



## **SANTA CLARA CITY, UTAH**

# **Water System Impact Fee Facilities Plan & Impact Fee Analysis**

**August 2023**

#### **PREPARED BY:**

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**August 2023**

## **INCLUDES:**

**FIVE POINT SYSTEM ANALYSIS  
RECOMMENDED SYSTEM IMPROVEMENTS  
SYSTEM FINANCING PLAN  
IMPACT FEE FACILITIES PLAN  
IMPACT FEE ANALYSIS**

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## I. INTRODUCTION

### A. PREFACE

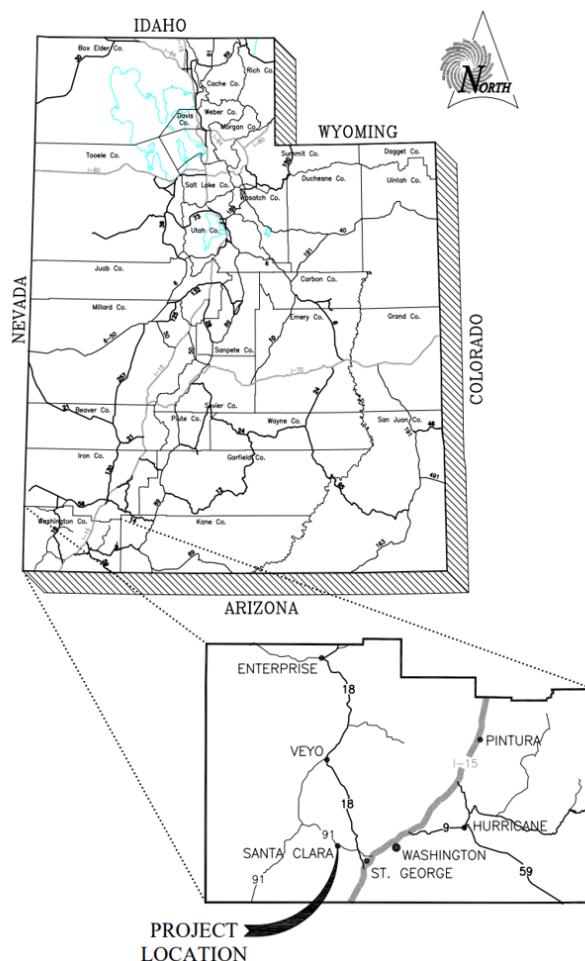
The City of Santa Clara (the city) has entered into an agreement with Sunrise Engineering, Inc. to prepare this Culinary and Irrigation Water Master Plan. The plan will provide council members with the information they need to make important decisions relating to water infrastructure as the city continues to grow and develop over the next 20 years. This plan will provide information regarding the existing culinary and irrigation water infrastructure, analyze these facilities for adequacy, and make recommendations in order to meet projected demands.

### B. INTRODUCTION

This Water Master Plan has been prepared for Santa Clara City, located west of St. George in Washington County, Utah along Old Highway 91. An area map showing the location of the city has been included as Figure I.B-1.

Santa Clara City has experienced significant growth over the past 30 years. At times, this growth has been somewhat rapid and has required improvements and upgrades to much of the city's public infrastructure to meet the increased demands. The growth slowed in the 2008 recession and has since grown significantly. We are currently seeing a slight slowdown in growth, though it is projected that growth rates will level out over the next several years. This plan is intended to help the city evaluate their ability to meet the increasing demands placed on the system by development, and to identify and correct existing deficiencies in the water system.

The water system has been analyzed according to the Utah Division of Drinking Water regulations and includes a 5-point review of the system consisting of water rights, water source capacity, water storage capacity, water treatment, and water distribution.



**Figure I.B-1: Area Map**

## SECTION I - INTRODUCTION

As part of the plan, Sunrise Engineering has recommended several improvements to the culinary water system and has developed a sample financing plan as a possible means to fund the recommended improvements.

The existing water rates and impact fees have also been analyzed as a possible means of supporting the recommended system improvements. The recommended water rates and impact fees are fair and reasonable and will allow the city to continue to maintain the level of service that is required of a public water system for the present time and over the planning period.

## II. SYSTEM USERS ANALYSIS

### A. PROJECTED GROWTH RATE

An important element in the development of a Water Master Plan is the projection of the population growth rate. This projection gives the planner an idea of the future demands on the system throughout the planning period.

Projecting future growth can be subjective but should be grounded in historical trends and current information as much as possible. Table II.A-1 below shows the city's historic growth rates based on official Census data from 1970 to 2010, and the latest population data the city had on record for 2020.

**Table II.A-1: Historic Growth**

Year	Source	Population	Growth Rate	ERUs
1970	Census	271	-	-
1980	Census	1,091	1970-1980	14.9%
1990	Census	2,311	1980-1990	7.8%
2000	Census	4,630	1990-2000	7.2%
2010	Census	6,003	2000-2010	2.6%
2020	City	8,685	2010-2020	3.8%
2021	Estimate	9,206	2020-2021	6.0%
2022	Estimate	9,758	2021-2022	6.0%
2023	Estimate	10,149	2022-2023	4.0%

The City of Santa Clara has grown significantly since 1970. During the 1970's it grew at almost 15% per year. During the 1980's and 1990's the city grew at over 7% per year. Despite this rapid population growth, there has been very little commercial development in Santa Clara. The city is primarily a residential community supporting the St. George area. Because it is bounded by lava flows, flood plains, environmentally sensitive areas, and other municipalities, it is not expected to grow as fast as it historically has.

As shown in Table II.A-1 above, the 2020 population was provided by Santa Clara City. This indicated a growth rate of 3.8% since 2010. Sunrise Engineering, Inc. projected the current 2023 population as 10,149 assuming a 6.0% average annual growth rate since 2020 based on the high growth rate recently experienced in the community and a 4.0% growth rate beginning this year.

Recent housing market trends in southern Utah indicate that Santa Clara is only expected to grow rapidly for a short period. After which, growth will continue at a steady rate. The recent 2020 Santa Clara Public Safety IFFP used a growth rate of 4.0% and to remain consistent, the city chose to use the same growth rate projection for this report, with a slight adjustment to 2021-2022 being at 6.0%. A growth rate of 4.0% is projected through the end of the planning period after 2022. The future growth can be projected using the following compound interest formula:

$$F = P(1+i)^N$$

## SECTION II - SYSTEM USERS ANALYSIS

F = Future Population

i = Projected Growth Rate

P = Present Population

N = Years

Table II.A-2 shown below gives the projected population and number of equivalent residential units (ERUs) throughout the 20-year and 40-year planning periods.

**Table II.A-2: Projected Growth**

Year	Source	Population	Growth Rate	ERUs
1970	Census	271	-	-
1980	Census	1,091	1970-1980	14.9%
1990	Census	2,311	1980-1990	7.8%
2000	Census	4,630	1990-2000	7.2%
2010	Census	6,003	2000-2010	2.6%
2020	City	8,685	2010-2020	3.8%
2021	Estimate	9,206	2020-2021	6.0%
2022	Estimate	9,758	2021-2022	6.0%
2023	Estimate	10,149	2022-2023	4.0%
2024	Estimate	10,555		3926
2025	Estimate	10,977		4083
2026	Estimate	11,416		4246
2027	Estimate	11,873		4416
2028	Estimate	12,348		4592
2029	Estimate	12,841		4776
2030	Estimate	13,355		4967
2031	Estimate	13,889		5166
2032	Estimate	14,445		5372
2033	Estimate	15,023		5587
2034	Estimate	15,624		5811
2035	Estimate	16,249		6043
2036	Estimate	16,899		6285
2037	Estimate	17,574		6536
2038	Estimate	18,277		6798
2039	Estimate	19,009		7070
2040	Estimate	19,769		7353
2041	Estimate	20,560		7647
2042	Estimate	21,382		7953
2043	Estimate	22,237		8271
2044	Estimate	23,127		8601
2045	Estimate	24,052		8946
2046	Estimate	25,014		9303
2047	Estimate	26,014		9675
2048	Estimate	27,055		10063
2049	Estimate	28,137		10465
2050	Estimate	29,263		10884
2051	Estimate	30,433		11319
2052	Estimate	31,651		11772
2053	Estimate	32,917		12243
2054	Estimate	34,233		12732
2055	Estimate	35,603		13242
2056	Estimate	37,027		13771
2057	Estimate	38,508		14322
2058	Estimate	40,048		14895
2059	Estimate	41,650		15491
2060	Estimate	43,316		16110
2061	Estimate	45,049		16755
2062	Estimate	46,851		17425
2063	Estimate	48,725		18122

## SECTION II - SYSTEM USERS ANALYSIS

Because the City of Santa Clara will eventually develop all its available land, build-out projections have also been considered in this study.

To determine build-out projections, several samples of existing densities were taken from established areas of the city. These samples were then utilized to estimate densities for other zoning types in the community that have not yet been developed. Table II.A-3 below indicates the densities assumed for each zoning type. The zones marked by an asterisk (\*) represent the zoning types for which a sample was taken.

**Table II.A-3: Zoning Types and Densities**

Zone	Description	Density (DU/Acre)
R-1-10	*Single Family Residential	4.4
PDR	*Planned Development (Residential)	4.0
R-A	*Residential Agricultural	0.7
OS	Open Space	4.5
PDC	Planned Development (Commercial)	0
HDMU	Historic District/Mixed Use	0
R-1-6	*Single Family Residential (6,000 sf lots)	5.6
R-1-10/ML	*Single Family Residential (Mixed Lot)	4.0
COM	Commercial	0

These densities were utilized in conjunction with a current zoning map provided by Santa Clara City. Total areas of each zoning type left to develop were determined and multiplied by the densities to calculate a projected number of dwelling units (DUs) left to develop. The city also provided projected townhome development in areas not zoned for multi-family and these numbers were incorporated. Adding these values to the existing number of DUs resulted in 7,505 total projected DUs at build-out. Multiplying this number by 3.26 people per unit according to the 2020 Census figure, provides a total build-out population projection of 24,466 residents. An exhibit highlighting these zoning calculations can be found in Appendix A.

It is important to understand that projected growth rates are not the cornerstone of this plan. If the projected population is reached earlier or later than anticipated, then future improvements to support growth may either come earlier or later. Impact fees should not be significantly affected if the actual rate of growth varies from the rate used in the plan.

### B. LENGTH OF PLANNING PERIOD

This Water Master Plan uses a 20-year planning period beginning in the year 2023 and running through year 2043. Water rights will be evaluated until the anticipated year of build-out. These planning periods are consistent with standard practice and will allow an adequate evaluation of the system for potential infrastructure improvements or other needs. It is assumed build-out will occur approximately at 8,557 ERU's, which at the assumed 4.0% growth rate would occur between 2043-2044.

## C. EXISTING WATER CONNECTIONS

### *Culinary Connections*

As of 2021, the city had 3,424 Equivalent Residential Units (ERUs). An ERU value allows the comparison of water use between a residential connection and any other type of connection. For instance, if a business connection has an ERU of 2.5, then it uses 2.5 times the water of an average residential connection. The city is servicing connections separated into residential, commercial, and "other" units and it is assumed that one residential unit is equal to one ERU. Table II.C-1 shows the anticipated number of ERUs at different points of the planning horizon.

**Table II.C-1: Culinary Water Connections**

Year	Type of ERU			
	Residential	Commercial	Other	Total
Present (2023)	3311	227	237	3,775
10-Year (2033)	4900	336	351	5,587
20-Year (2043)	7254	498	519	8,271
Build-out (~2044)	7505	515	537	8,557

It should be noted that the "other" ERUs account for churches, schools, and city owned and operated facilities. It should also be noted that while townhome connections are included in the residential connections total, they use approximately one-third the amount of water of a typical residential home. According to Santa Clara City estimates, townhomes will also account for approximately one-third of future residential development.

### *Irrigation Connections*

The City also has an irrigation water system that is used for city owned properties such as the parks, cemeteries, and the town hall. The Rhone subdivision near the river comprising of Vernon Street and Old Farm Road is also metered for residential use. All other areas of the city that have access to the irrigation system are operated by the Santa Clara Field Canal Company. The system does not feed the entire city, so all other connections use the culinary water system for outdoor use.

The Canal Company provided a sample of 10 residential meter readings from 2021 comprising of some 0.25 acre lots and some 0.5 acre lots. The total number of Canal Company connections was obtained using provided record drawings and it was assumed all these connections were in service. The average usage from this sample was determined to be equal to 1 ERU. With this information the number of ERUs owned and metered by the city was identified. There are currently seven "Other" connections which consist of parks and government properties and 10 residential connections in the Rhone subdivision. The average 2021 usage in the Rhone subdivision was found to be less than the average Canal Company usage. To be conservative the Canal Company usage was used as the basis for 1 ERU. Table II.C-2 shows the anticipated number of ERUs at different points of the planning horizon.

## SECTION II - SYSTEM USERS ANALYSIS

**Table II.C-2: Irrigation Water Connections**

Year	ERU's				
	Residential (Metered by Canal Co.)	Residential (Metered by City)	Other (Metered by City)	Total (Metered by City)	Total
Present (2023)	643	4	123	127	770
10-Year (2033) Projects 1-5, Solace	643	348	175	523	1166
20-Year (2043) Black Desert, 4.0% growth rate	643	2043	260	2303	2946

## D. HISTORICAL WATER USAGE

### *Culinary Usage*

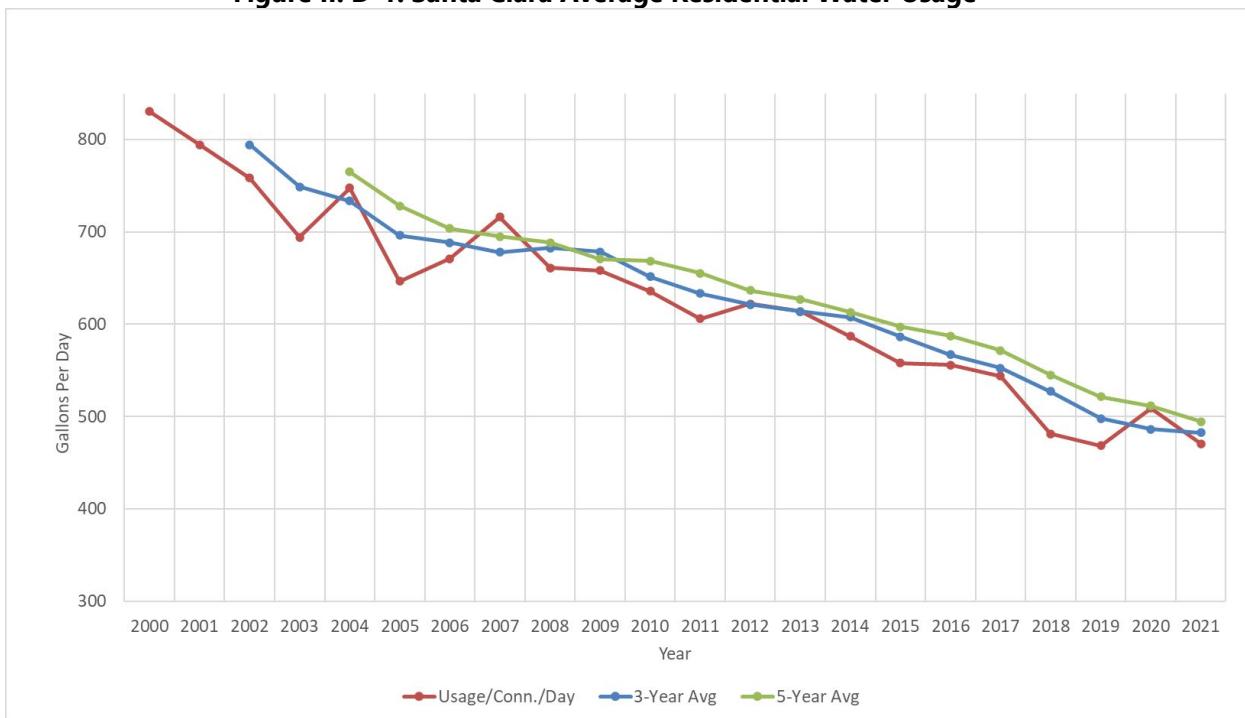
Culinary water usage data was also provided by the city for analysis. We were given total yearly water meter usage data from 2000 to 2021. The data has been tabulated and analyzed to determine usage trends for the city including the average usage per connection for the past 10, 5, and 3 years. The results of this analysis have been summarized in Table II.D-1 and Figure II.D-1.

**Table II D-1: Average Culinary Water Usage**

Residential	10 year Average	5 year Average	3 year Average
Usage (gallons)	475,287,750	500,683,800	510,887,333
Connections	2,386	2,781	2,900
Usage Per Connection (gal/year)	202,346	180,564	176,178
Daily Usage Per Connection (gal/day)	554	495	483
Commercial			
Usage (gallons)	14,430,000	22,314,800	27,273,667
Connections	54	36	39
Usage Per Connection (gal/year)	363,175	603,006	690,236
Daily Usage Per Connection (gal/day)	995	1,652	1,891
Equivalent Residential Unit	1.93	3.36	4.00
Non-Residential ERUs	76	125	155
Other			
Usage (gallons)	47,457,250	43,359,000	42,548,667
Connections	38	46	48
Usage Per Connection (gal/year)	1,573,890	940,419	897,140
Daily Usage Per Connection (gal/day)	4,312	2,576	2,458
Equivalent Residential Unit	7.54	5.21	5.00
Non-Residential ERUs	235	241	243
Total ERUs	2,696	3,147	3,297

## SECTION II - SYSTEM USERS ANALYSIS

Figure II. D-1: Santa Clara Average Residential Water Usage



The usage numbers presented above represent all uses of the culinary system, including outdoor usage for those who do not have irrigation access.

Typical trends in the area show that water usage per ERU has been trending down due to conservation efforts from individuals and usage rate structures promoting conservation. It has been found that Santa Clara usage has been trending down at a rate of approximately 2.5% each year on average.

The 3-year average **of 483 gallons per ERU per day** from 2019-2021 shown in Table II.D-1 above will be used in this analysis for the estimated 2023 usage. Following this conservative estimate, future usage will decrease each year by the historic -2.5% trend for the next five years followed by a 0.5% reduction every five years following (resulting in 2.0% in 2027, 1.5% in 2032, etc.).

Water usage also varies significantly throughout the year. During winter months, water usage typically goes down as outside watering becomes unnecessary. Peak water usage generally corresponds to summer months when outdoor watering is at its peak. To remain consistent with common practice, the peak demand for this report will use a peaking factor of 2.0 to result in a peak day demand of **966 gallons per day** for 2023.

## SECTION II - SYSTEM USERS ANALYSIS

### *Irrigation Usage*

Irrigation water usage was provided by the city for the city metered residential and City Owned (Other) connections for the year 2021. The Canal Company provided meter data for 10 of their connections, which ended up being higher than the 10 residential city metered connections by approximately 2.6 times. Because of this it was assumed each future residential connection will have the same average usage as the existing canal company metered residential connections rather than the existing city metered connections. The data has been analyzed to determine usage trends for the city including the average usage per connection. The results of this analysis have been summarized in Table II.D-2.

**Table II D-2: Irrigation Water Usage**

<b>Canal Company Residential (Based on Sample)</b>		<b>2021</b>
	Usage (gallons)	222,705,751
	Connections	643
	Usage Per Connection (gal/year)	346,354
	Daily Usage Per Connection (gal/day)	949
<b>City Owned Residential</b>		
	Usage (gallons)	1,312,000
	Connections	10
	Usage Per Connection (gal/year)	131,200
	Daily Usage Per Connection (gal/day)	359
	Equivalent Residential Unit	0.38
	ERUs	4
<b>City Owned "Other"</b>		
	Usage (gallons)	42,542,000
	Connections	7
	Usage Per Connection (gal/year)	6,077,429
	Daily Usage Per Connection (gal/day)	16,650
	Equivalent Residential Unit	17.55
	Non-Residential ERUs	123
<b>Total Irrigation ERUs (City Owned/Metered)</b>		127
<b>Total Irrigation ERUs</b>		770

The average usage per residential connection is calculated to be **949 gallons per day**. This value is an average based on the number of active connections metered by the canal company in 2021. Future usage is assumed to follow the same negative trend of 2.5% as the culinary system.

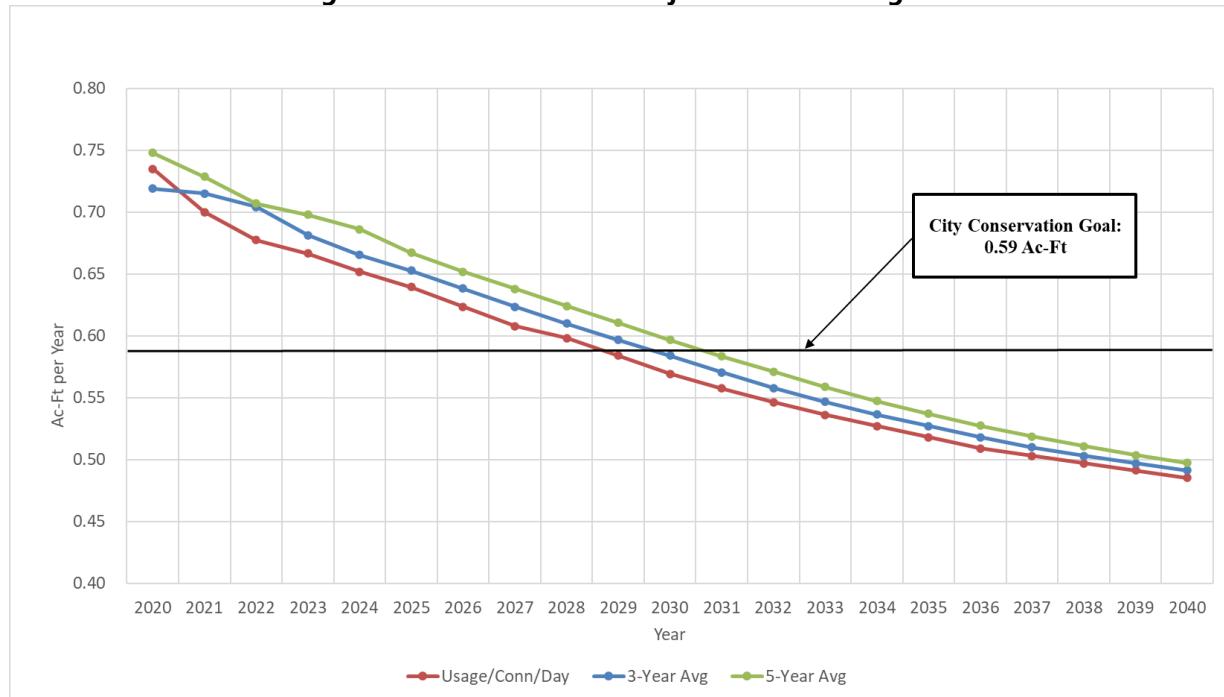
Water usage also varies significantly throughout the year. During winter months, water usage typically goes down as outside watering becomes unnecessary. Peak water usage generally corresponds to summer months when outdoor watering is at its peak. To remain consistent with common practice, the peak demand for this report will use a peaking factor of 2.0 to result in a peak day demand of **1,898 gallons per day** for current irrigation water ERUs.

## SECTION II - SYSTEM USERS ANALYSIS

### Combined Usage

The city has a goal to conserve usage to 0.59 ac-ft per connection per year for all culinary and irrigation usage. The 3-year average shows the current total usage to be 0.71 ac-ft per connection per year. With the population growth projection of 4.0% and the usage decrease of 2.5% for the next five years followed by a 0.5% reduction every five years following (resulting in a 2.0% in 2027, 1.5% in 2032, etc.), it is estimated the city goal should be reached by 2030. This is shown in Figure II.D-2 below.

**Figure II. D-2: Santa Clara Projected Future Usage**



The usage numbers presented above represent all uses of the culinary and irrigation systems, indoor and outdoor.

## SECTION III – WATER RIGHTS ANALYSIS

### III. WATER RIGHTS ANALYSIS

#### A. EXISTING WATER RIGHT

The existing Santa Clara City water rights are identified in Table III.A-1 below. The water rights are listed according to number, source, and flow and separated between culinary and irrigation sources. Santa Clara currently has an agreement with St. George City in regard to the springs as a source. St. George has access to the springs for irrigation use, and in return Santa Clara receives a credit to access St. George culinary rights equal to the amount St. George uses in irrigation from the springs. St. George pulls from WR #81-742 so the flow is not included in the total for this analysis.

**Table III.A-1: Santa Clara Water Rights**

Culinary Water Rights		Flow		
W.R. #	Source	gpm	cfs	AcFt.
81-782	Snow Canyon Compact	224.4	0.50	362.0
81-973	Snow Canyon Compact	439.8	0.98	709.5
81-893	Snow Canyon Wells # 6 & 7	897.6	2.00	1447.9
81-4123	Snow Canyon Wells # 6 & 7	1.7	0.00	2.7
81-4225	Snow Canyon Wells # 6 & 7	12.4	0.03	20.0
81-4226	Snow Canyon Wells # 6 & 7	5.2	0.01	8.4
WCWCD Regional Supply Agreement				
<b>Sub Total</b>		<b>1,581.2</b>	<b>3.5</b>	<b>2,550.6</b>
81-149	Sheep Spring (Not in Use)	8.1	0.02	13.0
81-741	Miller, Beecham & Gray Springs (Not in Use)	54.7	0.12	88.3
81-742	Miller, Beecham & Gray Springs (St. George Agreement: Not Included in Total)	25.1	0.06	40.5
81-1061	Miller Springs (Not in Use)	4.9	0.01	8.0
<b>Sub Total</b>		<b>67.7</b>	<b>0.2</b>	<b>109.3</b>
<b>Total Culinary</b>		<b>1581.2</b>	<b>3.52</b>	<b>2659.8</b>
Secondary Water Rights		Flow		
W.R. #	Source	gpm	cfs	AcFt.
81-1496	J. Ross Hursl Entrada Well (Irrigation)	16.3	0.04	26.2
81-4189	Rex Jackson Sunbrook Well (Irrigation)	58.9	0.13	95.0
81-497	Crystal Lakes Sunbrook Well (Irrigation)	74.4	0.17	120.0
81-475	Ralph Hafen Well (Irrigation)	4.7	0.01	7.6
81-4184	McDermitt Well	93.0	0.21	150.0
<b>Sub Total</b>		<b>247.2</b>	<b>0.6</b>	<b>398.8</b>
	Irrigation Company 24 Shares (McDermitt)	0.0	0.00	96.0
	Irrigation Company 25.25 Shares (Santa Clara)	0.0	0.00	101.0
<b>Sub Total</b>		<b>0.0</b>	<b>0.0</b>	<b>197.0</b>
<b>Total Secondary</b>		<b>247.2</b>	<b>0.6</b>	<b>595.8</b>

The city currently participates in the Washington County Water Conservancy District (WCWCD) Regional Water Supply Agreement (RWSA) as a solution for additional culinary water sources. The city also has an agreement with the Santa Clara Field Canal Company as a solution for additional irrigation water sources. Both agreements provide the mechanism for water to be supplied if there is not enough water right or source necessary for growth.

