	4,573.00	<None>	<Collection: 0 items>	0	4,692.00	51	(N/A)	1,500	False
413	J-190	4,534.00	<None>	<Collection: 0 items>	0	4,691.65	68	(N/A)	2,500	False
427	J-191	4,557.00	<None>	<Collection: 0 items>	0	4,691.24	58	(N/A)	1,500	False
431	J-192	4,547.50	<None>	<Collection: 0 items>	0	4,691.75	62	(N/A)	1,500	False
436	J-193	4,554.00	<None>	<Collection: 0 items>	0	4,691.05	59	(N/A)	1,500	False
493	J-1001	4,455.00	<None>	<Collection: 1 item>	33	4,686.36	100	(N/A)	1,500	False
497	J-1002	4,455.00	<None>	<Collection: 1 item>	27	4,686.36	100	(N/A)	1,500	False
499	J-1003	4,455.00	<None>	<Collection: 1 item>	14	4,686.36	100	(N/A)	1,500	False
519	J-202	4,501.00	<None>	<Collection: 0 items>	0	4,688.10	81	(N/A)	1,500	False
522	J-203	4,511.26	<None>	<Collection: 0 items>	0	4,688.12	77	(N/A)	1,500	False

P:\19821\Civil\Water CAD\Sunset Water Model.wtg

Exhibit 11-7 Alternative 2 Peak Day

Scenario: Proposed Peak Day Alt. 2
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Elevation (ft)	Zone	Demand Collection	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)	Fire Flow (Available) (gpm)	Fire Flow (Needed) (gpm)	Satisfies Fire Flow Constraints?
30	J-1	4,459.00	<None>	<Collection: 1 item>	5	4,692.15	101	1,368	1,500	False
31	J-2	4,469.00	<None>	<Collection: 1 item>	5	4,692.15	97	1,556	1,500	True
32	J-3	4,475.00	<None>	<Collection: 1 item>	5	4,692.16	94	1,388	1,500	False
33	J-4	4,482.00	<None>	<Collection: 1 item>	8	4,692.18	91	873	1,500	False
34	J-5	4,491.00	<None>	<Collection: 1 item>	9	4,692.20	87	873	1,500	False
35	J-6	4,505.00	<None>	<Collection: 1 item>	9	4,692.22	81	872	1,500	False
36	J-7	4,518.00	<None>	<Collection: 1 item>	6	4,692.25	75	1,396	1,500	False
37	J-8	4,524.00	<None>	<Collection: 1 item>	4	4,692.27	73	1,563	1,500	True
38	J-9	4,531.00	<None>	<Collection: 1 item>	6	4,692.29	70	1,399	1,500	False
39	J-10	4,459.00	<None>	<Collection: 1 item>	5	4,692.15	101	2,529	1,500	True
40	J-11	4,469.00	<None>	<Collection: 1 item>	5	4,692.16	97	2,333	1,500	True
41	J-12	4,475.00	<None>	<Collection: 1 item>	5	4,692.17	94	2,197	1,500	True
42	J-13	4,482.00	<None>	<Collection: 1 item>	4	4,692.18	91	2,579	1,500	True
43	J-14	4,491.00	<None>	<Collection: 1 item>	4	4,692.20	87	2,717	1,500	True
44	J-15	4,501.00	<None>	<Collection: 1 item>	5	4,692.22	83	2,760	1,500	True
45	J-16	4,518.00	<None>	<Collection: 1 item>	5	4,692.25	75	2,936	1,500	True
46	J-17	4,524.00	<None>	<Collection: 1 item>	8	4,692.27	73	3,074	1,500	True
47	J-18	4,531.00	<None>	<Collection: 1 item>	3	4,692.30	70	3,221	1,500	True
48	J-19	4,551.00	<None>	<Collection: 1 item>	2	4,692.43	61	2,707	2,000	True
49	J-20	4,469.00	<None>	<Collection: 1 item>	8	4,692.15	97	2,254	1,500	True
50	J-21	4,524.00	<None>	<Collection: 1 item>	7	4,692.27	73	2,297	1,500	True
51	J-22	4,459.00	<None>	<Collection: 1 item>	7	4,692.15	101	2,631	1,500	True
52	J-23	4,472.00	<None>	<Collection: 1 item>	6	4,692.15	95	1,594	1,500	True
53	J-24	4,475.00	<None>	<Collection: 1 item>	7	4,692.16	94	2,066	1,500	True
54	J-25	4,475.00	<None>	<Collection: 1 item>	6	4,692.18	94	2,059	1,500	True
55	J-26	4,475.00	<None>	<Collection: 1 item>	7	4,692.18	94	1,579	1,500	True
56	J-27	4,482.00	<None>	<Collection: 1 item>	7	4,692.19	100	1,911	1,500	True
57	J-28	4,459.00	<None>	<Collection: 1 item>	7	4,692.17	101	2,130	1,500	True
58	J-29	4,459.00	<None>	<Collection: 1 item>	7	4,692.16	101	2,146	1,500	True
59	J-30	4,465.00	<None>	<Collection: 1 item>	8	4,692.23	98	2,071	1,500	True
60	J-31	4,478.00	<None>	<Collection: 1 item>	12	4,692.18	93	1,734	1,500	True
61	J-32	4,485.00	<None>	<Collection: 1 item>	10	4,692.20	90	1,713	1,500	True
62	J-33	4,498.00	<None>	<Collection: 1 item>	9	4,692.23	84	2,214	1,500	True
63	J-34	4,518.00	<None>	<Collection: 1 item>	29	4,692.23	75	1,570	2,000	False
64	J-35	4,482.00	<None>	<Collection: 1 item>	11	4,692.20	91	2,548	1,500	True
65	J-36	4,485.00	<None>	<Collection: 1 item>	18	4,692.22	90	2,479	1,750	True
66	J-37	4,495.00	<None>	<Collection: 1 item>	6	4,692.30	85	1,754	1,500	False
67	J-38	4,485.00	<None>	<Collection: 1 item>	15	4,692.24	90	3,066	1,500	True
68	J-39	4,491.00	<None>	<Collection: 1 item>	8	4,692.25	87	3,153	1,500	True
69	J-40	4,498.00	<None>	<Collection: 1 item>	11	4,692.29	84	3,196	1,500	True
70	J-41	4,511.00	<None>	<Collection: 1 item>	6	4,692.37	78	3,358	1,500	True
71	J-42	4,524.00	<None>	<Collection: 1 item>	37	4,692.40	73	3,486	2,500	True
72	J-43	4,537.00	<None>	<Collection: 1 item>	4	4,692.46	67	3,500	1,500	True
73	J-44	4,557.00	<None>	<Collection: 1 item>	1	4,692.60	59	3,763	1,750	True
74	J-45	4,498.00	<None>	<Collection: 1 item>	10	4,692.29	84	1,705	1,500	True
75	J-46	4,518.00	<None>	<Collection: 1 item>	17	4,692.39	75	3,611	2,500	True
76	J-47	4,528.00	<None>	<Collection: 1 item>	4	4,692.45	71	3,781	2,500	True
77	J-48	4,554.00	<None>	<Collection: 1 item>	1	4,692.71	60	3,500	1,500	True
78	J-49	4,469.00	<None>	<Collection: 1 item>	9	4,692.28	97	1,519	1,500	True
79	J-50	4,469.00	<None>	<Collection: 1 item>	8	4,692.25	97	2,992	1,500	True
80	J-51	4,472.00	<None>	<Collection: 1 item>	8	4,692.26	95	1,794	1,500	True
81	J-52	4,475.00	<None>	<Collection: 1 item>	9	4,692.27	94	1,639	1,500	True
82	J-53	4,482.00	<None>	<Collection: 1 item>	12	4,692.29	91	1,601	1,500	True
83	J-54	4,482.00	<None>	<Collection: 1 item>	11	4,692.34	91	1,306	1,500	False
84	J-55	4,488.00	<None>	<Collection: 1 item>	9	4,692.27	88	1,673	1,500	True
85	J-56	4,488.00	<None>	<Collection: 1 item>	4	4,692.30	88	1,239	1,500	False
86	J-57	4,491.00	<None>	<Collection: 1 item>	5	4,692.32	87	2,601	1,500	True
87	J-58	4,491.00	<None>	<Collection: 1 item>	9	4,692.32	87	1,697	1,500	True
88	J-59	4,485.00	<None>	<Collection: 1 item>	12	4,692.33	90	2,092	1,500	True
89	J-60	4,478.00	<None>	<Collection: 1 item>	12	4,692.33	93	2,212	1,500	True
90	J-61	4,482.00	<None>	<Collection: 1 item>	7	4,692.30	91	1,462	1,500	False
91	J-62	4,488.00	<None>	<Collection: 1 item>	6	4,692.40	88	2,139	1,500	True
92	J-63	4,491.00	<None>	<Collection: 1 item>	6	4,692.72	87	1,578	1,500	True
93	J-64	4,498.00	<None>	<Collection: 1 item>	15	4,692.22	84	3,792	1,750	True
94	J-65	4,482.00	<None>	<Collection: 1 item>	9	4,692.27	91	1,498	1,500	False
95	J-66	4,485.00	<None>	<Collection: 1 item>	10	4,692.28	90	1,543	1,500	True
96	J-67	4,485.00	<None>	<Collection: 1 item>	7	4,692.34	90	1,306	1,500	False
97	J-68	4,498.00	<None>	<Collection: 1 item>	6	4,692.32	84	3,500	1,500	True
98	J-69	4,498.00	<None>	<Collection: 1 item>	13	4,692.35	84	2,920	1,500	True
99	J-70	4,501.00	<None>	<Collection: 1 item>	11	4,692.39	83	2,898	1,500	True
100	J-71	4,501.00	<None>	<Collection: 1 item>	10	4,692.44	83	3,791	2,500	True
101	J-72	4,505.00	<None>	<Collection: 1 item>	47	4,692.90	81	3,970	2,500	True
102	J-73	4,508.00	<None>	<Collection: 1 item>	9	4,693.08	80	3,500	1,500	True
103	J-74	4,511.00	<None>	<Collection: 1 item>	9	4,692.37	78	3,500	1,500	True
104	J-75	4,521.00	<None>	<Collection: 1 item>	7	4,692.40	74	3,500	1,500	True
105	J-76	4,537.00	<None>	<Collection: 1 item>	8	4,692.42	67	3,092	1,500	True
106	J-77	4,511.00	<None>	<Collection: 1 item>	10	4,692.35	78	2,310	1,500	True
107	J-78	4,534.00	<None>	<Collection: 1 item>	7	4,692.35	69	1,560	1,500	True
108	J-79	4,511.00	<None>	<Collection: 1 item>	8	4,692.34	78	1,941	1,500	True
109	J-80	4,524.00	<None>	<Collection: 1 item>	83	4,692.30	73	1,662	1,500	True
110	J-81	4,528.00	<None>	<Collection: 1 item>	4	4,692.36	71	2,284	1,500	True
111	J-82	4,514.00	<None>	<Collection: 1 item>	41	4,692.35	77	1,906	1,500	True
112	J-83	4,534.00	<None>	<Collection: 1 item>	17	4,692.48	69	1,577	1,500	True

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113	J-84	4,560.00	<None>	<Collection: 1 item>	5	4,692.70	57	3,195	2,000	True
114	J-85	4,511.00	<None>	<Collection: 1 item>	9	4,692.96	79	3,500	1,500	True
115	J-86	4,537.00	<None>	<Collection: 1 item>	11	4,692.98	67	2,607	1,500	True
116	J-87	4,541.00	<None>	<Collection: 1 item>	10	4,692.99	66	3,188	1,500	True
117	J-88	4,547.00	<None>	<Collection: 1 item>	12	4,693.02	63	3,440	1,500	True
118	J-89	4,518.00	<None>	<Collection: 1 item>	6	4,693.02	76	3,500	1,500	True
119	J-90	4,514.00	<None>	<Collection: 1 item>	12	4,692.99	77	3,500	1,500	True
120	J-91	4,564.00	<None>	<Collection: 1 item>	10	4,693.04	56	1,846	2,000	False
121	J-92	4,524.00	<None>	<Collection: 1 item>	42	4,693.02	73	3,500	1,500	True
122	J-93	4,491.00	<None>	<Collection: 1 item>	9	4,693.40	88	3,273	2,000	True
123	J-94	4,485.00	<None>	<Collection: 1 item>	8	4,693.50	90	2,761	1,500	True
124	J-95	4,478.00	<None>	<Collection: 1 item>	6	4,693.53	93	2,448	1,500	True
125	J-96	4,482.00	<None>	<Collection: 1 item>	6	4,693.60	92	2,611	1,500	True
126	J-97	4,485.00	<None>	<Collection: 1 item>	3	4,693.65	90	3,285	1,500	True
127	J-98	4,488.00	<None>	<Collection: 1 item>	6	4,693.65	89	3,497	1,500	True
128	J-99	4,485.00	<None>	<Collection: 1 item>	11	4,693.59	90	2,720	1,500	True
129	J-100	4,495.00	<None>	<Collection: 1 item>	10	4,693.49	86	3,500	1,500	True
130	J-101	4,491.00	<None>	<Collection: 1 item>	11	4,693.44	88	3,059	1,500	True
131	J-102	4,505.00	<None>	<Collection: 1 item>	9	4,693.40	82	3,500	1,500	True
132	J-103	4,498.00	<None>	<Collection: 1 item>	12	4,693.30	84	3,066	1,500	True
133	J-104	4,514.00	<None>	<Collection: 1 item>	3	4,693.39	78	3,258	3,000	True
134	J-105	4,508.00	<None>	<Collection: 1 item>	8	4,693.26	80	2,624	1,500	True
135	J-106	4,511.00	<None>	<Collection: 1 item>	83	4,693.24	79	2,606	3,000	False
136	J-107	4,485.00	<None>	<Collection: 1 item>	6	4,693.75	90	2,564	1,500	True
137	J-108	4,491.00	<None>	<Collection: 1 item>	10	4,693.73	88	3,084	1,500	True
138	J-109	4,498.00	<None>	<Collection: 1 item>	10	4,693.73	85	3,500	1,500	True
139	J-110	4,508.00	<None>	<Collection: 1 item>	11	4,693.98	80	2,579	1,500	True
140	J-111	4,518.00	<None>	<Collection: 1 item>	9	4,693.99	76	2,901	1,500	True
141	J-112	4,528.00	<None>	<Collection: 1 item>	9	4,694.31	72	2,220	1,500	True
142	J-113	4,541.00	<None>	<Collection: 1 item>	10	4,694.51	66	2,143	1,500	True
143	J-114	4,554.00	<None>	<Collection: 1 item>	6	4,694.70	61	2,168	1,500	True
144	J-115	4,521.00	<None>	<Collection: 1 item>	72	4,694.31	75	2,297	1,500	True
145	J-116	4,534.00	<None>	<Collection: 1 item>	11	4,694.36	69	2,335	1,500	True
146	J-117	4,551.00	<None>	<Collection: 1 item>	9	4,694.52	62	2,189	1,500	True
147	J-118	4,560.00	<None>	<Collection: 1 item>	8	4,694.77	56	2,624	1,500	True
148	J-119	4,567.00	<None>	<Collection: 1 item>	14	4,695.02	55	2,221	1,500	True
149	J-120	4,573.00	<None>	<Collection: 1 item>	0	4,695.17	53	4,000	2,000	True
150	J-121	4,564.00	<None>	<Collection: 1 item>	12	4,694.90	57	2,075	1,500	True
151	J-122	4,491.00	<None>	<Collection: 1 item>	6	4,693.87	88	2,977	1,500	True
152	J-123	4,495.00	<None>	<Collection: 1 item>	12	4,693.87	86	3,052	1,500	True
153	J-124	4,505.00	<None>	<Collection: 1 item>	12	4,693.88	82	3,045	1,500	True
154	J-125	4,514.00	<None>	<Collection: 1 item>	12	4,694.13	78	2,833	1,500	True
155	J-126	4,495.00	<None>	<Collection: 1 item>	9	4,694.01	86	2,131	1,500	True
156	J-127	4,501.00	<None>	<Collection: 1 item>	8	4,694.03	84	2,004	1,500	True
157	J-128	4,511.00	<None>	<Collection: 1 item>	7	4,694.07	79	2,020	1,500	True
158	J-129	4,521.00	<None>	<Collection: 1 item>	133	4,694.30	75	3,449	2,000	True
159	J-130	4,531.00	<None>	<Collection: 1 item>	37	4,694.95	71	3,500	1,500	True
160	J-131	4,544.00	<None>	<Collection: 1 item>	3	4,695.16	65	3,108	3,000	True
161	J-132	4,554.00	<None>	<Collection: 1 item>	3	4,695.31	61	3,097	1,500	True
162	J-133	4,557.00	<None>	<Collection: 1 item>	0	4,695.41	60	3,474	1,500	True
163	J-134	4,573.00	<None>	<Collection: 1 item>	0	4,695.75	53	3,500	1,500	True
164	J-135	4,508.00	<None>	<Collection: 1 item>	10	4,695.09	81	2,309	1,500	True
165	J-136	4,508.00	<None>	<Collection: 1 item>	10	4,695.65	81	1,989	1,500	True
166	J-137	4,514.00	<None>	<Collection: 1 item>	10	4,696.52	79	1,383	1,500	False
167	J-138	4,528.00	<None>	<Collection: 1 item>	6	4,696.79	73	1,752	1,500	True
168	J-139	4,544.00	<None>	<Collection: 1 item>	47	4,697.15	66	2,522	2,500	True
169	J-140	4,518.00	<None>	<Collection: 1 item>	8	4,695.71	77	1,530	1,500	True
170	J-141	4,521.00	<None>	<Collection: 1 item>	9	4,695.77	76	1,578	1,500	True
171	J-142	4,534.00	<None>	<Collection: 1 item>	12	4,695.90	70	1,781	1,500	True
172	J-143	4,528.00	<None>	<Collection: 1 item>	16	4,695.10	72	2,501	1,500	True
173	J-144	4,518.00	<None>	<Collection: 1 item>	9	4,695.09	77	1,629	1,500	True
174	J-145	4,534.00	<None>	<Collection: 1 item>	9	4,695.18	70	3,012	1,500	True
175	J-146	4,537.00	<None>	<Collection: 1 item>	10	4,695.33	69	3,266	1,500	True
176	J-147	4,541.00	<None>	<Collection: 1 item>	9	4,695.47	67	3,230	1,500	True
177	J-148	4,541.00	<None>	<Collection: 1 item>	12	4,695.63	67	3,092	1,750	True
178	J-149	4,544.00	<None>	<Collection: 1 item>	17	4,695.81	66	3,070	1,750	True
179	J-150	4,554.00	<None>	<Collection: 1 item>	9	4,695.31	61	2,235	1,500	True
180	J-151	4,557.00	<None>	<Collection: 1 item>	7	4,695.35	60	2,043	1,500	True
181	J-152	4,557.00	<None>	<Collection: 1 item>	9	4,695.46	60	1,778	1,500	True
182	J-153	4,554.00	<None>	<Collection: 1 item>	7	4,695.57	61	1,714	1,500	True
183	J-154	4,551.00	<None>	<Collection: 1 item>	0	4,696.04	63	3,326	3,000	True
184	J-155	4,570.00	<None>	<Collection: 1 item>	1	4,697.58	55	4,000	2,500	True
185	J-156	4,518.00	<None>	<Collection: 1 item>	14	4,697.30	78	3,397	1,500	True
186	J-157	4,518.00	<None>	<Collection: 1 item>	11	4,697.43	78	3,457	1,500	True
187	J-158	4,518.00	<None>	<Collection: 1 item>	7	4,697.51	78	2,822	1,500	True
188	J-159	4,541.00	<None>	<Collection: 1 item>	11	4,697.62	68	3,500	1,500	True
189	J-160	4,537.00	<None>	<Collection: 1 item>	10	4,697.69	70	3,302	1,500	True
190	J-161	4,537.00	<None>	<Collection: 1 item>	8	4,697.85	70	3,432	1,500	True
191	J-162	4,547.00	<None>	<Collection: 1 item>	10	4,698.73	66	2,447	1,500	True
192	J-163	4,560.00	<None>	<Collection: 1 item>	35	4,699.76	60	4,000	2,000	True
193	J-164	4,564.00	<None>	<Collection: 1 item>	6	4,699.02	58	2,292	1,500	True
194	J-165	4,557.00	<None>	<Collection: 1 item>	7	4,698.65	61	2,642	1,500	True
195	J-166	4,551.00	<None>	<Collection: 1 item>	8	4,698.28	64	3,072	1,500	True
196	J-167	4,547.00	<None>	<Collection: 1 item>	8	4,697.93	65	2,759	1,500	True
197	J-168	4,570.00	<None>	<Collection: 1 item>	0	4,699.55	56	3,500	1,500	True
198	J-169	4,514.00	<None>	<Collection: 1 item>	8	4,696.91	79	2,942	1,500	True
199	J-170	4,534.00	<None>	<Collection: 1 item>	6	4,696.70	70	1,957	1,500	True
200	J-171	4,560.00	<None>	<Collection: 1 item>	2	4,695.41	59	1,830	1,500	True
201	J-172	4,554.00	<None>	<Collection: 1 item>	41	4,694.69	61	3,117	1,500	True
202	J-173	4,573.00	<None>	<Collection: 1 item>	4	4,694.80	53	3,500	1,500	True
203	J-174	4,570.00	<None>	<Collection: 1 item>	5	4,694.44	54	3,551	2,000	True
204	J-175	4,551.00	<None>	<Collection: 1 item>	6	4,694.48	62	2,335	1,500	True
206	J-176	4,462.00	<None>	<Collection: 0 items>	0	4,692.15	100	2,485	1,500	True
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218	J-177	4,478.50	<None>	<Collection: 0 items>	0	4,692.18	92	2,759	1,500	True
218	J-178	4,486.50	<None>	<Collection: 0 items>	0	4,692.19	89	2,717	1,500	True
222	J-179	4,496.00	<None>	<Collection: 0 items>	0	4,692.22	85	2,721	1,500	True
236	J-180	4,553.00	<None>	<Collection: 0 items>	0	4,692.62	60	2,058	2,000	True
252	J-181	4,470.00	<None>	<Collection: 0 items>	0	4,692.24	96	3,500	1,500	True
258	J-182	4,517.50	<None>	<Collection: 0 items>	0	4,692.39	76	3,500	1,500	True
261	J-183	4,530.50	<None>	<Collection: 0 items>	0	4,692.43	70	3,500	1,500	True
268	J-184	4,475.00	<None>	<Collection: 0 items>	0	4,692.17	94	1,652	1,500	True
284	J-185	4,495.00	<None>	<Collection: 0 items>	0	4,692.29	85	1,646	1,500	True
301	J-186	4,495.00	<None>	<Collection: 0 items>	0	4,692.32	85	2,414	1,500	True
338	J-187	4,564.00	<None>	<Collection: 0 items>	0	4,693.05	56	3,500	1,500	True
367	J-188	4,504.00	<None>	<Collection: 0 items>	0	4,694.05	82	2,643	1,500	True
396	J-189	4,573.00	<None>	<Collection: 0 items>	0	4,694.81	53	3,500	1,500	True
413	J-190	4,534.00	<None>	<Collection: 0 items>	0	4,694.48	69	1,567	2,500	False
427	J-191	4,557.00	<None>	<Collection: 0 items>	0	4,695.41	60	2,606	1,500	True
431	J-192	4,547.50	<None>	<Collection: 0 items>	0	4,695.68	64	2,529	1,500	True
436	J-193	4,554.00	<None>	<Collection: 0 items>	0	4,694.76	61	1,869	1,500	True
493	J-1001	4,455.00	<None>	<Collection: 1 item>	16	4,692.15	103	2,356	1,500	True
497	J-1002	4,455.00	<None>	<Collection: 1 item>	14	4,692.15	103	2,685	1,500	True
499	J-1003	4,455.00	<None>	<Collection: 1 item>	7	4,692.15	103	2,718	1,500	True
519	J-202	4,501.00	<None>	<Collection: 0 items>	0	4,694.04	84	3,289	1,500	True
522	J-203	4,511.26	<None>	<Collection: 0 items>	0	4,694.08	79	3,334	1,500	True