## SECTION III – WATER RIGHTS ANALYSIS

### B. EXISTING REQUIRED CULINARY WATER RIGHT

The State of Utah Public Administrative Rules for Public Drinking Water Systems, R309-510, states that a community should have adequate water right to supply each culinary ERU with 400 gallons per day for indoor water use, plus an amount for outdoor use as dictated by irrigated acreage and a consumptive use value obtained from the State guidelines. If adequate data exists, the provider is allowed to substitute historical usage data instead. The city historical average usage of 483 gallons per day per ERU will be used in this plan.

By multiplying the average water usage per ERU in the City by the number of existing ERUs, the current required amount of water rights can be determined as shown in Table III.B-1.

**Table III.B-1: Current Required Water Right**

Average Demand (Total Use)				
3,775 ERU's X	<u>483 gpd X hr</u>	=	1,266	gpm
	ERU min.			
3,775 ERU's X	<u>483 gpd X Acft.</u>	=	2,042	Acft
	ERU gal			
<b>Total Required Water Right</b>		<b>2,042</b>	<b>Acft</b>	<b>1,266 gpm</b>
<b>Existing Culinary System Water Right Surplus</b>		<b>618</b>	<b>Acft</b>	<b>315 gpm</b>

The existing water right surplus or deficit is determined by subtracting the current required water right demand of 2,042 ac-ft from the total available water right of 2,660 ac-ft, which yields a surplus of 618 ac-ft. The District currently has access to enough water rights to supply all of its existing culinary ERUs.

### C. PROJECTED REQUIRED CULINARY WATER RIGHT

The projected amount of required water rights at the end of the 10-year planning period and at build-out can also be calculated by substituting the projected number of ERUs into the calculation for the current number of ERUs as shown in Table III.C-1 and Table III.C-2.

**Table III.C-1: Projected 10-Year Required Water Right**

Average Demand (Total Use)				
5,587 ERU's X	<u>383 gpd X hr</u>	=	1,485	gpm
	ERU min.			
5,587 ERU's X	<u>383 gpd X Acft.</u>	=	2,396	Acft
	ERU gal			
<b>Total Required Water Right</b>		<b>2,396</b>	<b>Acft</b>	<b>1,485 gpm</b>
<b>Existing Culinary System Water Right Surplus</b>		<b>264</b>	<b>Acft</b>	<b>96 gpm</b>

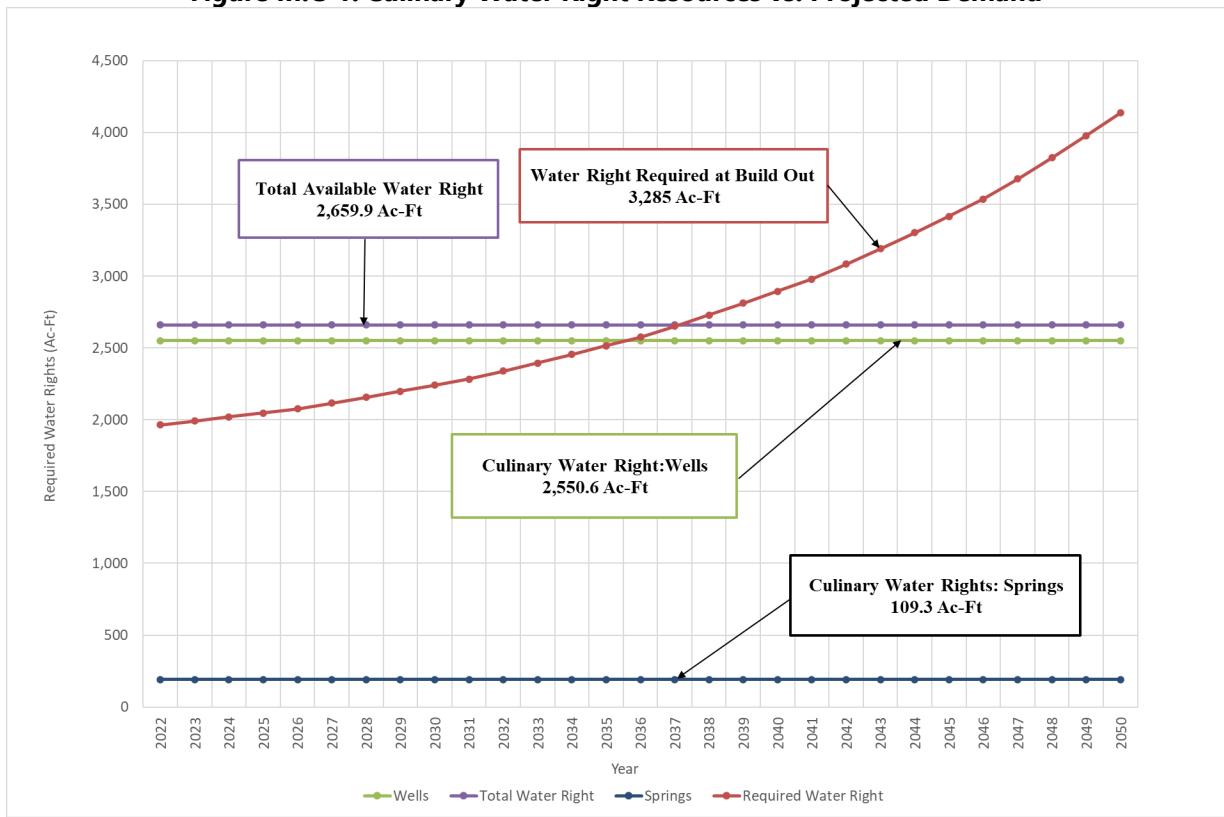
## SECTION III – WATER RIGHTS ANALYSIS

**Table III.C-2: Projected Build-Out Year Required Water Right**

<b>Average Demand (Total Use)</b>				
8,557 ERU's X	$\frac{343 \text{ gpd} \times \text{hr}}{\text{ERU min.}}$	=	2,036	gpm
8,557 ERU's X	$\frac{343 \text{ gpd} \times \text{Acft.}}{\text{ERU gal}}$	=	3,285	Acft
<b>Total Required Water Right</b>		<b>3,285</b>	<b>Acft</b>	<b>2,036</b> gpm
<b>Existing Culinary System Water Right Deficit</b>		<b>(734)</b>	<b>Acft</b>	<b>(455)</b> gpm

The projected water right surplus or deficit is determined by subtracting the projected required water right from the total available water right. The 10-year projection results in a surplus of 264 ac-ft, and the build-out projection results in a deficit of 734 ac-ft. Figure III.C-1 shows the projected culinary water right demands vs. the City's existing available water right resources throughout the planning period.

**Figure III.C-1: Culinary Water Right Resources vs. Projected Demand**



## SECTION III – WATER RIGHTS ANALYSIS

### D. EXISTING REQUIRED IRRIGATION WATER RIGHTS

Most of the irrigation system in Santa Clara is owned and operated by the Canal Company. Because of this, the city water rights will only need to service the connections owned by the city. By multiplying the average water usage per ERU in the City by the number of existing ERUs, the current required amount of water rights can be determined as shown in Table III.D-1.

**Table III.D-1: Current Required Water Right**

Average Demand (Total Use)			
127 ERU's X	$\frac{949 \text{ gpd} \times \text{hr}}{\text{ERU min.}}$	=	83 gpm
127 ERU's X	$\frac{949 \text{ gpd} \times \text{Acft.}}{\text{ERU gal}}$	=	135 Acft
Total Required Water Right		135	Acft
Existing Culinary System Water Right Surplus		461	Acft
		164	gpm

The existing water right surplus or deficit is determined by subtracting the current required water right demand of 135 ac-ft from the total available water right of 596 ac-ft, which yields a surplus of 461 ac-ft. The District currently has access to enough water rights to supply all of its existing ERUs.

### E. PROJECTED REQUIRED IRRIGATION WATER RIGHTS

The projected amount of required water rights at the end of the 10-year planning period and at the end of the 20-year planning period can also be calculated by substituting the projected number of ERUs into the calculation for the current number of ERUs as shown in Table III.E-1 and Table III.E-2.

**Table III.E-1: Projected 10-Year Required Water Right**

Average Demand (Total Use)			
523 ERU's X	$\frac{764 \text{ gpd} \times \text{hr}}{\text{ERU min.}}$	=	278 gpm
523 ERU's X	$\frac{764 \text{ gpd} \times \text{Acft.}}{\text{ERU gal}}$	=	448 Acft
Total Required Water Right		448	Acft
Existing Culinary System Water Right Surplus		148	Acft
		(30)	gpm

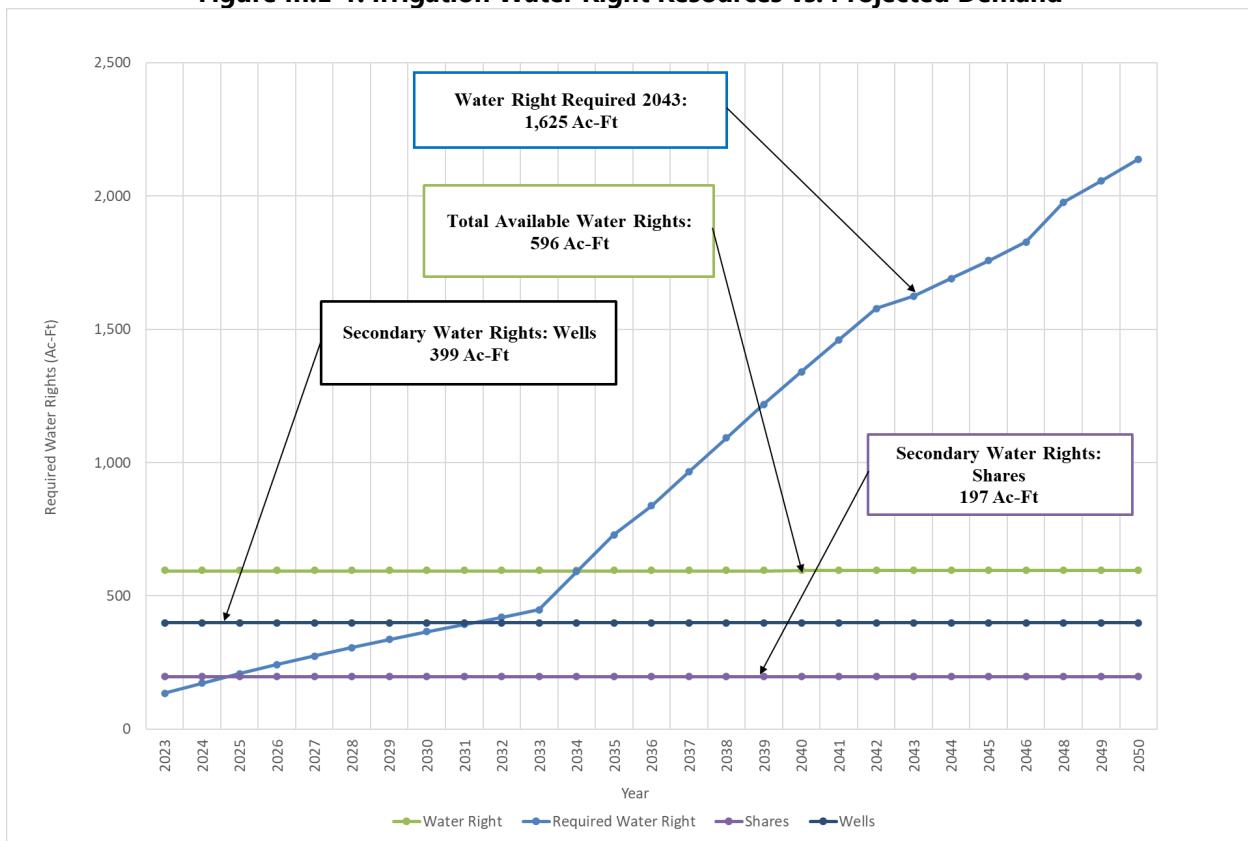
## SECTION III – WATER RIGHTS ANALYSIS

**Table III.E-2: Projected 20- Year Required Water Right**

<b>Average Demand (Total Use)</b>			
2,303 ERU's X	$\frac{630 \text{ gpd} \times \text{hr}}{\text{ERU min.}}$	=	1,008 gpm
2,303 ERU's X	$\frac{630 \text{ gpd} \times \text{Acft.}}{\text{ERU gal}}$	=	1,625 Acft
<b>Total Required Water Right</b>		<b>1,625 Acft</b>	<b>1,008 gpm</b>
<b>Existing Culinary System Water Right Deficit</b>		<b>(1,029) Acft</b>	<b>(760) gpm</b>

The projected water right surplus or deficit is determined by subtracting the projected required water right from the total available water right. The 10-year projection results in a surplus of 148 ac-ft, and the 20-year projection results in a deficit of 1,029 ac-ft. Figure III.E-1 shows the projected irrigation water right demands vs. the City's existing available water right resources throughout the planning period.

**Figure III.E-1: Irrigation Water Right Resources vs. Projected Demand**



### F. RECOMMENDED IRRIGATION WATER RIGHT IMPROVEMENTS

#### *Culinary Recommendation*

The projections in this analysis show that the City does not have sufficient water rights to meet the needs of customers over the next 20 years and through the projected year of build-out. However, the RWSA in place provides additional water to the city if needed. It is recommended that Santa Clara City protect all existing water rights not currently being used in their system. It is not in the scope of this report to derive specific recommendations for each individual right or provide detailed analysis of protections or strategies. However, a recent Water Right Report was performed, and the recommendations listed have been included below. Further consultations with a water rights professional to make sure that all the water rights and agreements are protected is recommended.

- WR #81-782: Update the Title from "Town of Santa Clara" to "City of Santa Clara"
- WR #81-973: Update the Title from "Town of Santa Clara" to "City of Santa Clara"
- WR #81-149: Update the Title from "Town of Santa Clara" to "City of Santa Clara"
- WR #81-741: Update the Title from "Town of Santa Clara" to "City of Santa Clara" and have the state update and correct flow rate error
- WR #81-742: Update the Title from "Town of Santa Clara" to "City of Santa Clara" and Proof of Beneficial Use
- WR #81-1061: Update the Title from "Town of Santa Clara" to "City of Santa Clara"

#### *Irrigation Recommendation*

The projections in this analysis show that the City has sufficient water rights to meet the needs of customers over the next 10 years if the well water rights are accessed. If the 49.25 shares are the only water rights utilized there are not sufficient water rights to meet the needs of the customers once city projects and planned developments are completed. If the City exceeds its water shares they can purchase water from the irrigation company, but it is recommended that the city obtain additional shares to mitigate the need for this. An opinion of probable cost for purchasing shares to cover growth has been included in the appendix of this report.

It is also recommended that Santa Clara City protect all existing water rights not currently being used in their system. It is not in the scope of this report to derive specific recommendations for each individual right or provide detailed analysis of protections or strategies. However, a recent Water Right Report was performed, and the recommendations listed have been included below. Further consultations with a water rights professional to make sure that all the water rights and agreements are protected is recommended.

- WR #81-475: File a change application for municipal use
- WR #81-497: File a change application for municipal use
- WR #81-1496: File a change application for municipal use
- WR #81-4184: Proof of Beneficial Use is past due
- WR #81-4189: File a change application for municipal use

## SECTION IV – WATER SOURCE CAPACITY ANALYSIS

### IV. WATER SOURCE CAPACITY ANALYSIS

#### A. EXISTING CULINARY WATER SOURCE CAPACITY

To analyze source capacity, all available culinary water sources must first be identified. The City has several shared wells and an agreement that only allows them to have 24.7% of the capacity. Well flows were provided by the city and the total flow incorporating this percentage gives Santa Clara 2,662 gpm of source capacity as shown in Table IV.A-1 below.

**Table IV.A-1: Santa Clara Culinary Water Source Capacity**

Shared Wells	Total Flow	Santa Clara's 24.7%	
	gpm	CFS	gpm
Snow Canyon #3a	530	0.292	131
Snow Canyon #2	600	0.330	148
Snow Canyon #3	430	0.237	106
Snow Canyon #4	500	0.275	124
Snow Canyon #5	215	0.118	53
Sub-total Shared Wells =		1.252	562
Santa Clara Owned Sources		CFS	gpm
Snow Canyon Well #6		2.005	900
Snow Canyon Well #7		1.114	500
Regional Water Line / Wash. County water district ?		1.560	700
Sub-total Santa Clara Owned Water =		4.679	2,100
<b>Total Culinary Water Source=</b>		<b>5.931</b>	<b>2,662</b>

#### B. EXISTING REQUIRED CULINARY WATER SOURCE CAPACITY

The State of Utah Public Administrative Rules for Public Drinking Water Systems, R309-510, states that a water system should have an adequate water source capacity to supply peak day demand. This is implied to be twice the amount of average day demand. Doubling the historical usage results in a peak day demand of 966 gpd/ERU.

By multiplying the peak day culinary water usage per ERU by the number of existing ERUs, the existing required culinary water source capacity was determined. This calculation is shown below in Table IV.B-1.

**Table IV.B-1: Current Required Culinary Water Source Capacity**

Required Indoor/Outdoor Source
$3,775 \text{ ERU's} \times \frac{966 \text{ gpd}}{\text{ERU}} \times \frac{1 \text{ day}}{24 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min.}} = 2,532 \text{ gpm}$
Total Required Source Capacity
Existing Culinary System Source Capacity Surplus

## SECTION IV – WATER SOURCE CAPACITY ANALYSIS

The existing source capacity surplus or deficit is determined by subtracting the existing required source capacity of 2,532 gpm from the total available source capacity of 2,662 gpm (as limited by the water right and well share agreement), which yields a surplus of 130 gpm.

### C. PROJECTED REQUIRED CULINARY WATER SOURCE CAPACITY

The projected amount of required source capacity at the end of the 10-year planning period and at build-out is determined from the same information and calculations explained in Part B, except the projected number of culinary water ERUs is substituted into the calculations for the current number of ERUs as shown in Table IV.C-1 and Table IV.C-2.

**Table IV.C-1: Projected 10-Year Required Culinary Water Source Capacity**

Required Indoor/Outdoor Source						
5,587 ERU's X	766 gpd X	1 day X	1 hr		=	2,971 gpm
	ERU	24 hr	60 min.			
<b>Total Required Source Capacity</b>					<b>2,971 gpm</b>	
<b>Existing Culinary System Source Capacity Deficit</b>					<b>(309) gpm</b>	

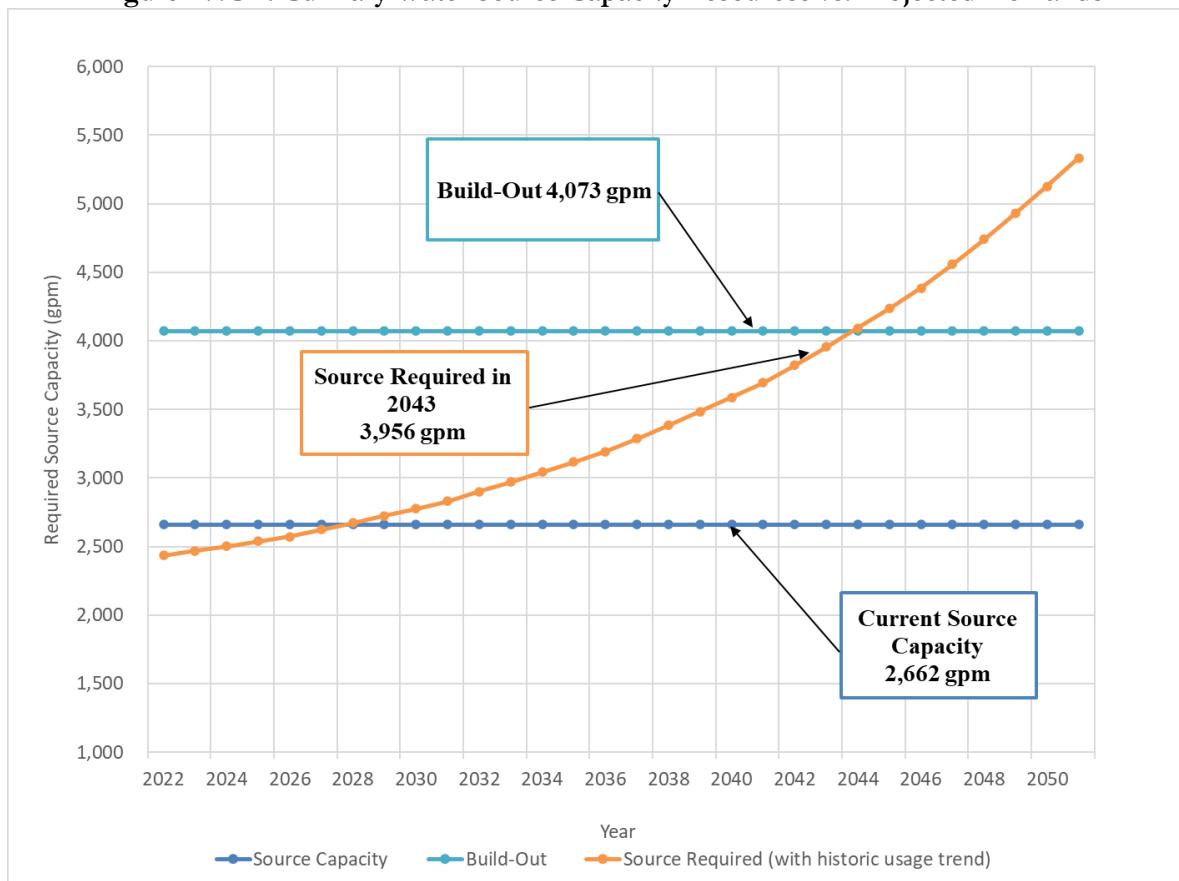
**Table IV.C-2: Projected Build-out Required Culinary Water Source Capacity**

Required Indoor/Outdoor Source						
8,557 ERU's X	685 gpd X	1 day X	1 hr		=	4,073 gpm
	ERU	24 hr	60 min.			
<b>Total Required Source Capacity</b>					<b>4,073 gpm</b>	
<b>Existing Culinary System Source Capacity Deficit</b>					<b>(1,411) gpm</b>	

The projected source capacity surplus or deficit is determined by subtracting the projected required source capacity from the total available source capacity. The 10-year projection results in a deficit of 309 ac-ft, and the build-out projection results in a deficit of 1,411 ac-ft. Figure IV.C-1 shows the projected culinary water source capacity demands vs. the City's existing available source capacity resources throughout the planning period.

## SECTION IV – WATER SOURCE CAPACITY ANALYSIS

Figure IV.C-1: Culinary Water Source Capacity Resources vs. Projected Demands



### D. RECOMMENDED CULINARY WATER SOURCE CAPACITY IMPROVEMENTS

The projections in this analysis show that the City does not have sufficient source capacity to meet the needs of customers over the next 20 years and through the projected year of build-out. It is recommended that the city drill and equip a new well to increase their source capacity.

## **SECTION V – WATER STORAGE CAPACITY ANALYSIS**

## V. WATER STORAGE CAPACITY ANALYSIS

## A. EXISTING CULINARY WATER STORAGE CAPACITY

To analyze storage capacity, all available culinary water storage must first be identified. The existing storage facilities consist of three concrete tanks. The total storage is 4,100,000 gallons as shown in Table V.A-1 below.

**Table V.A-1: Santa Clara Culinary Water Storage Capacity**

<b>Existing Storage Capacity:</b>		
Snow Canyon Compact tanks	600,000	gal.
Concrete tank at Snow Canyon	2,500,000	gal.
South Hills Tank	1,000,000	gal.
<b>Total Existing Capacity =</b>	<b>4,100,000</b>	<b>gal.</b>

## B. EXISTING REQUIRED CULINARY WATER STORAGE CAPACITY

Water storage capacity requirements are found in the State of Utah Administrative Rules for Public Drinking Water Systems, R309-510. These regulations require storage for a community's culinary water system to meet one full day's use requirement for all water connections, plus the required fire flows for a minimum of one hour.

As shown in previous sections, the average water use per ERU is 483 gallons per day of culinary water for indoor and outdoor use. Storage requirements for fire protection vary slightly from community to community. In general, fire flow requirements are set by the local Fire Chief or are based on building size and type of construction. The statewide minimum fire flow is 1,000 gpm for dwellings under 3,600 square feet and 1,500 gpm for larger dwellings. Based on the varying size of homes in the city a fire flow of 1,250 gpm will be used. Based on this information, the current required storage capacity is calculated as shown in Table V.B-1.

**Table V.B-1: Current Required Culinary Water Storage Capacity**

Required Culinary Water Storage Capacity						
483 gpd	X	3,775	ERU	=	1,823,140	gpd
ERU						
1,250 gpm	X	60 min	X	2 hr =	150,000	gal.
		1 hr				
<b>Total Existing Required Storage</b>					1,973,140	gal.
<b>Total Existing Capacity</b>					4,100,000	gal.
<b>Existing Capacity Surplus</b>					2,126,860	gal.

The existing water storage capacity surplus or deficit is determined by subtracting the current required water storage capacity of 1,973,140 gallons from the total available water storage capacity of 4,100,000 gallons, which yields an existing surplus of 2,126,860 gallons.

## SECTION V – WATER STORAGE CAPACITY ANALYSIS

### C. PROJECTED REQUIRED CULINARY WATER STORAGE CAPACITY

The projected required culinary water storage capacity at the end of the 10-year planning period and build-out are determined from the same factors explained previously, but the projected number of culinary water ERUs is inserted into the calculations as shown in Table V.C-1 and Table V.C-2.

**Table V.C-1: Projected 10-Year Required Culinary Water Storage Capacity**

Required Culinary Water Storage Capacity					
383 gpd	X	5,587 ERU	=	2,138,823 gpd	
		ERU			
1,250 gpm	X	60 min	X	2 hr =	150,000 gal.
		1 hr			
			Total Existing Required Storage	2,288,823 gal.	
			Total Existing Capacity	4,100,000 gal.	
			Existing Capacity Surplus	1,811,177 gal.	

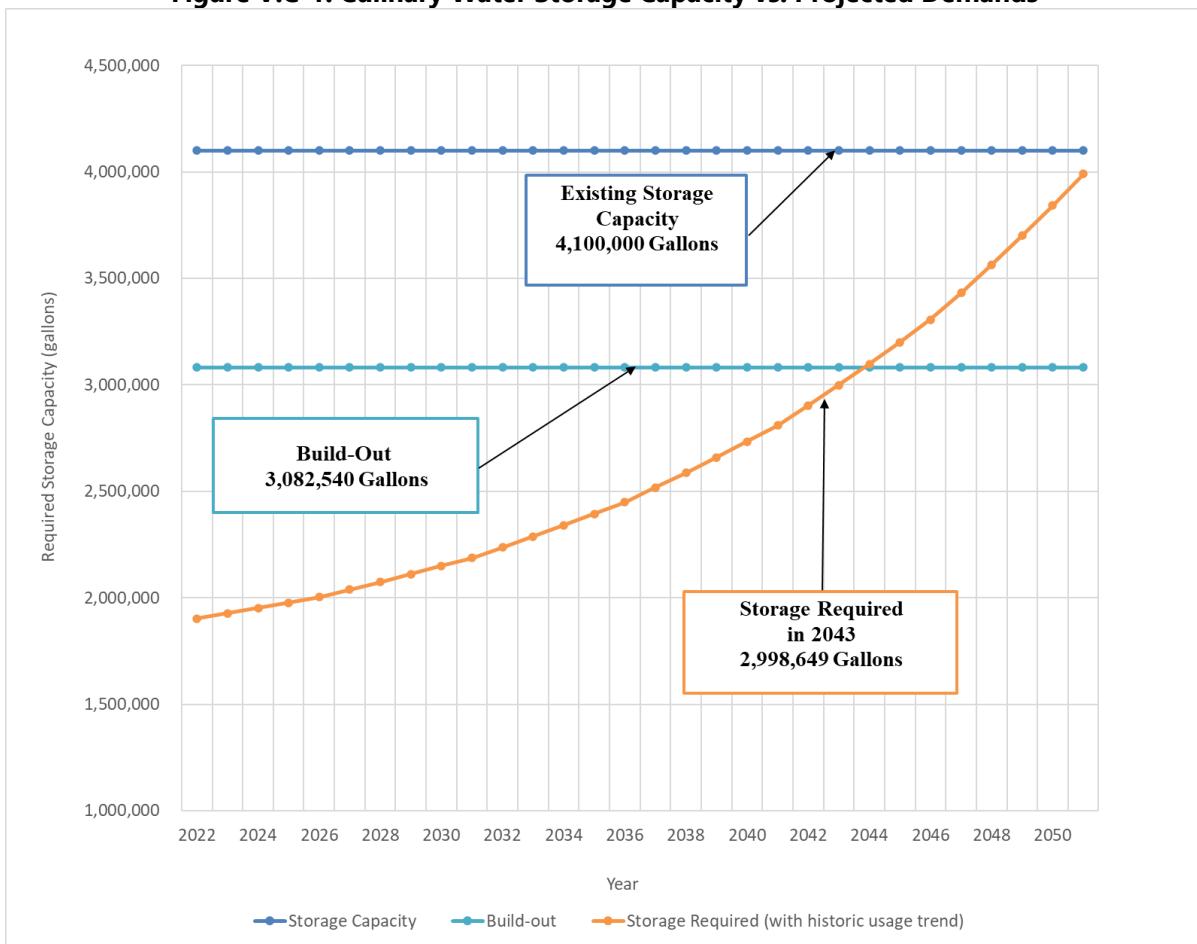
**Table V.C-2: Projected Build-out Required Culinary Water Storage Capacity**

Required Culinary Water Storage Capacity					
343 gpd	X	8,557 ERU	=	2,932,540 gpd	
		ERU			
1,250 gpm	X	60 min	X	2 hr =	150,000 gal.
		1 hr			
			Total Required Storage	3,082,540 gal.	
			Total Existing Capacity	4,100,000 gal.	
			Future Capacity Surplus	1,017,460 gal.	

The projected water storage capacity surplus or deficit is determined by subtracting the projected required water storage capacity. The 10-year projection results in a surplus of 1,811,177 gallons, and the build-out projections results in a surplus of 1,017,460 gallons. Figure V.C-1 shows the projected culinary water storage capacity demands vs. the City's existing available storage capacity resources throughout the planning period.

## SECTION V – WATER STORAGE CAPACITY ANALYSIS

**Figure V.C-1: Culinary Water Storage Capacity vs. Projected Demands**



The District has adequate storage for emergency fire flow and average flows for the 20-year planning horizon, and until estimated year of build-out.

### D. EXISTING ELEVATION CONSTRAINTS

It should be mentioned that, based on minimum pressure requirements at the service connections, the existing tanks have limitations on the development elevations that the tanks can serve. Currently the areas in Santa Clara's zoning map designated for future development do not raise any concerns. However, if the "South Hills" area currently zoned as "Open Space" is ever developed this area will require a new tank to accommodate the higher elevation.

### E. RECOMMENDED CULINARY WATER STORAGE CAPACITY IMPROVEMENTS

The projections in this analysis show that the City has sufficient storage capacity to meet the needs of customers until build-out. It is recommended that the city continue to watch usage trends and population growth and prepare accordingly.

## **SECTION VI – WATER TREATMENT REQUIREMENTS**

### **VI. WATER TREATMENT REQUIREMENTS**

#### **A. GENERAL REQUIREMENTS**

Santa Clara City currently does not chlorinate its culinary water as it is already chlorinated by the Snow Canyon Compact. However, the tank facility in the South Hills was designed with the capability to generate and dose water in the tank with sodium hypochlorite should the chlorine level in the tank drop below acceptable levels.

The Snow Canyon Compact wells currently provide water that exceeds the maximum arsenic levels allowed by the E.P.A. for drinking water. The current practice is to treat this water as necessary by dilution with WCWCD Regional Water at the approximate ratio of 63:37 compact water to regional water and mixing with water from Wells 6 and 7. There are no plans to modify this procedure; however, the City of St. George has recently completed an arsenic treatment plant for the Gunlock Well Fields. This may provide an additional treated source for exchange or mixing. There are treatment options available if necessary.

#### **B. RECOMMENDED WATER TREATMENT FACILITY IMPROVEMENTS**

No additional water treatment is anticipated with the City's current system. However, continued vigilance is recommended to ensure that the chlorine residual is maintained at various points in the system. Should the water need a chlorine residual, there are several options that the city can consider. One option is to add a sodium hypochlorite plant to generate the chlorine onsite, which can then be injected into the system.

## SECTION VII – WATER DISTRIBUTION SYSTEM ANALYSIS

### VII. WATER DISTRIBUTION SYSTEM ANALYSIS

#### A. EXISTING CULINARY DISTRIBUTION SYSTEM ANALYSIS

The State of Utah Administrative Rules for Public Drinking Water Systems, R309-510, require distribution systems to be sized to supply peak instantaneous flows, while maintaining a minimum system pressure of 30 psi. The rule also requires that distribution systems are able to supply peak day flows plus fire flows for a minimum of 1 hour, while maintaining a minimum system pressure of 20 psi. The system also needs to provide peak day flows while maintaining a minimum system pressure of 40 psi. As a general guideline, it is recommended that the system be able to provide a minimum static pressure of 50 psi at every point in the distribution system.

The indoor peak instantaneous demand equation (see Table VII.A-1) is found in the State of Utah Public Administrative Rules for Drinking Water Systems, R309-510. This rule also provides a flow requirement of 9.8 gpm per irrigated acre for use in determining the outdoor peak instantaneous demand. By taking a representative sample of homes/yards in Santa Clara and averaging the area of irrigated landscaping, an average area of 0.13 irrigated acres per ERU was determined and used to estimate the outdoor peak instantaneous demand. The number of outdoor ERUs represents the estimated number of existing ERUs using culinary water for irrigation. This was done by subtracting the number of irrigation ERUs from the total culinary ERUs.

**Table VII.A-1: Current Required Distribution Demands**

Indoor Peak Instantaneous Demand:	
$Q = 10.8 \times N^{.64}$	N= Number of ERU's
$Q = 10.8 \times (3775)^{.64}$	
$Q =$	= 2,102 gpm
Outdoor Peak Instantaneous Demand:	
$2,937 \text{ ERU} \times \frac{0.13 \text{ acre}}{\text{ERU}} \times \frac{9.8 \text{ gpm}}{\text{irr. acre}}$	= 3,742 gpm
<b>Current Peak Instantaneous Demand</b>	<b>= <u>5,844 gpm</u></b>
Peak Day Demand & Fire Flow	
$3,775 \text{ ERU's} \times \frac{966 \text{ gpd}}{\text{ERU}} \times \frac{1 \text{ day}}{24 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min.}}$	= 2532 gpm
Fire Flow	= 1,250 gpm
<b>Current Peak Day Demand + Fire Flow</b>	<b>= <u>3,782 gpm</u></b>

## SECTION VII – WATER DISTRIBUTION SYSTEM ANALYSIS

As previously discussed, the peak day demand is twice the average amount of historical usage, or 966 gpd/ERU. The State regulation for fire flow requires a minimum of 1,000 gpm, but the City has identified 1,250 gpm as a goal for all hydrants throughout the City and therefore 1,250 gpm has been used for this analysis. State regulations require all fire hydrants to be served from 8-inch diameter or larger pipelines unless it can be proven through the use of modeling that 6-inch lines are sufficient.

The existing Santa Clara culinary water distribution system has been modeled for these demands using the computer program infowater® by Innovyze®. The main network of Santa Clara City's distribution system appears to be providing good service to the majority of connections. At the existing peak day demand, the model shows that all the junctions in the system are able to produce the required fire flows while maintaining the minimum required pressure of 20 psi at all other connections. The system was capable of maintaining pressures of 30 psi at all nodes while experiencing peak instantaneous demands and 40 psi while experiencing peak day demands.

### B. PROJECTED CULINARY DISTRIBUTION SYSTEM ANALYSIS

The projected distribution system analysis is performed using the same assumptions as in the existing system analysis, except that the projected number of ERUs in 2043 are inserted into the calculations. Table VII.B-1 subtracts the projected number of irrigation ERUs in 2043 without the irrigation recommended improvements and Table VII.B-2 subtracts the projected number of irrigation ERUs in 2043 with the recommended irrigation improvement projects. These recommendations have been made to aid in conservation and can be seen in the following section VIII.

**Table VII.B-1: Projected 20-Year Required Distribution Demands without Irrigation Projects**

Indoor Peak Instantaneous Demand:		N= Number of ERU's	
Q=	10.8 X N^.64		
Q=	10.8 X 8,271 ^.64		
Q=		=	3,473 gpm
Outdoor Peak Instantaneous Demand:			
3,162 ERU X	0.13 acre X conn.	9.8 gpm irr. acre	= 4,028 gpm
Projected Peak Instantaneous Demand		= 7,501 gpm	
Peak Day Demand & Fire Flow			
8,271 ERU's X	689 gpd X ERU	1 day 24 hr	1 hr 60 min.
Fire Flow		=	1,250 gpm
Projected Peak Day Demand + Fire Flow		= 5,206 gpm	

## SECTION VII – WATER DISTRIBUTION SYSTEM ANALYSIS

**Table VII.B-2: Projected 20-Year Required Distribution Demands with Irrigation Projects**

<b>Indoor Peak Instantaneous Demand:</b>			
Q=	10.8 X N^.64	N= Number of ERU's	
Q=	10.8 X 8,271 ^.64		
Q=		=	3,473 gpm
<b>Outdoor Peak Instantaneous Demand:</b>			
2,714 ERU X	0.13 acre X conn.	9.8 gpm irr. acre	= 3,457 gpm
<b>Projected Peak Instantaneous Demand</b>		=	<u><b>6,930 gpm</b></u>
<b>Peak Day Demand &amp; Fire Flow</b>			
8,271 ERU's X	689 gpd X ERU	1 day 24 hr 1 hr 60 min.	= 3,956 gpm
Fire Flow		=	1,250 gpm
<b>Projected Peak Day Demand + Fire Flow</b>		=	<u><b>5,206 gpm</b></u>

Modeling the future system without any improvements, project that the system is capable of maintaining pressures of 30 psi at all nodes while experiencing peak instantaneous demands and 40 psi while experiencing peak day demands. The system is also capable of providing the minimum required pressure of 20 psi while producing the required fire flow. However, there were areas in the system where pipe flow velocities are anticipated to be above 5 ft/s. Recommendations have been made to decrease flows in these areas.

A final model incorporating the recommended culinary distribution system improvements has also been created. This system was modeled using the projected 2043 system demands with and without irrigation improvements. With these modifications, the system will be able to meet all state requirements and protect pipes by decreasing velocity.

### C. EXISTING IRRIGATION DISTRIBUTION SYSTEM ANALYSIS

Unlike culinary water systems, there are no State irrigation system requirements regarding pressure. However, the same general guideline Sunrise recommends for culinary systems was used for the irrigation distribution system analysis. Namely, that the system be able to provide a minimum static pressure of 50 psi at every point in the distribution system.

The peak day demand, which is twice the average usage of 719 gpd/ERU has been used in this analysis and shown Table VII.C-1.

## SECTION VII – WATER DISTRIBUTION SYSTEM ANALYSIS

**Table VII.C-1: Current Required Distribution Demands**

$$127 \text{ ERU's} \times \frac{1,898 \text{ gpd}}{\text{ERU}} \times \frac{1 \text{ day}}{24 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min.}} = 167 \text{ gpm}$$

The existing Santa Clara irrigation water distribution system has been modeled for these demands using the computer program infowater® by Innovyze®. The main network of Santa Clara City's distribution system appears to be providing sufficient service to all of the connections. At the existing average day demand and peak day demand, the model shows that all the junctions in the system are able to produce the recommended 50 psi.

### D. PROJECTED IRRIGATION DISTRIBUTION SYSTEM ANALYSIS

The projected distribution system analysis is performed using the same assumptions as in the existing system analysis, except that the projected number of ERUs in 2043 are inserted into the calculations. The projected peak day demand is calculated in Table VII.D-1 below.

**Table VII.D-1: Projected 20-Year Required Distribution Demands**

$$2,303 \text{ ERU's} \times \frac{1,260 \text{ gpd}}{\text{ERU}} \times \frac{1 \text{ day}}{24 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min.}} = 2,015 \text{ gpm}$$

Modeling the future system with the included expansion projects shows that the system is capable of maintaining pressures of 50 psi at all nodes while experiencing peak demands. More infowater analysis information can be found in Appendix B.

### E. RECOMMENDED DISTRIBUTION SYSTEM IMPROVEMENTS

In an effort to meet the State requirements for future demands and improve conservation efforts the following distribution system improvements are recommended. The recommendations exhibits are shown in Appendix A.

- New 12" line connecting North Hamblin Parkway to North Town Road
- 10" to 12" PRV Enlargement
- 12" Line to connect Wells 6/7 to the Snow Canyon Tank
- New 8" irrigation line along Riesling Avenue
- New 8" irrigation line along Crestview Drive
- New 8" irrigation line to connect Villa Bonita subdivision
- New 8" line along North Town Road
- New 8" line along Sycamore Drive

## SECTION VIII – SUMMARY OF RECOMMENDED SYSTEM IMPROVEMENTS

### VIII. SUMMARY OF RECOMMENDED SYSTEM IMPROVEMENTS

#### A. RECOMMENDED SYSTEM IMPROVEMENTS

Based on the findings from Sections III - VII, showing immediate system needs as well as requirements for growth projected over the next 20 years and build-out, it is recommended that the City proceed with a construction project to implement improvements as required to bring the system into conformance with State rules and maintain the same level of service. Table VIII.A-1 summarizes the recommended improvements.

**Table VIII.A-1: Recommended System Improvements**

RECOMMENDED WATER SYSTEM IMPROVEMENTS	
ANALYSIS	RECOMMENDED IMPROVEMENTS
1. Water Rights	Recommendations given in the Water Rights Report including: 1. Application changes 2. Title changes 3. Proof of Beneficial Use 4. State flow correction 5. Purchase additional Water Shares
2. Water Source Capacity	A new well
3. Water Storage Capacity	No improvements
4. Water Treatment	Continue to monitor chlorine residual in system
5. Distribution System	1. New 12" line connecting North Hamblin Parkway to North Town Road 2. 10" to 12" PRV Enlargement 3. New 12" Line to connect Wells 6/7 to the Snow Canyon Tank 4. New 8" irrigation line along Riesling Avenue 5. New 8" irrigation line along Crestview Drive 6. New 8" irrigation line to connect Villa Bonita subdivision 7. New 8" line along North Town Road 8. New 8" line along Sycamore Drive

## SECTION VIII – SUMMARY OF RECOMMENDED SYSTEM IMPROVEMENTS

### B. PRELIMINARY ENGINEER'S OPINION OF PROBABLE COST

An Engineer's Opinion of Probable Cost (EOPC) for the recommended water system improvements has been provided in Appendix D.

The EOPC includes all anticipated construction costs, contingency budgets, and all other normal project costs such as survey, administration, engineering, legal services, fiscal costs, rights-of-way, etc. A summary of the project cost estimates is included in Table VIII.B-1.

Table VIII.B-1: Project Cost Summary

Project Description	Total Cost
Culinary: Water Right Recommendations	\$ 18,000
Culinary: North Hamblin Pkwy to North Town Rd 12" Line	\$ 292,400
Culinary: 10" to 12" PRV Enlargement	\$ 208,550
Culinary: 12" Line Well Connection to Snow Canyon Tank	\$ 4,170,000
Culinary: New Well	\$ 2,114,350
Irrigation: Riesling Avenue 8" Line	\$ 136,140
Irrigation: Crestview Drive 8" Line	\$ 505,230
Irrigation: Villa Bonita 8" Line	\$ 99,900
Irrigation: North Town Road 8" Line	\$ 579,665
Irrigation: Sycamore Drive 8" Line	\$ 124,470
Irrigation: Claude Drive 8" Line	\$ 124,470
Irrigation: Additional Water Share Purchase	\$ 363,600
<b>TOTAL PROJECT COSTS</b>	<b>\$ 8,736,775</b>

### C. PROPOSED FINANCING PLAN

The City plans to self-fund the proposed projects. Table VIII.C-1 outlines a sample financing scenario for the recommended improvements starting in fiscal year 2024/25. It is assumed that no grants will be received and that all projects will be completed within 14 years.

## SECTION VIII – SUMMARY OF RECOMMENDED SYSTEM IMPROVEMENTS

**TABLE VIII.C-1**  
**PROPOSED FINANCING PLAN**

<b>PROJECT COST 2024/25</b>	\$	<b>624,055</b>
<b>FY 2024/25 EXPENSES</b>		
<b>Proposed Funding:</b>	Rate	Term in Yrs.
Self Participation		
		624,055
<b>TOTAL PROJECT FUNDING:</b>		<b>\$624,055</b>
<b>EXPENSES: (First Year of New Debt Serv. Pmt.)</b>		
Salaries, Wages, & Benefits (100's)		\$659,545
Materials & Supplies (200's)		\$444,095
Professional & Technical Services (300's)		\$51,577
Special Dept. Materials & Supplies (400's)		\$70,481
Other Charges (500's)		\$28,411
Capital Expenses (700's)		\$178,115
Others (900's)		\$658,344
	<b>Subtotal Operations and Maintenance:</b>	<b>\$2,090,567</b>
<b>EXISTING DEBT SERVICE</b>		
Debt Payment to Water District	Not Impact Fee Eligible	
	58%	\$36,888
All other Debt		\$165,719
	<b>Subtotal Existing Annual Debt Service:</b>	<b>\$202,607</b>
Renewal and Replacement Fund		\$156,349
	<b>GRAND TOTAL EXPENSES:</b>	<b>\$3,073,578</b>
<b>ANNUAL INCOME</b>		
Other Operating Revenues		58,460.89
Interest Income		41,554.41
Connection Fees		36,885.00
Impact Fees		480,022.65
Total Number Of ERU's		3,926
Average Monthly Water User Rate/ERU (Without WCWCD Surcharge)		<b>\$52.15</b>
WCWCD Surcharge		<b>\$1.75</b>
Average Monthly Water User Rate/ERU (With WCWCD Surcharge)		<b>\$53.90</b>
	<b>TOTAL ANNUAL INCOME:</b>	<b>\$3,073,578</b>

## IX. WATER RATE ANALYSIS

### A. GENERAL

Generally, water rates are a combination of base rates and overage rates wherein a base amount of water is provided for the base rate charge. The base rate is charged to all connections in the system whether or not water is used and should cover all fixed costs of the system. Overage rates are normally set to encourage water conservation but should always cover all variable costs of the system. The City has established the following service fee rate structures shown in Table IX.A-1 and Table IX.A-2:

**Table IX.A-1: Existing Culinary Water Rates**

Current Overage Rates (Per 1,000 Gallons)	Monthly Base Rate		
	Meter Size	\$/month	
5001-9000	\$ 0.90	5/8" & 3/4"	\$ 32.00
9001-16000	\$ 1.43	1"	\$ 57.60
16001-23000	\$ 1.68	1-1/2"	\$ 128.00
23001-30000	\$ 2.12	2"	\$ 224.00
30001-45000	\$ 2.56	3"	\$ 512.00
45001-60000	\$ 3.12	4"	\$ 928.00
60001 & UP	\$ 3.12	6"	\$ 2,048.00

**Table IX.A-2: Existing Irrigation Water Rates**

Current Overage Rates (Per 1,000 Gallons)	Monthly Base Rate		
	Meter Size	\$/month	
9000-16,000	\$ 0.74	All Meters	\$ 22.00
16,001-23,000	\$ 0.92		
23,000-30,000	\$ 1.23		
30,001 & UP	\$ 1.46		

### B. AVERAGE RATE DETERMINATION FOR FY2024

#### *Culinary Rate*

Table IX.B-1 shows a method used to determine the average water rate per ERU which should be divided among all system customers. The table uses data for the year of the new debt service (2024) and uses the existing and new debt service as part of the equation.

Annual revenues must be sufficient to cover the expenses incurred by the construction, maintenance, and administration of the water system. These expenses could include items such as debt service, personnel services, operation & maintenance, insurance, and other supplies & expenses. It is strongly recommended that the city maintain a funded depreciation account or a replacement fund to provide the money necessary for replacement and repair of water department facilities and pipelines.

## SECTION IX - WATER RATE ANALYSIS

Based on the calculations shown in Table VIII.C-1, the average water rate per residential connection (1 ERU) for any newly adopted rate structure for the year 2024 would need to be approximately \$52.15. It should be noted that this assumes that the system has grown to 3,926 ERUs and that the district has chosen to pursue construction of the proposed improvements. It is estimated that this rate would allow the city to pay the debt and operations costs associated with the culinary water system. The existing average monthly user rate revenue per residential connection in 2021 was calculated to be \$41.45 and determined to be insufficient to meet the \$52.15 per ERU that was calculated. A rate increase of \$10.70 is estimated to be needed to cover the anticipated expenses; however, rates should be looked at annually as expenses increase in a typical year.

**Table IX.B-1: Culinary Fixed Rate Analysis**

FIXED RATE ANALYSIS				
<b>Estimated FY 2024 Expenses</b>	<b>Fixed</b>	<b>Variable</b>	<b>Total</b>	
Salaries, Wages, & Benefits (100's)	\$ 461,682	\$ 197,864	\$ 659,545	
Materials & Supplies (200's)	\$ 310,867	\$ 133,229	\$ 444,095	
Professional & Technical Services (300's)	\$ 36,104	\$ 15,473	\$ 51,577	
Special Dept. Materials & Supplies (400's)	\$ 49,337	\$ 21,144	\$ 70,481	
Other Charges (500's)	\$ 19,888	\$ 8,523	\$ 28,411	
Capital Expenses (700's)	\$ 124,680	\$ 53,434	\$ 178,115	
Others (900's)	\$ 460,841	\$ 197,503	\$ 658,344	
<b>EXISTING DEBT SERVICE</b>	\$ -			
Debt Payment to Water District	\$ 36,888	\$ -	\$ 36,888	
All other Debt	\$ 165,719	\$ -	\$ 165,719	
	\$ -			
<b>NEW DEBT SERVICE</b>	\$ -			
Division of Water Resources	\$ -	\$ -	\$ -	
Revenue Bond Reserves 10%	\$ -	\$ -	\$ -	
<b>Estimated FY 2024 Revenue (Excluding User Fees)</b>				
Other Operating Revenues	\$ 40,923	\$ 17,538	\$ 58,461	
Connection Fees	\$ 9,221	\$ 27,664	\$ 36,885	
Impact Fees	\$ 120,006	\$ 360,017	\$ 480,023	
Interest Income	\$ 10,589	\$ 31,767	\$ 42,356	
<b>Total Expenses:</b>	<b>\$ 2,165,248</b>	<b>\$ 908,330</b>	<b>\$ 3,073,578</b>	
<b>Total Revenue:</b>	<b>\$ 180,738</b>	<b>\$ 436,986</b>	<b>\$ 617,724</b>	
Total Projected System ERUs in FY2024	3,926		3,926	
<b>Monthly Cost/ERU in FY2024</b>	<b>\$42.15</b>	<b>\$10.01</b>	<b>\$52.15</b>	

## SECTION IX - WATER RATE ANALYSIS

### Irrigation Rate

A similar method to determine culinary water rates was used for irrigation. However, all the proposed projects for the irrigation system have been included as culinary projects because they minimize future culinary outdoor usage. Because of this, the only costs incorporated in the irrigation system rate determination is an anticipated cost of \$50,000 for maintaining and operating the system. This value was assumed based on comparison of the city culinary system expenses and size in relation to the irrigation system size. Because the usage between residential and "other" connections is so different in the irrigation system, rates were also determined based on connection type rather than ERUs. This is shown in Table IX.B-2 below.