P:\9821\Civil\Water CAD\Sunset Water Model.wtg

Exhibit 11-8 Alternative 2 Peak Instantaneous

Scenario: Proposed Peak Day Alt. 2
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Elevation (ft)	Zone	Demand Collection	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)	Fire Flow (Available) (gpm)	Fire Flow (Needed) (gpm)	Satisfies Fire Flow Constraints?
30	J-1	4,459.00	<None>	<Collection: 1 item>	10	4,688.51	99	(N/A)	1,500	False
31	J-2	4,469.00	<None>	<Collection: 1 item>	10	4,688.52	95	(N/A)	1,500	False
32	J-3	4,475.00	<None>	<Collection: 1 item>	10	4,688.55	92	(N/A)	1,500	False
33	J-4	4,482.00	<None>	<Collection: 1 item>	16	4,688.64	89	(N/A)	1,500	False
34	J-5	4,491.00	<None>	<Collection: 1 item>	17	4,688.75	86	(N/A)	1,500	False
35	J-6	4,505.00	<None>	<Collection: 1 item>	19	4,688.86	80	(N/A)	1,500	False
36	J-7	4,518.00	<None>	<Collection: 1 item>	13	4,689.02	74	(N/A)	1,500	False
37	J-8	4,524.00	<None>	<Collection: 1 item>	8	4,689.11	71	(N/A)	1,500	False
38	J-9	4,531.00	<None>	<Collection: 1 item>	12	4,689.20	68	(N/A)	1,500	False
39	J-10	4,459.00	<None>	<Collection: 1 item>	11	4,688.51	99	(N/A)	1,500	False
40	J-11	4,469.00	<None>	<Collection: 1 item>	10	4,688.53	95	(N/A)	1,500	False
41	J-12	4,475.00	<None>	<Collection: 1 item>	10	4,688.57	92	(N/A)	1,500	False
42	J-13	4,482.00	<None>	<Collection: 1 item>	8	4,688.65	89	(N/A)	1,500	False
43	J-14	4,491.00	<None>	<Collection: 1 item>	8	4,688.75	86	(N/A)	1,500	False
44	J-15	4,501.00	<None>	<Collection: 1 item>	10	4,688.87	81	(N/A)	1,500	False
45	J-16	4,518.00	<None>	<Collection: 1 item>	10	4,689.00	74	(N/A)	1,500	False
46	J-17	4,524.00	<None>	<Collection: 1 item>	17	4,689.11	71	(N/A)	1,500	False
47	J-18	4,531.00	<None>	<Collection: 1 item>	6	4,689.27	68	(N/A)	1,500	False
48	J-19	4,551.00	<None>	<Collection: 1 item>	3	4,689.92	60	(N/A)	2,000	False
49	J-20	4,469.00	<None>	<Collection: 1 item>	16	4,688.52	95	(N/A)	1,500	False
50	J-21	4,524.00	<None>	<Collection: 1 item>	14	4,689.11	71	(N/A)	1,500	False
51	J-22	4,459.00	<None>	<Collection: 1 item>	13	4,688.50	99	(N/A)	1,500	False
52	J-23	4,472.00	<None>	<Collection: 1 item>	13	4,688.51	94	(N/A)	1,500	False
53	J-24	4,475.00	<None>	<Collection: 1 item>	14	4,688.52	92	(N/A)	1,500	False
54	J-25	4,475.00	<None>	<Collection: 1 item>	13	4,688.57	92	(N/A)	1,500	False
55	J-26	4,475.00	<None>	<Collection: 1 item>	14	4,688.57	92	(N/A)	1,500	False
56	J-27	4,482.00	<None>	<Collection: 1 item>	15	4,688.59	98	(N/A)	1,500	False
57	J-28	4,459.00	<None>	<Collection: 1 item>	14	4,688.56	99	(N/A)	1,500	False
58	J-29	4,459.00	<None>	<Collection: 1 item>	14	4,688.52	99	(N/A)	1,500	False
59	J-30	4,465.00	<None>	<Collection: 1 item>	16	4,688.70	97	(N/A)	1,500	False
60	J-31	4,478.00	<None>	<Collection: 1 item>	25	4,688.61	91	(N/A)	1,500	False
61	J-32	4,485.00	<None>	<Collection: 1 item>	20	4,688.71	88	(N/A)	1,500	False
62	J-33	4,498.00	<None>	<Collection: 1 item>	17	4,688.88	83	(N/A)	1,500	False
63	J-34	4,518.00	<None>	<Collection: 1 item>	22	4,688.88	74	(N/A)	2,000	False
64	J-35	4,482.00	<None>	<Collection: 1 item>	58	4,688.65	89	(N/A)	1,500	False
65	J-36	4,485.00	<None>	<Collection: 1 item>	36	4,688.76	88	(N/A)	1,750	False
66	J-37	4,495.00	<None>	<Collection: 1 item>	13	4,688.03	84	(N/A)	1,750	False
67	J-38	4,485.00	<None>	<Collection: 1 item>	29	4,688.76	88	(N/A)	1,500	False
68	J-39	4,491.00	<None>	<Collection: 1 item>	16	4,688.85	86	(N/A)	1,500	False
69	J-40	4,498.00	<None>	<Collection: 1 item>	23	4,689.03	83	(N/A)	1,500	False
70	J-41	4,511.00	<None>	<Collection: 1 item>	13	4,689.39	77	(N/A)	1,500	False
71	J-42	4,524.00	<None>	<Collection: 1 item>	75	4,689.59	72	(N/A)	2,500	False
72	J-43	4,537.00	<None>	<Collection: 1 item>	8	4,689.85	66	(N/A)	1,500	False
73	J-44	4,557.00	<None>	<Collection: 1 item>	1	4,690.52	58	(N/A)	1,750	False
74	J-45	4,498.00	<None>	<Collection: 1 item>	19	4,689.01	83	(N/A)	1,500	False
75	J-46	4,518.00	<None>	<Collection: 1 item>	33	4,689.50	74	(N/A)	2,500	False
76	J-47	4,528.00	<None>	<Collection: 1 item>	8	4,689.86	70	(N/A)	2,500	False
77	J-48	4,554.00	<None>	<Collection: 1 item>	2	4,691.31	59	(N/A)	1,500	False
78	J-49	4,469.00	<None>	<Collection: 1 item>	17	4,688.73	95	(N/A)	1,500	False
79	J-50	4,469.00	<None>	<Collection: 1 item>	15	4,688.72	95	(N/A)	1,500	False
80	J-51	4,472.00	<None>	<Collection: 1 item>	16	4,688.72	94	(N/A)	1,500	False
81	J-52	4,475.00	<None>	<Collection: 1 item>	19	4,688.72	92	(N/A)	1,500	False
82	J-53	4,482.00	<None>	<Collection: 1 item>	25	4,688.73	89	(N/A)	1,500	False
83	J-54	4,482.00	<None>	<Collection: 1 item>	22	4,688.79	89	(N/A)	1,500	False
84	J-55	4,488.00	<None>	<Collection: 1 item>	17	4,688.78	87	(N/A)	1,500	False
85	J-56	4,488.00	<None>	<Collection: 1 item>	8	4,688.89	87	(N/A)	1,500	False
86	J-57	4,491.00	<None>	<Collection: 1 item>	10	4,688.93	86	(N/A)	1,500	False
87	J-58	4,491.00	<None>	<Collection: 1 item>	17	4,688.90	86	(N/A)	1,500	False
88	J-59	4,485.00	<None>	<Collection: 1 item>	23	4,688.89	88	(N/A)	1,500	False
89	J-60	4,478.00	<None>	<Collection: 1 item>	23	4,688.84	91	(N/A)	1,500	False
90	J-61	4,482.00	<None>	<Collection: 1 item>	14	4,688.78	89	(N/A)	1,500	False
91	J-62	4,488.00	<None>	<Collection: 1 item>	13	4,688.90	87	(N/A)	1,500	False
92	J-63	4,491.00	<None>	<Collection: 1 item>	11	4,689.36	86	(N/A)	1,500	False
93	J-64	4,498.00	<None>	<Collection: 1 item>	29	4,690.13	83	(N/A)	1,750	False
94	J-65	4,482.00	<None>	<Collection: 1 item>	17	4,688.73	89	(N/A)	1,500	False
95	J-66	4,485.00	<None>	<Collection: 1 item>	20	4,688.77	88	(N/A)	1,500	False
96	J-67	4,485.00	<None>	<Collection: 1 item>	14	4,688.79	88	(N/A)	1,500	False
97	J-68	4,498.00	<None>	<Collection: 1 item>	13	4,688.99	83	(N/A)	1,500	False
98	J-69	4,498.00	<None>	<Collection: 1 item>	26	4,689.02	83	(N/A)	1,500	False
99	J-70	4,501.00	<None>	<Collection: 1 item>	22	4,689.07	81	(N/A)	1,500	False
100	J-71	4,501.00	<None>	<Collection: 1 item>	21	4,689.18	81	(N/A)	2,500	False
101	J-72	4,505.00	<None>	<Collection: 1 item>	94	4,690.00	80	(N/A)	2,500	False
102	J-73	4,508.00	<None>	<Collection: 1 item>	17	4,690.14	79	(N/A)	1,500	False
103	J-74	4,511.00	<None>	<Collection: 1 item>	19	4,689.40	77	(N/A)	1,500	False
104	J-75	4,521.00	<None>	<Collection: 1 item>	14	4,689.57	73	(N/A)	1,500	False
105	J-76	4,537.00	<None>	<Collection: 1 item>	16	4,689.67	66	(N/A)	1,500	False
106	J-77	4,511.00	<None>	<Collection: 1 item>	19	4,689.28	77	(N/A)	1,500	False
107	J-78	4,534.00	<None>	<Collection: 1 item>	14	4,689.28	67	(N/A)	1,500	False
108	J-79	4,511.00	<None>	<Collection: 1 item>	16	4,689.11	77	(N/A)	1,500	False
109	J-80	4,524.00	<None>	<Collection: 1 item>	166	4,688.95	71	(N/A)	1,500	False
110	J-81	4,528.00	<None>	<Collection: 1 item>	8	4,689.16	70	(N/A)	1,500	False
111	J-82	4,514.00	<None>	<Collection: 1 item>	82	4,689.11	76	(N/A)	1,500	False
112	J-83	4,534.00	<None>	<Collection: 1 item>	34	4,689.73	67	(N/A)	1,500	False

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113	J-84	4,560.00	<None>	<Collection: 1 item>	11	4,690.65	57	(N/A)	2,000	False
114	J-85	4,511.00	<None>	<Collection: 1 item>	17	4,690.23	78	(N/A)	1,500	False
115	J-86	4,537.00	<None>	<Collection: 1 item>	22	4,690.38	66	(N/A)	1,500	False
116	J-87	4,541.00	<None>	<Collection: 1 item>	19	4,690.47	65	(N/A)	1,500	False
117	J-88	4,547.00	<None>	<Collection: 1 item>	25	4,690.77	62	(N/A)	1,500	False
118	J-89	4,518.00	<None>	<Collection: 1 item>	11	4,690.36	75	(N/A)	1,500	False
119	J-90	4,514.00	<None>	<Collection: 1 item>	23	4,690.33	76	(N/A)	1,500	False
120	J-91	4,564.00	<None>	<Collection: 1 item>	20	4,691.68	55	(N/A)	2,000	False
121	J-92	4,524.00	<None>	<Collection: 1 item>	84	4,690.63	72	(N/A)	1,500	False
122	J-93	4,491.00	<None>	<Collection: 1 item>	17	4,690.17	86	(N/A)	2,000	False
123	J-94	4,485.00	<None>	<Collection: 1 item>	16	4,690.20	89	(N/A)	1,500	False
124	J-95	4,478.00	<None>	<Collection: 1 item>	13	4,690.21	92	(N/A)	1,500	False
125	J-96	4,482.00	<None>	<Collection: 1 item>	11	4,690.24	90	(N/A)	1,500	False
126	J-97	4,485.00	<None>	<Collection: 1 item>	7	4,690.27	89	(N/A)	1,500	False
127	J-98	4,488.00	<None>	<Collection: 1 item>	13	4,690.27	88	(N/A)	1,500	False
128	J-99	4,485.00	<None>	<Collection: 1 item>	22	4,690.23	89	(N/A)	1,500	False
129	J-100	4,495.00	<None>	<Collection: 1 item>	20	4,690.22	84	(N/A)	1,500	False
130	J-101	4,491.00	<None>	<Collection: 1 item>	22	4,690.18	86	(N/A)	1,500	False
131	J-102	4,505.00	<None>	<Collection: 1 item>	19	4,690.19	80	(N/A)	1,500	False
132	J-103	4,498.00	<None>	<Collection: 1 item>	25	4,690.15	83	(N/A)	1,500	False
133	J-104	4,514.00	<None>	<Collection: 1 item>	7	4,690.19	76	(N/A)	3,000	False
134	J-105	4,508.00	<None>	<Collection: 1 item>	16	4,690.12	79	(N/A)	1,500	False
135	J-106	4,511.00	<None>	<Collection: 1 item>	166	4,690.11	77	(N/A)	3,000	False
136	J-107	4,485.00	<None>	<Collection: 1 item>	11	4,690.33	89	(N/A)	1,500	False
137	J-108	4,491.00	<None>	<Collection: 1 item>	20	4,690.32	86	(N/A)	1,500	False
138	J-109	4,498.00	<None>	<Collection: 1 item>	20	4,690.34	83	(N/A)	1,500	False
139	J-110	4,508.00	<None>	<Collection: 1 item>	22	4,690.58	79	(N/A)	1,500	False
140	J-111	4,518.00	<None>	<Collection: 1 item>	19	4,690.65	75	(N/A)	1,500	False
141	J-112	4,528.00	<None>	<Collection: 1 item>	19	4,691.15	71	(N/A)	1,500	False
142	J-113	4,541.00	<None>	<Collection: 1 item>	20	4,691.60	65	(N/A)	1,500	False
143	J-114	4,554.00	<None>	<Collection: 1 item>	11	4,692.13	60	(N/A)	1,500	False
144	J-115	4,521.00	<None>	<Collection: 1 item>	144	4,690.96	74	(N/A)	1,500	False
145	J-116	4,534.00	<None>	<Collection: 1 item>	22	4,691.18	68	(N/A)	1,500	False
146	J-117	4,551.00	<None>	<Collection: 1 item>	17	4,691.60	61	(N/A)	1,500	False
147	J-118	4,560.00	<None>	<Collection: 1 item>	17	4,692.16	57	(N/A)	1,500	False
148	J-119	4,567.00	<None>	<Collection: 1 item>	29	4,692.57	54	(N/A)	1,500	False
149	J-120	4,573.00	<None>	<Collection: 1 item>	0	4,692.82	52	(N/A)	2,000	False
150	J-121	4,564.00	<None>	<Collection: 1 item>	24	4,692.37	56	(N/A)	1,500	False
151	J-122	4,491.00	<None>	<Collection: 1 item>	13	4,690.42	86	(N/A)	1,500	False
152	J-123	4,495.00	<None>	<Collection: 1 item>	23	4,690.42	85	(N/A)	1,500	False
153	J-124	4,505.00	<None>	<Collection: 1 item>	25	4,690.43	80	(N/A)	1,500	False
154	J-125	4,514.00	<None>	<Collection: 1 item>	25	4,690.66	76	(N/A)	1,500	False
155	J-126	4,495.00	<None>	<Collection: 1 item>	17	4,690.53	85	(N/A)	1,500	False
156	J-127	4,501.00	<None>	<Collection: 1 item>	16	4,690.55	82	(N/A)	1,500	False
157	J-128	4,511.00	<None>	<Collection: 1 item>	14	4,690.58	78	(N/A)	1,500	False
158	J-129	4,521.00	<None>	<Collection: 1 item>	266	4,690.78	73	(N/A)	2,000	False
159	J-130	4,531.00	<None>	<Collection: 1 item>	74	4,691.79	70	(N/A)	1,500	False
160	J-131	4,544.00	<None>	<Collection: 1 item>	7	4,692.16	64	(N/A)	1,500	False
161	J-132	4,554.00	<None>	<Collection: 1 item>	7	4,692.44	60	(N/A)	1,500	False
162	J-133	4,557.00	<None>	<Collection: 1 item>	0	4,692.64	59	(N/A)	1,500	False
163	J-134	4,573.00	<None>	<Collection: 1 item>	0	4,693.53	52	(N/A)	1,500	False
164	J-135	4,508.00	<None>	<Collection: 1 item>	20	4,691.63	79	(N/A)	1,500	False
165	J-136	4,508.00	<None>	<Collection: 1 item>	20	4,692.32	80	(N/A)	1,500	False
166	J-137	4,514.00	<None>	<Collection: 1 item>	20	4,693.59	78	(N/A)	1,500	False
167	J-138	4,528.00	<None>	<Collection: 1 item>	13	4,694.02	72	(N/A)	1,500	False
168	J-139	4,544.00	<None>	<Collection: 1 item>	94	4,694.62	65	(N/A)	2,500	False
169	J-140	4,518.00	<None>	<Collection: 1 item>	16	4,692.38	75	(N/A)	1,500	False
170	J-141	4,521.00	<None>	<Collection: 1 item>	19	4,692.47	74	(N/A)	1,500	False
171	J-142	4,534.00	<None>	<Collection: 1 item>	25	4,692.69	69	(N/A)	1,500	False
172	J-143	4,528.00	<None>	<Collection: 1 item>	32	4,691.63	71	(N/A)	1,500	False
173	J-144	4,518.00	<None>	<Collection: 1 item>	17	4,691.63	75	(N/A)	1,500	False
174	J-145	4,534.00	<None>	<Collection: 1 item>	17	4,692.17	68	(N/A)	1,500	False
175	J-146	4,537.00	<None>	<Collection: 1 item>	20	4,692.42	67	(N/A)	1,500	False
176	J-147	4,541.00	<None>	<Collection: 1 item>	19	4,692.64	66	(N/A)	1,500	False
177	J-148	4,541.00	<None>	<Collection: 1 item>	23	4,692.90	66	(N/A)	1,750	False
178	J-149	4,544.00	<None>	<Collection: 1 item>	34	4,693.18	65	(N/A)	1,750	False
179	J-150	4,554.00	<None>	<Collection: 1 item>	19	4,692.41	60	(N/A)	1,500	False
180	J-151	4,557.00	<None>	<Collection: 1 item>	14	4,692.48	59	(N/A)	1,500	False
181	J-152	4,557.00	<None>	<Collection: 1 item>	17	4,692.64	59	(N/A)	1,500	False
182	J-153	4,554.00	<None>	<Collection: 1 item>	14	4,692.81	60	(N/A)	1,500	False
183	J-154	4,551.00	<None>	<Collection: 1 item>	0	4,693.58	62	(N/A)	3,000	False
184	J-155	4,570.00	<None>	<Collection: 1 item>	2	4,696.24	55	(N/A)	2,500	False
185	J-156	4,518.00	<None>	<Collection: 1 item>	28	4,694.84	77	(N/A)	1,500	False
186	J-157	4,518.00	<None>	<Collection: 1 item>	22	4,695.07	77	(N/A)	1,500	False
187	J-158	4,518.00	<None>	<Collection: 1 item>	14	4,695.21	77	(N/A)	1,500	False
188	J-159	4,541.00	<None>	<Collection: 1 item>	22	4,695.44	67	(N/A)	1,500	False
189	J-160	4,537.00	<None>	<Collection: 1 item>	20	4,695.55	69	(N/A)	1,500	False
190	J-161	4,537.00	<None>	<Collection: 1 item>	16	4,695.85	69	(N/A)	1,500	False
191	J-162	4,547.00	<None>	<Collection: 1 item>	21	4,697.52	65	(N/A)	1,500	False
192	J-163	4,560.00	<None>	<Collection: 1 item>	69	4,699.51	60	(N/A)	2,000	False
193	J-164	4,564.00	<None>	<Collection: 1 item>	11	4,698.06	58	(N/A)	1,500	False
194	J-165	4,557.00	<None>	<Collection: 1 item>	14	4,697.35	61	(N/A)	1,500	False
195	J-166	4,551.00	<None>	<Collection: 1 item>	16	4,696.64	63	(N/A)	1,500	False
196	J-167	4,547.00	<None>	<Collection: 1 item>	16	4,695.99	64	(N/A)	1,500	False
197	J-168	4,570.00	<None>	<Collection: 1 item>	0	4,699.30	56	(N/A)	1,500	False
198	J-169	4,514.00	<None>	<Collection: 1 item>	16	4,694.21	78	(N/A)	1,500	False
199	J-170	4,534.00	<None>	<Collection: 1 item>	11	4,693.89	69	(N/A)	1,500	False
200	J-171	4,560.00	<None>	<Collection: 1 item>	5	4,692.61	57	(N/A)	1,500	False
201	J-172	4,554.00	<None>	<Collection: 1 item>	81	4,692.25	60	(N/A)	1,500	False
202	J-173	4,573.00	<None>	<Collection: 1 item>	8	4,692.46	52	(N/A)	1,500	False
203	J-174	4,570.00	<None>	<Collection: 1 item>	11	4,692.25	53	(N/A)	2,000	False
204	J-175	4,551.00	<None>	<Collection: 1 item>	11	4,692.25	61	(N/A)	1,500	False
206	J-176	4,462.00	<None>	<Collection: 0 items>	0	4,688.51	98	(N/A)	1,500	False

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218	J-177	4,478.50	<None>	<Collection: 0 items>	0	4,688.61	91	(N/A)	1,500	False
218	J-178	4,486.50	<None>	<Collection: 0 items>	0	4,688.70	87	(N/A)	1,500	False
222	J-179	4,496.00	<None>	<Collection: 0 items>	0	4,688.83	83	(N/A)	1,500	False
236	J-180	4,553.00	<None>	<Collection: 0 items>	0	4,690.86	60	(N/A)	2,000	False
252	J-181	4,470.00	<None>	<Collection: 0 items>	0	4,688.72	95	(N/A)	1,500	False
258	J-182	4,517.50	<None>	<Collection: 0 items>	0	4,689.49	74	(N/A)	1,500	False
261	J-183	4,530.50	<None>	<Collection: 0 items>	0	4,689.72	69	(N/A)	1,500	False
268	J-184	4,475.00	<None>	<Collection: 0 items>	0	4,688.56	92	(N/A)	1,500	False
284	J-185	4,495.00	<None>	<Collection: 0 items>	0	4,689.01	84	(N/A)	1,500	False
301	J-186	4,495.00	<None>	<Collection: 0 items>	0	4,689.08	84	(N/A)	1,500	False
338	J-187	4,564.00	<None>	<Collection: 0 items>	0	4,691.73	55	(N/A)	1,500	False
367	J-188	4,504.00	<None>	<Collection: 0 items>	0	4,690.57	81	(N/A)	1,500	False
396	J-189	4,573.00	<None>	<Collection: 0 items>	0	4,692.48	52	(N/A)	1,500	False
413	J-190	4,534.00	<None>	<Collection: 0 items>	0	4,692.25	68	(N/A)	2,500	False
427	J-191	4,557.00	<None>	<Collection: 0 items>	0	4,692.60	59	(N/A)	1,500	False
431	J-192	4,547.50	<None>	<Collection: 0 items>	0	4,692.97	63	(N/A)	1,500	False
436	J-193	4,554.00	<None>	<Collection: 0 items>	0	4,692.18	60	(N/A)	1,500	False
493	J-1001	4,455.00	<None>	<Collection: 1 item>	33	4,688.49	101	(N/A)	1,500	False
497	J-1002	4,455.00	<None>	<Collection: 1 item>	27	4,688.49	101	(N/A)	1,500	False
499	J-1003	4,455.00	<None>	<Collection: 1 item>	14	4,688.49	101	(N/A)	1,500	False
519	J-202	4,501.00	<None>	<Collection: 0 items>	0	4,690.56	82	(N/A)	1,500	False
522	J-203	4,511.26	<None>	<Collection: 0 items>	0	4,690.59	76	(N/A)	1,500	False

P:\19821\Civil\Water CAD\Sunset Water Model.wtg

APPENDIX – B

EXHIBITS

12 APPENDIX - B
Exhibit 12-1 Water Right 31-695

Water Right Details for 31-695

Utah Division of Water Rights

5/20/2020 3:04 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 31-695

Application/Claim: A34200

Certificate: 6843

Owners:		
Name: Sunset City Corporation (Public Water Supplier)		
Address: Sunset UT 84015		
		Interest: 100%
Remarks:		
General:		
Type of Right: Application To Appropriate	Source of Info.: Certificate	Status: Certificated
Quantity of Water: 1.353 CFS		
Source: Underground Water Well		
County: Davis		
Common Description:		
Proposed Det. Book: 31-	Map:	Pub. Date:
Land Owned by Appl.:	County Tax Id#:	
Distribution System:		
Dates:		
Filing:		
Filed: 04/06/1962		
Priority: 04/06/1962	Decree/Class:	
Advertising:		
Publication Began: 06/28/1962	Publication End:	Newspaper: Davis News Journal
Protest End Date:	Protested: Not Protested	Hearing Held:
Approval:		
State Eng. Action: Approved	Action Date: 09/18/1962	
Recon. Req. Date:	Recon. Req Action:	
Certification:		
Proof Due Date: 08/31/1964	Extension Filed Date:	
Election or Proof: Proof	Election/Proof Date: 08/19/1963	
Certificate Date: 09/04/1964	Lapsed, Etc. Date:	Lapsed Letter
Wells:		
Prov. Well Date:	Well Renov. Date: 06/22/2016	
Points of Diversion:		
Points of Diversion - Underground:		
(1) S 245 ft. W 363 ft. from E4 corner, Sec 26 T 5N R 2W SLBM		
Well Diameter: 12 in.	Depth: 920 to ft.	Year Drilled: 1962 Well Log: Yes Well Id#:
Elevation:	UTM: 413785.156, 4554720.1 (NAD83)	
Source/Cmnt:		
Proposed Water Uses:		
Proposed Water Uses - Group Number: 33402		

Sunset City
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Water Rights Appurtenant to the following use(s): 31-695(CERT), 31-815(CERT), 31-2309(CERT), 31-2409(CERT),	
Water Use Types:	
Municipal: Sunset Acre Feet Contributed by this Right for this Use: Unevaluated	Period of Use: 01/01 to 12/31
Use Totals:	
Municipal sole-supply total: Unevaluated acft	

Exhibit 12-2 Water Right 31-815

Water Right Details for 31-815

Utah Division of Water Rights

5/20/2020 3:04 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 31-815

Application/Claim: A11838

Certificate: 3755

Changes:		
a3967	(Filed:	Certificated
Owners:		
Name: Sunset City Corporation (Public Water Supplier)		
Address: Sunset UT 84015		
		Interest:
Remarks:		
General:		
Type of Right: Application To Appropriate	Source of Info.: Certificate	Status: Certificated
Quantity of Water: 0.446 CFS		
Source: Underground Water Well		
County: Davis		
Common Description:		
Proposed Det. Book: 31-	Map:	Pub. Date:
Land Owned by Appl.:	County Tax Id#:	
Distribution System:		
Dates:		
Filing:		
Filed: 09/20/1935		
Priority: 02/25/1939	Decree/Class:	
Advertising:		
Publication Began:	Publication End:	Newspaper:
Protest End Date:	Protested: Not Protested	Hearing Held:
Approval:		
State Eng. Action: Approved	Action Date: 02/28/1939	
Recon. Req. Date:	Recon. Req Action:	
Certification:		
Proof Due Date:	Extension Filed Date:	
Election or Proof:	Election/Proof Date:	
Certificate Date:	Lapsed, Etc. Date:	Lapsed Letter
Wells:		
Prov. Well Date:	Well Renov. Date:	

Sunset City
 Water Master Plan Report-2020

Points of Diversion:	
Points of Diversion - Underground:	
(1) S 245 ft. W 363 ft. from E4 corner, Sec 26 T 5N R 2W SLBM	
Well Diameter: 16 in.	Depth: 920 to ft.
Elevation:	Year Drilled: 1962 Well Log: Yes Well Id#:
Source/Cmnt:	UTM: 413785.156, 4554720.1 (NAD83)
Proposed Water Uses:	
Proposed Water Uses - Group Number: 33402	
Water Rights Appurtenant to the following use(s):	
31-695(CERT), 31-815(CERT), 31-2309(CERT), 31-2409(CERT),	
Water Use Types:	
Municipal: Sunset	Period of Use: 01/01 to 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated	
Use Totals:	
Municipal sole-supply total: Unevaluated acft	

Sunset City
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Exhibit 12-3 Water Right 31-2309

Water Right Details for 31-2309

Utah Division of Water Rights

5/20/2020 3:01 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 31-2309

Application/Claim: A14148

Certificate: 3757

Changes:		
a42175	(Filed: 12/02/2016)	Rejected
Owners:		
Name: Sunset City Corporation (Public Water Supplier)		
Address: 200 West 1300 North Sunset City UT 84015		
Remarks:		Interest:
General:		
Type of Right: Application To Appropriate	Source of Info.: Certificate	Status: Certificated
Quantity of Water: 0.067 CFS		
Source: Martin Spring Area & Unnamed Spring		
County: Davis		
Common Description: Sunset		
Proposed Det. Book: 31-	Map:	Pub. Date:
Land Owned by Appl.:	County Tax Id#:	
Distribution System:		
Dates:		
Filing:		
Filed: 03/19/1941		
Priority: 03/19/1941	Decree/Class:	
Advertising:		
Publication Began:	Publication End:	Newspaper:
Protest End Date:	Protested: Not Protested	Hearing Held:
Approval:		
State Eng. Action: Approved	Action Date: 04/20/1942	
Recon. Req. Date:	Recon. Req Action:	
Certification:		
Proof Due Date:	Extension Filed Date:	
Election or Proof: Proof	Election/Proof Date: 10/30/1946	
Certificate Date: 08/10/1949	Lapsed, Etc. Date:	Lapsed Letter
Wells:		
Prov. Well Date:	Well Renov. Date:	

Sunset City
 Water Master Plan Report-2020

Points of Diversion:	
Points of Diversion - Surface:	
Stream Alteration Required:	
(1) N 33 ft. W 930 ft. from E4 corner, Sec 26 T 5N R 2W SLBM	
Diverting Works:	Source:
Elevation:	UTM: 413612.334, 4554804.834
Proposed Water Uses:	
Proposed Water Uses - Group Number: 33402	
Water Rights Appurtenant to the following use(s):	
31-695(CERT), 31-815(CERT), 31-2309(CERT), 31-2409(CERT),	
Water Use Types:	
Municipal: Sunset	Period of Use: 01/01 to 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated	
Use Totals:	
Municipal sole-supply total: Unevaluated acft	
Nonuses	
Filed: 12/02/2016	Expiration Date: 04/30/2024
Advertising:	
Publication Began: 12/15/2016	Publication End: 12/22/2016
Protested: Not Protested	Protest End Date: 01/11/2017
Newspaper: Davis County Clipper	
Hearing Held:	
Approval:	
SE Action: Approved	Action Date: 04/11/2017
Comments:	

Exhibit 12-4 Water Right 31-2409

Water Right Details for 31-2409

Utah Division of Water Rights

5/20/2020 3:03 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 31-2409

Application/Claim: A15641

Certificate: a416

Changes:		
a3968	(Filed:	Certificated
Owners:		
Name: Sunset City Corporation (Public Water Supplier)		
Address: Sunset UT 84015		
		Interest:
Remarks:		
General:		
Type of Right: Application To Appropriate	Source of Info.: Certificate	Status: Certificated
Quantity of Water: 0.91 CFS		
Source: Underground Water Well		
County: Davis		
Common Description:		
Proposed Det. Book: 31-	Map:	Pub. Date:
Land Owned by Appl.:	County Tax Id#:	
Distribution System:		
Dates:		
Filing:		
Filed: 01/10/1944		Decree/Class:
Priority: 01/10/1944		
Advertising:		
Publication Began: 02/24/1944	Publication End:	Newspaper: Standard Examiner
Protest End Date:	Protested: Not Protested	Hearing Held:
Approval:		
State Eng. Action: Approved	Action Date: 06/05/1944	
Recon. Req. Date:	Recon. Req Action:	
Certification:		
Proof Due Date:	Extension Filed Date:	
Election or Proof: Proof	Election/Proof Date: 10/30/1946	
Certificate Date: 08/12/1964	Lapsed, Etc. Date:	Lapsed Letter
Wells:		
Prov. Well Date:	Well Renov. Date:	

Sunset City
 Water Master Plan Report-2020

Points of Diversion:	
Points of Diversion - Underground:	
(1) S 245 ft. W 363 ft. from E4 corner, Sec 26 T 5N R 2W SLBM	
Well Diameter: 16 in.	Depth: 920 to ft.
Elevation:	Year Drilled: Well Log: No Well Id#:
Source/Cmnt:	UTM: 413785.156, 4554720.1 (NAD83)
Proposed Water Uses:	
Proposed Water Uses - Group Number: 33402	
Water Rights Appurtenant to the following use(s):	
31-695(CERT), 31-815(CERT), 31-2309(CERT), 31-2409(CERT),	
Water Use Types:	
Municipal: Sunset	Period of Use: 01/01 to 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated	
Use Totals:	
Municipal sole-supply total: Unevaluated acft	

Exhibit 12-5 Well Log for Water Right 31-695

WELL DRILLER'S REPORT

State of Utah
Division of Water Rights

For additional space, use "Additional Well Data Form" and attach

Well Identification
Water Right: 31-695 WIN: 22914

Owner Note any changes
Sunset City Corporation
Sunset UT 84015

Contact Person/Engineer: WEBER BASIN WATER - RILEY OLSEN.

Well Location Note any changes
S 245 W 363 from the E4 corner of section 26, Township 5N, Range 2W, SL B&M
STREET ADDRESS - 05 W. 1800 N SUNSET, UT - BEHIND SUNSET FIRE STATION.
WEST OF I-15 AND HAFB.

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #)

Drillers Activity Start Date: 11-JULY-2016 Completion Date: 3-MAR-2017

Check all that apply: New Repair Deepen Clean Replace Public Nature of Use: Public Supply
If a replacement well, provide location of new well. N-A feet north/south and N-A feet east/west of the existing well.

DEPTH (feet) FROM TO	BOREHOLE DIAMETER (in)	DRILLING METHOD	DRILLING FLUID
0' 398'	16" CASED.	- Drilled By WESLEY STODDARD JR 1962 VIA ROTARY-RIA	
398' 920'	12" CASED.	Rotary.	Bentonite Mud.
	912' ACTUAL TD		

DEPTH (feet) FROM TO	WATER LEVEL	UNCONSOLIDATED										CONSOLIDATED		ROCK TYPE	COLOR	DESCRIPTION AND REMARKS (e.g., relative %, grain size, sorting, angularity, bedding, grain composition density, plasticity, shape, cementation, consistency, water bearing, odor, fracturing, mineralogy, texture, degree of weathering, hardness, water quality, etc.)	
		C	S	L	A	L	I	T	G	C	B	O	T				H
THIS PROJECT INVOLVED CASING REPAIRS, CHEMICAL TREATMENTS, RE-DEVELOPMENT, AND TEST PUMPING OF THE WELL.																	
THE REDUCTION AT 398' WAS ROUGH AND POOR. WE INSTALLED A CONS PART TO MAKE A SMOOTH TRANSITION. - THERE WAS A CEMENT RING IN THE 12" FROM 761' TO 783' IT WAS 1" TO 1 1/2" THICK ON CASING INTERIOR. - WE MILLED THIS OUT CAREFULLY AND RAN A VIDEO. WE COULD FIND NO REASON FOR THIS CEMENT, NO PERFS, NO BROKEN WELL, NO DAMAGED CASING. - AFTER THIS WE HAD FULL ACCESS TO THE BOTTOM OF THE WELL AND THE PRODUCING ZONE TO DO OUR WORK AND REDEVELOP THE WELL.																	

Static Water Level
Date FEB. 2017 Water Level 302.41 feet Flowing? Yes No
Method of Water Level Measurement SOUNDER If Flowing, Capped Pressure --- PSI
Point to Which Water Level Measurement was Referenced TOP OF CASING Elevation ---
Height of Water Level reference point above ground surface 1.5 feet Temperature --- degrees C F

RECEIVED
MD
MAR 14 2017
WATER RIGHTS
SALT LAKE

Sunset City
Water Master Plan Report-2020

Construction Information										
DEPTH (feet)		CASING			DEPTH (feet)		SCREEN PERFORATIONS		OPEN BOTTOM	
FROM	TO	CASING TYPE AND MATERIAL GRADE	WALL THICK (in)	NOMINAL DIAM. (in)	FROM	TO	SCREEN SLOT SIZE OR PERF. SIZE (in)	SCREEN DIAM OR PERF LENGTH (in)	SCREEN TYPE OR NUMBER PERF (per round/interval)	
0'	420'	029-LOG-	.312	16"	880'	920'	029-LOG-	-		
400'	920'	029-LOG-	.330	12"	VIDEO SHOWN - Z					
TOP OF 12" ACTUAL 398' AND TO ACTUAL WAS					878'	910'	1/2" x 3"	12 PER ROUND / 6" APART		
AT 912' - COULD GET NO FARTHER								24 PER FOOT -		
								FAIR PERF. JOB.		

Well Head Configuration: SUB. PUMP HEAD - Access Port Provided? Yes No
 Casing Joint Type: WELDED. Perforator Used: Mills - 029 Perf.
 Was a Surface Seal Installed? Yes No UNKNOWN - THE LOG DOES NOT SAY? Depth of Surface Seal: ? feet Drive Shoe? Yes No
 Surface Seal Material Placement Method: _____
 Was a temporary surface casing used? Yes No If yes, depth of casing: _____ feet diameter: _____ inches

DEPTH (feet)		SURFACE SEAL / INTERVAL SEAL / FILTER PACK / PACKER INFORMATION	
FROM	TO	SEAL MATERIAL, FILTER PACK and PACKER TYPE and DESCRIPTION	Quantity of Material Used (if applicable) and GROUT DENSITY (lbs./gal., # bag mix, gal./sack etc.)
NO		FILTER PACK - NATURAL DEVELOPED WELL - PUMP TEST DATA FROM 029 LOG	
(250' static)		1000 GPM w/ 40' DD.	} FROM 029 LOG.
		1200 GPM w/ 50' DD.	
		1300 GPM w/ 70' DD.	
		OUR PUMP TEST FEB-2017	
step #1	300	9PM 303' SWL 6.7' D.D. - 2 HRS.	

Well Development and Well Yield Test Information

DATE	METHOD	YIELD	Units Check One		DRAWDOWN (ft)	TIME PUMPED (hrs & min)
			GPM	CFS		
FEB 17	STEP TEST					
#2	" "	600	X		14.80'	2 HRS.
#3	" "	900	X		24.30'	2 HRS.
#4	" "	1200	X		35.85'	2 HRS.
#5	" "	1400	X		48.11'	2 HRS.
FEB 20	CONSTANT RATE. SAND > 1PPM	1200	X		36.99'	24 HRS.

Pump (Permanent) Will REPLACE PUMP WITH NEW.
 Pump Description: OLD - BT' SUB PUMP. Horsepower: 200 Pump Intake Depth: 380' feet
 Approximate Maximum Pumping Rate: 1000 +/- ? Well Disinfected upon Completion? Yes No

Comments: Description of construction activity, additional materials used, problems encountered, extraordinary circumstances, abandonment procedures. Use additional well data form for more space.
OUR WORK SHOWED A IMPROVEMENT FROM 1962 WHEN WELL WAS NEW. - AT 1200 WHEN NEW. SC WAS 24 G/FT - IN 2017 AT 1200 SC IS 32.43 THIS IS A 35% IMPROVEMENT SINCE WELL WAS NEW.

SEE ADDL. SHEET FOR MORE INFO.

RECEIVED

Well Driller Statement: This well was drilled and constructed under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge and belief. **MAR 14 2017**

Name: WIDDISON TURBINE SERVICE, LLC License No. 533 WATER RIGHTS SALT LAKE
 Signature: M. KYLE WIDDISON Date: 9 - MARCH - 2017

WELL DRILLER'S REPORT ADDITIONAL DATA FORM

State of Utah
Division of Water Rights

Well Identification
Water Right: 31-695

Owner Note any changes
Sunset City Corporation
Sunset UT 84015

Contact Person/Engineer: WEBER BASIN - Riley Olsen

Well Location Note any changes
S 245 W 363 from the E4 corner of section 26, Township 5N, Range 2W, SL B&M
ADDRESS 85 W. 1800 N. SUNSET, UT

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #)

Well Log		WATER	DEPTH (feet) FROM TO	UNCONSOLIDATED						CONSOLIDATED		ROCK TYPE	COLOR	DESCRIPTION AND REMARKS (e.g., relative %, grain size, sorting, angularity, bedding, grain composition density, plasticity, shape, cementation, consistency, water bearing, odor, fracturing, mineralogy, texture, degree of weathering, hardness, water quality, etc.)	
				CLAY	SAND	GRAVEL	COBBLES	BOULDER	OTHER						
															WE ALSO DID THREE SEPERATE CHEMICAL TREATMENTS.
															#1 WITH A PRODUCT CALLED BICARBONS, WE FOUND NO POSITIVE RESULTS FROM THIS TREATMENT.
															#2. WITH HCL AND OTHER ADDITIVES - WE SAW A MARKED IMPROVEMENT IN SPECIFIC CAPACITY - ABOUT 30% BETTER.
															#3. A HIGH DOSE DISINFECTION WITH BUFFERED SODIUM HYPOCHLORITE.
															WE ALSO DID A LITTLE DEVELOPMENT WORK - ABOUT 20 HRS. DURING THE PUMP TEST THE SAND WAS HIGH BUT IMPROVED GREATLY AS PUMP DEVELOPMENT CONTINUED - WE EVENTUALLY GOT THE SAND TO ABOUT 100 PP. BILLION
															WEBER BASIN WATER HAS TAKEN OVER THIS WELL AND WILL BUILD ALL NEW PUMP HOUSE, PIPING, AND A NEW PUMP.
															K.A.