**Table IX.B-2: Irrigation Fixed Rate Analysis**

FIXED RATE ANALYSIS				
<b>Estimated Annual Expenses FY 2023/24</b>				
	<b>Fixed</b>	<b>Variable</b>	<b>Total</b>	
Operating Expenses	\$ 40,000	\$ 10,000	\$50,000	
Project Cost	\$ -	\$ -	\$ -	
Renewal and Replacement Fund	\$ -	\$ 2,500	\$2,500	
<b>Total Expenses:</b>	<b>\$ 40,000</b>	<b>\$ 12,500</b>	<b>\$ 52,500</b>	
<b>Estimated Annual Revenue FY 2023/24</b>				
Residential Connections				54
"Other" Connections				8
<b>Monthly Cost/Res Connection</b>	<b>\$17.15</b>	<b>\$5.36</b>	<b>\$22.51</b>	
<b>Monthly Cost/"Other" Connection</b>	<b>\$300.93</b>	<b>\$94.04</b>	<b>\$394.97</b>	

### C. BASE AND OVERAGE RATE DETERMINATION

This study includes separating the average user rate into base and overage rates and investigates possible rate structures that would promote conservation and work hand-in-hand with drought management policies. In order to determine a base and overage schedule, the projected expenses of the water system for 2024 have been separated into fixed and variable expenses (Table IX.B-1). It is recommended that the base rate should cover the fixed expenses of the system. Tables IX.B-1 and XI.B-2 above suggest possible scenarios for determining base and overage rates for the city. Fixed costs are covered by the base rate and variable costs are covered by the overage rates. This rate scenario simply identifies base and overage rates that should satisfy the revenue requirements based on estimated operation and maintenance (O&M) expenses and on projected water usage. The city is able to set the rate structure to any amount it deems to be fair. However, the rates should be such that the system remains financially viable. The city may decide to lower the base rate and increase variable costs in order to promote further conservation.

## SECTION IX - WATER RATE ANALYSIS

The city should have a rate schedule that will result in revenues that will provide the necessary culinary water system improvements as recommended in this Plan and maintain the current level of O&M. The base and overage rates should be examined each year to ensure that enough revenue is being generated to cover the expenses.

### D. POSSIBLE RATE STRUCTURE

#### *Culinary Rate Structure*

Table IX.D-1 illustrates a possible rate structure based on the base and overage rates suggested in Section C and city council preference. This rate structure is designed to have an average bill of \$52.15+ per ERU each month. The average bill was determined using the average monthly water use of approximately 14,700 gallons which is based on the historical average usage of 483 gpd. The way to confirm that the average rate produced will cover annual expenses is to implement the structure and evaluate the results after a full year of use.

Calculations based on the City's financial data show that the proposed rate structures should provide an average rate revenue sufficient to sustain the system. It is recommended that, if in a given year there are excess funds generated by the existing rate, these funds be saved in an interest-bearing Renewal and Replacement account for expenditures on future projects.

**Table IX.D-1: Possible Culinary Rate Structure with no Water Included**

Proposed Overage Rates (Per 1,000 Gallons)	Monthly Base Rate			Average Rate Based on Usage
	Meter Size	\$/month		
0000-9000	\$ 0.92	5/8" & 3/4"	\$ 37.25	\$ 53.80
9001-16000	\$ 1.45	1"	\$ 62.85	\$ 220.08
16001-23000	\$ 1.70	1-1/2"	\$ 133.25	\$ 290.48
23001-30000	\$ 2.35	2"	\$ 229.25	\$ 460.87
30001-36000	\$ 3.00	3"	\$ 517.25	\$ 748.87
36001-& UP	\$ 4.30	4"	\$ 933.25	\$ 1,164.87

#### *Irrigation Rate Structure*

Tables IX.D-2 illustrates a possible rate structure based on the base and overage rates suggested in Section C and city council preference. The overage rate structures are stepped to promote conservation by charging a higher amount for excessive water usage. The structure has also been split by meter size. This was done to better monitor high users (classified as "other" ERUs) because one residential ERU is equivalent to 17.55 "other" ERUs and it is predicted that they will contribute to more than half of the ERUs, but only 10 actual meters by 2033. Because of this, the current average of \$313.52/month per "other" connection is not sufficient and will need to be increased to \$394.97/month.

## SECTION IX - WATER RATE ANALYSIS

**Table IX.D-2: Possible Irrigation Rate Structure**

Meter Size	Base Rate	Tiered Rate above Base (per 1,000 gal)	Gallon Range for Tiered Rate	Max Rate Per Range	Average Rate Based on Usage
3/4"-1"	\$ 20.00	\$ 0.25	0 to 5000	\$ 21.25	\$ 24.43
		\$ 0.50	5000 to 10000	\$ 23.75	
		\$ 0.75	10001 to 15000	\$ 27.50	
		\$ 1.00	15001 to 20000	\$ 32.50	
		\$ 1.25	20001 & UP	\$ 32.50 +	
1 1/2"	\$ 20.00	\$ 0.30	0 to 5000	\$ 21.50	\$ 309.00
		\$ 0.40	5000 to 10000	\$ 23.50	
		\$ 0.50	10001 to 15000	\$ 26.00	
		\$ 0.60	15001 to 20000	\$ 29.00	
		\$ 0.70	20001 & UP	\$ 29.00 +	
2"	\$ 22.00	\$ 0.30	0 to 10000	\$ 25.00	\$ 368.70
		\$ 0.40	10001 to 15000	\$ 27.00	
		\$ 0.50	15001 to 20000	\$ 29.50	
		\$ 0.60	20001 to 30000	\$ 35.50	
		\$ 0.70	30001 & UP	\$ 35.50 +	
3"	\$ 50.00	\$ 0.30	0 to 10000	\$ 53.00	\$ 396.70
		\$ 0.40	10001 to 15000	\$ 55.00	
		\$ 0.50	15001 to 20000	\$ 57.50	
		\$ 0.60	20001 to 30000	\$ 63.50	
		\$ 0.70	30001 & UP	\$ 63.50 +	
4"	\$ 100.00	\$ 0.30	0 to 10000	\$ 103.00	\$ 444.60
		\$ 0.40	10001 to 15000	\$ 105.00	
		\$ 0.50	15001 to 20000	\$ 107.50	
		\$ 0.60	20001 to 30000	\$ 113.50	
		\$ 0.70	30001 & UP	\$ 113.50 +	

Calculations based on the City's financial data show that the proposed rate structures should provide an average rate revenue sufficient to sustain the system. It is recommended that, if in a given year there are excess funds generated by the existing rate, these funds be saved in an interest-bearing Renewal and Replacement account for expenditures on future projects.

## E. POSSIBLE DROUGHT RATE STRUCTURES

### *Culinary Drought Rate Structure*

WCWCD has implemented a drought contingency plan consisting of 5 stages: Conserve, Caution, Concern, Crisis, and Catastrophic. Each of these stages represent increasing degrees of drought severity and identify how a city should act in each stage. For example, in the "Catastrophic" Stage all outdoor water usage should be halted, and indoor usage should be reduced by 30%. The "Conserve" stage is assumed to be the current Santa Clara stage and the proposed rate structure represents these efforts. Should the other 4 stages ever be implemented in the city the following rate structures are recommended. This will ensure the city still receives the necessary funds to maintain and operate the system even with the reduction in water usage.

## SECTION IX - WATER RATE ANALYSIS

**Table IX.E-1: Possible Culinary Drought Rate Structure- Caution Stage**

Proposed Overage Rates (Per 1,000 Gallons)	Monthly Base Rate		Average Rate Based on Usage
	Meter Size	\$/month	
0000-9000	\$ 1.03	5/8" & 3/4"	\$ 52.18
9001-16000	\$ 1.56	1"	\$ 200.68
16001-23000	\$ 1.81	1-1/2"	\$ 271.08
23001-30000	\$ 3.25	2"	\$ 431.68
30001-36000	\$ 3.69	3"	\$ 719.68
36001-& UP	\$ 4.25	4"	\$ 1,135.68

**Table IX.E-2: Possible Culinary Drought Rate Structure- Concern Stage**

Proposed Overage Rates (Per 1,000 Gallons)	Monthly Base Rate		Average Rate Based on Usage
	Meter Size	\$/month	
0000-9000	\$ 1.35	5/8" & 3/4"	\$ 52.22
9001-16000	\$ 1.88	1"	\$ 174.51
16001-23000	\$ 2.13	1-1/2"	\$ 244.91
23001-30000	\$ 3.57	2"	\$ 397.12
30001-36000	\$ 4.01	3"	\$ 685.12
36001-& UP	\$ 4.57	4"	\$ 1,101.12

**Table IX.E-3: Possible Culinary Drought Rate Structure- Crisis Stage**

Proposed Overage Rates (Per 1,000 Gallons)	Monthly Base Rate		Average Rate Based on Usage
	Meter Size	\$/month	
0000-9000	\$ 2.57	5/8" & 3/4"	\$ 52.16
9001-16000	\$ 3.10	1"	\$ 123.09
16001-23000	\$ 3.35	1-1/2"	\$ 193.49
23001-30000	\$ 4.79	2"	\$ 316.21
30001-36000	\$ 5.23	3"	\$ 604.21
36001-& UP	\$ 5.79	4"	\$ 1,020.21

**Table IX.E-4: Possible Culinary Drought Rate Structure- Catastrophic Stage**

Proposed Overage Rates (Per 1,000 Gallons)	Monthly Base Rate		Average Rate Based on Usage
	Meter Size	\$/month	
0000-9000	\$ 3.93	5/8" & 3/4"	\$ 52.18
9001-16000	\$ 4.46	1"	\$ 124.53
16001-23000	\$ 4.71	1-1/2"	\$ 194.93
23001-30000	\$ 6.15	2"	\$ 311.85
30001-36000	\$ 6.59	3"	\$ 599.85
36001-& UP	\$ 7.15	4"	\$ 1,015.85

## SECTION IX - WATER RATE ANALYSIS

### *Irrigation Drought Rate Structure*

The irrigation rate structures recommended in a drought follow the same stages as the culinary system. The "Conserve" stage is assumed to be the current Santa Clara stage and the proposed rate structure represents these efforts. Should the other 4 stages ever be implemented in the city the following rate structures are recommended. This will ensure the city still receives the necessary funds to maintain and operate the system even with the reduction in water usage.

**Table IX.E-5: Possible Irrigation Drought Rate Structure- Caution Stage**

Meter Size	Base Rate	Tiered Rate above Base (per 1,000 gal)	Gallon Range for Tiered Rate	Max Rate Per Range	Average Rate Based on Usage
3/4"-1"	\$ 20.00	\$ 0.35	0 to 5000	\$ 21.75	\$ 23.97
		\$ 0.60	5000 to 10000	\$ 24.75	
		\$ 0.85	10001 to 15000	\$ 29.00	
		\$ 1.10	15001 to 20000	\$ 34.50	
		\$ 1.35	20001 & UP	\$ 34.50 +	
1 1/2"	\$ 20.00	\$ 0.40	0 to 5000	\$ 22.00	\$ 283.80
		\$ 0.50	5000 to 10000	\$ 24.50	
		\$ 0.60	10001 to 15000	\$ 27.50	
		\$ 0.70	15001 to 20000	\$ 31.00	
		\$ 0.80	20001 & UP	\$ 31.00 +	
2"	\$ 22.00	\$ 0.40	0 to 10000	\$ 26.00	\$ 338.34
		\$ 0.50	10001 to 15000	\$ 28.50	
		\$ 0.60	15001 to 20000	\$ 31.50	
		\$ 0.70	20001 to 30000	\$ 38.50	
		\$ 0.80	30001 & UP	\$ 38.50 +	
3"	\$ 50.00	\$ 0.40	0 to 10000	\$ 54.00	\$ 366.34
		\$ 0.50	10001 to 15000	\$ 56.50	
		\$ 0.60	15001 to 20000	\$ 59.50	
		\$ 0.70	20001 to 30000	\$ 66.50	
		\$ 0.80	30001 & UP	\$ 66.50 +	
4"	\$ 100.00	\$ 0.40	0 to 10000	\$ 104.00	\$ 414.42
		\$ 0.50	10001 to 15000	\$ 106.50	
		\$ 0.60	15001 to 20000	\$ 109.50	
		\$ 0.70	20001 to 30000	\$ 116.50	
		\$ 0.80	30001 & UP	\$ 116.50 +	

## SECTION IX - WATER RATE ANALYSIS

**Table IX.E-6: Possible Irrigation Drought Rate Structure- Concern Stage**

Meter Size	Base Rate	Tiered Rate above Base (per 1,000 gal)	Gallon Range for Tiered Rate	Max Rate Per Range	Average Rate Based on Usage
3/4"-1"	\$ 20.00	\$ 0.50	0 to 5000	\$ 22.50	\$ 23.63
		\$ 0.75	5000 to 10000	\$ 26.25	
		\$ 1.00	10001 to 15000	\$ 31.25	
		\$ 1.25	15001 to 20000	\$ 37.50	
		\$ 1.50	20001 & UP	\$ 37.50 +	
1 1/2"	\$ 20.00	\$ 0.65	0 to 5000	\$ 23.25	\$ 279.60
		\$ 0.75	5000 to 10000	\$ 27.00	
		\$ 0.85	10001 to 15000	\$ 31.25	
		\$ 0.95	15001 to 20000	\$ 36.00	
		\$ 1.05	20001 & UP	\$ 36.00 +	
2"	\$ 22.00	\$ 0.65	0 to 10000	\$ 28.50	\$ 333.28
		\$ 0.75	10001 to 15000	\$ 32.25	
		\$ 0.85	15001 to 20000	\$ 36.50	
		\$ 0.95	20001 to 30000	\$ 46.00	
		\$ 1.05	30001 & UP	\$ 46.00 +	
3"	\$ 50.00	\$ 0.65	0 to 10000	\$ 56.50	\$ 361.28
		\$ 0.75	10001 to 15000	\$ 60.25	
		\$ 0.85	15001 to 20000	\$ 64.50	
		\$ 0.95	20001 to 30000	\$ 74.00	
		\$ 1.05	30001 & UP	\$ 74.00 +	
4"	\$ 100.00	\$ 0.65	0 to 10000	\$ 106.50	\$ 409.39
		\$ 0.75	10001 to 15000	\$ 110.25	
		\$ 0.85	15001 to 20000	\$ 114.50	
		\$ 0.95	20001 to 30000	\$ 124.00	
		\$ 1.05	30001 & UP	\$ 124.00 +	

**Table IX.E-7: Possible Irrigation Drought Rate Structure- Crisis Stage**

Meter Size	Base Rate	Tiered Rate above Base (per 1,000 gal)	Gallon Range for Tiered Rate	Max Rate Per Range	Average Rate Based on Usage
3/4"-1"	\$ 20.00	\$ 2.50	0 to 5000	\$ 32.50	\$ 22.75
		\$ 2.75	5000 to 10000	\$ 46.25	
		\$ 3.00	10001 to 15000	\$ 61.25	
		\$ 3.25	15001 to 20000	\$ 77.50	
		\$ 3.50	20001 & UP	\$ 77.50 +	
1 1/2"	\$ 20.00	\$ 5.00	0 to 5000	\$ 45.00	\$ 289.00
		\$ 5.50	5000 to 10000	\$ 72.50	
		\$ 6.00	10001 to 15000	\$ 102.50	
		\$ 6.50	15001 to 20000	\$ 135.00	
		\$ 7.00	20001 & UP	\$ 135.00 +	
2"	\$ 22.00	\$ 5.00	0 to 10000	\$ 72.00	\$ 338.70
		\$ 5.50	10001 to 15000	\$ 99.50	
		\$ 6.00	15001 to 20000	\$ 129.50	
		\$ 6.50	20001 to 30000	\$ 194.50	
		\$ 7.00	30001 & UP	\$ 194.50 +	
3"	\$ 50.00	\$ 5.00	0 to 10000	\$ 100.00	\$ 366.70
		\$ 5.50	10001 to 15000	\$ 127.50	
		\$ 6.00	15001 to 20000	\$ 157.50	
		\$ 6.50	20001 to 30000	\$ 222.50	
		\$ 7.00	30001 & UP	\$ 222.50 +	
4"	\$ 100.00	\$ 5.00	0 to 10000	\$ 150.00	\$ 414.60
		\$ 5.50	10001 to 15000	\$ 177.50	
		\$ 6.00	15001 to 20000	\$ 207.50	
		\$ 6.50	20001 to 30000	\$ 272.50	
		\$ 7.00	30001 & UP	\$ 272.50 +	

## SECTION IX - WATER RATE ANALYSIS

**Table IX.E-8: Possible Irrigation Drought Rate Structure- Catastrophic Stage**

Meter Size	Base Rate	Tiered Rate above Base (per 1,000 gal)	Gallon Range for Tiered Rate	Max Rate Per Range	Average Rate Based on Usage
3/4"-1"	\$ 22.50	\$ 2.50	0 to 5000	\$ 35.00	\$ 22.50
		\$ 2.75	5000 to 10000	\$ 48.75	
		\$ 3.00	10001 to 15000	\$ 63.75	
		\$ 3.25	15001 to 20000	\$ 80.00	
		\$ 3.50	20001 & UP	\$ 80.00 +	
1 1/2"	\$ 200.00	\$ 5.00	0 to 5000	\$ 225.00	\$ 200.00
		\$ 5.50	5000 to 10000	\$ 252.50	
		\$ 6.00	10001 to 15000	\$ 282.50	
		\$ 6.50	15001 to 20000	\$ 315.00	
		\$ 7.00	20001 & UP	\$ 315.00 +	
2"	\$ 250.00	\$ 5.00	0 to 10000	\$ 300.00	\$ 250.00
		\$ 5.50	10001 to 15000	\$ 327.50	
		\$ 6.00	15001 to 20000	\$ 357.50	
		\$ 6.50	20001 to 30000	\$ 422.50	
		\$ 7.00	30001 & UP	\$ 422.50 +	
3"	\$ 400.00	\$ 5.00	0 to 10000	\$ 450.00	\$ 400.00
		\$ 5.50	10001 to 15000	\$ 477.50	
		\$ 6.00	15001 to 20000	\$ 507.50	
		\$ 6.50	20001 to 30000	\$ 572.50	
		\$ 7.00	30001 & UP	\$ 572.50 +	
4"	\$ 500.00	\$ 5.00	0 to 10000	\$ 550.00	\$ 500.00
		\$ 5.50	10001 to 15000	\$ 577.50	
		\$ 6.00	15001 to 20000	\$ 607.50	
		\$ 6.50	20001 to 30000	\$ 672.50	
		\$ 7.00	30001 & UP	\$ 672.50 +	

The drought rate structures only change the overage rates from the proposed rate structure with the exception of the irrigation "Catastrophic" stage. This stage completely eliminates any outdoor usage, so changing overage rates would be ineffective and so Base rates were updated to ensure necessary funds can still be obtained.

## F. SUMMARY

Based on the District's financial data and the information presented in this Plan, the existing rates have been determined to be insufficient to meet the \$52.15 per culinary ERU and \$394.97 per irrigation "other" connection that is needed per the Financing Plan. A rate increase of \$10.70 and \$81.45, respectively, is estimated to be needed to cover the anticipated expenses. Water rates and fees should be reviewed by the city periodically to ensure that they keep up with inflation rates and increased costs for system maintenance. The Cash Flow Projection included in Appendix E assumes a yearly rate increase of 1.25% based on inflation.

The city does not have to adopt the amounts shown in the rate analysis. However, the rates suggested are calculated to be enough to ensure that the water fund remains viable while paying for the existing debt service and the projected debt based on the recommendations in this plan.

## X. IMPACT FEES

### A. IMPACT FEE

This report constitutes a capital fee facilities plan to determine the public facilities requirement to serve development resulting from new development activity. An impact fee that is charged by a community may be used to pay for the debt service associated with surplus capacity built into the system. The surplus capacity in the water system has been designed for growth, and for this reason, impact fees should pay for that portion of the debt service associated with the system surplus capacity. The impact fee should also be used to pay for the cost of improvements to the system that are required to support new growth as new connections are added to the system.

### B. CULINARY & IRRIGATION COMBINED CALCULATION

The total cost that is eligible for the impact fee assessment is equal to the existing debt service from previous water improvements projects that can be attributed to new growth plus the portion of any planned water improvements project that will be constructed to accommodate new growth. The combined total cost that is due to new growth is divided by the projected number of new ERUs that will be added to the system within the service area.

Currently the system meets all requirements and community demands for a culinary system except for the Water Right analysis recommendations which are needed regardless of new growth. This means that all other improvements are recommended to benefit new growth and are therefore 100% impact fee eligible. The impact fee calculation resulting from culinary and irrigation projects being analyzed together can be found in Table X.B-1.

**TABLE X.B-1**  
**IMPACT FEE ANALYSIS FY2023/2024**  
**WATER MASTER PLAN**  
**SANTA CLARA CITY**

22-May-23

<b>EXISTING DEBT SERVICE</b>	<b>P&amp;I</b>	<b>% Eligible</b>	<b>% Water Dept.</b>	<b>Eligible</b>
Debt Payment to Water District	\$ 1,272,000	58%		\$ 737,760
All other Debt	\$ 5,714,440	58%		\$ 3,314,375
<b>Existing/Past Projects Impact Fee Eligible Costs:</b>				<b>\$ 4,052,135</b>
<b>PROPOSED IMPROVEMENT PROJECTS</b>				
	<b>Total Cost</b>	<b>% Eligible</b>	<b>Impact Fee Eligible</b>	
Culinary: Water Right Recommendations	\$ 18,000	0%	\$ -	
Culinary: North Hamblin Pkwy to North Town Rd 1	\$ 292,400	100%	\$ 292,400	
Culinary: 10" to 12" PRV Enlargement	\$ 208,550	100%	\$ 208,550	
Culinary: 12" Line Well Connection to Snow Cany	\$ 4,170,000	100%	\$ 4,170,000	
Culinary: New Well	\$ 2,114,350	100%	\$ 2,114,350	
Irrigation: Riesling Avenue 8" Line	\$ 136,140	100%	\$ 136,140	
Irrigation: Crestview Drive 8" Line	\$ 505,230	100%	\$ 505,230	
Irrigation: Villa Bonita 8" Line	\$ 99,900	100%	\$ 99,900	
Irrigation: North Town Road 8" Line	\$ 579,665	100%	\$ 579,665	
Irrigation: Sycamore Drive 8" Line	\$ 124,470	100%	\$ 124,470	
Irrigation: Claude Drive 8" Line	\$ 124,470	100%	\$ 124,470	
Irrigation: Additional Water Share Purchase	\$ 363,600	100%	\$ 363,600	
Total Estimated New Project Cost	\$ 8,736,775	99.8%	\$ 8,718,775	
% Of New Projects Cost Due to New Growth			\$ 8,718,775	
Impact Fee Eligible Cost			\$ 8,718,775	
No. of ERUs (2023/2024)			3,775	
20-Year Projected ERUs			7,953	
No. of New ERUs Due to Growth			4,178	
Total Impact Fee Eligible Cost			\$ 12,770,910	
Maximum Water Impact Fee = Total Eligible Cost / New ERU's			\$ 3,056.75 /ERU.	
Proposed Water Impact Fee for Santa Clara (2023/2024) =			<b>\$ 3,057 /ERU.</b>	
WCWCD Impact Fee (2023)			\$ 8,417 /ERU.	
Total Potential Culinary Water Impact Fee (2023)			<b>\$ 11,474 /ERU.</b>	
Meter Size	X-Sectional Area (in <sup>2</sup> )	% Area Increase	Impact Fee	
3/4"	0.44	0%	\$ 3,057	
1"	0.79	80%	\$ 5,489	
1 1/2"	1.77	302%	\$ 12,297	
2"	3.14	614%	\$ 21,816	
3"	7.07	1507%	\$ 49,120	
4"	12.57	2757%	\$ 87,333	
6"	28.27	6325%	\$ 196,412	

P:\Santa Clara City\08401 Water & Irrigation IFFPA & IFA\06 Design\Financial- Culinary.xlsx]Impact Fee

## SECTION X - IMPACT FEES

Table X.B-1 shows that the maximum impact fee that the city may assess each new ERU is \$3,057. The current fee is \$1,973, resulting in a potential increase of \$1,084.

New connections will also pay an additional WCWCD fee, currently \$8,417 for a total of \$11,474.

It is important to note that these impact fees are for the improvements suggested in Section VII and do not provide for the District to design and build anything beyond the proposed projects.

All new additions to the system will need to be considered in the impact fee calculations. Otherwise, the developer should be required to make the improvements.

### C. VARYING IMPACT FEE CALCULATION

Because water usage traditionally varies based on the size and type of the residential unit, the city requested further analysis of impact fee dues based on different dwelling unit impact, specifically apartments.

#### *Apartment Complex Impact Fee Analysis*

Usage data was not obtained for apartment buildings, but estimated usage should be provided by developers before city approval. This usage can then be used to identify how many ERUs the complex will account for. For example, if the developer estimates a total usage of 15,000 gpd one would simply divide this by the average usage of 483 gpd to find that this complex is equivalent to approximately 31 ERUs. Therefore, they should be charged 31 times the traditional ERU impact fee. Table X.C-2 shows some theoretical fees assuming 200 gpd per unit using this method.

**Table X.C-2: Example Apartment Impact Fee**

With ERU IF of \$3,057				
Number of Units	Example Usage per Unit (gpd)	Usage for Complex (gpd)	ERUs	Impact Fee
10	*200	2,000	4.14	\$ 12,658
25	*200	5,000	10.35	\$ 31,646
50	*200	10,000	20.70	\$ 63,292
75	*200	15,000	31.06	\$ 94,938
100	*200	20,000	41.41	\$ 126,584
150	*200	30,000	62.11	\$ 189,876

\* Usage per apartment unit is an estimate, actual apartment gpd calculations will be submitted by developer and used to calculate impact fee.

### D. IMPACT FEE CERTIFICATION

The Impact Fee Certification is included as Appendix F.

### E. IMPACT FEE RELATED ITEMS

There are a few items related to Impact Fees that City council should keep in mind when planning for, collecting, and expending Impact Fees.

Generally, it is a good idea to update this plan at least every five years, or more frequently if occasion arises.

Council members should be made aware that, in conformance with Utah Code 11-36a-602, Impact Fees can generally only be expended for a system improvement that is identified in the Impact Fee Facilities Plan and that is for the specific public facility type for which the fee was collected (i.e. transportation impact fees cannot be used for water or sewer projects). Also, Impact Fees in Utah must be expended or encumbered for a permissible use within six years of their receipt unless 11-36a-602(2)(b) applies.