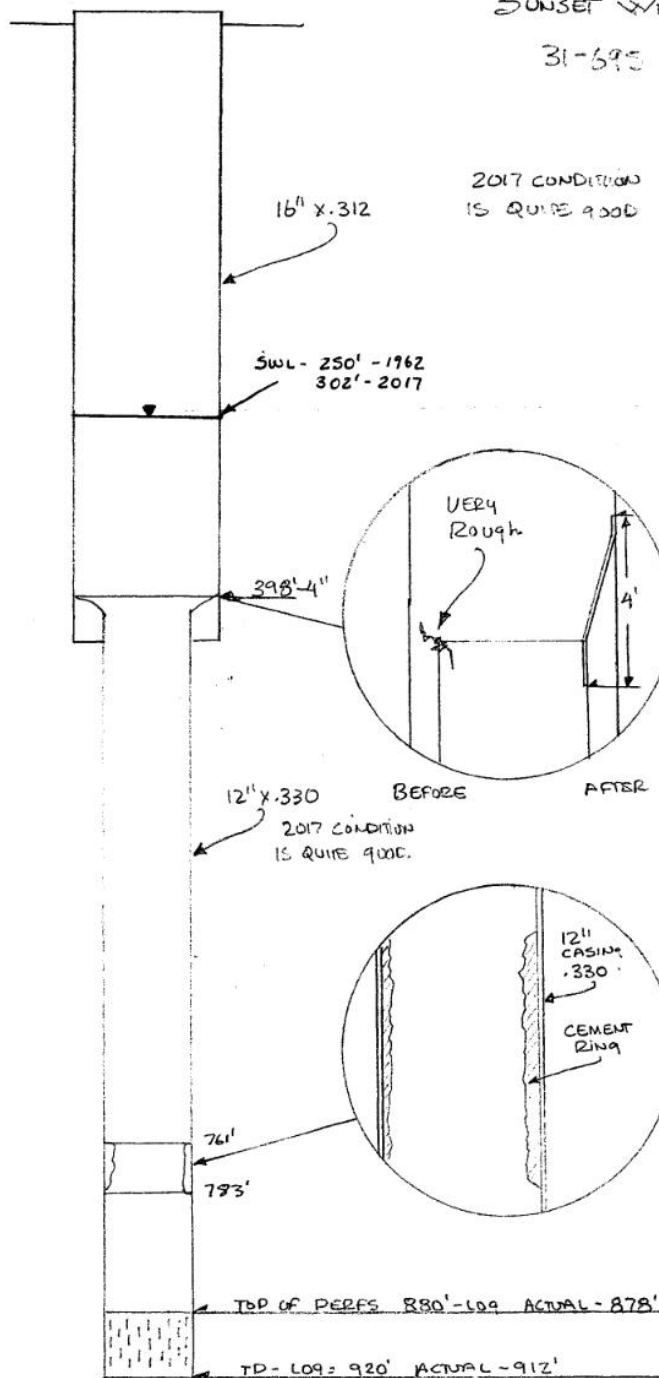
RECEIVED
MAR 14 2017
WATER RIGHTS
SALT LAKE

Well Log

SUNSET WELL.
31-695

S 245' W 363'
E 1/4 - 526 - 511 - 2W
SLBM

2017 CONDITION
IS QUITE GOOD



THE 16" X 12" REDUCTION WAS POOR AND HAD BENT OVER SPOTS. WE INSTALLED A CONE TRANSITION PATCH AND SWAGED IT TO PLACE. IT IS A VERY SMOOTH TRANSITION NOW.

THIS CEMENT RING WAS 1/2" THICK ON ONE SIDE AND 1-1/2" ON THE OTHER SIDE. WE BUILT A CUSTOM MILL AND MILLED IT OUT. WE SAW NO CASING DAMAGE BEHIND THE CEMENT. WE COULD SEE NO REASON FOR THIS CEMENT.

IT RAN FROM 761' TO 783'

RECEIVED

MAR 14 2017

WATER RIGHTS
SALT LAKE

DRAWN BY
KYLE WIDDISON 3-17

Sunset City
Water Master Plan Report-2020
1952 Weber Basin & Sunset City Contract

Sunset City
Water Master Plan Report-2020

Exhibit 12-6 1952 Weber Basin & Sunset City Contract

Contract

This petition and attached order
are hereby approved.

E. O. Larson, Regional Director, Region 4
For Secretary of the Interior

PETITION TO WEBER BASIN WATER CONSERVANCY DISTRICT FOR ALLOTMENT OF WATER
FOR MUNICIPAL USE

Sunset City Corporation, a municipal corporation of the State of Utah, hereinafter referred to as the City, hereby applies to the Weber Basin Water Conservancy District, hereinafter referred to as the District, for the allotment of 500 acre-feet of Weber Basin Project water annually for municipal use, upon the following terms and conditions:

1. Payment to the District for water so allotted shall be made in an annual amount to consist of the total of the following items:
 - (a) \$9.50 per acre-foot of water allotted for each of the first ten years in which water is available for use by the City, and \$15.00 per acre-foot of water allotted for each year thereafter, to apply on the District's obligations under the repayment contract No. 14-06-400-33 dated December 12, 1952, between the United States and the District,
 - (b) \$11.00 per acre-foot of water allotted for each of the first three years in which water is available for use by the City, \$13.00 per acre-foot for each of the next succeeding three years, and \$16.00 per acre-foot of water allotted for each year thereafter, which shall be a charge made for the purpose of, and to be used by the District to pay to that amount principal and interest, bank collection charges for payment of principal and interest, and redemption premiums on, and to establish a reserve fund for, bonds heretofore and hereafter issued by the District pursuant to authorization granted at the election held therein on December 6, 1952, and
 - (c) a fair proportionate amount of estimated operating and maintenance charges for the next succeeding calendar year. Such fair proportionate amount shall be determined each year by the board of directors of the District and the determination shall be final and conclusive. If such estimate is more or less than the actual cost thereof, an appropriate adjustment will be made in the annual amount for the year following the year for which the estimate was made.
2. The first payment of the amount specified in item (a) of paragraph 1 hereof, shall be made on January 1 of the year following the first full calendar year in which project water is available for use by the City and shall be in payment for water so made available in such first full calendar year. Subsequent payments shall be made on January 1 of each year thereafter until payment in full of that part of the construction obligation of the District apportioned to the development unit in which the City is located. The first payment of the amount specified in item (b) shall be made on January 1 of the first year in which project water is available for use by the City. Subsequent payments shall be made on January 1 of each year thereafter for a period of 40 years from said date, and

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(Petition - Sunset cont.)

as long thereafter as any of the bonds hereinabove referred to or any bonds issued to refund any such bonds, remain outstanding, and for as long after the final payment of such bonds as the City shall desire and the District shall have water available for the City, as herein set forth. Subsequent to the retirement of all such bonds the annual amount shall not include therein the charge specified in item (b) of paragraph 1. The first payment of the amount specified in item (c) shall be made on January 1 of the first year in which water is available for use by the City and subsequent payments shall be made on January 1 of each year thereafter.

3. The annual amount specified in paragraph 1 shall be paid whether or not all or any part of the water allotted as hereinabove provided is called for or used by the City. The district may, at its election, reduce such annual amount in any year in which for any reason the full amount is not needed by the District for the purposes therein specified.

4. Class B taxes shall be levied annually by the Board of Directors of the District upon property within the City, as provided by Section 73-9-17, Utah Code Annotated, 1953, as amended by Chapter 132, Laws of Utah, 1953, at rates sufficient to produce the annual amount specified in paragraph 1, less any amount paid or undertaken to be paid from water revenues, and from any other source. In making such annual levies the Board of Directors of the District shall take into account the deficiencies and defaults of prior years and shall make ample provision for the payment thereof.

5. Water allotted herein shall be made available to the City and shall be measured at approx. 3000' North of NW Corner Sec 36 Township 5 North
Range 2 West

unless the City and the District otherwise mutually agree. Such water shall meet minimum standards for municipal water established by the Department of Health of the State of Utah, and the United States Public Health Service. It shall not be the responsibility of the District to provide facilities to convey water from such point of delivery to the place of use unless otherwise agreed in writing by the District and the City.

6. In the event there is a shortage of project water caused by drouth, inaccuracy in distribution not resulting from negligence, hostile diversion, prior or superior claims, or other causes not within the control of the District, no

Sunset City
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(Petition - Sunset cont.)

liability shall accrue against the District, or the United States, or any of their officers, agents or employees, or either of them for any damage, direct or indirect, arising therefrom and the payment to the District provided for herein shall not be reduced because of any such shortage or damage. During periods of water shortage allocations of municipal water shall have first priority. If there should ever be any shortage of municipal water, deliveries of water allotted pursuant to this petition shall be reduced in the proportion that the number of acre-feet of such shortage as determined by the District bears to the total number of acre-feet allocated for municipal use.

7. Any allotment of water made pursuant to this petition shall be subject to the Water Conservancy Act of Utah, Title 73, Chapter 9, Utah Code Annotated, 1953, as amended, the rules and regulation of the Board of Directors of the District, and the Repayment Contract between the United States and the District.

This petition is made pursuant to a directive of the legislative body of Sunset City Corporation, to wit, its Council, as evidenced by Ordinance No. 2-53, adopted by the City Council of the City on the 11th day of December, 1953, a copy of which is attached hereto.

Dated this 12 th day of December, 1953.

Lester Perry
Mayor

Attest: J. A. Swann
City Recorder

Sunset City
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Exhibit 12-7 1960 Weber Basin & Sunset City Contract

This petition and attached order are hereby approved.
APPR. REP. CH. F. M. Clinton Regional Director, Region 4
McIntosh For Secretary of the Interior

PETITION TO WEBER BASIN WATER CONSERVANCY DISTRICT FOR
ALLOTMENT OF WATER FOR MUNICIPAL USE

SUNSET CITY, a municipal corporation of the State of Utah, hereinafter referred to as the City, hereby applies to the Weber Basin Water Conservancy District, hereinafter referred to as the District, for the allotment of 300 acre-feet of Weber Basin Project water annually for municipal use, upon the following terms and conditions:

1. Payment to the District for water so allotted shall be made in an annual amount to consist of the total of the following items:

- (a) \$15.00 per acre-foot of water allotted each year, to apply on the District's obligations under the repayment contract No. 14-06-400-33 dated December 12, 1952, between the United States and the District, including any supplements or amendments thereto entered into under the provisions of article 7 of said repayment contract No. 14-06-400-33.
- (b) \$16.00 per acre-foot of water allotted which shall be a charge made for the purpose of, and to be used by the District to pay to that amount principal of and interest, bank collection charges for payment of principal and interest, and redemption premiums on, and to establish a reserve fund for, bonds heretofore and hereafter issued by the District pursuant to authorization granted at the election held therein on December 6, 1952, and
- (c) a fair proportionate amount of estimated operating and maintenance charges for the next succeeding calendar year. Such fair proportionate amount shall be determined each year by the board of directors of the District and the determination shall be final and conclusive. If such estimate is more or less than the actual cost thereof, an appropriate adjustment will be made in the annual amount for the year following the year for which the estimate was made.

2. The first payment of the amount specified in item (a) of paragraph 1 hereof, shall be made on January 1, 1961. Subsequent payments under item (a) shall be made on January 1 of each year thereafter until payment in full of that part of the construction obligation of the District apportioned to the development unit applicable to this petition. The first payment of the amount specified in item (b) shall be made on January 1, 1960. Subsequent payments under item (b) shall be made on January 1 of each year thereafter for a period of 40 years from said date, and as long thereafter as any of the bonds hereinabove referred to or any bonds issued to refund any such bonds, remain outstanding, and for as long after the final payment of such bonds as the City shall desire and the District shall have water available for the City, as herein set forth. Subsequent to the retirement of all such bonds the annual amount

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shall not include therein the charge specified in item (b) of paragraph 1. The first payment of the amount specified in item (c) shall be made on January 1, 1960, and subsequent payments shall be made on January 1 of each year thereafter.

3. The annual amount specified in paragraph 1 shall be paid whether or not all or any part of the water allotted as hereinabove provided is called for or used by the City. The District may, at its election, reduce such annual amount in any year in which for any reason the full amount is not needed by the District for the purposes therein specified.

4. Class B. taxes shall be levied annually by the Board of Directors of the District upon property within the City, as provided by Section 73-9-17, Utah Code Annotated, 1953, as amended by Chapter 132, Laws of Utah 1953, and by Chapter 160, Laws of Utah, 1957, at rates sufficient to produce the annual amount specified in paragraph 1, less any amount paid or undertaken to be paid from water revenues, and from any other source. In making such annual levies the Board of Directors of the District shall take into account the deficiencies and defaults of prior years and shall make ample provision for the payment thereof.

5. Water allotted herein shall be made available to the City and shall be measured at a point approximately 370 feet N. of W. 1/4 Cor. Sec. 36,

T5N, R2W, S.L.B.&M.

unless the City and the District otherwise mutually agree. Such water shall meet minimum standards for municipal water established by the Department of Health of the State of Utah, and the United States Public Health Service. It shall not be the responsibility of the District to provide facilities to convey water from such point of delivery to the place of use unless otherwise agreed in writing by the District and the City.

6. In the event there is a shortage of project water caused by drouth, inaccuracy in distribution not resulting from negligence, hostile diversion, prior or superior claims, or other causes not within the control of the District, no liability shall accrue against the District, or the United States, or any of their officers, agents or employees, or either of them for any damage, direct or indirect, arising therefrom and the payment to the District provided for herein shall not be reduced because of any such shortage or damage. During periods of water

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shortage allocations of municipal water shall have first priority. If there should ever be any shortage of municipal water, deliveries of water allotted pursuant to this petition shall be reduced in the proportion that the number of acre-feet of such shortage as determined by the District bears to the total number of acre-feet allocated for municipal use.

7. Any allotment of water and payments to the District for water so allotted made pursuant to this petition shall be subject to the Water Conservancy Act of Utah, Title 73, Chapter 9, Utah Code Annotated, 1953, as amended, the rules and regulations of the Board of Directors of the District, and the Repayment Contract between the United States and the District as the same may be supplemented or amended.

8. This petition is separate and distinct from the Class B petition of the City for 500 acre-feet of project water for municipal use dated December 11, 1953, and approved by the District under date of January 29, 1954, and is for an allotment of water in excess of and in addition to the 500 acre-feet covered by such earlier petition and the order of the District approving the same.

This petition is made pursuant to a directive of the legislative body of Sunset City, to-wit, its Council, as evidenced by Ordinance No. , adopted by the of the City on the 4th day of January, 1960, a copy of which is attached hereto.

Dated this 4th day of January, 1960.

Michael F. Buisson
Mayor

ATTEST: Geo. A. Buisson

AN ORDINANCE

Authorizing the Mayor and the City Recorder of Sunset City Corporation, a municipal corporation, to petition the Weber Basin Water Conservancy District for an allotment of water and declaring an emergency.

BE IT ORDAINED BY THE CITY COUNCIL OF SUNSET CITY CORPORATION,
A MUNICIPAL CORPORATION:

Section 1. The public convenience and necessity require that Sunset City Corporation, a municipal corporation, petition the Weber Basin Water Conservancy District for the allotment of 300 acre-feet of Weber Basin Project water for municipal use, and the Mayor and the City Recorder are hereby authorized to execute and file the following petition:

Exhibit 12-8 1961 Weber Basin & Sunset City Contract

APPROVED:

F. M. Clinton
Authorized Representative
Secretary of The Interior

PETITION TO WEBER BASIN WATER CONSERVANCY DISTRICT FOR
ALLOTMENT OF WATER FOR MUNICIPAL USE

SUNSET CITY, a municipal corporation of the State of Utah, hereinafter referred to as the City, hereby applies to the Weber Basin Water Conservancy District, hereinafter referred to as the District, for the allotment of 200 acre-feet of Weber Basin Project water annually for municipal use, upon the following terms and conditions:

TX 50033
E

1. Payment to the District for water so allotted shall be made in an annual amount to consist of the total of the following items:

- (a) \$15.00 per acre-foot of water allotted each year, to apply on the District's obligations under the repayment contract No. 14-06-400-33 dated December 12, 1952, between the United States and the District, including any supplements or amendments thereto entered into under the provisions of article 7 of said repayment contract No. 14-06-400-33.
- (b) \$16.00 per acre-foot of water allotted which shall be a charge made for the purpose of, and to be used by the District to pay to that amount principal of and interest, bank collection charges for payment of principal and interest, and redemption premiums on, and to establish a reserve fund for, bonds heretofore and hereafter issued by the District pursuant to authorization granted at the election held therein on December 6, 1952, and
- (c) a fair proportionate amount of estimated operating and maintenance charges for the next succeeding calendar year. Such fair proportionate amount shall be determined each year by the Board of Directors of the District and the determination shall be final and conclusive. If such estimate is more or less than the actual cost thereof, an appropriate adjustment will be made in the annual amount for the year following the year for which the estimate was made.

2. The first payment of the amount specified in item (a) of paragraph 1 hereof, shall be made on January 1, 1962. Subsequent payments under item (a) shall be made on January 1 of each year thereafter until payment in full of that part of the construction obligation of the District apportioned to the development unit applicable to this petition. The first payment of the amount specified in item (b) shall be made on January 1, 1961. Subsequent payments under item (b) shall be made on January 1 of each year thereafter for a period of 40 years from said date, and as long thereafter as any of the bonds hereinabove referred to or any bonds issued to refund any such bonds, remain outstanding, and for as long after the final payment of such bonds as the City shall desire and the District shall have water available for the City, as herein set forth. Subsequent to the retirement of all such bonds the annual amount

Sunset City
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shall not include therein the charge specified in item (b) of paragraph 1. The first payment of the amount specified in item (c) shall be made on January 1, 1961, and subsequent payments shall be made on January 1 of each year thereafter.

3. The annual amount specified in paragraph 1 shall be paid whether or not all or any part of the water allotted as hereinabove provided is called for or used by the City. The District may, at its election, reduce such annual amount in any year in which for any reason the full amount is not needed by the District for the purposes therein specified.

4. Class B taxes shall be levied annually by the Board of Directors of the District upon property within the City, as provided by Section 73-9-17, Utah Code Annotated, 1953, as amended by Chapter 132, Laws of Utah 1953, and by Chapter 160, Laws of Utah, 1957, at rates sufficient to produce the annual amount specified in paragraph 1, less any amount paid or undertaken to be paid from water revenues, and from any other source. In making such annual levies the Board of Directors of the District shall take into account the deficiencies and defaults of prior years and shall make ample provision for the payment thereof.

5. Water allotted herein shall be made available to the City and shall be measured at _____ a point approximately 370 feet N. of W. 1/4 Cor.

_____ Sec 36, T5N, R2W, S.L.B.&M. _____

unless the City and the District otherwise mutually agree. Such water shall meet minimum standards for municipal water established by the Department of Health of the State of Utah, and the United States Public Health Service. It shall not be the responsibility of the District to provide facilities to convey water from such point of delivery to the place of use unless otherwise agreed in writing by the District and the City.

6. In the event there is a shortage of project water caused by drouth inaccuracy in distribution not resulting from negligence, hostile diversion, prior or superior claims, or other causes not within the control of the District, no liability shall accrue against the District, or the United States, or any of their officers, agents or employees, or either of them for any damage, direct or indirect, arising therefrom and the payment to the District provided for herein shall not be reduced because of any such shortage or damage. During periods of water shortage allocations of municipal water shall have first priority. If there should ever be any shortage of municipal water, deliveries of water allotted

Sunset City
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pursuant to this petition shall be reduced in the proportion that the number of acre-feet of such shortage as determined by the District bears to the total number of acre-feet allocated for municipal use.

7. Any allotment of water and payments to the District for water so allotted made pursuant to this petition shall be subject to the Water Conservancy Act of Utah, Title 73, Chapter 9, Utah Code Annotated, 1953, as amended, the rules and regulations of the Board of Directors of the District, and the Repayment Contract between the United States and the District as the same may be supplemented or amended.

8. This petition is separate and distinct from the Class B Petition of the City for 500 acre-feet of project water for municipal use dated December 11, 1953, and approved by the District under date of January 29, 1954; and the Class B Petition of the City for 300 acre-feet of project water for municipal use dated January 4, 1960 and approved by the District under date of January 29, 1960, and is for an allotment of water in excess of and in addition to the 500 acre-feet and the 300 acre-feet covered by such earlier petitions and the order of the District approving the same.

This petition is made pursuant to a directive of the legislative body of Sunset City, to-wit, its Council , as evidenced by Ordinance No. adopted by the Council of the City on the 23 day of January, 1961, a copy of which is attached hereto.

Dated this 23 day of January, 1961.

ATTEST:

Geo. A. Dickson

Michael F. Benson
Mayor

Sunset City
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AN ORDINANCE

Authorizing the Mayor and the City Recorder of Sunset City Corporation, a municipal corporation, to petition the Weber Basin Water Conservancy District for an allotment of water and declaring an emergency.

BE IT ORDAINED BY THE CITY COUNCIL OF SUNSET CITY CORPORATION, A MUNICIPAL CORPORATION:

Section 1. The public convenience and necessity require that Sunset City Corporation, a municipal corporation, petition the Weber Basin Water Conservancy District for the allotment of 200 acre-feet of Weber Basin Project water for municipal use, and the Mayor and the City Recorder are hereby authorized to execute and file the following petition:

Exhibit 12-9 1965 Weber Basin & Sunset City Contract

Original

PETITION TO WEBER BASIN WATER CONSERVANCY DISTRICT
FOR ALLOTMENT OF WATER FOR MUNICIPAL USE

SUNSET CITY, a municipal corporation of the State of Utah, hereinafter referred to as the City, hereby applies to the WEBER BASIN WATER CONSERVANCY DISTRICT, hereinafter referred to as the District, for the allotment of Weber Basin Project water in the amount of

100 acre-feet annually beginning in 1966, and an additional

100 acre-feet annually beginning in 1967, and an additional

100 acre-feet annually beginning in 1968, and an additional

xxx acre-feet annually beginning in xxxx

for municipal use, upon the following terms and conditions:

- (a) \$15.00 per acre-foot of water allotted for each year as above described, to apply on the District's obligations under the repayment contract No. 14-06-400-33, dated December 12, 1952, between the United States and the District, and as it has been or may be amended and supplemented,
- (b) \$ 6.00 per acre-foot of water allotted for each year which shall be a charge made for the purpose of and to be used by the District to pay to the extent required principal of and interest, bank collection charges for payment of principal and interest, and redemption premiums on and to establish a reserve fund for, bonds heretofore and hereafter issued by the District, and
- (c) a fair proportionate amount of estimated operating and maintenance charges for the next succeeding calendar year. Such fair proportionate amount shall be determined each year by the board of directors of the District and the determination shall be final and conclusive. If such estimate is more or less than the actual cost thereof, an appropriate adjustment will be made in the annual amount for the year following the year for which the estimate was made.

2. The first payment of the amount specified in item (a) of paragraph 1 hereof for each quantity of water as above designated shall be made on January 1 of the year following the first full calendar year in which such project water is available for use by the City and shall be in payment for water so made available. Subsequent payments shall be made on January 1 of each year thereafter until payment in full of that part of the construction obligation of the District apportioned to the development unit applicable to this petition. The first payment of the amount specified in item (b) shall be made on January 1 of the first year in which project water is available for use by the City. Subsequent payments shall be made on January 1 of each year thereafter for a period of 40 years from said date, and as long thereafter as any of the bonds

Sunset City Water Master Plan Report-2020

hereinabove referred to or any bonds issued to refund any such bonds, remain outstanding, and for as long after the final payment of such bonds as the City shall desire and the District shall have water available for the City, as herein set forth. The first payment of the amount specified in item (c) shall be made on January 1 of the first year in which water is available for use by the City and subsequent payments shall be made on January 1 of each year thereafter.