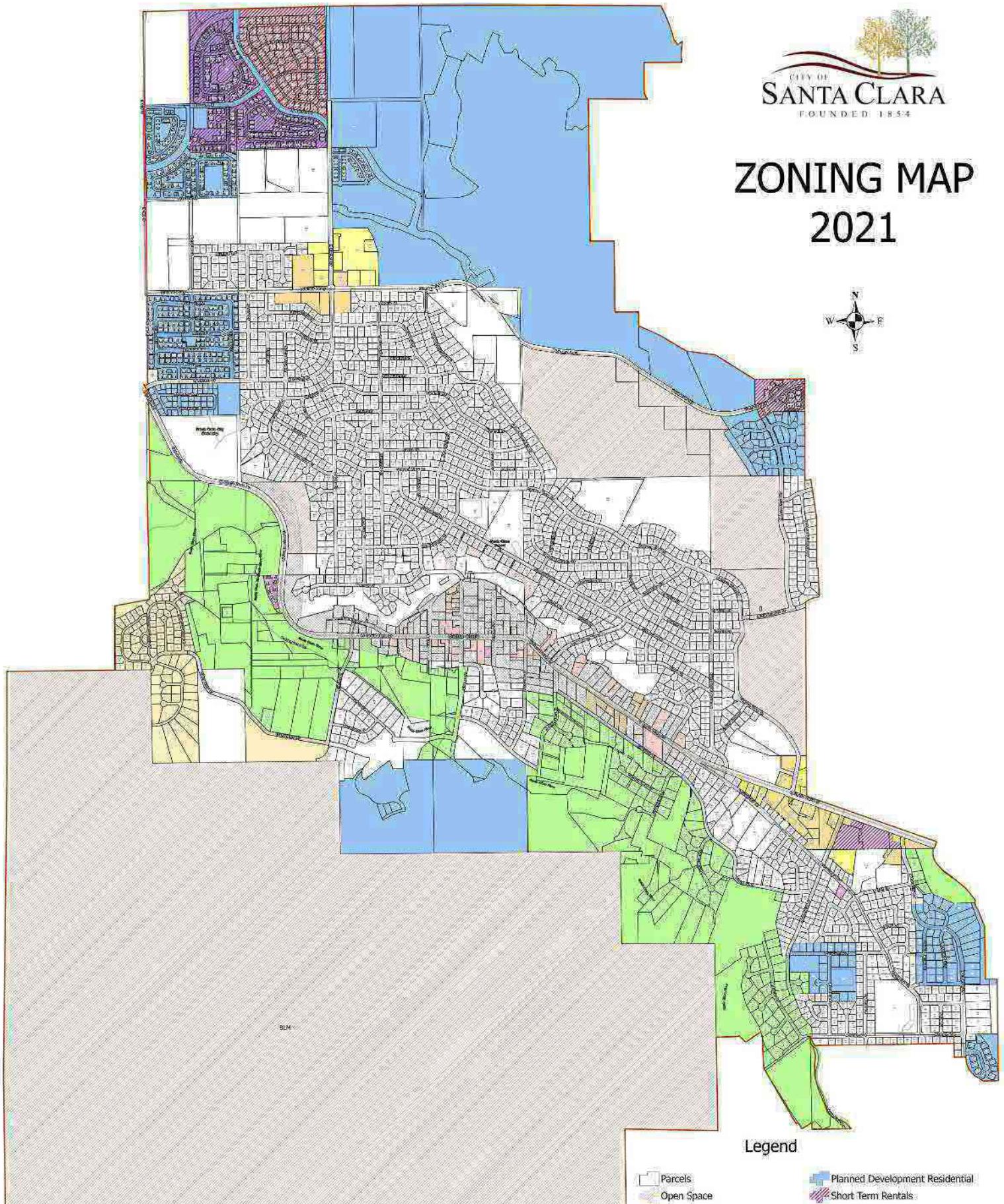
City Council members should also ensure that proper accounting of the Impact Fees occurs (track each fee in and out). See Utah Code 11-36a-601.

# APPENDIX A

## MAPS



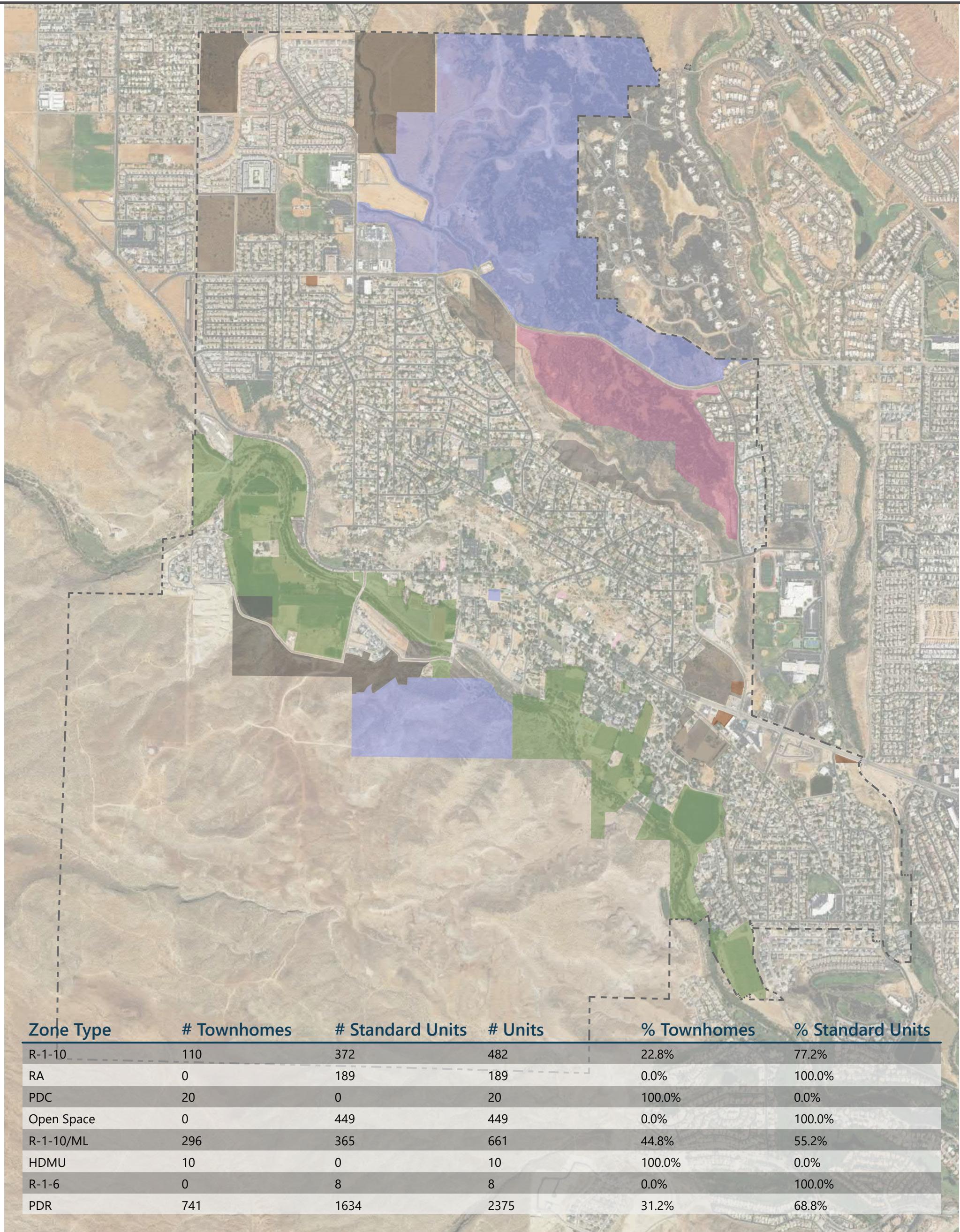
# ZONING MAP 2021



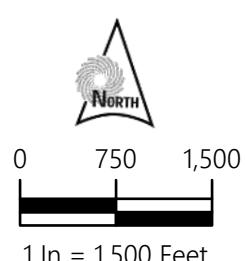
Legend

- |                                  |                                 |
|----------------------------------|---------------------------------|
| Parcels                          | Planned Development Residential |
| Open Space                       | Short Term Rentals              |
| Commercial                       | Residential - Agricultural      |
| Historical District Overlay Zone | Residential - Single Family     |
| Multi Family - Residential       | Mixed Lot Size                  |
| Mixed Use                        | Municipal Boundary              |
| Planned Development, Commercial  |                                 |

## POTENTIAL FUTURE DEVELOPMENT



### MAP LEGEND

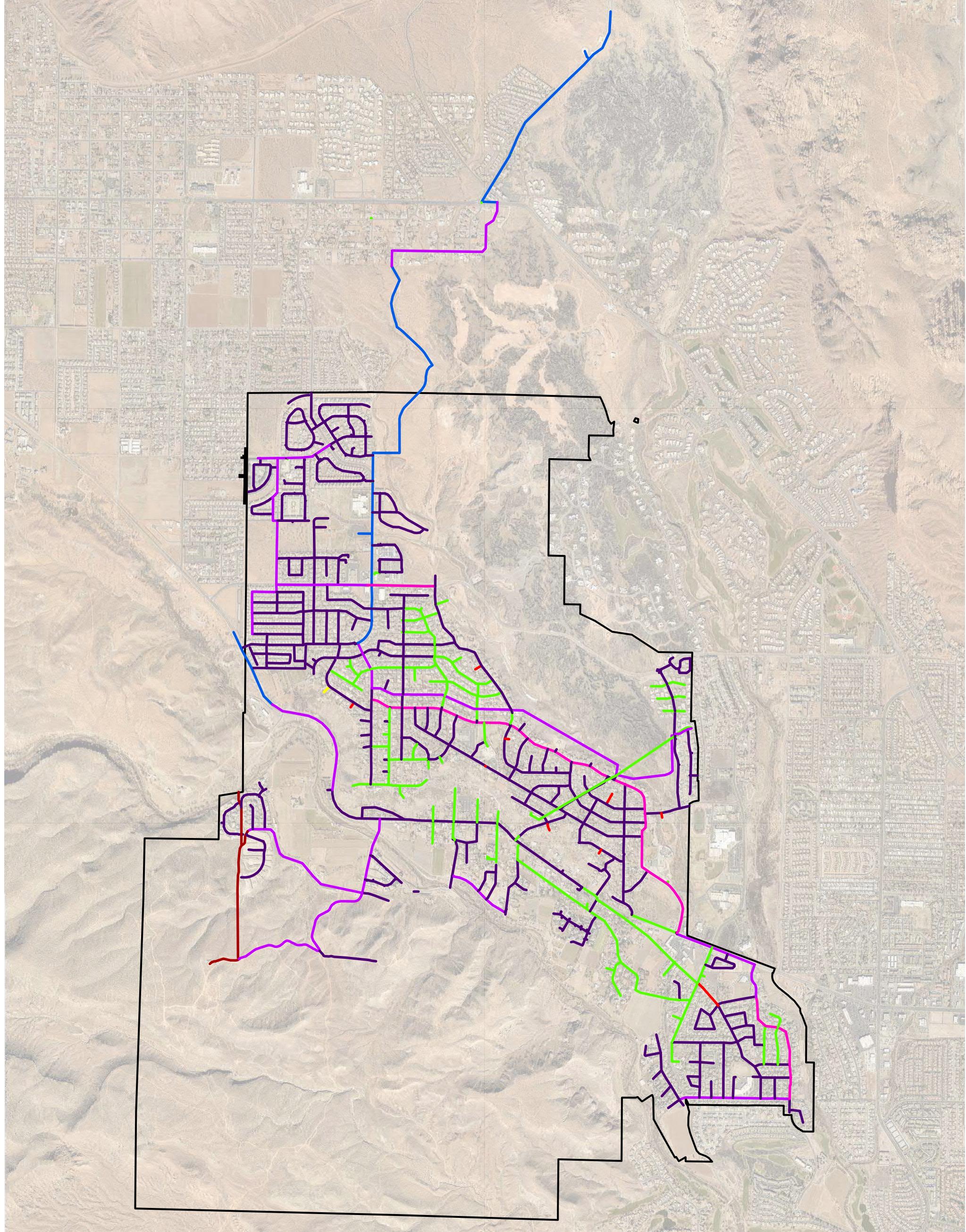


OS - OPEN SPACE  
 HDMU - HISTORIC DISTRICT/MIXED USE  
 PDC - PLANNED DEVELOPMENT COMMERCIAL  
 PDR - PLANNED DEVELOPMENT RESIDENTIAL  
 RA - RESIDENTIAL AGRICULTURE

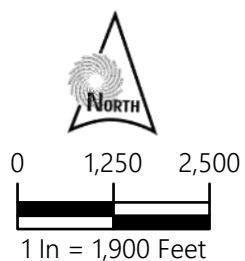
R-1-6 - SINGLE-FAMILY RESIDENTIAL  
 R-1-10 - SINGLE-FAMILY RESIDENTIAL  
 R-1-10/ML - MIXED LOT SIZE  
 Santa Clara City Boundary



## EXISTING SANTA CLARA WATER SYSTEM



### MAP LEGEND

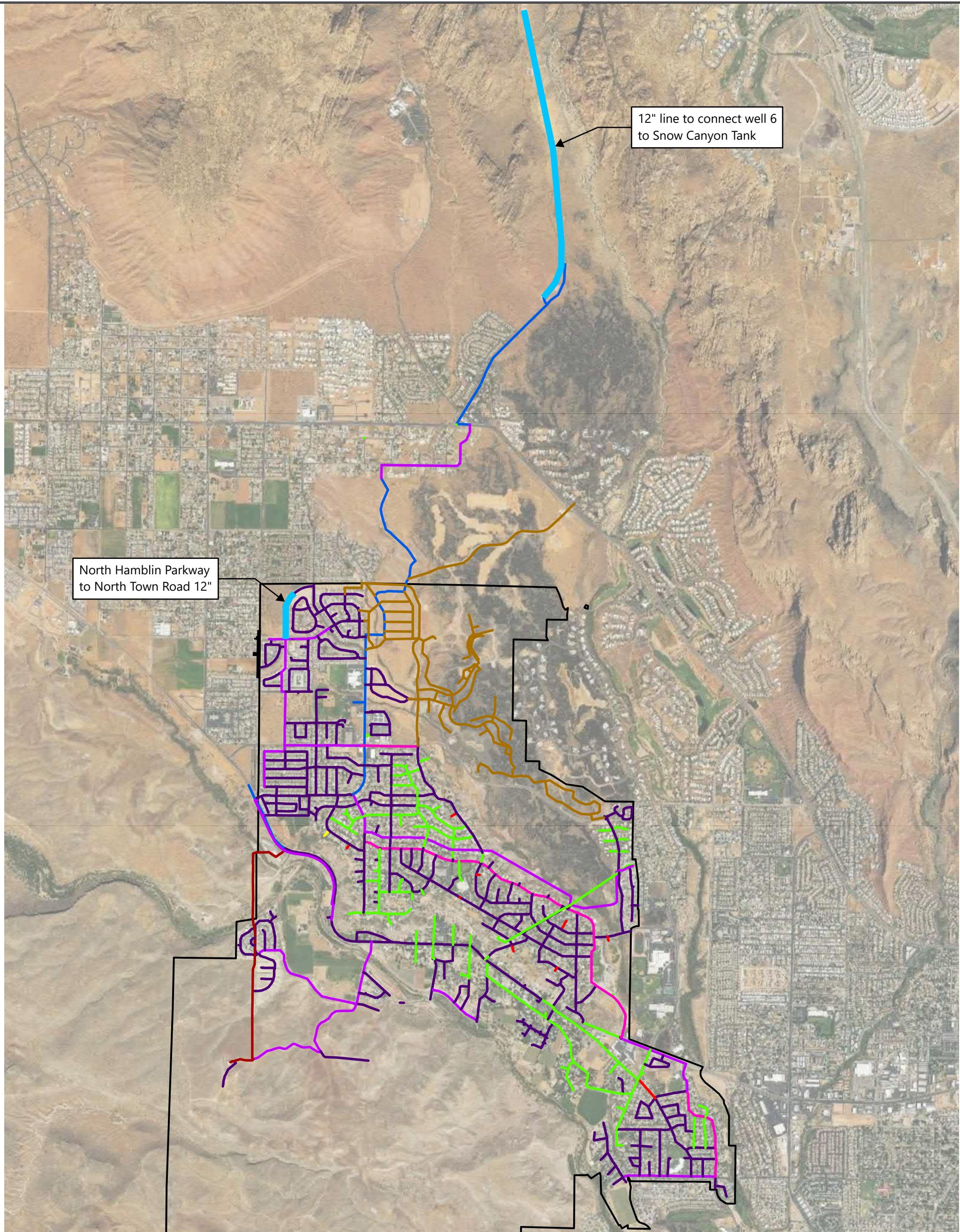


Water Mains	12"
	16"
	20"
	6"
	8"
	10"
	Unknown
	City Boundary

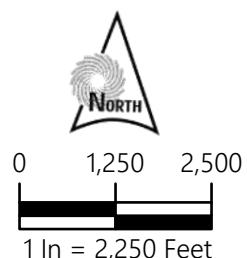


Map Date: 12/14/2022

## PROPOSED FUTURE PROJECTS



### MAP LEGEND



Water Mains

- 16"
- 2"
- 4"
- 6"
- 8"
- 10"
- 12"

Proposed Future Projects

- Developer Proposed
- City Boundary

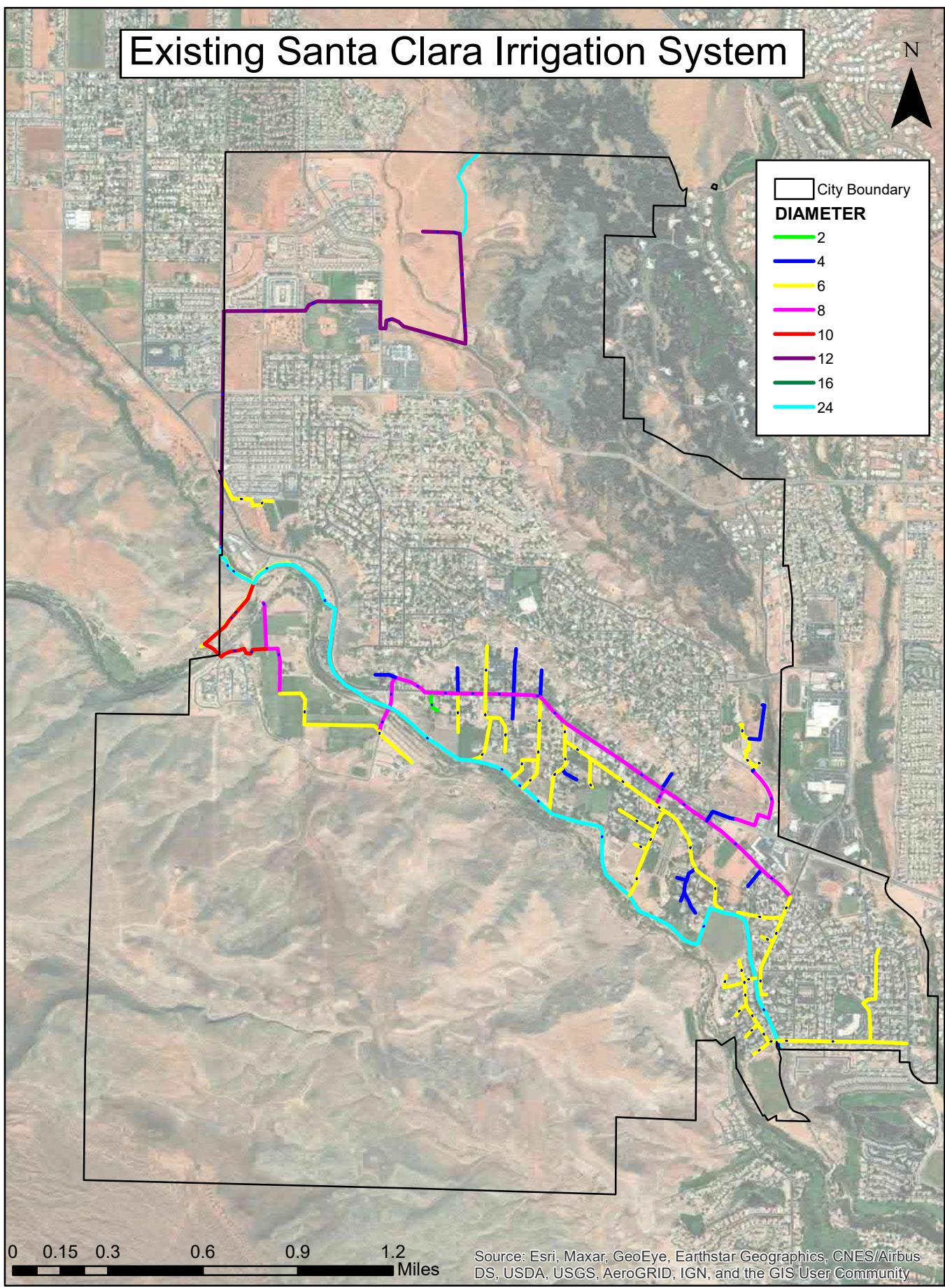


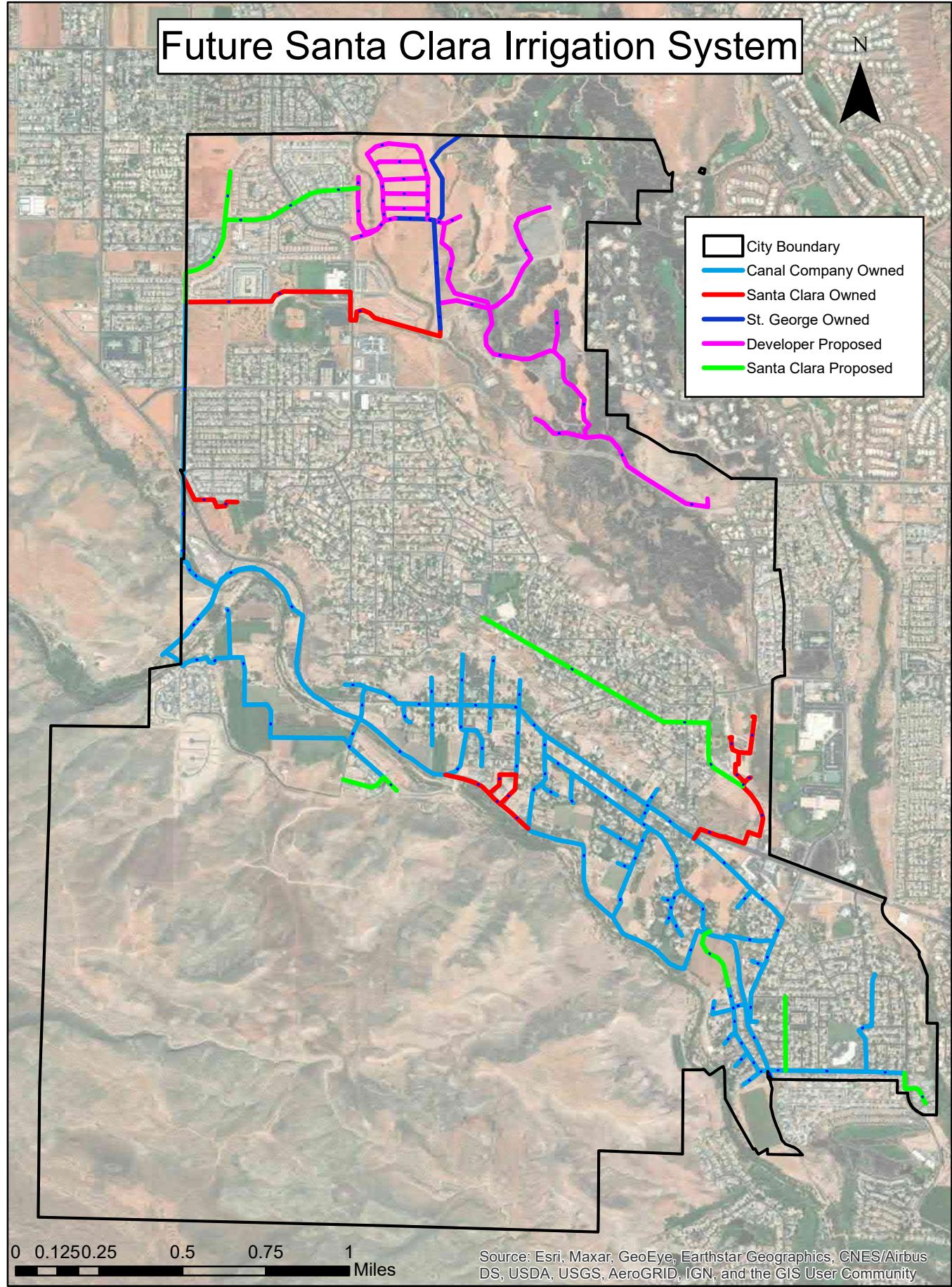
Map Date: 3/8/2023

# Existing Santa Clara Irrigation System

N

City Boundary
<b>DIAMETER</b>
2
4
6
8
10
12
16
24





# APPENDIX B

## INFOWATER® ANALYSIS

Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1	J-100FH	4.11	2,876.00	3,041.25	71.60
2	J-101	4.11	2,865.00	3,094.67	99.51
3	J-102FH	4.11	2,868.00	3,094.80	98.27
4	J-103FH	4.11	2,871.00	3,094.85	96.99
5	J-104	4.11	2,839.00	3,041.71	87.83
6	J-105FH	4.11	2,875.00	3,094.90	95.28
7	J-106FH	4.11	2,877.00	3,094.70	94.33
8	J-107FH	4.11	2,936.00	3,096.14	69.39
9	J-108	4.11	2,876.00	3,094.80	94.81
10	J-109FH	4.11	2,875.00	3,094.85	95.26
11	J-10FH	4.11	2,741.00	2,934.30	83.76
12	J-110	4.11	2,879.00	3,094.90	93.55
13	J-111	4.11	2,899.50	3,094.99	84.70
14	J-112	4.11	2,879.00	3,094.99	93.59
15	J-113	4.11	2,885.00	3,095.22	91.09
16	J-114FH	4.11	2,885.50	3,095.01	90.78
17	J-115	4.11	2,885.00	3,095.01	91.00
18	J-116FH	4.11	2,881.00	3,095.68	93.02
19	J-117	4.11	2,897.00	3,095.04	85.81
20	J-118FH	4.11	2,891.00	3,095.20	88.48
21	J-119FH	4.11	2,889.00	3,095.36	89.42
22	J-11FH	4.11	2,740.00	2,934.20	84.15
23	J-12	4.11	2,766.00	2,934.51	73.02
24	J-120	4.11	2,887.00	3,095.56	90.37
25	J-1208	4.11	2,822.00	3,043.12	95.81
26	J-121	4.11	2,878.00	3,095.88	94.41
27	J-1210	3.54	2,760.00	3,212.46	196.05
28	J-122FH	4.11	2,880.00	3,095.98	93.58
29	J-123	4.11	2,870.00	3,095.88	97.87
30	J-124	4.11	2,892.00	3,095.59	88.22
31	J-125	4.11	2,892.00	3,095.59	88.22
32	J-1254	3.54	3,000.00	3,166.00	71.93
33	J-1268	3.54	3,200.00	3,298.26	42.57
34	J-1269	3.54	3,200.00	3,300.95	43.74
35	J-126FH	4.11	2,901.00	3,095.70	84.37
36	J-127	4.11	2,901.00	3,095.81	84.41
37	J-1273	4.11	2,823.00	3,212.45	168.75
38	J-128FH	4.11	2,935.00	3,096.14	69.82
39	J-129	4.11	2,899.00	3,095.54	85.16
40	J-13	4.11	2,751.00	3,040.66	125.51
41	J-130	4.11	2,932.00	3,096.14	71.12
42	J-131FH	4.11	2,901.00	3,095.36	84.22
43	J-132FH	4.11	2,925.00	3,096.13	74.15
44	J-133FH	4.11	2,903.00	3,095.17	83.27
45	J-134FH	4.11	2,927.00	3,096.13	73.29
46	J-135	4.11	2,905.00	3,095.06	82.35
47	J-136FH	4.11	2,910.00	3,094.96	80.15
48	J-137	4.11	2,901.00	3,094.96	84.04
49	J-138FH	4.11	2,902.00	3,094.96	83.61
50	J-139FH	4.11	2,877.00	3,094.97	94.44

Date: Wednesday, January 18, 2023, Time: 14:34:28, Page 1

Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
51	J-140	4.11	2,885.00	3,094.85	90.93
52	J-141FH	4.11	2,900.00	3,094.85	84.43
53	J-142	4.11	2,885.00	3,094.85	90.93
54	J-143FH	4.11	2,890.00	3,094.80	88.74
55	J-144FH	4.11	2,897.00	3,094.68	85.65
56	J-145FH	4.11	2,889.00	3,094.68	89.12
57	J-146	4.11	2,888.00	3,094.67	89.55
58	J-147FH	4.11	2,891.00	3,094.66	88.25
59	J-148	4.11	2,908.00	3,094.81	80.94
60	J-149FH	4.11	2,905.00	3,094.67	82.18
61	J-14FH	4.11	2,750.00	2,935.00	80.16
62	J-150	4.11	2,909.00	3,094.67	80.45
63	J-151FH	4.11	2,893.00	3,094.67	87.38
64	J-152	4.11	2,874.00	3,041.24	72.46
65	J-153FH	4.11	2,892.50	3,094.61	87.58
66	J-154	4.11	2,892.00	3,094.61	87.79
67	J-155	4.11	2,894.00	3,094.59	86.91
68	J-156FH	4.11	2,894.00	3,094.59	86.91
69	J-157	4.11	2,870.00	3,094.54	97.29
70	J-158FH	4.11	2,900.00	3,094.59	84.31
71	J-159	4.11	2,896.00	3,094.58	86.04
72	J-15FH	4.11	2,753.00	2,934.99	78.86
73	J-160FH	4.11	2,903.50	3,094.59	82.80
74	J-161FH	4.11	2,897.00	3,094.57	85.61
75	J-162FH	4.11	2,880.00	3,094.50	92.94
76	J-163	4.11	2,885.00	3,094.43	90.75
77	J-164FH	4.11	2,910.00	3,094.66	80.01
78	J-165FH	4.11	2,915.00	3,094.63	77.83
79	J-166	4.11	2,915.00	3,094.62	77.83
80	J-167FH	4.11	2,909.00	3,094.82	80.51
81	J-168FH	4.11	2,917.00	3,094.83	77.05
82	J-169FH	4.11	2,921.00	3,096.13	75.88
83	J-16FH	4.11	2,640.00	2,935.32	127.96
84	J-170FH	4.11	2,917.00	3,095.68	77.42
85	J-171	4.11	2,916.00	3,094.62	77.39
86	J-172	4.11	2,909.00	3,094.82	80.51
87	J-173FH	4.11	2,920.00	3,094.34	75.54
88	J-174	4.11	2,921.00	3,094.34	75.11
89	J-175FH	4.11	2,915.00	3,093.78	77.46
90	J-176	4.11	2,915.00	3,093.78	77.46
91	J-177FH	4.11	2,929.00	3,094.93	71.90
92	J-178	4.11	2,920.00	3,094.92	75.79
93	J-179	4.11	2,920.00	3,094.95	75.81
94	J-17FH	4.11	2,638.00	2,935.31	128.82
95	J-18	4.11	2,637.00	2,935.31	129.26
96	J-180	4.11	2,933.00	3,094.87	70.14
97	J-181	4.11	2,915.00	3,094.63	77.83
98	J-182	4.11	2,915.00	3,094.44	77.75
99	J-183FH	4.11	2,915.00	3,094.44	77.75
100	J-184FH	4.11	2,915.00	3,092.99	77.12

Date: Wednesday, January 18, 2023, Time: 14:34:28, Page 2

Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
101	J-185	4.11	2,920.00	3,093.90	75.35
102	J-186FH	4.11	2,910.00	3,094.65	80.01
103	J-187	4.11	2,915.00	3,095.09	78.03
104	J-188	4.11	2,909.00	3,094.32	80.30
105	J-189FH	4.11	2,915.00	3,093.67	77.42
106	J-191	4.11	2,915.00	3,095.12	78.04
107	J-192	4.11	2,910.00	3,095.13	80.22
108	J-193FH	4.11	2,917.00	3,095.12	77.18
109	J-194	4.11	2,917.00	3,094.53	76.93
110	J-195	4.11	2,916.50	3,094.53	77.14
111	J-196	4.11	2,909.00	3,094.48	80.37
112	J-197	4.11	2,908.00	3,094.48	80.80
113	J-198FH	4.11	2,900.00	3,094.44	84.25
114	J-199	4.11	2,902.00	3,094.37	83.35
115	J-19FH	4.11	2,636.00	2,935.31	129.69
116	J-1FH	4.11	2,720.00	2,934.25	92.83
117	J-2	4.11	2,720.00	2,934.25	92.83
118	J-200	4.11	2,895.00	3,094.45	86.42
119	J-201	4.11	2,890.00	3,094.43	88.58
120	J-202	4.11	2,892.00	3,094.42	87.71
121	J-203	4.11	2,883.00	3,094.41	91.61
122	J-204FH	4.11	2,880.00	3,094.43	92.91
123	J-205	4.11	2,885.00	3,094.36	90.72
124	J-206	4.11	2,890.00	3,094.36	88.55
125	J-207	4.11	2,883.00	3,094.36	91.58
126	J-208	4.11	2,939.00	3,094.87	67.54
127	J-209	4.11	2,825.00	3,048.10	96.67
128	J-20FH	4.11	2,745.00	2,936.82	83.12
129	J-21	4.11	2,745.00	2,936.55	83.00
130	J-210	4.11	2,937.00	3,095.80	68.81
131	J-211FH	4.11	2,830.00	3,048.10	94.50
132	J-212FH	4.11	2,824.00	3,048.10	97.10
133	J-213	4.11	2,825.00	3,051.04	97.94
134	J-214FH	4.11	2,835.00	3,051.04	93.61
135	J-215FH	4.11	2,825.00	3,051.04	97.94
136	J-216	4.11	2,830.00	3,054.20	97.15
137	J-217	4.11	2,830.00	3,055.96	97.91
138	J-218FH	4.11	2,838.00	3,054.20	93.68
139	J-219	4.11	2,830.00	3,054.20	97.14
140	J-22	4.11	2,920.00	3,094.71	75.70
141	J-220	4.11	2,924.00	3,094.39	73.83
142	J-221FH	4.11	2,748.00	2,937.13	81.95
143	J-222FH	4.11	2,732.00	2,937.39	89.00
144	J-223	4.11	2,720.00	2,937.12	94.08
145	J-224	4.11	2,750.00	2,937.54	81.26
146	J-225FH	4.11	2,752.00	2,937.69	80.46
147	J-226	4.11	2,740.00	2,937.67	85.65
148	J-227FH	4.11	2,845.00	3,041.24	85.03
149	J-228	4.11	2,755.00	2,937.69	79.16
150	J-229FH	4.11	2,753.00	2,937.91	80.12

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
151	J-23	4.11	2,751.00	3,040.98	125.65
152	J-230	4.11	2,755.00	2,937.91	79.26
153	J-231	4.11	2,750.00	2,937.92	81.43
154	J-232FH	4.11	2,755.00	2,938.15	79.36
155	J-233	4.11	2,750.00	2,937.97	81.45
156	J-234	4.11	2,770.00	2,938.15	72.86
157	J-235FH	4.11	2,765.00	2,938.46	75.16
158	J-236	4.11	2,768.00	2,938.46	73.86
159	J-237	4.11	2,765.00	2,938.46	75.16
160	J-238	4.11	2,778.00	2,938.72	69.64
161	J-24	4.11	2,800.00	3,041.04	104.44
162	J-240	4.11	2,778.00	2,938.76	69.66
163	J-241	4.11	2,780.00	2,938.64	68.74
164	J-242	4.11	2,760.00	2,939.48	77.77
165	J-243	4.11	2,924.00	3,094.65	73.94
166	J-244	4.11	2,770.00	2,939.48	73.44
167	J-245	4.11	2,770.00	2,939.48	73.44
168	J-246	4.11	2,878.00	3,041.24	70.73
169	J-247FH	4.11	2,857.50	3,041.24	79.62
170	J-248	4.11	2,920.00	3,093.41	75.14
171	J-249	4.11	2,920.00	3,093.25	75.07
172	J-250FH	4.11	2,750.00	2,937.97	81.45
173	J-251	4.11	2,750.00	2,937.95	81.44
174	J-252	4.11	2,750.00	2,937.94	81.43
175	J-253	4.11	2,745.00	2,937.94	83.60
176	J-254	4.11	2,735.00	2,936.24	87.20
177	J-255FH	4.11	2,728.00	2,936.23	90.22
178	J-256	4.11	2,728.00	2,936.22	90.22
179	J-257	4.11	2,725.00	2,934.25	90.67
180	J-258FH	4.11	2,735.00	2,934.18	86.30
181	J-259	4.11	2,735.00	2,934.15	86.29
182	J-25FH	4.11	2,758.00	3,041.02	122.63
183	J-26	4.11	2,760.00	3,041.02	121.76
184	J-260FH	4.11	2,735.00	2,934.14	86.29
185	J-261	4.11	2,735.00	2,934.14	86.29
186	J-262	4.11	2,735.00	2,934.13	86.28
187	J-263	4.11	2,720.00	2,934.13	92.78
188	J-264	4.11	2,710.00	2,934.11	97.11
189	J-265	4.11	2,700.00	2,934.04	101.41
190	J-266FH	4.11	2,700.00	2,934.04	101.41
191	J-267FH	4.11	2,751.00	2,934.62	79.56
192	J-268	4.11	2,700.00	2,934.07	101.42
193	J-269FH	4.11	2,700.00	2,934.07	101.42
194	J-27	4.11	2,770.00	3,041.05	117.44
195	J-270FH	4.11	2,700.00	2,934.11	101.44
196	J-271FH	4.11	2,735.00	2,934.14	86.29
197	J-272	4.11	2,824.00	3,043.49	95.11
198	J-273FH	4.11	2,705.00	2,934.15	99.29
199	J-274FH	4.11	2,705.00	2,934.16	99.29
200	J-275FH	4.11	2,785.00	3,040.86	110.86

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
201	J-277	4.11	2,920.00	3,093.67	75.25
202	J-278FH	4.11	2,740.00	2,934.42	84.24
203	J-279FH	4.11	2,730.00	2,934.35	88.54
204	J-28	4.11	2,807.00	3,041.16	101.46
205	J-280FH	4.11	2,741.00	2,934.33	83.77
206	J-281FH	4.11	2,703.00	2,934.16	100.16
207	J-282	4.11	2,720.00	2,934.17	92.80
208	J-283FH	4.11	2,715.00	2,934.17	94.97
209	J-284FH	4.11	2,720.00	2,934.21	92.82
210	J-285	4.11	2,720.00	2,934.17	92.80
211	J-286	4.11	2,720.00	2,934.21	92.82
212	J-287	4.11	2,720.00	2,934.23	92.83
213	J-288FH	4.11	2,720.00	2,934.17	92.80
214	J-289	4.11	2,720.00	2,934.18	92.81
215	J-290	4.11	2,720.00	2,934.18	92.81
216	J-291FH	4.11	2,921.00	3,095.36	75.55
217	J-292FH	4.11	2,705.00	2,934.16	99.30
218	J-293FH	4.11	2,755.00	3,040.76	123.82
219	J-294	4.11	2,913.00	3,100.10	81.07
220	J-295	4.11	2,946.00	3,165.32	95.03
221	J-296	3.54	2,990.00	3,165.43	76.01
222	J-297FH	4.11	2,705.00	2,934.16	99.30
223	J-298	4.11	2,760.00	2,939.15	77.63
224	J-299	4.11	2,770.00	2,939.46	73.43
225	J-29FH	4.11	2,815.00	3,041.24	98.03
226	J-3	4.11	2,730.00	2,934.34	88.54
227	J-300	4.11	2,915.00	3,093.67	77.42
228	J-301FH	4.11	2,800.00	3,092.19	126.61
229	J-302FH	4.11	2,705.00	2,934.16	99.30
230	J-303FH	4.11	2,730.00	2,934.18	88.47
231	J-304	3.54	3,000.00	3,165.83	71.85
232	J-305FH	4.11	2,877.50	3,041.25	70.95
233	J-306	4.11	2,877.50	3,094.71	94.12
234	J-307FH	4.11	2,740.00	2,934.19	84.14
235	J-308	3.54	3,042.00	3,089.00	20.37
236	J-309	4.11	2,760.00	2,939.50	77.78
237	J-30FH	4.11	2,816.00	3,041.32	97.63
238	J-31	4.11	2,815.00	3,041.39	98.10
239	J-310	4.11	2,930.00	3,095.62	71.76
240	J-311	44.15	2,925.00	3,102.23	76.79
241	J-312	4.11	2,870.00	3,096.79	98.27
242	J-313	4.11	2,800.00	3,041.71	104.73
243	J-314	4.11	2,780.00	3,041.77	113.42
244	J-315FH	4.11	2,930.00	3,096.14	71.99
245	J-316	4.11	2,843.00	3,041.24	85.90
246	J-317FH	4.11	2,902.00	3,094.36	83.35
247	J-318FH	4.11	2,922.00	3,093.35	74.25
248	J-319FH	4.11	2,924.00	3,093.92	73.62
249	J-32	4.11	2,800.00	3,041.66	104.71
250	J-320	4.11	2,922.00	3,094.06	74.55

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
251	J-321FH	4.11	2,924.00	3,094.32	73.80
252	J-322FH	4.11	2,936.00	3,095.28	69.02
253	J-323FH	4.11	2,930.00	3,094.84	71.43
254	J-324FH	4.11	2,926.00	3,094.65	73.08
255	J-325FH	4.11	2,924.00	3,094.39	73.83
256	J-326FH	4.11	2,928.00	3,094.48	72.14
257	J-327FH	4.11	2,928.00	3,094.84	72.29
258	J-328FH	4.11	2,933.00	3,094.95	70.17
259	J-329FH	4.11	2,934.00	3,094.94	69.74
260	J-330	4.11	2,934.00	3,094.84	69.69
261	J-331	4.11	2,923.00	3,094.31	74.23
262	J-333	4.11	2,885.00	3,094.36	90.72
263	J-334	4.11	2,885.00	3,094.36	90.72
264	J-335	4.11	2,745.00	2,936.88	83.14
265	J-336	4.11	2,745.00	2,936.88	83.14
266	J-33FH	4.11	2,820.00	3,041.45	95.96
267	J-34	4.11	2,830.00	3,041.48	91.63
268	J-35	4.11	2,827.00	3,041.35	92.88
269	J-36	4.11	2,820.00	3,041.36	95.92
270	J-37	4.11	2,825.00	3,041.30	93.72
271	J-38FH	4.11	2,821.00	3,041.24	95.43
272	J-39FH	4.11	2,836.00	3,041.32	88.97
273	J-4	4.11	2,729.00	2,934.34	88.97
274	J-40	4.11	2,839.00	3,041.32	87.66
275	J-41	4.11	2,837.00	3,041.31	88.53
276	J-42	4.11	2,835.00	3,041.28	89.38
277	J-43	4.11	2,833.00	3,041.24	90.23
278	J-44FH	4.11	2,805.00	3,041.16	102.33
279	J-45	4.11	2,805.00	3,041.17	102.33
280	J-46	4.11	2,780.00	3,041.16	113.16
281	J-47	4.11	2,760.00	3,041.16	121.82
282	J-48	4.11	2,780.00	3,041.16	113.16
283	J-49	4.11	2,801.00	3,041.21	104.08
284	J-5	4.11	2,751.00	2,934.45	79.49
285	J-50	4.11	2,803.00	3,041.17	103.20
286	J-51	4.11	2,800.00	3,041.21	104.51
287	J-52	4.11	2,839.00	3,041.56	87.77
288	J-53	4.11	2,842.00	3,041.46	86.43
289	J-54	4.11	2,920.00	3,095.09	75.87
290	J-55	4.11	2,842.00	3,041.45	86.42
291	J-56	4.11	2,847.00	3,041.37	84.22
292	J-57	4.11	2,850.00	3,041.37	82.92
293	J-58	4.11	2,837.00	3,041.32	88.53
294	J-59	4.11	2,860.00	3,092.00	100.52
295	J-6	4.11	2,757.00	2,934.48	76.90
296	J-61	4.11	2,847.00	3,041.31	84.19
297	J-63FH	4.11	2,839.00	3,041.31	87.66
298	J-64	4.11	2,839.00	3,041.28	87.65
299	J-65	4.11	2,851.50	3,041.29	82.24
300	J-66FH	4.11	2,847.00	3,041.27	84.18

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
301	J-67	4.11	2,842.00	3,041.27	86.34
302	J-68FH	4.11	2,839.00	3,041.27	87.64
303	J-69FH	4.11	2,839.00	3,041.25	87.63
304	J-7	4.11	2,754.00	2,934.47	78.20
305	J-70	4.11	2,837.00	3,041.25	88.50
306	J-71	4.11	2,839.50	3,041.25	87.42
307	J-73FH	4.11	2,830.00	3,041.24	91.53
308	J-74	4.11	2,843.00	3,041.25	85.90
309	J-75	4.11	2,845.00	3,041.25	85.04
310	J-76	4.11	2,849.00	3,041.25	83.30
311	J-77FH	4.11	2,914.00	3,096.40	79.04
312	J-78	4.11	2,940.00	3,095.62	67.43
313	J-79	4.11	2,842.00	3,041.24	86.33
314	J-80FH	4.11	2,940.00	3,096.14	67.65
315	J-81FH	4.11	2,841.00	3,041.24	86.76
316	J-82	4.11	2,921.00	3,096.13	75.88
317	J-83	4.11	2,760.00	2,937.54	76.93
318	J-84	4.11	2,760.00	3,041.24	121.86
319	J-85FH	4.11	2,849.50	3,041.26	83.09
320	J-86	4.11	2,851.50	3,041.26	82.22
321	J-87	4.11	2,852.00	3,041.26	82.01
322	J-88	4.11	2,854.00	3,041.25	81.14
323	J-89	4.11	2,857.00	3,041.27	79.84
324	J-8FH	4.11	2,752.00	2,934.47	79.06
325	J-9	4.11	2,757.00	2,934.49	76.91
326	J-90	4.11	2,857.00	3,041.27	79.84
327	J-91	4.11	2,857.00	3,041.26	79.84
328	J-92	4.11	2,861.00	3,041.25	78.10
329	J-93FH	4.11	2,858.00	3,041.25	79.40
330	J-94	4.11	2,857.00	3,041.25	79.83
331	J-95	4.11	2,863.50	3,041.25	77.02
332	J-956	3.54	2,847.00	3,063.94	94.00
333	J-958	3.54	2,856.00	3,067.09	91.46
334	J-96	4.11	2,863.00	3,041.25	77.24
335	J-97FH	4.11	2,936.00	3,096.14	69.39
336	J-98	4.11	2,866.75	3,041.25	75.61
337	J-99	4.11	2,866.50	3,041.25	75.72
338	J1000	3.54	2,903.00	3,098.54	84.73
339	J1002	3.54	2,892.00	3,098.46	89.46
340	J1004	3.54	2,939.00	3,097.74	68.78
341	J1006	3.54	2,937.00	3,097.73	69.65
342	J1008	3.54	2,940.00	3,097.74	68.35
343	J100FH	4.11	2,933.00	3,094.15	69.83
344	J1010	3.54	2,941.00	3,097.74	67.91
345	J1012	3.54	2,941.00	3,097.76	67.92
346	J1014	3.54	2,942.00	3,097.76	67.49
347	J1016	3.54	2,943.00	3,097.72	67.04
348	J1018	3.54	2,940.00	3,097.74	68.35
349	J1020	3.54	2,944.00	3,098.88	67.11
350	J1022	3.54	2,947.00	3,098.88	65.81

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
351	J1024	3.54	2,941.00	3,098.88	68.41
352	J1026	3.54	2,953.00	3,089.30	59.06
353	J1028	3.54	2,868.00	3,089.30	95.89
354	J102FH	4.11	2,936.00	3,095.40	69.07
355	J1030	3.54	2,890.00	3,089.30	86.36
356	J1032	3.54	2,873.00	3,089.30	93.72
357	J1034	3.54	2,915.00	3,089.30	75.52
358	J1036	3.54	2,761.00	2,934.49	75.17
359	J1038	3.54	2,764.00	2,934.48	73.87
360	J1040	3.54	2,764.00	2,934.49	73.87
361	J1042	3.54	2,766.00	2,934.48	73.00
362	J1044	3.54	2,768.00	2,934.48	72.14
363	J1048	3.54	3,000.00	3,165.84	71.86
364	J104FH	4.11	2,929.00	3,095.90	72.32
365	J1050	3.54	2,861.00	3,212.44	152.28
366	J1054	0.00	2,940.00	3,118.39	77.30
367	J1056	0.00	2,929.50	3,099.67	73.73
368	J1058	0.00	3,007.70	3,211.75	88.42
369	J1062	0.00	3,000.00	3,165.43	71.68
370	J1064	0.00	2,935.51	3,109.31	75.31
371	J1068	3.54	3,138.90	3,166.00	11.74
372	J106FH	4.11	2,923.00	3,095.89	74.91
373	J108FH	4.11	2,921.00	3,096.24	75.93
374	J10FH	4.11	2,845.00	3,058.51	92.51
375	J110FH	4.11	2,914.00	3,096.10	78.91
376	J112FH	4.11	2,934.00	3,094.78	69.67
377	J114FH	4.11	2,932.00	3,094.82	70.55
378	J116FH	4.11	2,925.00	3,095.34	73.81
379	J118FH	4.11	2,929.00	3,094.47	71.70
380	J12	4.11	2,845.00	3,058.73	92.61
381	J120FH	4.11	2,930.00	3,094.68	71.36
382	J122FH	4.11	2,930.00	3,094.76	71.39
383	J124FH	4.11	2,922.00	3,095.53	75.19
384	J126FH	32.49	2,899.00	3,096.55	85.60
385	J128FH	4.11	2,902.00	3,095.81	83.98
386	J130FH	32.49	2,881.00	3,096.70	93.46
387	J132FH	4.11	2,887.00	3,095.95	90.54
388	J134FH	4.11	2,894.00	3,095.63	87.37
389	J136FH	4.11	2,898.00	3,095.55	85.60
390	J138FH	4.11	2,924.00	3,095.09	74.13
391	J140FH	4.11	2,920.00	3,095.08	75.86
392	J142FH	4.11	2,923.00	3,094.95	74.51
393	J144FH	4.11	2,808.00	3,092.19	123.14
394	J146FH	4.11	2,810.00	3,092.20	122.28
395	J148FH	4.11	2,816.00	3,092.20	119.68
396	J14FH	4.11	2,845.00	3,058.11	92.34
397	J150FH	4.11	2,868.00	3,091.91	97.02
398	J152FH	4.11	2,932.00	3,093.26	69.87
399	J154FH	4.11	2,929.00	3,094.06	71.52
400	J156FH	4.11	2,929.00	3,094.11	71.54

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
401	J158FH	4.11	2,928.00	3,094.64	72.20
402	J16	4.11	2,849.00	3,058.10	90.60
403	J160FH	4.11	2,912.00	3,094.52	79.08
404	J162FH	4.11	2,918.00	3,094.84	76.62
405	J164FH	4.11	2,911.00	3,094.80	79.64
406	J166FH	4.11	2,911.00	3,095.06	79.75
407	J168FH	4.11	2,905.00	3,095.18	82.40
408	J170FH	4.11	2,882.00	3,095.41	92.47
409	J172FH	4.11	2,884.00	3,095.17	91.50
410	J174FH	4.11	2,877.00	3,095.03	94.47
411	J176FH	4.11	2,881.00	3,094.92	92.69
412	J178FH	4.11	2,888.00	3,094.85	89.63
413	J180FH	4.11	2,880.00	3,094.80	93.07
414	J182FH	4.11	2,863.00	3,094.80	100.44
415	J184FH	4.11	2,863.00	3,094.70	100.40
416	J186	4.11	2,788.00	2,939.48	65.64
417	J188FH	4.11	2,775.00	2,939.48	71.27
418	J18FH	4.11	2,844.00	3,058.10	92.77
419	J190FH	4.11	2,893.00	3,094.36	87.25
420	J192FH	4.11	2,766.00	2,939.49	75.17
421	J194FH	4.11	2,780.00	2,939.39	69.06
422	J196FH	4.11	2,763.00	2,939.38	76.42
423	J198FH	4.11	2,776.00	2,939.26	70.74
424	J200FH	4.11	2,783.00	2,938.82	67.52
425	J202FH	4.11	2,760.00	2,938.46	77.33
426	J204FH	4.11	2,777.00	2,938.15	69.82
427	J206FH	4.11	2,889.00	3,094.36	88.98
428	J208FH	4.11	2,879.00	3,094.40	93.33
429	J20FH	4.11	2,850.00	3,058.10	90.17
430	J210FH	4.11	2,892.00	3,094.44	87.72
431	J212FH	4.11	2,881.00	3,094.46	92.49
432	J214FH	4.11	2,738.00	2,937.94	86.63
433	J216FH	4.11	2,743.00	2,937.67	84.35
434	J218FH	4.11	2,722.00	2,937.12	93.21
435	J22	4.11	2,852.00	3,058.10	89.30
436	J220FH	4.11	2,725.00	2,937.12	91.91
437	J222FH	4.11	2,732.00	2,937.12	88.88
438	J224	4.11	2,730.00	2,937.12	89.75
439	J226FH	4.11	2,736.00	2,937.12	87.15
440	J228FH	4.11	2,738.00	2,936.95	86.21
441	J230FH	4.11	2,747.00	2,937.18	82.41
442	J232FH	4.11	2,723.00	2,936.22	92.39
443	J234FH	4.11	2,728.00	2,936.22	90.22
444	J236FH	4.11	2,738.00	2,936.70	86.09
445	J238FH	4.11	2,745.00	2,936.97	83.18
446	J240FH	4.11	2,720.00	2,934.91	93.12
447	J242FH	4.11	2,742.00	2,935.44	83.82
448	J244FH	4.11	2,755.00	3,040.71	123.80
449	J246FH	4.11	2,835.00	3,054.20	94.98
450	J248FH	4.11	2,740.00	2,936.11	84.97