3. The annual amount specified in paragraph 1 shall be paid whether or not all or any part of the water allotted as hereinabove provided is called for or used by the City. The District may, at its election, reduce such annual amount in any year in which for any reason the full amount is not needed by the District for the purposes therein specified.

4. Class "B" taxes shall be levied annually by the Board of Directors of the District upon property within the City, as provided by Section 73-9-17, Utah Code Annotated, 1953, as amended by Chapter 132, Laws of Utah, 1953, at rates sufficient to produce the annual amount specified in paragraph 1, less any amount paid or undertaken to be paid from water revenues, and from any other source. In making such annual levies, the Board of Directors of the District shall take into account the deficiencies and defaults of prior years and shall make ample provision for the payment thereof.

5. Water allotted herein shall be made available to the City and shall be measured at A point 547 ft North and 42.3 ft. West of the Southeast corner of Section 23, Township 5 North, Range 2 West, SLB&M.

unless the City and the District otherwise mutually agree. Such water shall meet minimum standards for municipal water established by the Department of Health of the State of Utah, and the United States Public Health Service. It shall not be the responsibility of the District to provide facilities to convey water from such point of delivery to the place of use unless otherwise agreed in writing by the District and the City.

6. In the event there is a shortage of project water caused by drouth, inaccuracy in distribution not resulting from negligence, hostile diversion, prior or superior claims, or other causes not within the control of the District, no liability shall accrue against the District, or the United States, or any of their officers, agents or employees, or either of them for any damage, direct or

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indirect arising therefrom and the payment to the District provided for herein shall not be reduced because of any such shortage or damage. During periods of water shortage allocations of municipal water shall have first priority. If there should ever be any shortage of municipal water, deliveries of water allotted pursuant to this petition shall be reduced in the proportion that the number of acre-feet of such shortage, as determined by the District, bears to the total number of acre-feet allocated for municipal use.

7. Any allotment of water made pursuant to this petition shall be subject to the Water Conservancy Act of Utah, Title 73, Chapter 9, Utah Code Annotated, 1953, as amended, the rules and regulations of the Board of Directors of the District, and the Repayment Contract between the United States and the District.

This petition is made pursuant to a directive of the legislative body of SUNSET CITY CORP., to wit, its Council, as evidenced by Ordinance No. 15-1-1, adopted by the Council of the City on the 28th day of June, 19 65, a copy of which is attached hereto.

Dated this 28th day of June, 19 65.


Mayor

ATTEST:


Recorder

Sunset City
Water Master Plan Report-2020

June 28, 19 65

The City Council of SUNSET CITY, a municipal corporation,
DAVIS County, Utah, met in regular session at its regular meeting place in
the City Hall of said City at 6:00 ~~PM~~ P.M. on the 28th day of
June, 19 65, with the following members of the Council present:

<u>Michiel F. Burson</u>	Mayor
<u>John L. Nicholas</u>	Councilman
<u>Derral C. Draper</u>	Councilman
<u>Carl D. Peterson</u>	Councilman
<u>Kenneth W. Stewart</u>	Councilman
<u>Charles R. Bailey</u>	Councilman

and the following members of the Council absent:

Also present were:

George A. Dickson, Recorder

After the meeting had been duly called to order and the minutes of the
preceding meeting read and approved, the following ordinance was introduced
in writing, was read in full, duly discussed and pursuant to motion made by
Councilman Draper and seconded by Councilman Nicholas was adopted
by the following vote:

Mayor	<u>Michiel F. Burson</u>	(x) Aye
Councilman	<u>John L. Nicholas</u>	(x) Aye
Councilman	<u>Derral C. Draper</u>	(x) Aye
Councilman	<u>Carl D. Peterson</u>	(x) Aye
Councilman	<u>Charles R. Bailey</u>	(x) Aye
Councilman	<u>Kenneth W. Stewart</u>	(x) Aye

The ordinance was thereupon signed by the Mayor in open meeting and
attested by the City Recorder and recorded by the City recorder and he was
authorized to post/publish said ordinance in accordance with law.

The ordinance is attached,

Sunset City
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AN ORDINANCE

Authorizing the Mayor and the City Recorder of SUNSET
CITY, a municipal corporation, to petition the Weber
Basin Water Conservancy District for an allotment of water and
declaring an emergency.

BE IT ORDAINED BY THE CITY COUNCIL OF SUNSET CITY
A MUNICIPAL CORPORATION:

Section 1. The public convenience and necessity require that
SUNSET CITY, a municipal corporation, petition
the Weber Basin Water Conservancy District for an allotment of:

100 acre-feet annually beginning in 1966, and an additional
100 acre-feet annually beginning in 1967, and an additional
100 acre-feet annually beginning in 1968, and an additional
xxxx acre-feet annually beginning in xxxxxx.

of Weber Basin Project water for municipal use, and the Mayor and the
City Recorder are hereby authorized to execute and file the following
petition:

Sunset City
Water Master Plan Report-2020

1980 Weber Basin & Sunset City Contract

Exhibit 12-10 1980 Weber Basin & Sunset City Contract

PETITION TO WEBER BASIN WATER CONSERVANCY DISTRICT FOR
ALLOTMENT OF WATER FOR MUNICIPAL USE

SUNSET CITY, a municipal corporation of the State of Utah, hereinafter referred to as the City, hereby applies to the Weber Basin Water Conservancy District, hereinafter referred to as the District, for an allotment of 750.0 acre-feet of Weber Basin Project water for municipal use, upon the following terms and conditions:

1. Payment to the District for water so allotted shall be made in an annual amount to consist of the total of the following items:

- (a) \$15.00 per acre-foot of water allotted each year, to apply on the District's obligations under the repayment contract No. 14-06-400-33, dated December 12, 1952, between the United States and the District, as it has been or may be amended and supplemented.
- (b) \$16.00 per acre-foot of water allotted each year which shall be a charge made for the purpose of, and to be used by the District to pay to the extent required principal of and interest, bank collection charges for payment of principal and interest, and redemption premiums on, and to establish a reserve fund for, bonds heretofore and hereafter issued by the District, and
- (c) A fair proportionate amount of estimated operating and maintenance charges for the next succeeding calendar year. Such fair proportionate amount shall be determined each year by the Board of Directors of the District and the determination shall be final and conclusive. If such estimate is more or less than the actual cost thereof, an appropriate adjustment will be made in the annual amount for the year following the year for which the estimate was made.

2. The first payment of the amount specified in item (a) of paragraph 1 hereof, shall be made January 1, 1980. Subsequent payments under item (a) shall be made on January 1 of each year thereafter, commencing January 1, 1981, until payment in full of that part of the construction obligation of the District apportioned to the development unit applicable to this petition. The first payment of the amount specified in item (b) shall be made January 1, 1980. Subsequent payments under item (b) shall be made on January 1 of each year thereafter, commencing January 1, 1981, and shall continue until January 1, 1996, and as long thereafter as any of the bonds hereinabove referred to or any bonds issued to refund any such bonds remains outstanding, and for as long after the final payment of such

Sunset City
Water Master Plan Report-2020

bonds as the City shall desire and the District shall have water available for the City as herein set forth. The first payment of the amount specified in item (c) shall be made January 1, 1980. Subsequent payments under item (c) shall be made on January 1 of each year thereafter, commencing January 1, 1981.

3. The annual amount specified in paragraph 1 shall be paid whether or not all or any part of the water allotted as hereinabove provided is called for or used by the City. The District may, at its election, reduce such annual amount in any year in which for any reason the full amount is not needed by the District for the purposes therein specified.

4. Class "B" taxes shall be levied annually by the Board of Directors of the District upon property within the City, as provided by Section 73-9-17, Utah Code Annotated, 1953, as amended, at rates sufficient to produce the annual amount specified in paragraph 1, less any amount paid or undertaken to be paid from water revenues, and from any other source. In making such annual levies, the Board of Directors of the District shall take into account the deficiencies and defaults of prior years and shall make ample provision for the payment thereof.

5. Water allotted herein shall be made available to the City and shall be measured at: a pt 547 ft N & 42.3 ft W of the SE cor of Section 23, Township 5 North, Range 2 West, SLB&M.

unless the City and the District otherwise agree. Such water shall meet minimum standards for municipal water established by the Department of Health of the State of Utah, and the United States Public Health Service. It shall not be the responsibility of the District to provide facilities to convey water from such points of delivery to the place of use unless otherwise agreed in writing by the District and the City.

6. In the event there is a shortage of Project water caused by drouth, inaccuracy in distribution not resulting from negligence, hostile diversion, prior or superior claims, or other causes not within the control of the District, no liability shall accrue against

2

Sunset City
Water Master Plan Report-2020

the District, or the United States, or any of their officers, agents or employees, or either of them for any damage, direct or indirect arising therefrom and the payment to the District provided for herein shall not be reduced because of any such shortage or damage. During periods of water shortage allocations of municipal water shall have first priority. If there should ever be any shortage of municipal water, deliveries of water allotted pursuant to this petition shall be reduced in the proportion that the number of acre-feet of such shortage, as determined by the District, bears to the total number of acre-feet allocated for municipal and industrial use.

7. Any allotment of water made pursuant to this petition shall be subject to the Water Conservancy Act of Utah, Title 73, Chapter 9, Utah Code Annotated, 1953, as amended, and the rules and regulations of the Board of Directors of the District, and the repayment contract between the United States and the District.

8. The Purchaser agrees that it will comply fully with all applicable Federal laws, orders and regulations, and the laws of the State of Utah, all as administered by appropriate authorities, concerning the pollution of streams, reservoirs, ground water, or water courses with respect to thermal pollution or the discharge of refuse, garbage, sewage effluent, industrial waste, oil, mine tailings, mineral salts, or other pollutants.

9. This petition is separate and distinct from Class B Petitions of the City for allotments of Project water for municipal use as follows.

- (a) 500 acre-feet dated December 12, 1953 and approved by the District under date of January 29, 1954
- (b) 300 acre-feet dated January 4, 1960 and approved by the District under date of January 29, 1960
- (c) 200 acre-feet dated January 23, 1961 and approved by the District under date of February 24, 1961
- (d) 300 acre-feet dated June 28, 1965 and approved by the District under date of August 27, 1965

and is for an allotment of water in excess of and in addition to the

3

Sunset City
Water Master Plan Report-2020

Class B petitions and orders of the District referred to above.

This petition is made pursuant to a directive of the legislative body of SUNSET City, to wit, its Council as evidenced by Ordinance No. NA, adopted by the Council of the City on the 21 day of Jan., 19⁷⁹~~80~~, a copy of which is attached hereto. ✓

Dated this 3 day of Jan, 1980.



Mayor

ATTEST:



Recorder

(SEAL)

4

Sunset City
Water Master Plan Report-2020

AN ORDINANCE

Authorizing the Mayor and the City Recorder of SUNSET CITY a municipal corporation, to petition the Weber Basin Water Conservancy District for an allotment of water and declaring an emergency.

BE IT ORDAINED BY THE CITY COUNCIL OF SUNSET CITY,
A MUNICIPAL CORPORATION:

Section 1. The public convenience and necessity require that
SUNSET CITY, a municipal corporation, petition the Weber Basin Water Conservancy District for 66.0 acre-feet of Weber Basin Project water for municipal use, and the Mayor and City Recorder are hereby authorized to execute and file the following petition:

5

Exhibit 12-11 Weber Basin 2017-2019 Billing Records



Invoice

WEBER BASIN WATER CONSERVANCY DISTRICT
2837 EAST HIGHWAY 193
LAYTON, UTAH 84040
(801) 771-1677

SUNSET CITY CORP
200 WEST 1300 NORTH
SUNSET, UT 84015

Page: 1
Invoice Number: 0048875-IN

Invoice Date: 11/16/2017

Customer Number: 0090032

Parcel No.:

Description	Acre Feet	Price	Amount
Annual Water Charges	1,400.000	183.410	256,774.00
Credit: Well Lease Agreement		15,000.00-	15,000.00-

THIS IS FOR 2018 WATER CHARGES.
DUE BY DATE HIGHLIGHTED ABOVE.

Total Billing: 241,774.00

Sunset City
 Water Master Plan Report-2020



INVOICE: 0057762

WEBER BASIN WATER CONSERVANCY DISTRICT
 2837 EAST HIGHWAY 193
 LAYTON, UTAH 84040
 (801)771-1677

Invoice Date: 11/20/2018
 County: DAVIS
 Tax ID:

SUNSET CITY CORP
 200 WEST 1300 NORTH
 SUNSET, UT 84015

Customer Number: 0090032

DUE: JAN 1ST

Description	Quantity	Price	Amount
Annual Water Charges	900.00	199.01	179,109.00
Annual Water Charges	500.00	84.01	92,005.00
Credit - Well Lease Agreement	1.00	15,000.00-	15,000.00-

THIS IS FOR 2019 WATER CHARGES
 DUE BY DATE HIGHLIGHTED ABOVE

Total Billing: \$256,114.00

Did you know you can pay your bill online? Simply navigate to <https://customers.weberbasin.com>, click on 'Pay A Bill', and enter your 8 digit authentication code, 12479568. All major credit cards, Pay Pal, and bank drafts are accepted. Convenience fees will apply. Please read all payment terms and conditions.

Sunset City
Water Master Plan Report-2020



INVOICE: 0059111

WEBER BASIN WATER CONSERVANCY DISTRICT
2837 EAST HIGHWAY 193
LAYTON, UTAH 84040
(801)771-1677

Invoice Date: 11/15/2019
County: DAVIS
Tax ID:

SUNSET CITY CORP
200 WEST 1300 NORTH
SUNSET, UT 84015

Customer Number: 0090032
DUE: JAN 1ST

Description	Quantity	Price	Amount
Annual Water Charges	600.00	222.20	133,320.00
Annual Water Charges	800.00	207.20	165,760.00
Credit - Well Lease Agreement	1.00	15,000.00-	15,000.00-

THIS IS FOR 2020 WATER CHARGES
DUE BY DATE HIGHLIGHTED ABOVE

Total Billing: **\$284,080.00**

Did you know you can pay your bill online? Simply navigate to <https://customers.weberbasin.com>, click on 'Pay A Bill', and enter your 8 digit authentication code, 98436407. All major credit cards, Pay Pal, and bank drafts are accepted. Convenience fees will apply. Please read all payment terms and conditions.

DRAWINGS

SUNSET CITY MASTER PLAN 2020

SUNSET, UTAH

INDEX OF DRAWINGS

EX-100	EXISTING WATER SYSTEM	EX-301	PRO. PEAK INSTANTANEOUS DEMAND (ALT. 1)
EX-101	EX. PEAK INSTANTANEOUS DEMAND	EX-302	PRO. PEAK DAY DEMAND (ALT. 1)
EX-102	EX. PEAK DAY DEMAND	EX-303	PRO. FIRE FLOW (ALT. 1)
EX-103	EX. PEAK DAY DEMAND AND FIRE FLOW	EX-400	PROPOSED WATER SYSTEM (ALT. 2)
EX-200	FUT. PEAK INSTANTANEOUS DEMAND	EX-401	PRO. PEAK INSTANTANEOUS DEMAND (ALT. 2)
EX-201	FUT. PEAK DAY DEMAND	EX-402	PRO. PEAK DAY DEMAND (ALT. 2)
EX-202	FUT. PEAK DAY DEMAND AND FIRE FLOW	EX-403	PRO. FIRE FLOW (ALT. 2)
EX-300	PROPOSED WATER SYSTEM (ALT. 1)		

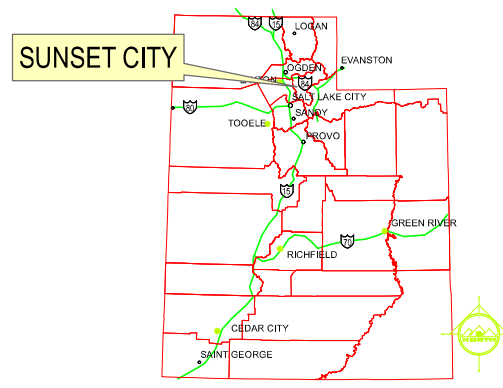
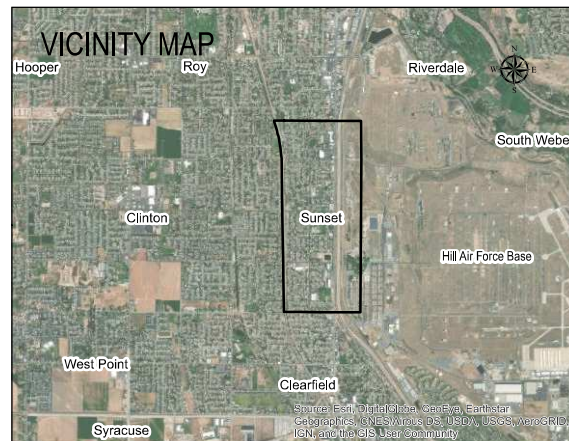
UTILITY DISCLAIMER

EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AT THE TIME OF PREPARATION OF THESE PLANS. LOCATIONS OF UNDERGROUND UTILITIES MAY DIFFER SLIGHTLY FROM WHAT IS SHOWN. NO GARUNTEE IS MADE TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN.

FOR:

MAYOR D. HOWARD MADSEN
PHONE: 801-825-1628

SUNSET CITY
200 WEST 1300 NORTH
SUNSET, UT 84015



ENGINEER:



RICHFIELD
225 N. 100 E.
RICHFIELD, UT 84701
PHONE: 435.896.2983
WWW.ENSGNENG.COM

SALT LAKE CITY
Phone 801.255.4449
TOOELE
Phone 435.843.3590
LAYTON
Phone 801.547.1100
CEDAR CITY
Phone 435.865.1453

SUNSET CITY MASTER PLAN

JULY 17, 2020

Legend

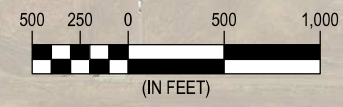
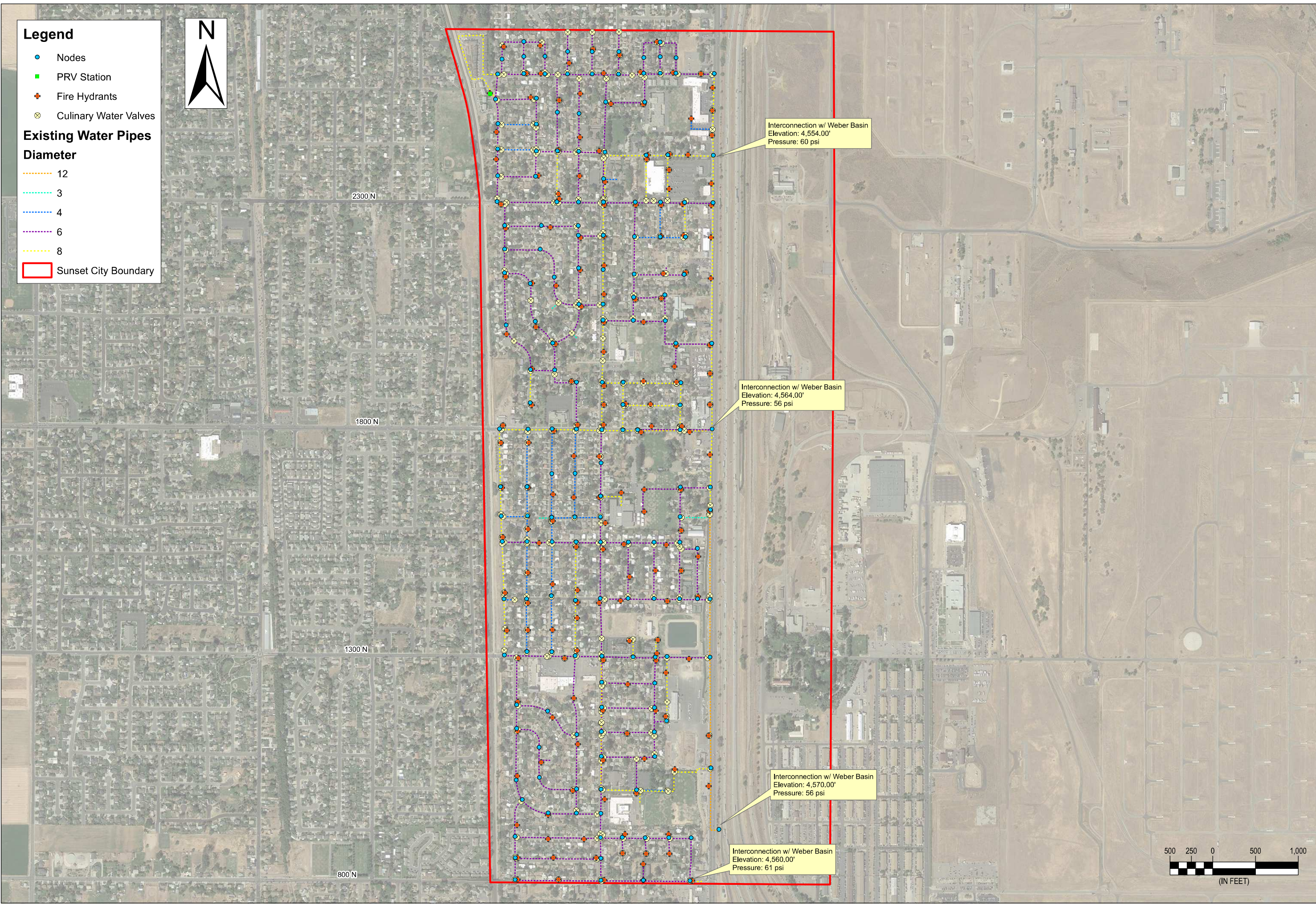
- Nodes
- PRV Station
- ⊕ Fire Hydrants
- ⊗ Culinary Water Valves

Existing Water Pipes

Diameter

- 12
- 3
- 4
- 6
- 8

▭ Sunset City Boundary



ENSIGN
THE STANDARD IN ENGINEERING

RICHFIELD
255 North 100 East
Richfield, UT, 84701
Phone: 435.896.2983

SALT LAKE
Phone 801.255.0529

TOOELE
Phone 435.843.3590

LAYTON
Phone 801.547.1100

CEDAR CITY
Phone 435.865.1453

WWW.ENSIGNENG.COM

FOR:
SUNSET CITY
200 W 1300 N
CLEARFIELD, UT 84015

CONTACT:
JASON MONROE
PHONE: 801-825-1628

SUNSET CITY MASTER PLAN

SUNSET, UTAH

NO.	DATE	REVISION	BY

EXISTING WATER SYSTEM

PROJECT NUMBER: 9821	PRINT DATE: 7/30/2020
DRAWN BY: D. SCHALGAARD	CHECKED BY: K. MARCHANT
PROJECT MANAGER: K. CHAPPELL	

EX-100

Legend

Pressures

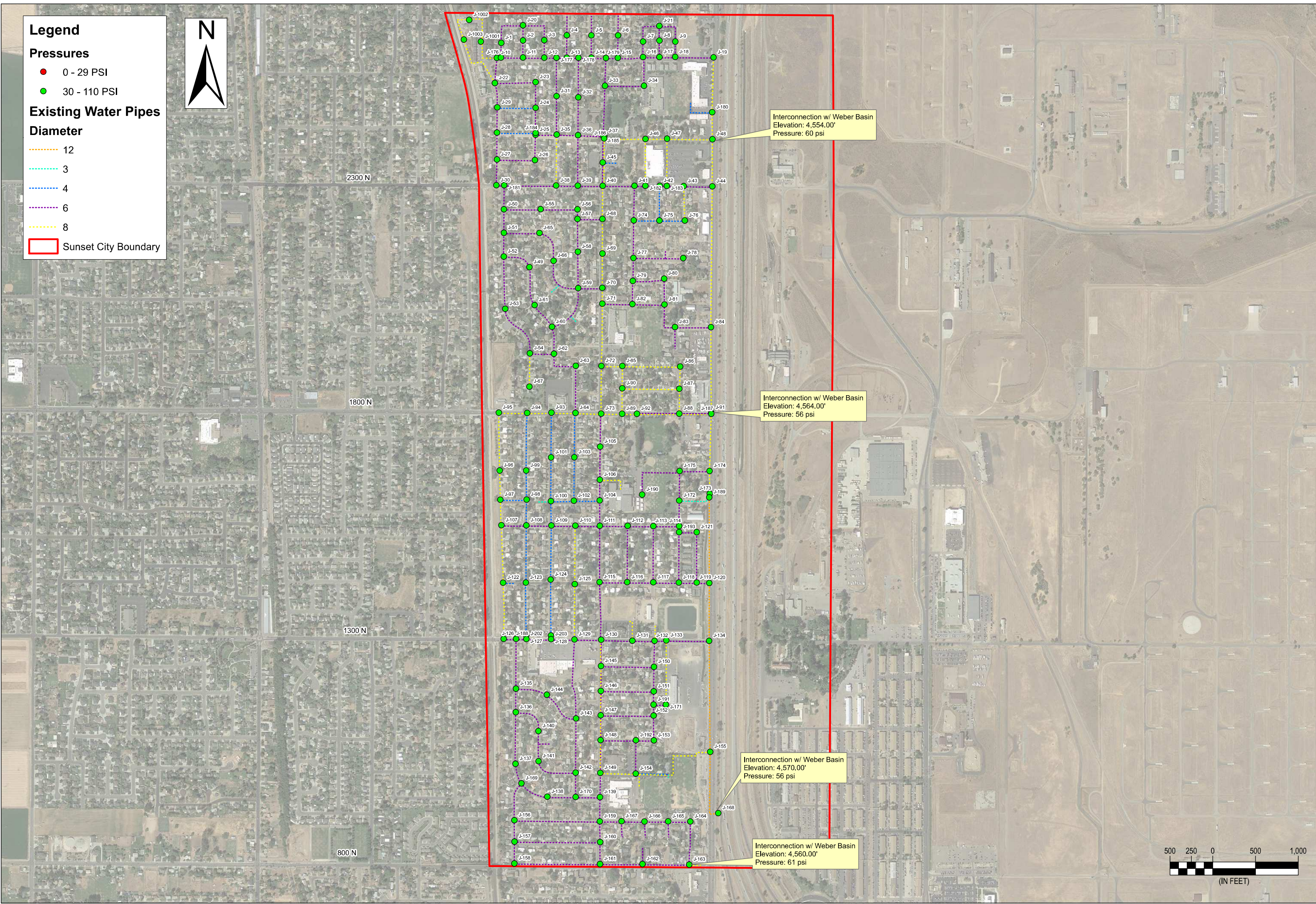
- 0 - 29 PSI
- 30 - 110 PSI

Existing Water Pipes

Diameter

- 12
- 3
- 4
- 6
- 8

☐ Sunset City Boundary



Interconnection w/ Weber Basin
Elevation: 4,554.00'
Pressure: 60 psi

Interconnection w/ Weber Basin
Elevation: 4,564.00'
Pressure: 56 psi

Interconnection w/ Weber Basin
Elevation: 4,570.00'
Pressure: 56 psi

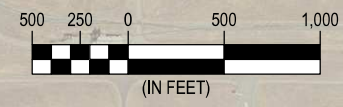
Interconnection w/ Weber Basin
Elevation: 4,560.00'
Pressure: 61 psi

2300 N

1800 N

1300 N

800 N



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255 North 100 East
Richfield, UT. 84701
Phone: 435.896.2983

SALT LAKE
Phone 801.255.0529

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CLEARFIELD, UT 84015

CONTACT:
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PHONE: 801-825-1628

SUNSET CITY MASTER PLAN

SUNSET, UTAH

NO.	DATE	REVISION	BY

EXISTING PEAK INSTANTANEOUS DEMAND

PROJECT NUMBER: 9821	PRINT DATE: 7/30/2020
DRAWN BY: D. SCHAUGAARD	CHECKED BY: K. MARCHANT
PROJECT MANAGER: K. CHAPPELL	

EX-101

Legend

Pressures

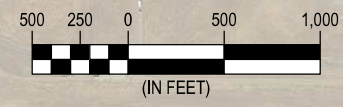
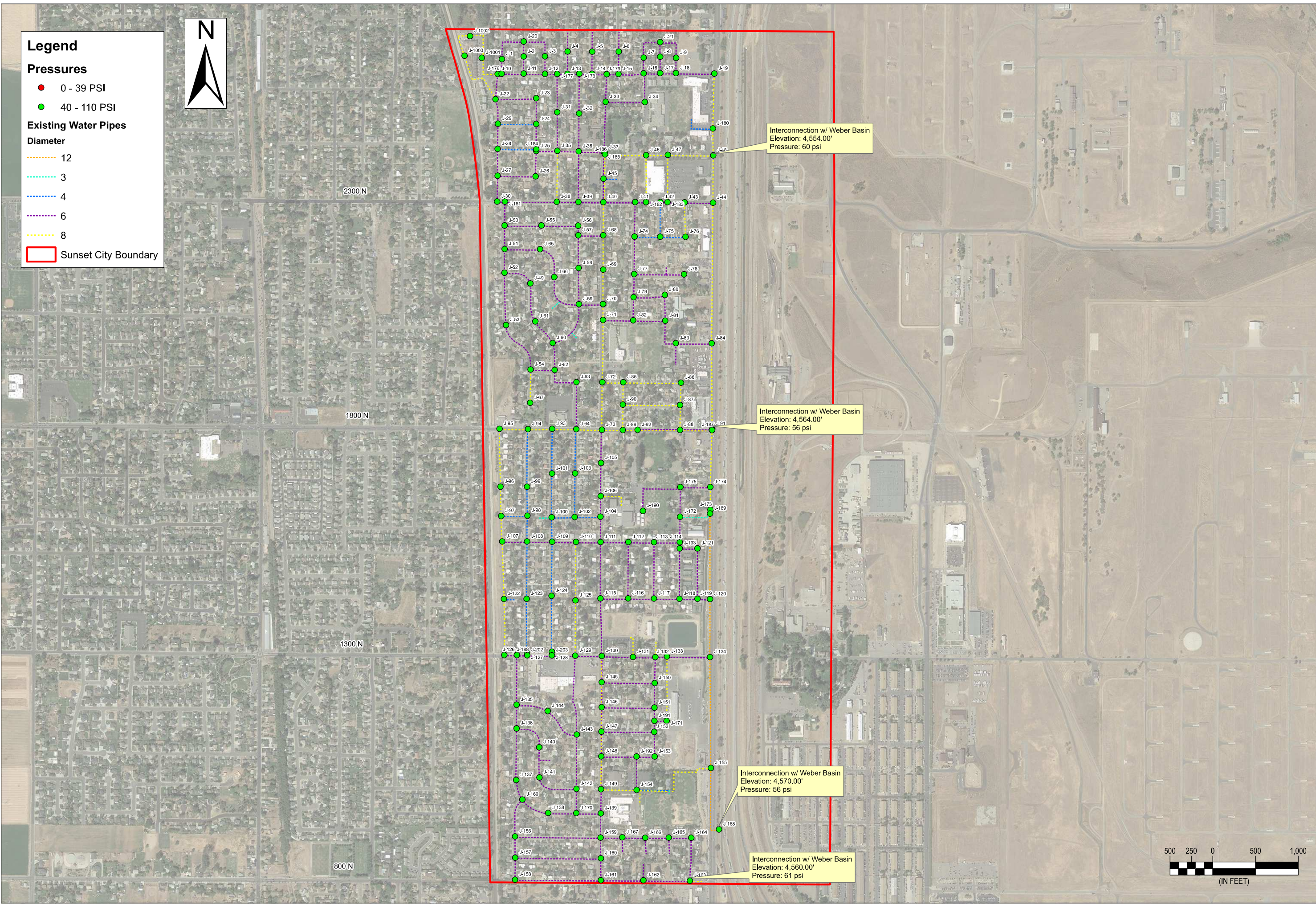
- 0 - 39 PSI
- 40 - 110 PSI

Existing Water Pipes

Diameter

- 12
- 3
- 4
- 6
- 8

☐ Sunset City Boundary



RICHFIELD
255 North 100 East
Richfield, UT. 84701
Phone: 435.896.2983

SALT LAKE
Phone 801.255.0529

TOOELE
Phone 435.843.3590

LAYTON
Phone 801.547.1100

CEDAR CITY
Phone 435.865.1453

WWW.ENSGNENG.COM

FOR:
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200 W 1300 N
CLEARFIELD, UT 84015

CONTACT:
JASON MONROE
PHONE: 801-825-1628

SUNSET CITY MASTER PLAN

SUNSET, UTAH

NO.	DATE	REVISION	BY

EXISTING PEAK DAY DEMAND

PROJECT NUMBER: 9821	PRINT DATE: 7/30/2020
DRAWN BY: D. SCHALGAARD	CHECKED BY: K. MARCHANT
PROJECT MANAGER: K. CHAPPELL	

EX-102

Legend

Fire Flow

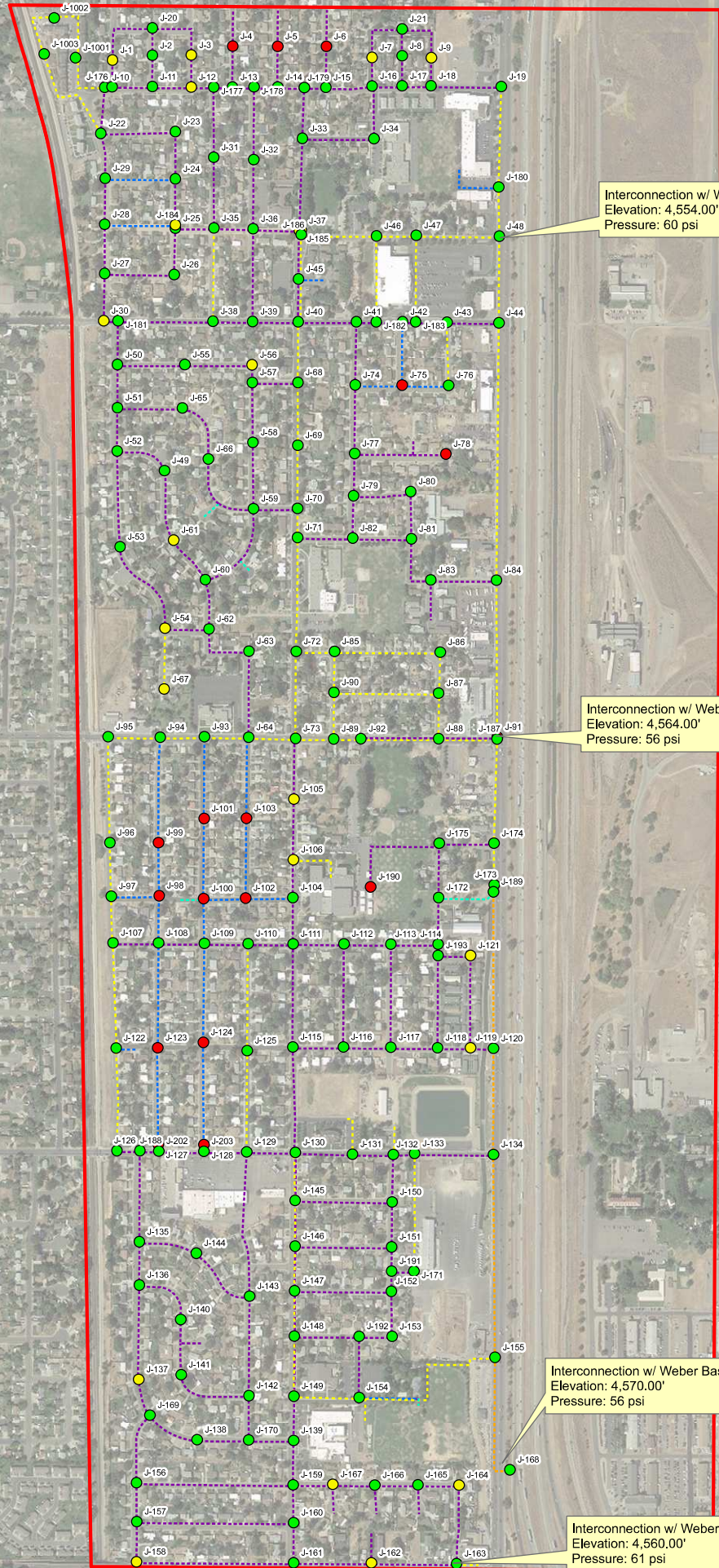
- 0-1200 GPM
- 1201 - 1500 GPM
- Above 1500 GPM

Existing Water Pipes

Diameter

- 12
- 3
- 4
- 6
- 8

▭ Sunset City Boundary

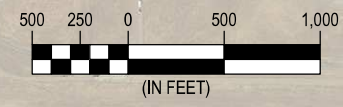


Interconnection w/ Weber Basin
Elevation: 4,554.00'
Pressure: 60 psi

Interconnection w/ Weber Basin
Elevation: 4,564.00'
Pressure: 56 psi

Interconnection w/ Weber Basin
Elevation: 4,570.00'
Pressure: 56 psi

Interconnection w/ Weber Basin
Elevation: 4,560.00'
Pressure: 61 psi



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Phone 801.255.0529

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WWW.ENSGNENG.COM

FOR:
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CLEARFIELD, UT 84015

CONTACT:
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PHONE: 801-825-1628

SUNSET CITY MASTER PLAN

SUNSET, UTAH

NO.	DATE	REVISION	BY

EXISTING FIRE FLOW

PROJECT NUMBER: 9821	PRINT DATE: 7/30/2020
DRAWN BY: D. SCHALGGAARD	CHECKED BY: K. MARCHANT
PROJECT MANAGER: K. CHAPPELL	

EX-103

Legend

Pressures

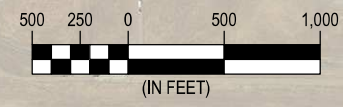
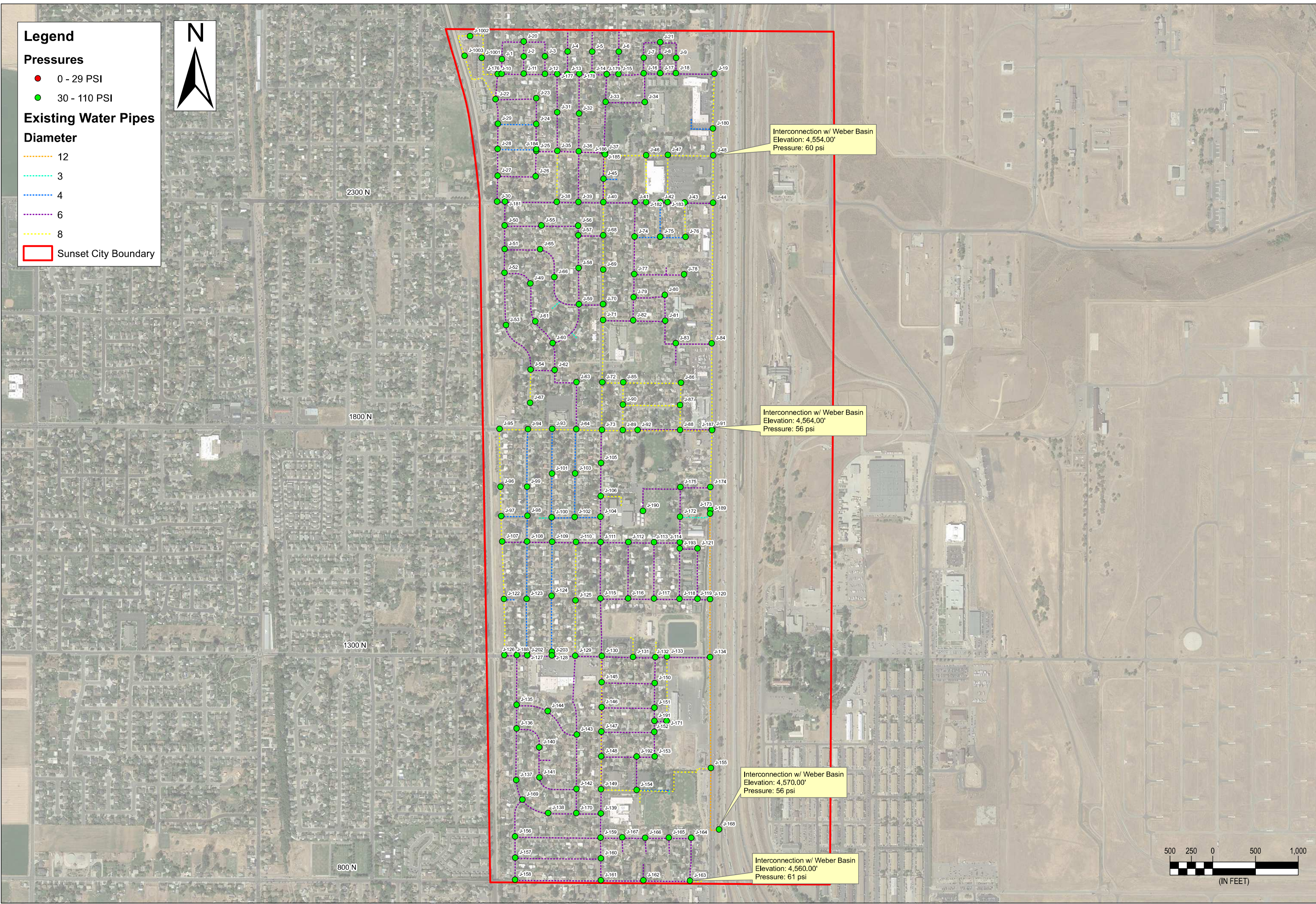
- 0 - 29 PSI
- 30 - 110 PSI

Existing Water Pipes

Diameter

- 12
- 3
- 4
- 6
- 8

▭ Sunset City Boundary



RICHFIELD
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SALT LAKE
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LAYTON
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WWW.ENSGNENG.COM

FOR:
SUNSET CITY
200 W 1300 N
CLEARFIELD, UT 84015

CONTACT:
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PHONE: 801-825-1628

SUNSET CITY MASTER PLAN

SUNSET, UTAH

NO.	DATE	REVISION	BY

FUTURE PEAK INSTANTANEOUS DEMAND

PROJECT NUMBER: 9821 PRINT DATE: 7/30/2020

DRAWN BY: D. SCHALGGAARD CHECKED BY: K. MARCHANT

PROJECT MANAGER: K. CHAPPELL

EX-200

Legend

Pressures

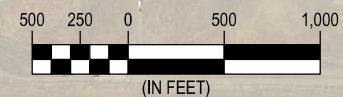
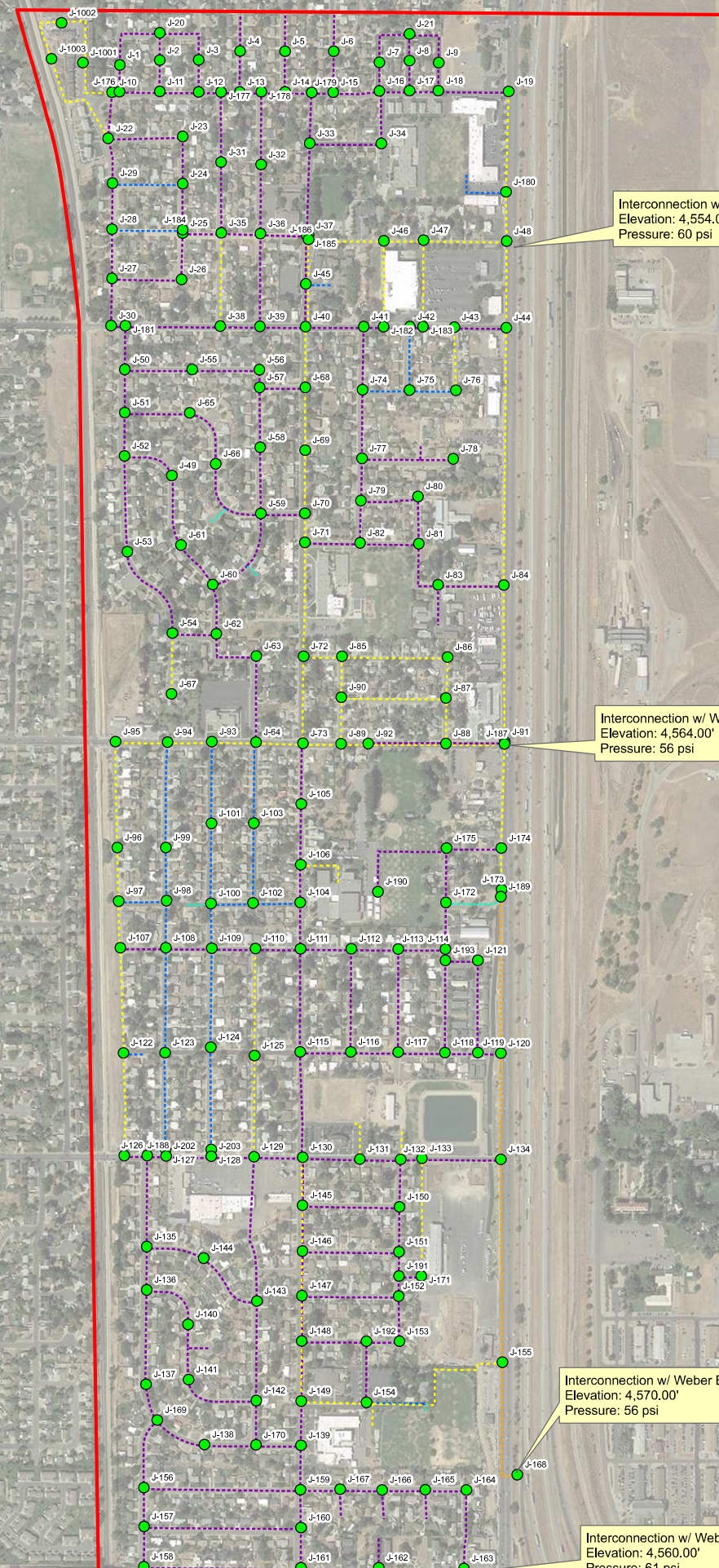
- 0 - 39 PSI
- 40 - 110 PSI

Existing Water Pipes

Diameter

- 12
- 3
- 4
- 6
- 8

Sunset City Boundary



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WWW.ENSGNENG.COM

FOR:
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200 W 1300 N
CLEARFIELD, UT 84015

CONTACT:
JASON MONROE
PHONE: 801-825-1628

SUNSET CITY MASTER PLAN

SUNSET, UTAH

NO.	DATE	REVISION	BY

FUTURE PEAK DAY DEMAND

PROJECT NUMBER: 9821 PRINT DATE: 7/30/2020

DRAWN BY: D. SCHALGARD CHECKED BY: K. MARCHANT

PROJECT MANAGER: K. CHAPPELL

EX-201

Legend

Fire Flow

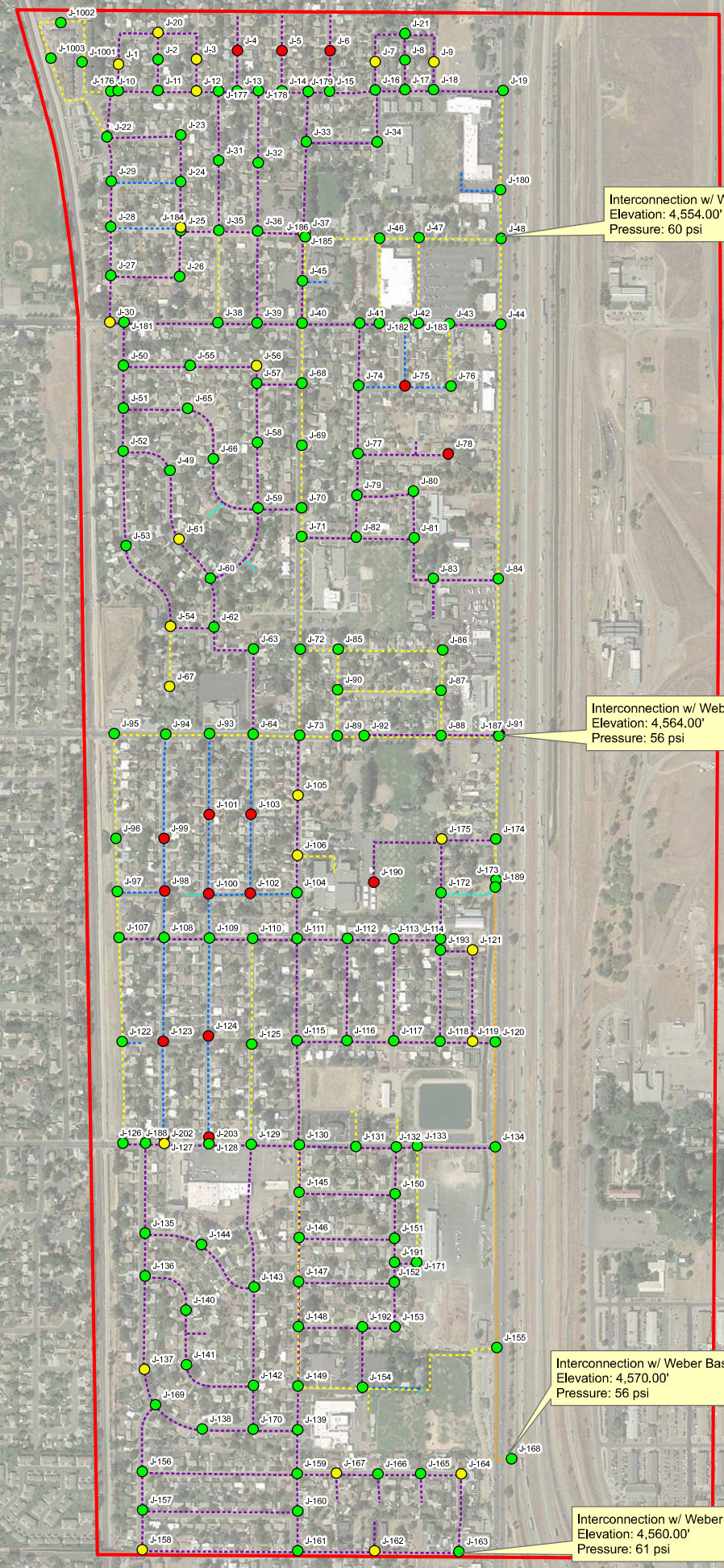
- 0 - 1200 GPM
- 1201 - 1500 GPM
- Above 1500 GPM

Existing Water Pipes

Diameter

- 12
- 3
- 4
- 6
- 8

▭ Sunset City Boundary



Interconnection w/ Weber Basin
Elevation: 4,554.00'
Pressure: 60 psi

Interconnection w/ Weber Basin
Elevation: 4,564.00'
Pressure: 56 psi

Interconnection w/ Weber Basin
Elevation: 4,570.00'
Pressure: 56 psi

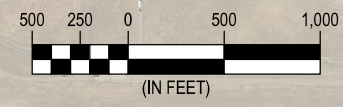
Interconnection w/ Weber Basin
Elevation: 4,560.00'
Pressure: 61 psi

2300 N

1800 N

1300 N

800 N



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FOR:
SUNSET CITY
200 W 1300 N
CLEARFIELD, UT 84015

CONTACT:
JASON MONROE
PHONE: 801-825-1628

SUNSET CITY MASTER PLAN

SUNSET, UTAH

NO.	DATE	REVISION	BY

FUTURE FIRE FLOW

PROJECT NUMBER: 9821	PRINT DATE: 7/30/2020
DRAWN BY: D. SCHALGARD	CHECKED BY: K. MARCHANT
PROJECT MANAGER: K. CHAPPELL	

EX-202

Legend

- Nodes
- PRV Station
- ⊕ Fire Hydrants
- ⊗ Culinary Water Valves

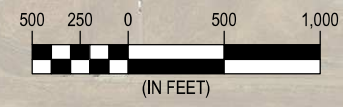
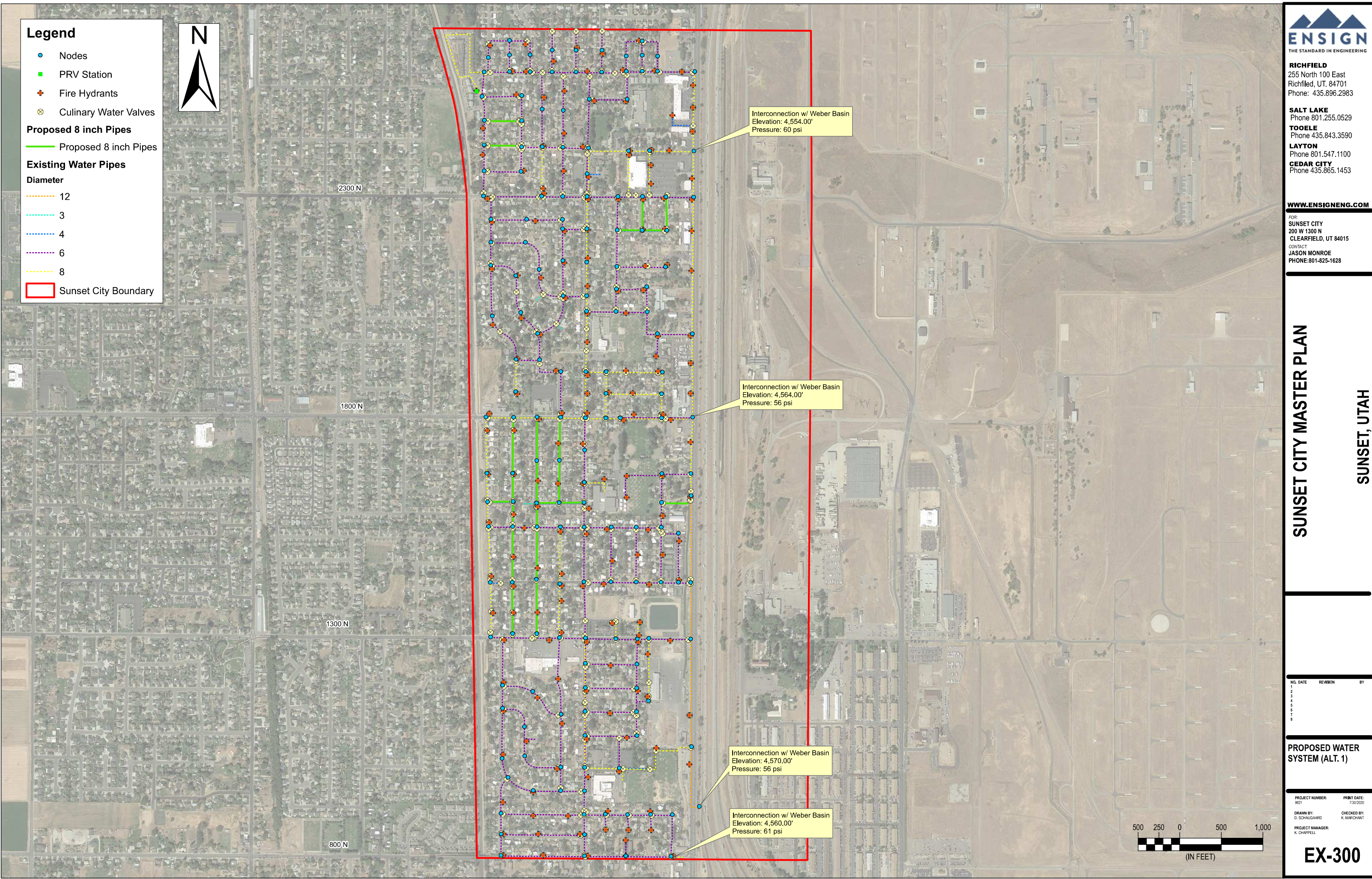
Proposed 8 inch Pipes

- Proposed 8 inch Pipes

Existing Water Pipes

- Diameter**
- - - 12
 - - - 3
 - - - 4
 - - - 6
 - - - 8

- ▭ Sunset City Boundary



RICHFIELD
255 North 100 East
Richfield, UT. 84701
Phone: 435.896.2983

SALT LAKE
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TOOELE
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Phone 801.547.1100

CEDAR CITY
Phone 435.865.1453

WWW.ENSGNENG.COM

FOR:
SUNSET CITY
200 W 1300 N
CLEARFIELD, UT 84015

CONTACT:
JASON MONROE
PHONE: 801-825-1628

SUNSET CITY MASTER PLAN

SUNSET, UTAH

NO.	DATE	REVISION	BY

PROPOSED WATER SYSTEM (ALT. 1)

PROJECT NUMBER: 9821 PRINT DATE: 7/30/2020

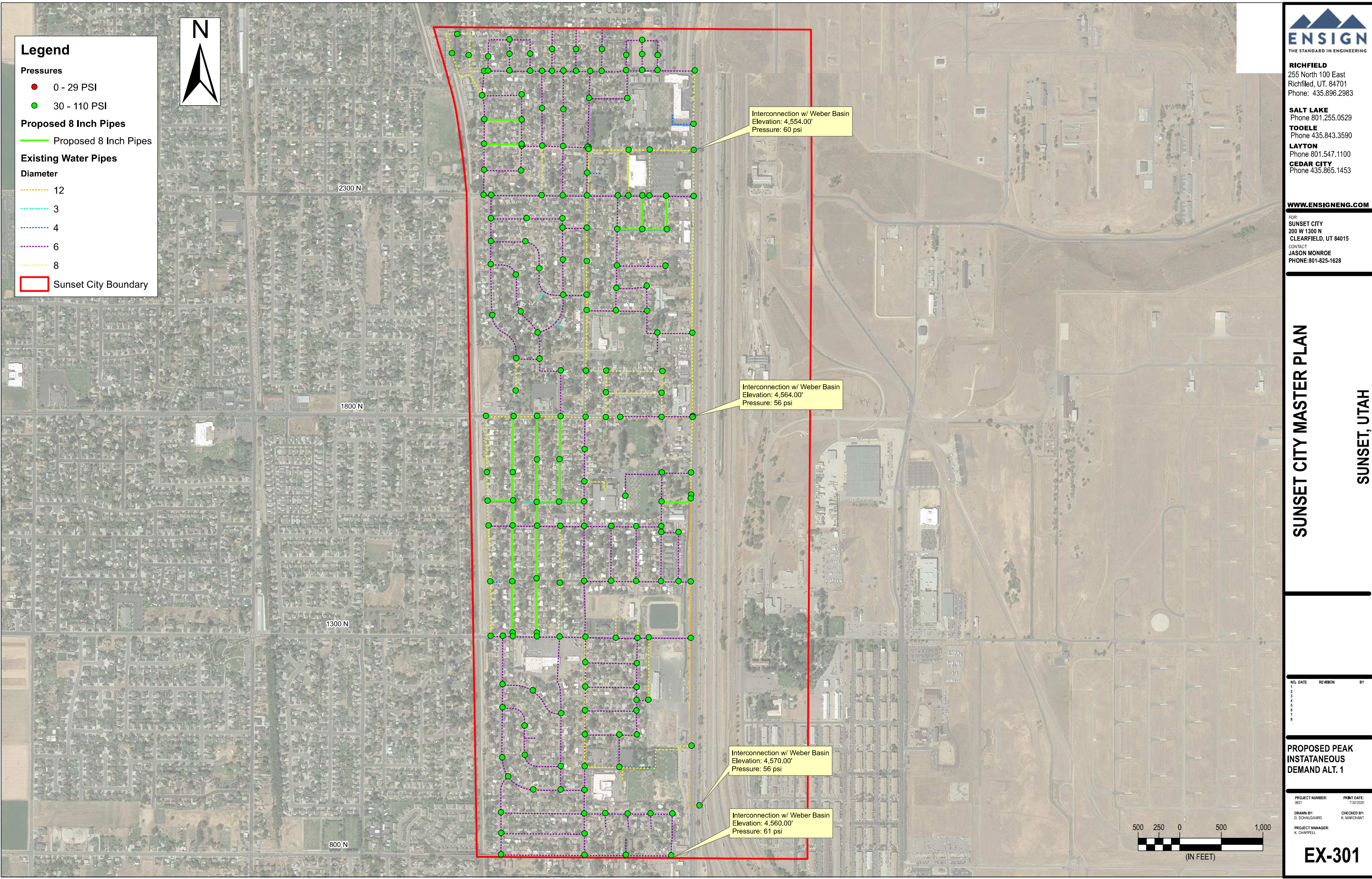
DRAWN BY: D. SCHALGAARD CHECKED BY: K. MARCHANT

PROJECT MANAGER: K. CHAPPELL

EX-300

Legend

- Pressures**
- 0 - 29 PSI
 - 30 - 110 PSI
- Proposed 8 Inch Pipes**
- Proposed 8 Inch Pipes
- Existing Water Pipes**
- Diameter**
- - - 12
 - - - 3
 - - - 4
 - - - 6
 - - - 8
- ▭ Sunset City Boundary



RICHFIELD
255 North 100 East
Richfield, UT. 84701
Phone: 435.896.2983

SALT LAKE
Phone 801.255.0529

TOOLE
Phone 435.843.3590

LAYTON
Phone 801.547.1100

CEDAR CITY
Phone 435.865.1453

WWW.ENSGNENG.COM

FOR:
SUNSET CITY
200 W 1300 N
CLEARFIELD, UT 84015

CONTACT:
JASON MONROE
PHONE: 801-825-1628

SUNSET CITY MASTER PLAN

SUNSET, UTAH

NO.	DATE	REVISION	BY

PROPOSED PEAK INSTANTANEOUS DEMAND ALT. 1

PROJECT NUMBER: 9821 PRINT DATE: 7/30/2020

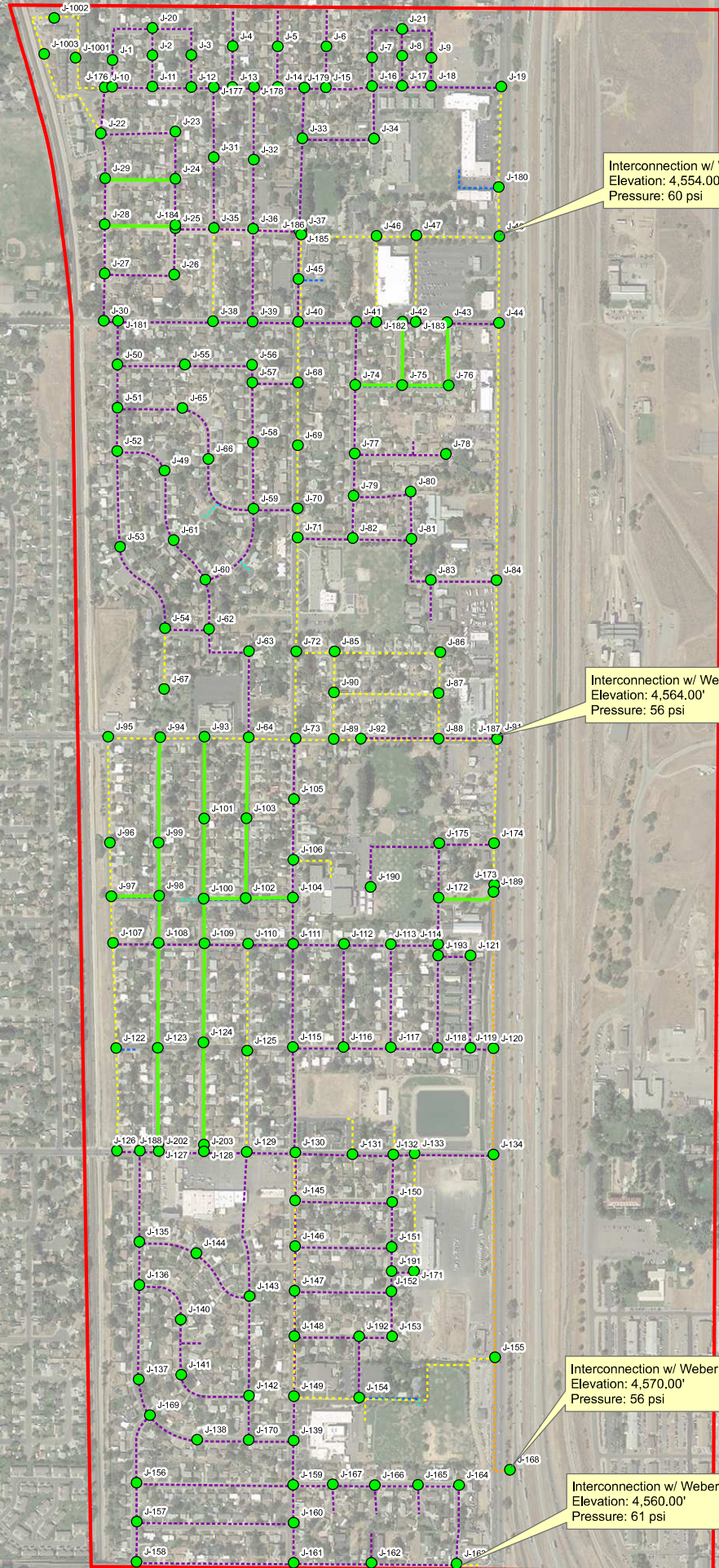
DRAWN BY: D. SCHALGAARD CHECKED BY: K. MARCHANT

PROJECT MANAGER: K. CHAPPELL

EX-301

Legend

- Pressures**
- 0 - 39 PSI
 - 40 - 110 PSI
- Proposed 8 inch Pipes**
- Proposed 8 inch Pipes
- Existing Water Pipes**
- Diameter**
- - - 12
 - - - 3
 - - - 4
 - - - 6
 - - - 8
- ▭ Sunset City Boundary



RICHFIELD
255 North 100 East
Richfield, UT. 84701
Phone: 435.896.2983

SALT LAKE
Phone 801.255.0529

TOOELE
Phone 435.843.3590

LAYTON
Phone 801.547.1100

CEDAR CITY
Phone 435.865.1453

WWW.ENSGNENG.COM

FOR:
SUNSET CITY
200 W 1300 N
CLEARFIELD, UT 84015

CONTACT:
JASON MONROE
PHONE: 801-825-1628

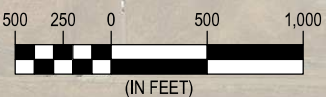
SUNSET CITY MASTER PLAN

SUNSET, UTAH

NO.	DATE	REVISION	BY

PROPOSED PEAK DAY DEMAND ALT. 1

PROJECT NUMBER: 9821 PRINT DATE: 7/30/2020
DRAWN BY: D. SCHALGAARD CHECKED BY: K. MARCHANT
PROJECT MANAGER: K. CHAPPELL



EX-302

Legend

Fire Flow

- 0 - 1200 GPM
- 1201- 1500 GPM
- Above 1500 GPM

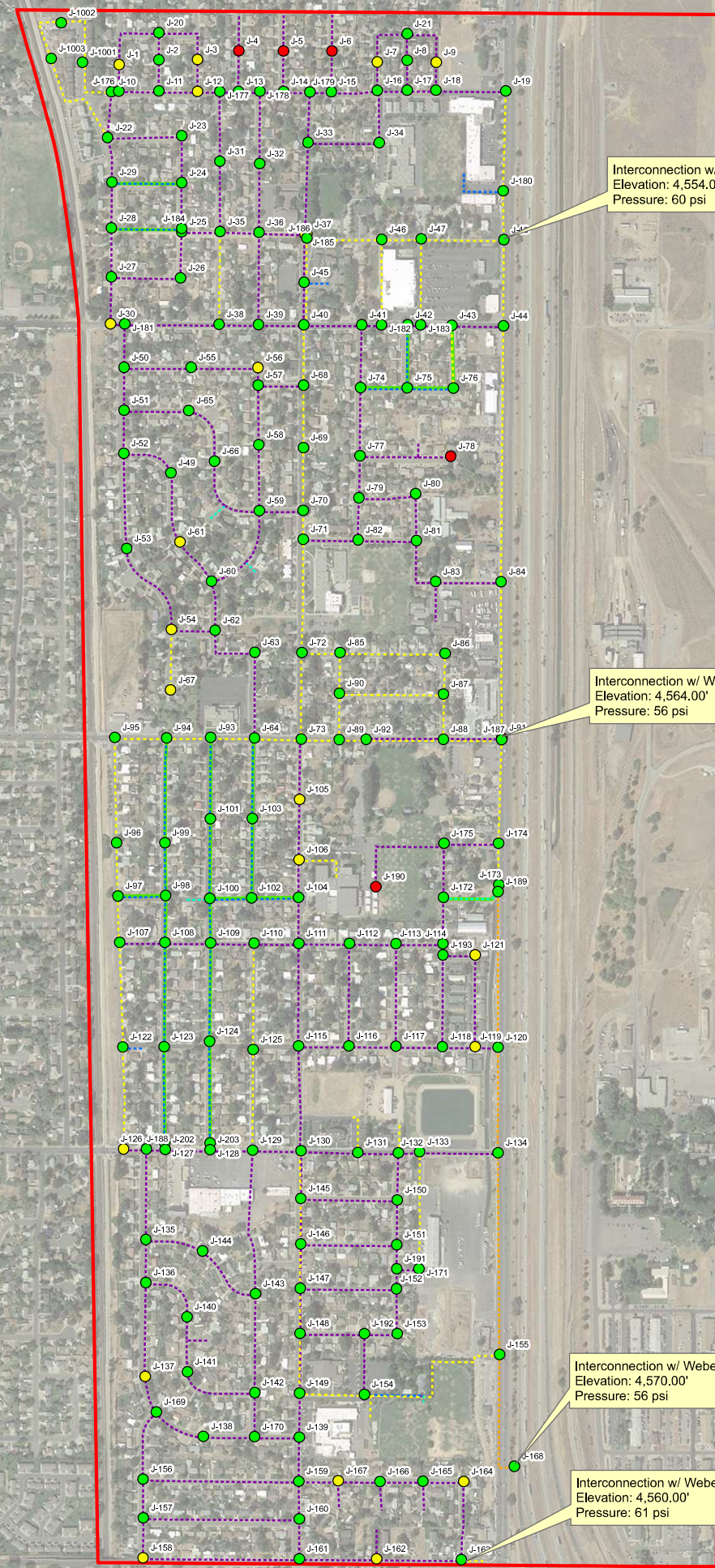
Existing Water Pipes

Diameter

- 12
- 3
- 4
- 6
- 8

Proposed 8 inch Pipes

- Proposed 8 inch Pipes
- Sunset City Boundary



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SUNSET CITY MASTER PLAN

SUNSET, UTAH

NO.	DATE	REVISION	BY

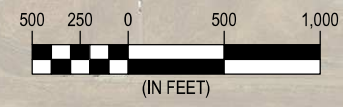
**PROPOSED FIRE FLOW
ALT. 1**

PROJECT NUMBER: 9821 PRINT DATE: 7/30/2020

DRAWN BY: D. SCHALGGAARD CHECKED BY: K. MARCHANT

PROJECT MANAGER: K. CHAPPELL

EX-303



Legend

- Nodes
- PRV Station
- ⊕ Fire Hydrants
- ⊗ Culinary Water Valves

Proposed 8 inch Pipes

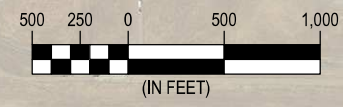
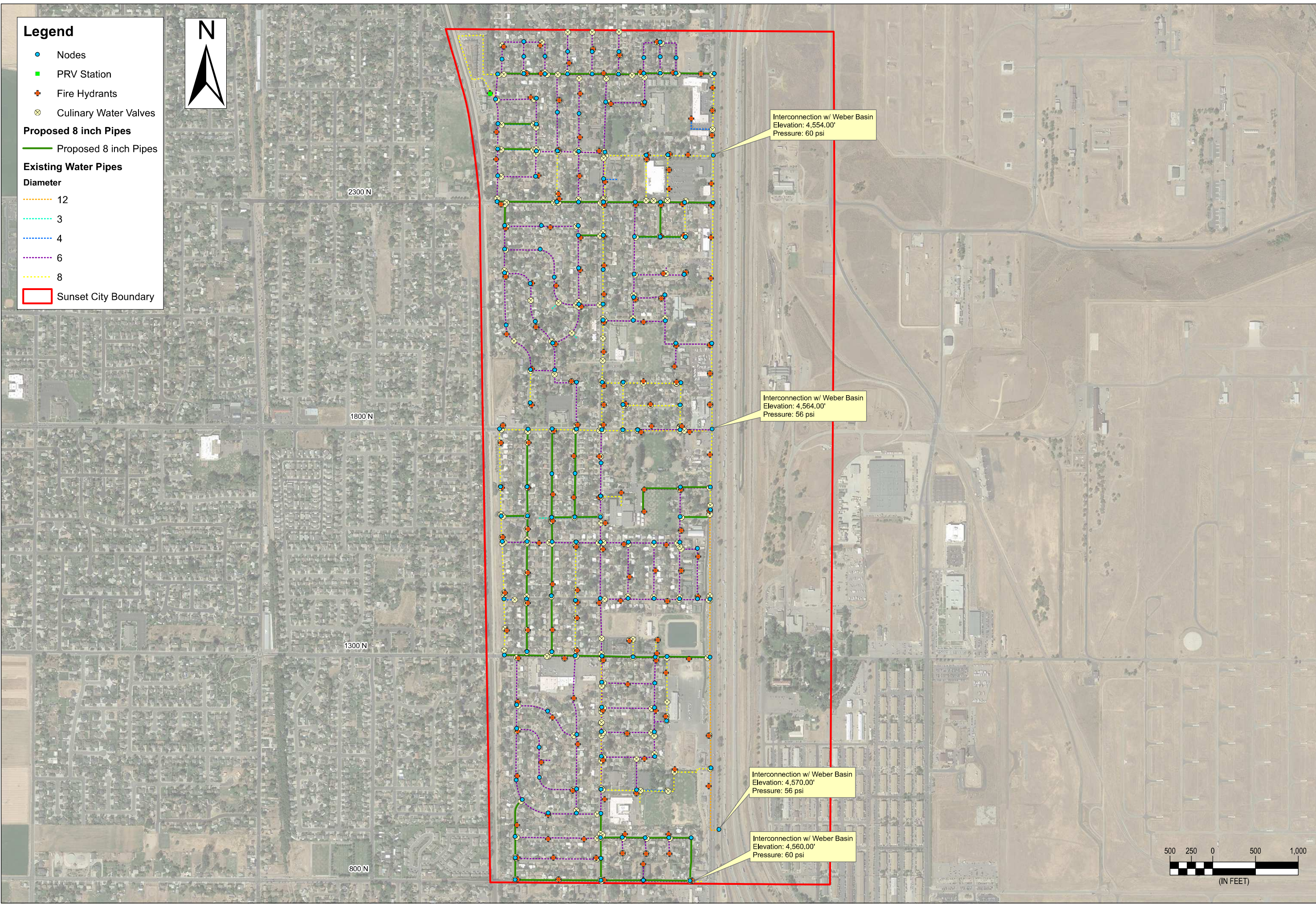
- Proposed 8 inch Pipes

Existing Water Pipes

Diameter

- - - 12
- - - 3
- - - 4
- - - 6
- - - 8

▭ Sunset City Boundary



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SUNSET CITY MASTER PLAN

SUNSET, UTAH

NO.	DATE	REVISION	BY

PROPOSED WATER SYSTEM (ALT. 2)

PROJECT NUMBER: 9821	PRINT DATE: 7/30/2020
DRAWN BY: D. SCHALGAARD	CHECKED BY: K. MARCHANT
PROJECT MANAGER: K. CHAPPELL	

EX-400

Legend

Pressures

- 0 - 29 PSI
- 30 - 110 PSI

Proposed 8 inch Pipes

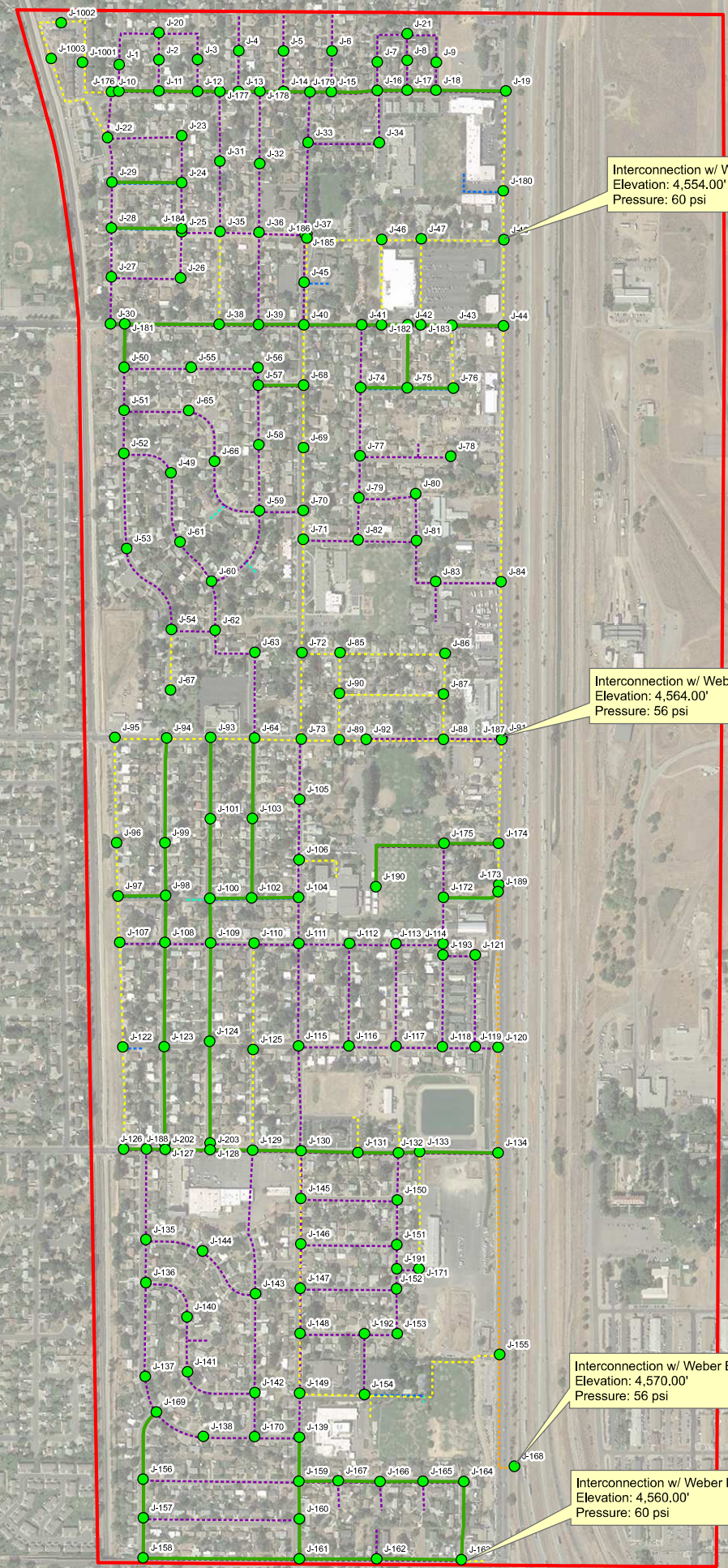
- Proposed 8 inch Pipes

Existing Water Pipes

Diameter

- 12
- 3
- 4
- 6
- 8

▭ Sunset City Boundary

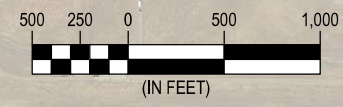


Interconnection w/ Weber Basin
Elevation: 4,554.00'
Pressure: 60 psi

Interconnection w/ Weber Basin
Elevation: 4,564.00'
Pressure: 56 psi

Interconnection w/ Weber Basin
Elevation: 4,570.00'
Pressure: 56 psi

Interconnection w/ Weber Basin
Elevation: 4,560.00'
Pressure: 60 psi



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SUNSET, UTAH

NO.	DATE	REVISION	BY

PROPOSED PEAK INSTANTANEOUS DEMAND (ALT. 2)

PROJECT NUMBER: 9821 PRINT DATE: 7/30/2020
 DRAWN BY: D. SCHALGGAARD CHECKED BY: K. MARCHANT
 PROJECT MANAGER: K. CHAPPELL

EX-401

Legend

Pressures

- 0 - 39 PSI
- 40 - 110 PSI

Proposed 8 inch Pipes

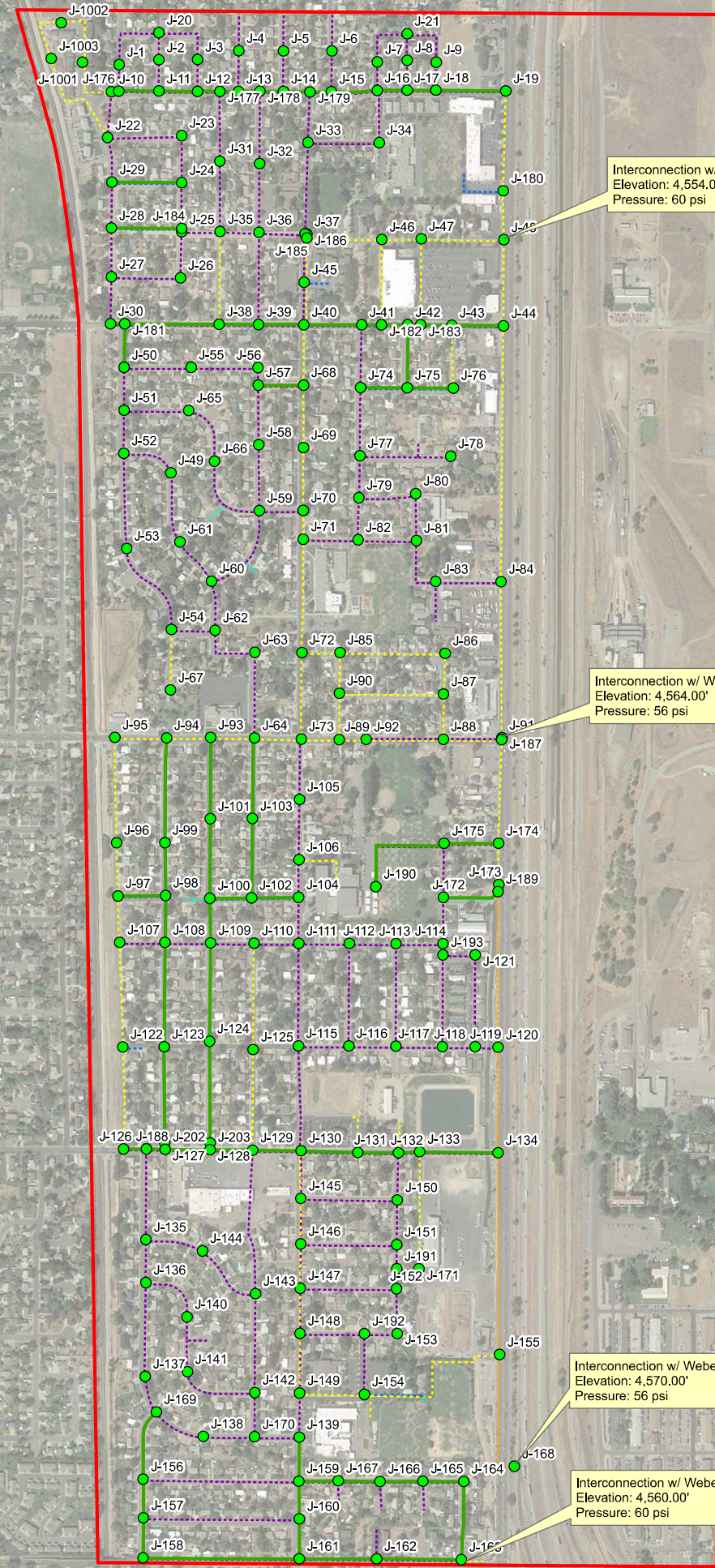
- Proposed 8 inch Pipes

Existing Water Pipes

Diameter

- 12
- 3
- 4
- 6
- 8

☐ Sunset City Boundary

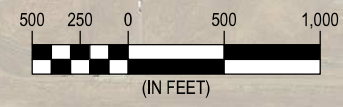


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Elevation: 4,554.00'
Pressure: 60 psi

Interconnection w/ Weber Basin
Elevation: 4,564.00'
Pressure: 56 psi

Interconnection w/ Weber Basin
Elevation: 4,570.00'
Pressure: 56 psi

Interconnection w/ Weber Basin
Elevation: 4,560.00'
Pressure: 60 psi



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SUNSET, UTAH

NO.	DATE	REVISION	BY

PROPOSED PEAK DAY DEMAND ALT. 2

PROJECT NUMBER: 9821 PRINT DATE: 7/30/2020

DRAWN BY: D. SCHALGGAARD CHECKED BY: K. MARCHANT

PROJECT MANAGER: K. CHAPPELL

EX-402

Legend

Fire Flow

- 0 - 1200 GPM
- 1201 - 1500 GPM
- Above 1500 GPM

Proposed 8 inch Pipes

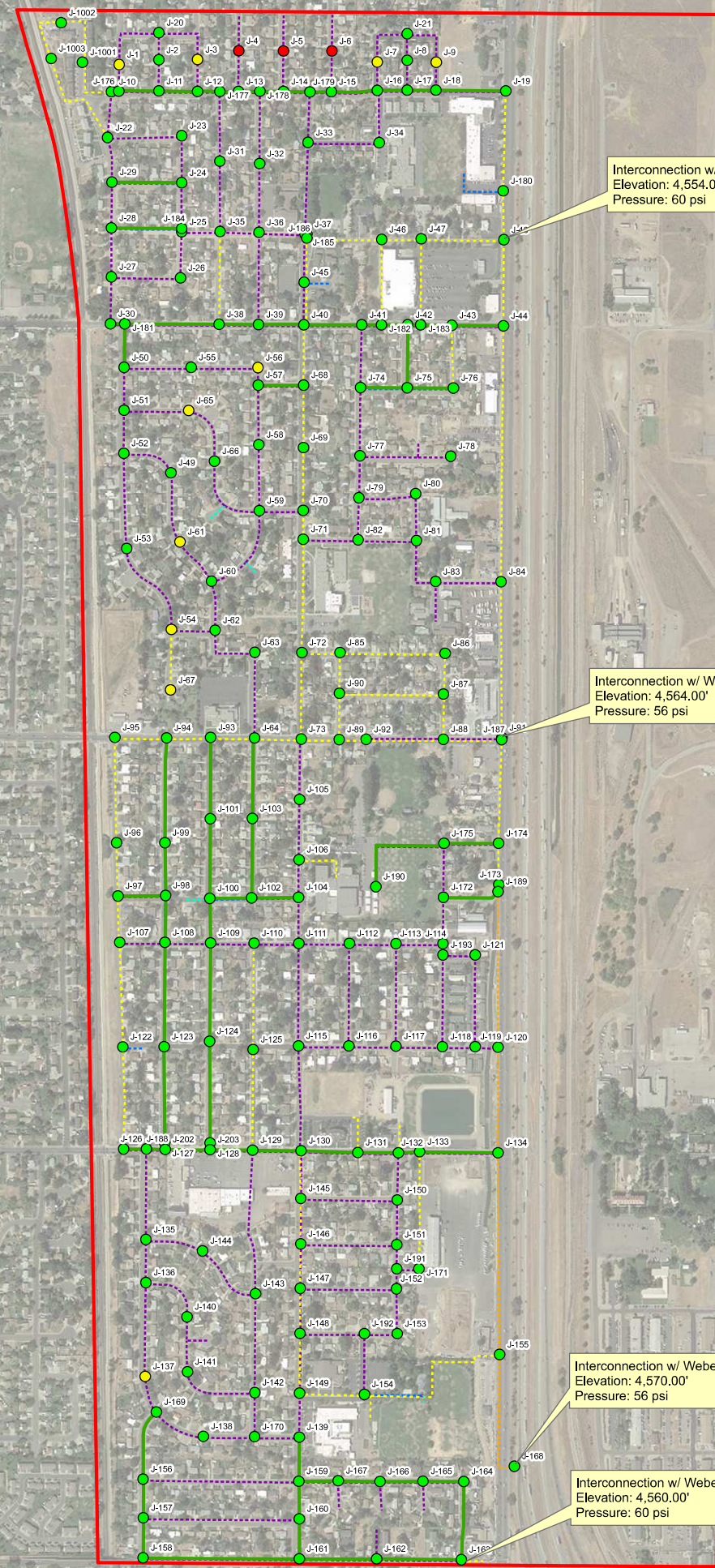
— Proposed 8 inch Pipes

Existing Water Pipes

Diameter

- 12
- 3
- 4
- 6
- 8

▭ Sunset City Boundary



Interconnection w/ Weber Basin
Elevation: 4,554.00'
Pressure: 60 psi

Interconnection w/ Weber Basin
Elevation: 4,564.00'
Pressure: 56 psi

Interconnection w/ Weber Basin
Elevation: 4,570.00'
Pressure: 56 psi

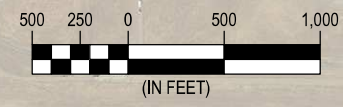
Interconnection w/ Weber Basin
Elevation: 4,560.00'
Pressure: 60 psi

2300 N

1800 N

1300 N

800 N



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PROPOSED FIRE FLOW
ALT. 2

PROJECT NUMBER: 9821 PRINT DATE: 7/30/2020
DRAWN BY: D. SCHALGGAARD CHECKED BY: K. MARCHANT
PROJECT MANAGER: K. CHAPPELL

EX-403