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
451	J24FH	4.11	2,842.00	3,058.10	93.64
452	J250FH	4.11	2,749.00	2,936.65	81.31
453	J252FH	4.11	2,743.00	2,936.18	83.70
454	J254FH	4.11	2,743.00	2,936.04	83.65
455	J256FH	4.11	2,804.00	3,041.18	102.77
456	J258FH	4.11	2,778.00	3,041.16	114.03
457	J260FH	4.11	2,797.00	3,041.11	105.77
458	J262FH	4.11	2,796.00	3,041.04	106.18
459	J264FH	4.11	2,799.00	3,041.00	104.86
460	J266FH	4.11	2,812.00	3,041.24	99.33
461	J268FH	4.11	2,810.00	3,041.22	100.19
462	J26FH	4.11	2,849.00	3,058.10	90.60
463	J270FH	4.11	2,807.00	3,041.16	101.46
464	J272FH	4.11	2,824.00	3,041.38	94.19
465	J274FH	4.11	2,804.00	3,041.42	102.87
466	J276FH	4.11	2,818.00	3,041.24	96.73
467	J278FH	4.11	2,824.00	3,041.28	94.15
468	J28	4.11	2,922.00	3,093.67	74.39
469	J280FH	4.11	2,819.00	3,041.29	96.32
470	J282FH	4.11	2,841.00	3,041.43	86.85
471	J284FH	4.11	2,843.00	3,041.35	85.94
472	J286FH	4.11	2,844.00	3,041.28	85.48
473	J288FH	4.11	2,849.00	3,041.26	83.31
474	J290FH	4.11	2,794.00	3,041.24	107.13
475	J292FH	4.11	2,856.00	3,041.24	80.27
476	J294FH	4.11	2,845.00	3,041.25	85.03
477	J296FH	4.11	2,843.00	3,041.25	85.90
478	J298FH	4.11	2,852.00	3,041.25	82.00
479	J300FH	4.11	2,875.00	3,041.24	72.03
480	J302FH	4.11	2,871.00	3,041.24	73.76
481	J304FH	4.11	2,872.00	3,041.24	73.33
482	J306FH	4.11	2,864.00	3,041.25	76.80
483	J308FH	4.11	2,858.00	3,041.25	79.40
484	J310FH	4.11	2,752.00	2,934.40	79.03
485	J312FH	4.11	2,739.00	2,934.21	84.59
486	J314FH	4.11	2,743.00	2,934.34	82.91
487	J316FH	4.11	2,734.00	2,934.27	86.78
488	J318FH	4.11	2,720.00	2,934.21	92.82
489	J320FH	4.11	2,716.00	2,934.19	94.54
490	J322FH	4.11	2,721.00	2,934.19	92.38
491	J324FH	4.11	2,727.00	2,934.20	89.78
492	J326FH	4.11	2,729.00	2,934.19	88.91
493	J328FH	4.11	2,736.00	2,934.16	85.86
494	J330FH	4.11	2,727.00	2,934.16	89.76
495	J332FH	4.11	2,736.00	2,934.17	85.87
496	J334FH	4.11	2,739.00	2,934.18	84.57
497	J336FH	4.11	2,733.00	2,934.29	87.22
498	J338FH	4.11	2,725.00	2,934.22	90.65
499	J340FH	4.11	2,739.00	2,934.29	84.62
500	J342FH	4.11	2,728.00	2,934.36	89.41

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
501	J344FH	4.11	2,736.00	2,934.29	85.92
502	J346FH	4.11	2,740.00	2,934.30	84.19
503	J348FH	4.11	2,746.00	2,934.39	81.63
504	J34FH	4.11	2,922.00	3,093.54	74.33
505	J350FH	4.11	2,746.00	2,934.40	81.63
506	J352FH	4.11	2,735.00	2,934.47	86.43
507	J354FH	4.11	2,749.00	2,934.58	80.41
508	J356FH	4.11	2,721.00	2,934.57	92.54
509	J358FH	4.11	2,733.00	2,934.46	87.29
510	J36	4.11	2,906.00	3,092.80	80.94
511	J360FH	4.11	2,705.00	2,934.05	99.25
512	J362FH	4.11	2,705.00	2,934.09	99.26
513	J364FH	4.11	2,718.00	2,934.14	93.65
514	J366FH	4.11	2,721.00	2,934.14	92.35
515	J368FH	4.11	2,717.00	2,934.13	94.08
516	J370FH	4.11	2,731.00	2,934.15	88.02
517	J372FH	4.11	2,731.00	2,934.15	88.02
518	J374FH	4.11	2,704.00	2,934.16	99.73
519	J376FH	4.11	2,705.00	2,934.16	99.30
520	J380FH	4.11	2,947.00	3,097.19	65.08
521	J382FH	4.11	2,948.00	3,097.15	64.63
522	J384FH	4.11	2,945.00	3,097.11	65.91
523	J388	4.11	2,946.00	3,097.02	65.44
524	J38FH	4.11	2,913.00	3,094.35	78.58
525	J392	4.11	2,952.00	3,097.02	62.84
526	J394	4.11	2,945.00	3,096.97	65.85
527	J396	4.11	2,942.00	3,097.35	67.31
528	J398FH	4.11	2,943.00	3,097.26	66.84
529	J40	4.11	2,916.00	3,094.35	77.28
530	J400	4.11	2,902.00	3,097.74	84.82
531	J402FH	32.49	2,912.00	3,097.52	80.39
532	J404FH	4.11	2,917.00	3,097.38	78.16
533	J406FH	4.11	2,921.00	3,097.42	76.44
534	J408	4.11	2,918.00	3,097.42	77.74
535	J410FH	4.11	2,922.00	3,097.18	75.90
536	J412FH	4.11	2,929.00	3,096.76	72.69
537	J414	4.11	2,928.00	3,093.85	71.86
538	J416FH	4.11	2,928.00	3,093.38	71.66
539	J418FH	4.11	2,926.00	3,093.38	72.52
540	J420FH	4.11	2,918.00	3,093.31	75.96
541	J422FH	4.11	2,928.00	3,093.48	71.70
542	J424FH	4.11	2,928.00	3,093.47	71.70
543	J426FH	4.11	2,927.00	3,093.46	72.13
544	J42FH	4.11	2,919.00	3,094.34	75.98
545	J430	4.11	2,923.00	3,093.28	73.78
546	J432	4.11	2,924.00	3,093.28	73.35
547	J434FH	4.11	2,926.00	3,093.28	72.48
548	J436	4.11	2,922.00	3,093.28	74.21
549	J438	4.11	2,923.00	3,093.28	73.78
550	J440FH	4.11	2,925.00	3,093.46	72.99

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
551	J442FH	4.11	2,926.00	3,093.42	72.54
552	J444FH	4.11	2,930.00	3,094.08	71.10
553	J446	4.11	2,909.00	3,093.12	79.78
554	J448	4.11	2,923.00	3,093.31	73.80
555	J44FH	4.11	2,918.00	3,094.35	76.41
556	J450FH	4.11	2,918.00	3,099.05	78.45
557	J452FH	32.49	2,915.00	3,098.43	79.48
558	J454	4.11	2,841.00	3,041.25	86.77
559	J456FH	4.11	2,706.00	2,934.02	98.80
560	J458FH	4.11	2,709.00	2,934.02	97.50
561	J46	4.11	2,896.00	3,094.36	85.95
562	J460FH	4.11	2,713.00	2,934.02	95.77
563	J462FH	4.11	2,713.00	2,934.02	95.77
564	J464	4.11	2,711.00	2,934.02	96.64
565	J466	4.11	2,707.00	2,934.02	98.37
566	J468	4.11	2,712.00	2,934.02	96.20
567	J470	4.11	2,712.00	2,934.03	96.21
568	J472	4.11	2,712.00	2,934.02	96.20
569	J474	4.11	2,712.00	2,934.02	96.20
570	J476	3.54	2,815.00	3,085.36	117.15
571	J478FH	4.11	2,816.00	3,085.45	116.75
572	J48	4.11	2,900.00	3,094.45	84.26
573	J480FH	4.11	2,796.00	3,086.12	125.71
574	J482FH	63.98	2,796.00	3,086.87	126.03
575	J484FH	4.11	2,811.00	3,087.65	119.87
576	J486FH	4.11	2,840.00	3,088.73	107.77
577	J488FH	4.11	2,820.00	3,088.78	116.46
578	J490FH	4.11	2,818.00	3,088.84	117.36
579	J492FH	4.11	2,820.00	3,088.90	116.52
580	J494FH	63.98	2,818.00	3,088.88	117.37
581	J496FH	4.11	2,815.00	3,089.09	118.76
582	J500FH	4.11	2,823.00	3,089.28	115.38
583	J508FH	4.11	2,847.00	3,089.31	104.99
584	J50FH	4.11	2,695.00	2,934.16	103.63
585	J510FH	4.11	2,856.00	3,089.35	101.11
586	J512	4.11	2,872.00	3,089.35	94.18
587	J514FH	4.11	2,869.00	3,089.39	95.49
588	J516	4.11	2,867.00	3,089.40	96.37
589	J518FH	4.11	2,865.00	3,089.44	97.25
590	J52	4.11	2,742.00	2,934.29	83.32
591	J522FH	4.11	2,824.00	3,089.28	114.95
592	J524	4.11	2,815.00	3,089.24	118.83
593	J526FH	4.11	2,840.00	3,089.33	108.04
594	J528FH	4.11	2,854.00	3,089.39	102.00
595	J532FH	4.11	2,858.00	3,089.46	100.29
596	J534	4.11	2,860.00	3,089.48	99.43
597	J536	778.30	2,914.00	3,085.35	74.25
598	J538	0.00	3,052.00	2,888.57	-70.82
599	J54	4.11	2,738.00	2,934.29	85.05
600	J540	44.15	2,927.00	3,102.70	76.13

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
601	J542	0.00	3,125.00	2,888.57	-102.45
602	J544	0.00	2,949.00	2,888.57	-26.19
603	J546	3.54	2,760.00	3,212.46	196.05
604	J548	3.54	2,760.00	3,212.45	196.05
605	J550	3.54	2,760.00	3,212.44	196.04
606	J552	3.54	2,760.00	3,212.44	196.04
607	J554	3.54	2,760.00	3,212.45	196.05
608	J556	3.54	2,760.00	3,212.45	196.05
609	J558	3.54	2,760.00	3,212.45	196.05
610	J560	4.11	2,875.00	3,094.66	95.18
611	J562	3.54	2,865.00	3,094.67	99.52
612	J564	4.11	2,820.00	3,041.24	95.86
613	J566FH	4.11	2,922.00	3,099.88	77.08
614	J568FH	4.11	2,928.00	3,099.61	74.36
615	J56FH	4.11	2,740.00	2,934.23	84.16
616	J570FH	4.11	2,929.00	3,099.61	73.93
617	J572	4.11	2,939.00	3,099.21	69.42
618	J574	4.11	2,937.00	3,099.34	70.34
619	J576	4.11	2,942.00	3,099.18	68.10
620	J578	4.11	2,940.00	3,099.05	68.92
621	J580FH	4.11	2,939.00	3,099.05	69.35
622	J582	4.11	2,922.00	3,099.85	77.06
623	J584FH	4.11	2,842.00	3,089.06	107.05
624	J586	4.11	2,865.00	3,089.30	97.19
625	J588	4.11	2,857.00	3,089.31	100.66
626	J58FH	4.11	2,734.00	2,934.20	86.75
627	J590FH	4.11	2,833.00	3,089.05	110.95
628	J594FH	4.11	2,826.00	3,089.05	113.98
629	J596FH	4.11	2,803.00	3,088.88	123.87
630	J60	4.11	2,728.00	2,934.19	89.34
631	J600FH	4.11	2,846.00	3,089.35	105.44
632	J602	4.11	2,846.00	3,089.35	105.44
633	J604	4.11	2,945.00	3,099.10	66.77
634	J606FH	4.11	2,950.00	3,099.01	64.57
635	J608	4.11	2,943.00	3,099.10	67.64
636	J610FH	4.11	2,936.00	3,099.56	70.87
637	J612FH	4.11	2,931.00	3,099.73	73.11
638	J614	4.11	2,931.00	3,099.62	73.06
639	J616	44.15	2,933.00	3,099.58	72.18
640	J618	3.54	3,143.00	3,169.29	11.39
641	J62	4.11	2,723.00	2,934.19	91.51
642	J620	4.11	2,865.00	3,041.25	76.37
643	J622FH	4.11	2,826.00	3,043.12	94.08
644	J624FH	4.11	2,835.00	3,043.11	90.18
645	J626FH	4.11	2,805.00	3,042.60	102.95
646	J630FH	4.11	2,825.00	3,043.11	94.51
647	J634FH	4.11	2,831.00	3,043.11	91.91
648	J638FH	4.11	2,790.00	3,042.28	109.31
649	J64	4.11	2,742.00	2,934.18	83.27
650	J640FH	4.11	2,930.00	3,099.57	73.47

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
651	J642FH	4.11	2,929.00	3,099.65	73.94
652	J646FH	4.11	2,934.00	3,099.58	71.74
653	J648FH	4.11	2,799.00	3,084.75	123.81
654	J650FH	4.11	2,790.00	3,084.50	127.61
655	J652FH	4.11	2,774.00	3,084.17	134.40
656	J654FH	4.11	2,772.00	3,084.29	135.32
657	J656FH	4.11	2,779.00	3,084.43	132.34
658	J658FH	4.11	2,784.00	3,084.45	130.19
659	J660FH	4.11	2,774.00	3,084.44	134.51
660	J662FH	71.73	2,765.00	3,084.40	138.40
661	J664FH	4.11	2,784.00	3,084.53	130.22
662	J666FH	4.11	2,792.00	3,084.65	126.81
663	J668	71.73	2,805.00	3,084.53	121.12
664	J66FH	4.11	2,733.00	2,934.14	87.15
665	J670	4.11	2,746.42	2,937.67	82.87
666	J672FH	4.11	2,747.00	2,937.67	82.62
667	J674	4.11	2,931.48	3,097.04	71.74
668	J676FH	4.11	2,935.42	3,097.06	70.04
669	J678FH	4.11	2,934.28	3,097.15	70.57
670	J680FH	4.11	2,931.09	3,097.25	72.00
671	J682	4.11	2,926.25	3,097.31	74.12
672	J684FH	4.11	2,930.42	3,097.26	72.29
673	J686FH	4.11	2,929.00	3,097.16	72.86
674	J688	4.11	2,924.95	3,097.15	74.61
675	J68FH	4.11	2,743.00	2,934.14	82.82
676	J690	4.11	2,925.00	3,097.15	74.59
677	J692FH	4.11	2,932.10	3,097.09	71.49
678	J694	4.11	2,923.00	3,097.41	75.57
679	J696	4.11	2,935.00	3,098.26	70.74
680	J698	4.11	2,929.52	3,097.98	72.99
681	J700FH	4.11	2,936.95	3,097.98	69.77
682	J702	4.11	2,925.68	3,097.54	74.47
683	J704FH	4.11	2,926.37	3,097.54	74.17
684	J706FH	4.11	2,934.71	3,097.54	70.55
685	J708FH	4.11	2,930.45	3,097.98	72.59
686	J70FH	4.11	2,731.00	2,934.15	88.03
687	J710FH	4.11	2,935.73	3,098.19	70.39
688	J712	4.11	2,721.80	2,936.22	92.91
689	J714FH	4.11	2,726.17	2,936.22	91.02
690	J716	4.11	2,720.00	2,936.22	93.69
691	J718FH	4.11	2,723.42	2,936.22	92.21
692	J72	4.11	2,724.00	2,936.22	91.96
693	J720FH	4.11	2,781.00	3,041.98	113.08
694	J724	4.11	2,934.00	3,098.99	71.49
695	J728	4.11	2,932.00	3,099.00	72.36
696	J730FH	4.11	2,932.00	3,099.00	72.36
697	J732	4.11	2,930.00	3,099.06	73.25
698	J736	4.11	2,922.00	3,099.34	76.84
699	J738FH	4.11	2,924.00	3,099.26	75.94
700	J74	4.11	2,911.00	3,095.81	80.08

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
701	J740FH	4.11	2,916.00	3,099.54	79.53
702	J742FH	4.11	2,938.00	3,098.87	69.71
703	J744	4.11	2,942.00	3,098.70	67.90
704	J746	4.11	2,944.00	3,098.91	67.12
705	J748	44.15	2,950.00	3,098.89	64.51
706	J750FH	4.11	2,941.00	3,098.90	68.42
707	J752	44.15	2,946.00	3,098.88	66.24
708	J754	4.11	2,944.00	3,098.90	67.12
709	J756	4.11	2,948.00	3,099.01	65.43
710	J758	4.11	2,952.00	3,099.01	63.70
711	J76	4.11	2,886.00	3,096.12	91.05
712	J774	4.11	2,738.00	2,934.14	84.99
713	J776	4.11	2,736.00	2,934.14	85.86
714	J778	4.11	2,771.00	3,084.35	135.78
715	J780	4.11	2,770.00	3,084.35	136.21
716	J782	4.11	2,812.00	3,041.40	99.40
717	J784FH	4.11	2,774.00	3,084.19	134.40
718	J786FH	4.11	2,781.00	3,041.94	113.06
719	J788FH	4.11	2,921.00	3,096.13	75.88
720	J78FH	4.11	2,932.00	3,095.92	71.03
721	J790FH	4.11	2,926.00	3,099.10	75.01
722	J792	44.15	2,943.00	3,097.80	67.08
723	J794	403.93	2,907.00	3,103.56	85.17
724	J796	43.58	2,889.00	3,098.43	90.75
725	J798	67.62	2,955.00	3,084.73	56.21
726	J800	0.00	2,913.00	3,084.67	74.39
727	J802	4.11	2,774.00	2,940.15	71.99
728	J804	4.11	2,799.00	3,084.92	123.89
729	J806	0.00	2,757.00	3,084.40	141.86
730	J80FH	4.11	2,925.00	3,095.88	74.04
731	J814	3.54	2,981.00	3,212.48	100.30
732	J816	3.54	2,963.00	3,099.01	58.93
733	J818	3.54	2,954.00	3,099.01	62.83
734	J820	0.00	2,960.45	3,204.14	105.59
735	J822	0.00	2,966.52	3,207.90	104.59
736	J824	0.00	2,980.76	3,210.29	99.46
737	J826	0.00	2,987.71	3,210.07	96.35
738	J828	0.00	2,996.13	3,210.50	92.88
739	J82FH	4.11	2,917.00	3,095.78	77.47
740	J830	0.00	2,995.21	3,210.38	93.23
741	J832	0.00	2,990.88	3,210.19	95.03
742	J834	0.00	3,009.18	3,211.69	87.75
743	J836	0.00	3,002.40	3,210.38	90.12
744	J838	3.54	3,004.53	3,211.88	89.84
745	J840	0.00	2,944.90	3,209.06	114.46
746	J842	0.00	2,940.71	3,209.06	116.28
747	J844	0.00	2,968.00	3,210.17	104.93
748	J846	0.00	2,967.45	3,210.15	105.16
749	J848	0.00	2,961.29	3,210.09	107.81
750	J84FH	4.11	2,922.00	3,095.78	75.30

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
751	J850	0.00	2,960.78	3,210.07	108.02
752	J852	0.00	2,968.68	3,210.34	104.71
753	J854	0.00	2,975.04	3,210.32	101.94
754	J856	0.00	2,978.19	3,210.31	100.58
755	J858	0.00	2,888.43	3,073.45	80.17
756	J86	4.11	2,925.00	3,095.34	73.81
757	J860	0.00	2,898.05	3,081.12	79.32
758	J862	0.00	2,899.49	3,084.16	80.02
759	J864	0.00	2,884.62	3,081.12	85.14
760	J866	0.00	2,902.06	3,088.37	80.73
761	J868	0.00	2,926.83	3,092.62	71.84
762	J870	0.00	2,920.55	3,091.94	74.26
763	J872	0.00	2,903.55	3,091.85	81.59
764	J874	0.00	2,922.53	3,091.85	73.36
765	J876	0.00	2,923.74	3,091.85	72.84
766	J878	0.00	2,918.62	3,091.85	75.06
767	J88	4.11	2,916.00	3,095.09	77.60
768	J880	0.00	2,905.87	3,091.85	80.58
769	J882	0.00	2,896.80	3,091.94	84.55
770	J884	0.00	2,893.57	3,098.02	88.59
771	J886	0.00	2,911.70	3,098.02	80.73
772	J888	0.00	2,908.12	3,098.36	82.43
773	J890	0.00	2,912.56	3,098.32	80.49
774	J892	0.00	2,899.90	3,098.36	85.99
775	J894	0.00	2,919.68	3,098.40	77.44
776	J896	0.00	2,914.64	3,097.79	79.36
777	J898	0.00	2,915.94	3,097.82	78.81
778	J90	4.11	2,922.00	3,095.34	75.11
779	J900	0.00	2,920.41	3,097.82	76.87
780	J902	0.00	2,916.53	3,098.26	78.74
781	J904	0.00	2,942.70	3,098.17	67.37
782	J906	0.00	2,941.03	3,098.19	68.10
783	J908	0.00	2,927.52	3,098.20	73.96
784	J910	0.00	2,938.15	3,098.20	69.35
785	J912	0.00	2,933.82	3,098.20	71.23
786	J914	0.00	2,941.49	3,098.20	67.90
787	J916	0.00	2,940.75	3,098.20	68.22
788	J918	0.00	2,962.00	3,098.17	59.00
789	J920	0.00	2,963.07	3,098.17	58.54
790	J922	0.00	2,951.49	3,098.17	63.56
791	J924	0.00	2,964.29	3,098.17	58.01
792	J926	0.00	2,943.69	3,098.17	66.94
793	J928	0.00	2,951.57	3,098.17	63.52
794	J92FH	4.11	2,948.00	3,094.99	63.69
795	J930	0.00	2,951.82	3,098.17	63.41
796	J932	0.00	2,948.36	3,098.17	64.91
797	J934	0.00	2,944.53	3,098.17	66.57
798	J936	0.00	2,942.91	3,098.17	67.28
799	J938	0.00	2,918.30	3,103.21	80.12
800	J940	0.00	2,926.09	3,103.21	76.74

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Average Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
801	J942	3.54	2,907.00	3,098.85	83.13
802	J944	0.00	2,929.59	3,209.06	121.10
803	J946	3.54	2,983.37	3,211.95	99.04
804	J948	3.54	2,946.00	3,118.39	74.70
805	J94FH	4.11	2,950.00	3,095.84	63.19
806	J950	0.00	2,937.89	3,116.36	77.33
807	J952	0.00	2,939.75	3,119.05	77.69
808	J954	3.54	2,847.00	3,062.25	93.27
809	J960	3.54	2,851.00	3,065.05	92.75
810	J962	3.54	2,855.00	3,066.61	91.69
811	J964	3.54	2,861.00	3,068.66	89.98
812	J966	3.54	2,861.00	3,070.00	90.56
813	J968	3.54	2,915.00	3,100.10	80.21
814	J96FH	4.11	2,941.00	3,095.06	66.76
815	J970	3.54	2,924.00	3,099.87	76.20
816	J972	3.54	2,917.00	3,100.55	79.53
817	J974	3.54	2,919.00	3,100.11	78.48
818	J976	3.54	2,926.00	3,099.87	75.34
819	J978	3.54	2,934.00	3,103.51	73.45
820	J980	3.54	2,934.00	3,103.40	73.40
821	J982	3.54	2,928.00	3,103.13	75.88
822	J984	3.54	2,944.00	3,113.94	73.63
823	J986	3.54	2,923.00	3,107.98	80.15
824	J988	3.54	2,921.00	3,105.33	79.87
825	J98FH	4.11	2,936.00	3,094.42	68.65
826	J990	3.54	2,916.00	3,104.03	81.47
827	J992	3.54	2,923.00	3,103.54	78.23
828	J994	3.54	2,946.00	3,119.05	74.98
829	J996	3.54	2,910.00	3,098.97	81.88
830	J998	3.54	2,908.00	3,098.46	82.52

Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1	J-100FH	8.25	2,876.00	2,995.23	51.66
2	J-101	8.25	2,865.00	3,028.74	70.95
3	J-102FH	8.25	2,868.00	3,036.53	73.03
4	J-103FH	8.25	2,871.00	3,037.36	72.08
5	J-104	8.25	2,839.00	2,987.87	64.51
6	J-105FH	8.25	2,875.00	3,037.98	70.62
7	J-106FH	8.25	2,877.00	3,032.56	67.40
8	J-107FH	8.25	2,936.00	3,046.41	47.84
9	J-108	8.25	2,876.00	3,036.63	69.60
10	J-109FH	8.25	2,875.00	3,037.43	70.38
11	J-10FH	8.25	2,741.00	2,930.90	82.28
12	J-110	8.25	2,879.00	3,037.98	68.88
13	J-111	8.25	2,899.50	3,038.73	60.33
14	J-112	8.25	2,879.00	3,038.72	69.21
15	J-113	8.25	2,885.00	3,040.61	67.43
16	J-114FH	8.25	2,885.50	3,039.68	66.80
17	J-115	8.25	2,885.00	3,039.67	67.02
18	J-116FH	8.25	2,881.00	3,041.87	69.71
19	J-117	8.25	2,897.00	3,039.97	61.95
20	J-118FH	8.25	2,891.00	3,040.67	64.85
21	J-119FH	8.25	2,889.00	3,041.29	65.99
22	J-11FH	8.25	2,740.00	2,930.55	82.56
23	J-12	8.25	2,766.00	2,932.79	72.27
24	J-120	8.25	2,887.00	3,041.80	67.08
25	J-1208	8.25	2,822.00	2,989.07	72.39
26	J-121	8.25	2,878.00	3,042.28	71.18
27	J-1210	7.10	2,760.00	3,155.99	171.58
28	J-122FH	8.25	2,880.00	3,042.48	70.40
29	J-123	8.25	2,870.00	3,042.28	74.65
30	J-124	8.25	2,892.00	3,041.94	64.97
31	J-125	8.25	2,892.00	3,041.94	64.97
32	J-1254	7.10	3,000.00	3,165.47	71.70
33	J-1268	7.10	3,200.00	3,300.58	43.58
34	J-1269	7.10	3,200.00	3,300.99	43.76
35	J-126FH	8.25	2,901.00	3,042.41	61.27
36	J-127	8.25	2,901.00	3,042.49	61.31
37	J-1273	8.25	2,823.00	3,149.17	141.33
38	J-128FH	8.25	2,935.00	3,046.38	48.26
39	J-129	8.25	2,899.00	3,041.81	61.88
40	J-13	8.25	2,751.00	2,978.68	98.65
41	J-130	8.25	2,932.00	3,046.35	49.55
42	J-131FH	8.25	2,901.00	3,041.30	60.79
43	J-132FH	8.25	2,925.00	3,046.16	52.50
44	J-133FH	8.25	2,903.00	3,040.86	59.73
45	J-134FH	8.25	2,927.00	3,046.16	51.63
46	J-135	8.25	2,905.00	3,040.39	58.67
47	J-136FH	8.25	2,910.00	3,039.75	56.22
48	J-137	8.25	2,901.00	3,039.68	60.09
49	J-138FH	8.25	2,902.00	3,039.68	59.66
50	J-139FH	8.25	2,877.00	3,039.58	70.45

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
51	J-140	8.25	2,885.00	3,037.67	66.15
52	J-141FH	8.25	2,900.00	3,037.67	59.65
53	J-142	8.25	2,885.00	3,037.52	66.09
54	J-143FH	8.25	2,890.00	3,037.06	63.72
55	J-144FH	8.25	2,897.00	3,034.57	59.61
56	J-145FH	8.25	2,889.00	3,033.55	62.63
57	J-146	8.25	2,888.00	3,034.45	63.46
58	J-147FH	8.25	2,891.00	3,033.46	61.73
59	J-148	8.25	2,908.00	3,038.10	56.37
60	J-149FH	8.25	2,905.00	3,034.98	56.32
61	J-14FH	8.25	2,750.00	2,931.23	78.53
62	J-150	8.25	2,909.00	3,035.49	54.81
63	J-151FH	8.25	2,893.00	3,034.90	61.48
64	J-152	8.25	2,874.00	3,001.37	55.19
65	J-153FH	8.25	2,892.50	3,034.24	61.42
66	J-154	8.25	2,892.00	3,034.24	61.63
67	J-155	8.25	2,894.00	3,034.81	61.01
68	J-156FH	8.25	2,894.00	3,034.88	61.04
69	J-157	8.25	2,870.00	3,034.89	71.45
70	J-158FH	8.25	2,900.00	3,035.24	58.60
71	J-159	8.25	2,896.00	3,035.24	60.33
72	J-15FH	8.25	2,753.00	2,931.23	77.23
73	J-160FH	8.25	2,903.50	3,035.55	57.22
74	J-161FH	8.25	2,897.00	3,035.53	60.02
75	J-162FH	8.25	2,880.00	3,035.00	67.16
76	J-163	8.25	2,885.00	3,035.39	65.17
77	J-164FH	8.25	2,910.00	3,036.41	54.77
78	J-165FH	8.25	2,915.00	3,036.84	52.79
79	J-166	8.25	2,915.00	3,037.76	53.19
80	J-167FH	8.25	2,909.00	3,038.82	56.25
81	J-168FH	8.25	2,917.00	3,039.45	53.06
82	J-169FH	8.25	2,921.00	3,046.15	54.23
83	J-16FH	8.25	2,640.00	2,930.68	125.95
84	J-170FH	8.25	2,917.00	3,044.14	55.09
85	J-171	8.25	2,916.00	3,038.09	52.90
86	J-172	8.25	2,909.00	3,038.82	56.25
87	J-173FH	8.25	2,920.00	3,038.12	51.18
88	J-174	8.25	2,921.00	3,037.81	50.61
89	J-175FH	8.25	2,915.00	3,039.46	53.93
90	J-176	8.25	2,915.00	3,039.45	53.93
91	J-177FH	8.25	2,929.00	3,045.79	50.60
92	J-178	8.25	2,920.00	3,041.05	52.45
93	J-179	8.25	2,920.00	3,041.31	52.56
94	J-17FH	8.25	2,638.00	2,930.66	126.81
95	J-18	8.25	2,637.00	2,930.66	127.24
96	J-180	8.25	2,933.00	3,046.93	49.37
97	J-181	8.25	2,915.00	3,042.48	55.24
98	J-182	8.25	2,915.00	3,042.61	55.29
99	J-183FH	8.25	2,915.00	3,042.61	55.29
100	J-184FH	8.25	2,915.00	3,041.69	54.89

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
101	J-185	8.25	2,920.00	3,043.23	53.40
102	J-186FH	8.25	2,910.00	3,043.58	57.88
103	J-187	8.25	2,915.00	3,041.13	54.65
104	J-188	8.25	2,909.00	3,045.14	58.99
105	J-189FH	8.25	2,915.00	3,051.58	59.18
106	J-191	8.25	2,915.00	3,041.02	54.60
107	J-192	8.25	2,910.00	3,040.96	56.74
108	J-193FH	8.25	2,917.00	3,041.02	53.74
109	J-194	8.25	2,917.00	3,036.55	51.80
110	J-195	8.25	2,916.50	3,036.55	52.02
111	J-196	8.25	2,909.00	3,036.39	55.20
112	J-197	8.25	2,908.00	3,036.39	55.63
113	J-198FH	8.25	2,900.00	3,036.30	59.06
114	J-199	8.25	2,902.00	3,036.57	58.31
115	J-19FH	8.25	2,636.00	2,930.66	127.67
116	J-1FH	8.25	2,720.00	2,930.45	91.19
117	J-2	8.25	2,720.00	2,930.45	91.19
118	J-200	8.25	2,895.00	3,035.74	60.98
119	J-201	8.25	2,890.00	3,035.67	63.12
120	J-202	8.25	2,892.00	3,035.67	62.25
121	J-203	8.25	2,883.00	3,035.65	66.14
122	J-204FH	8.25	2,880.00	3,035.39	67.33
123	J-205	8.25	2,885.00	3,036.00	65.43
124	J-206	8.25	2,890.00	3,036.25	63.37
125	J-207	8.25	2,883.00	3,035.97	66.28
126	J-208	8.25	2,939.00	3,047.79	47.14
127	J-209	8.25	2,825.00	2,991.89	72.31
128	J-20FH	8.25	2,745.00	2,931.35	80.75
129	J-21	8.25	2,745.00	2,931.02	80.60
130	J-210	8.25	2,937.00	3,046.26	47.34
131	J-211FH	8.25	2,830.00	2,991.89	70.15
132	J-212FH	8.25	2,824.00	2,991.89	72.75
133	J-213	8.25	2,825.00	2,998.90	75.35
134	J-214FH	8.25	2,835.00	2,998.90	71.02
135	J-215FH	8.25	2,825.00	2,998.90	75.35
136	J-216	8.25	2,830.00	3,006.87	76.64
137	J-217	8.25	2,830.00	3,011.54	78.66
138	J-218FH	8.25	2,838.00	3,006.86	73.17
139	J-219	8.25	2,830.00	3,006.86	76.63
140	J-22	8.25	2,920.00	3,045.49	54.37
141	J-220	8.25	2,924.00	3,049.66	54.45
142	J-221FH	8.25	2,748.00	2,931.26	79.41
143	J-222FH	8.25	2,732.00	2,931.60	86.49
144	J-223	8.25	2,720.00	2,931.21	91.52
145	J-224	8.25	2,750.00	2,931.41	78.60
146	J-225FH	8.25	2,752.00	2,931.23	77.66
147	J-226	8.25	2,740.00	2,931.15	82.82
148	J-227FH	8.25	2,845.00	2,986.81	61.44
149	J-228	8.25	2,755.00	2,931.23	76.36
150	J-229FH	8.25	2,753.00	2,931.05	77.15

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
151	J-23	8.25	2,751.00	2,981.08	99.69
152	J-230	8.25	2,755.00	2,931.04	76.28
153	J-231	8.25	2,750.00	2,931.00	78.43
154	J-232FH	8.25	2,755.00	2,930.92	76.22
155	J-233	8.25	2,750.00	2,930.94	78.40
156	J-234	8.25	2,770.00	2,930.89	69.72
157	J-235FH	8.25	2,765.00	2,930.80	71.84
158	J-236	8.25	2,768.00	2,930.79	70.54
159	J-237	8.25	2,765.00	2,930.78	71.83
160	J-238	8.25	2,778.00	2,930.72	66.17
161	J-24	8.25	2,800.00	2,982.78	79.20
162	J-240	8.25	2,778.00	2,930.71	66.17
163	J-241	8.25	2,780.00	2,930.28	65.11
164	J-242	8.25	2,760.00	2,930.56	73.91
165	J-243	8.25	2,924.00	3,047.15	53.36
166	J-244	8.25	2,770.00	2,930.56	69.57
167	J-245	8.25	2,770.00	2,930.56	69.57
168	J-246	8.25	2,878.00	3,001.36	53.45
169	J-247FH	8.25	2,857.50	2,994.38	59.31
170	J-248	8.25	2,920.00	3,055.47	58.70
171	J-249	8.25	2,920.00	3,056.40	59.10
172	J-250FH	8.25	2,750.00	2,930.94	78.40
173	J-251	8.25	2,750.00	2,930.95	78.41
174	J-252	8.25	2,750.00	2,930.96	78.41
175	J-253	8.25	2,745.00	2,930.95	80.57
176	J-254	8.25	2,735.00	2,930.77	84.83
177	J-255FH	8.25	2,728.00	2,930.72	87.84
178	J-256	8.25	2,728.00	2,930.71	87.83
179	J-257	8.25	2,725.00	2,930.46	89.02
180	J-258FH	8.25	2,735.00	2,930.39	84.66
181	J-259	8.25	2,735.00	2,930.31	84.63
182	J-25FH	8.25	2,758.00	2,982.11	97.11
183	J-26	8.25	2,760.00	2,982.11	96.24
184	J-260FH	8.25	2,735.00	2,930.28	84.62
185	J-261	8.25	2,735.00	2,930.28	84.61
186	J-262	8.25	2,735.00	2,930.27	84.61
187	J-263	8.25	2,720.00	2,930.24	91.10
188	J-264	8.25	2,710.00	2,930.18	95.40
189	J-265	8.25	2,700.00	2,929.92	99.63
190	J-266FH	8.25	2,700.00	2,929.92	99.63
191	J-267FH	8.25	2,751.00	2,934.42	79.48
192	J-268	8.25	2,700.00	2,930.02	99.67
193	J-269FH	8.25	2,700.00	2,930.02	99.67
194	J-27	8.25	2,770.00	2,982.78	92.20
195	J-270FH	8.25	2,700.00	2,930.18	99.74
196	J-271FH	8.25	2,735.00	2,930.29	84.62
197	J-272	8.25	2,824.00	2,989.28	71.62
198	J-273FH	8.25	2,705.00	2,930.37	97.65
199	J-274FH	8.25	2,705.00	2,930.38	97.66
200	J-275FH	8.25	2,785.00	2,980.85	84.86

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
201	J-277	8.25	2,920.00	3,051.58	57.02
202	J-278FH	8.25	2,740.00	2,931.92	83.16
203	J-279FH	8.25	2,730.00	2,931.41	87.27
204	J-28	8.25	2,807.00	2,984.49	76.91
205	J-280FH	8.25	2,741.00	2,931.00	82.33
206	J-281FH	8.25	2,703.00	2,930.38	98.53
207	J-282	8.25	2,720.00	2,930.45	91.19
208	J-283FH	8.25	2,715.00	2,930.48	93.37
209	J-284FH	8.25	2,720.00	2,930.66	91.28
210	J-285	8.25	2,720.00	2,930.48	91.20
211	J-286	8.25	2,720.00	2,930.67	91.28
212	J-287	8.25	2,720.00	2,930.79	91.33
213	J-288FH	8.25	2,720.00	2,930.46	91.19
214	J-289	8.25	2,720.00	2,930.49	91.21
215	J-290	8.25	2,720.00	2,930.49	91.21
216	J-291FH	8.25	2,921.00	3,043.81	53.21
217	J-292FH	8.25	2,705.00	2,930.42	97.67
218	J-293FH	8.25	2,755.00	2,979.81	97.41
219	J-294	8.25	2,913.00	3,045.00	57.19
220	J-295	8.25	2,946.00	3,098.20	65.95
221	J-296	7.10	2,990.00	3,109.24	51.67
222	J-297FH	8.25	2,705.00	2,930.40	97.67
223	J-298	8.25	2,760.00	2,930.63	73.93
224	J-299	8.25	2,770.00	2,930.56	69.57
225	J-29FH	8.25	2,815.00	2,985.03	73.67
226	J-3	8.25	2,730.00	2,930.58	86.91
227	J-300	8.25	2,915.00	3,051.58	59.18
228	J-301FH	8.25	2,800.00	3,066.09	115.30
229	J-302FH	8.25	2,705.00	2,930.40	97.67
230	J-303FH	8.25	2,730.00	2,930.46	86.86
231	J-304	7.10	3,000.00	3,149.64	64.84
232	J-305FH	8.25	2,877.50	2,996.23	51.44
233	J-306	8.25	2,877.50	3,030.10	66.12
234	J-307FH	8.25	2,740.00	2,930.48	82.53
235	J-308	7.10	3,042.00	3,086.44	19.25
236	J-309	8.25	2,760.00	2,930.57	73.91
237	J-30FH	8.25	2,816.00	2,985.59	73.48
238	J-31	8.25	2,815.00	2,985.80	74.01
239	J-310	8.25	2,930.00	3,047.22	50.79
240	J-311	89.12	2,925.00	3,045.49	52.21
241	J-312	8.25	2,870.00	3,043.90	75.35
242	J-313	8.25	2,800.00	2,987.87	81.40
243	J-314	8.25	2,780.00	2,985.79	89.17
244	J-315FH	8.25	2,930.00	3,046.17	50.34
245	J-316	8.25	2,843.00	2,986.81	62.31
246	J-317FH	8.25	2,902.00	3,036.61	58.33
247	J-318FH	8.25	2,922.00	3,055.27	57.75
248	J-319FH	8.25	2,924.00	3,052.59	55.72
249	J-32	8.25	2,800.00	2,985.79	80.50
250	J-320	8.25	2,922.00	3,051.99	56.32

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
251	J-321FH	8.25	2,924.00	3,050.31	54.73
252	J-322FH	8.25	2,936.00	3,047.96	48.51
253	J-323FH	8.25	2,930.00	3,048.75	51.46
254	J-324FH	8.25	2,926.00	3,049.76	53.62
255	J-325FH	8.25	2,924.00	3,050.71	54.90
256	J-326FH	8.25	2,928.00	3,049.89	52.82
257	J-327FH	8.25	2,928.00	3,049.16	52.50
258	J-328FH	8.25	2,933.00	3,048.56	50.07
259	J-329FH	8.25	2,934.00	3,048.53	49.63
260	J-330	8.25	2,934.00	3,048.62	49.66
261	J-331	8.25	2,923.00	3,050.31	55.16
262	J-333	8.25	2,885.00	3,035.98	65.42
263	J-334	8.25	2,885.00	3,035.98	65.42
264	J-335	8.25	2,745.00	2,931.37	80.76
265	J-336	8.25	2,745.00	2,931.37	80.76
266	J-33FH	8.25	2,820.00	2,986.78	72.26
267	J-34	8.25	2,830.00	2,987.04	68.05
268	J-35	8.25	2,827.00	2,986.25	69.00
269	J-36	8.25	2,820.00	2,986.23	72.03
270	J-37	8.25	2,825.00	2,985.76	69.66
271	J-38FH	8.25	2,821.00	2,985.25	71.17
272	J-39FH	8.25	2,836.00	2,986.32	65.13
273	J-4	8.25	2,729.00	2,930.58	87.35
274	J-40	8.25	2,839.00	2,986.30	63.83
275	J-41	8.25	2,837.00	2,986.38	64.73
276	J-42	8.25	2,835.00	2,986.17	65.50
277	J-43	8.25	2,833.00	2,985.72	66.17
278	J-44FH	8.25	2,805.00	2,984.57	77.81
279	J-45	8.25	2,805.00	2,984.84	77.93
280	J-46	8.25	2,780.00	2,984.56	88.64
281	J-47	8.25	2,760.00	2,984.56	97.30
282	J-48	8.25	2,780.00	2,984.56	88.64
283	J-49	8.25	2,801.00	2,985.27	79.84
284	J-5	8.25	2,751.00	2,930.77	77.89
285	J-50	8.25	2,803.00	2,984.84	78.79
286	J-51	8.25	2,800.00	2,985.27	80.28
287	J-52	8.25	2,839.00	2,987.75	64.45
288	J-53	8.25	2,842.00	2,987.83	63.19
289	J-54	8.25	2,920.00	3,042.71	53.17
290	J-55	8.25	2,842.00	2,987.74	63.15
291	J-56	8.25	2,847.00	2,988.80	61.44
292	J-57	8.25	2,850.00	2,988.80	60.14
293	J-58	8.25	2,837.00	2,986.80	64.91
294	J-59	8.25	2,860.00	3,066.09	89.30
295	J-6	8.25	2,757.00	2,931.05	75.42
296	J-61	8.25	2,847.00	2,986.80	60.57
297	J-63FH	8.25	2,839.00	2,986.80	64.04
298	J-64	8.25	2,839.00	2,986.80	64.04
299	J-65	8.25	2,851.50	2,989.76	59.91
300	J-66FH	8.25	2,847.00	2,989.64	61.80

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	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
301	J-67	8.25	2,842.00	2,987.98	63.25
302	J-68FH	8.25	2,839.00	2,986.87	64.07
303	J-69FH	8.25	2,839.00	2,986.65	63.98
304	J-7	8.25	2,754.00	2,930.74	76.58
305	J-70	8.25	2,837.00	2,985.87	64.51
306	J-71	8.25	2,839.50	2,986.89	63.86
307	J-73FH	8.25	2,830.00	2,984.38	66.89
308	J-74	8.25	2,843.00	2,987.52	62.62
309	J-75	8.25	2,845.00	2,987.66	61.81
310	J-76	8.25	2,849.00	2,988.02	60.24
311	J-77FH	8.25	2,914.00	3,044.43	56.52
312	J-78	8.25	2,940.00	3,047.22	46.46
313	J-79	8.25	2,842.00	2,985.55	62.20
314	J-80FH	8.25	2,940.00	3,046.69	46.23
315	J-81FH	8.25	2,841.00	2,986.23	62.93
316	J-82	8.25	2,921.00	3,046.16	54.23
317	J-83	8.25	2,760.00	2,931.41	74.27
318	J-84	8.25	2,760.00	2,977.52	94.25
319	J-85FH	8.25	2,849.50	2,990.75	61.21
320	J-86	8.25	2,851.50	2,990.75	60.34
321	J-87	8.25	2,852.00	2,991.94	60.64
322	J-88	8.25	2,854.00	2,992.93	60.20
323	J-89	8.25	2,857.00	2,991.28	58.18
324	J-8FH	8.25	2,752.00	2,930.74	77.45
325	J-9	8.25	2,757.00	2,931.23	75.49
326	J-90	8.25	2,857.00	2,991.28	58.18
327	J-91	8.25	2,857.00	2,991.98	58.49
328	J-92	8.25	2,861.00	2,994.13	57.69
329	J-93FH	8.25	2,858.00	2,992.93	58.47
330	J-94	8.25	2,857.00	2,994.16	59.43
331	J-95	8.25	2,863.50	2,995.18	57.06
332	J-956	7.10	2,847.00	3,021.96	75.81
333	J-958	7.10	2,856.00	3,024.47	73.00
334	J-96	8.25	2,863.00	2,995.18	57.27
335	J-97FH	8.25	2,936.00	3,046.45	47.86
336	J-98	8.25	2,866.75	2,995.55	55.81
337	J-99	8.25	2,866.50	2,995.55	55.92
338	J1000	7.10	2,903.00	3,044.67	61.39
339	J1002	7.10	2,892.00	3,044.51	66.08
340	J1004	7.10	2,939.00	3,044.75	45.82
341	J1006	7.10	2,937.00	3,044.75	46.69
342	J1008	7.10	2,940.00	3,044.75	45.39
343	J100FH	8.25	2,933.00	3,051.33	51.27
344	J1010	7.10	2,941.00	3,044.75	44.95
345	J1012	7.10	2,941.00	3,044.75	44.95
346	J1014	7.10	2,942.00	3,044.75	44.52
347	J1016	7.10	2,943.00	3,044.76	44.09
348	J1018	7.10	2,940.00	3,044.75	45.39
349	J1020	7.10	2,944.00	3,043.58	43.15
350	J1022	7.10	2,947.00	3,043.59	41.85

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
351	J1024	7.10	2,941.00	3,043.58	44.45
352	J1026	7.10	2,953.00	3,075.75	53.19
353	J1028	7.10	2,868.00	3,075.75	90.02
354	J102FH	8.25	2,936.00	3,046.89	48.05
355	J1030	7.10	2,890.00	3,075.75	80.48
356	J1032	7.10	2,873.00	3,075.75	87.85
357	J1034	7.10	2,915.00	3,075.75	69.65
358	J1036	7.10	2,761.00	2,932.26	74.21
359	J1038	7.10	2,764.00	2,932.36	72.95
360	J1040	7.10	2,764.00	2,932.28	72.92
361	J1042	7.10	2,766.00	2,932.33	72.07
362	J1044	7.10	2,768.00	2,932.31	71.19
363	J1048	7.10	3,000.00	3,150.49	65.21
364	J104FH	8.25	2,929.00	3,044.99	50.26
365	J1050	7.10	2,861.00	3,104.18	105.37
366	J1054	0.00	2,940.00	3,089.20	64.65
367	J1056	0.00	2,929.50	3,044.82	49.97
368	J1062	0.00	3,000.00	3,109.24	47.33
369	J1068	0.00	3,138.90	3,165.89	11.69
370	J106FH	8.25	2,923.00	3,044.60	52.69
371	J108FH	8.25	2,921.00	3,044.83	53.65
372	J10FH	8.25	2,845.00	3,017.77	74.86
373	J110FH	8.25	2,914.00	3,044.30	56.46
374	J112FH	8.25	2,934.00	3,048.12	49.45
375	J114FH	8.25	2,932.00	3,046.97	49.82
376	J116FH	8.25	2,925.00	3,044.77	51.90
377	J118FH	8.25	2,929.00	3,049.32	52.13
378	J12	8.25	2,845.00	3,017.94	74.94
379	J120FH	8.25	2,930.00	3,047.11	50.74
380	J122FH	8.25	2,930.00	3,045.54	50.07
381	J124FH	8.25	2,922.00	3,043.98	52.86
382	J126FH	65.58	2,899.00	3,044.13	62.89
383	J128FH	8.25	2,902.00	3,042.48	60.87
384	J130FH	65.58	2,881.00	3,043.96	70.61
385	J132FH	8.25	2,887.00	3,042.62	67.43
386	J134FH	8.25	2,894.00	3,042.12	64.18
387	J136FH	8.25	2,898.00	3,041.81	62.31
388	J138FH	8.25	2,924.00	3,042.04	51.15
389	J140FH	8.25	2,920.00	3,040.91	52.39
390	J142FH	8.25	2,923.00	3,040.92	51.10
391	J144FH	8.25	2,808.00	3,066.09	111.83
392	J146FH	8.25	2,810.00	3,066.09	110.96
393	J148FH	8.25	2,816.00	3,066.09	108.37
394	J14FH	8.25	2,845.00	3,017.47	74.73
395	J150FH	8.25	2,868.00	3,066.10	85.83
396	J152FH	8.25	2,932.00	3,040.88	47.18
397	J154FH	8.25	2,929.00	3,043.96	49.81
398	J156FH	8.25	2,929.00	3,042.96	49.38
399	J158FH	8.25	2,928.00	3,042.87	49.77
400	J16	8.25	2,849.00	3,017.45	72.99

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
401	J160FH	8.25	2,912.00	3,036.50	53.95
402	J162FH	8.25	2,918.00	3,038.44	52.19
403	J164FH	8.25	2,911.00	3,037.63	54.87
404	J166FH	8.25	2,911.00	3,040.31	56.03
405	J168FH	8.25	2,905.00	3,040.79	58.84
406	J170FH	8.25	2,882.00	3,041.12	68.95
407	J172FH	8.25	2,884.00	3,040.21	67.69
408	J174FH	8.25	2,877.00	3,039.09	70.24
409	J176FH	8.25	2,881.00	3,038.35	68.18
410	J178FH	8.25	2,888.00	3,037.49	64.77
411	J180FH	8.25	2,880.00	3,036.79	67.94
412	J182FH	8.25	2,863.00	3,036.59	75.22
413	J184FH	8.25	2,863.00	3,031.69	73.09
414	J186	8.25	2,788.00	2,930.56	61.77
415	J188FH	8.25	2,775.00	2,930.56	67.40
416	J18FH	8.25	2,844.00	3,017.45	75.16
417	J190FH	8.25	2,893.00	3,035.97	61.95
418	J192FH	8.25	2,766.00	2,930.56	71.31
419	J194FH	8.25	2,780.00	2,930.57	65.24
420	J196FH	8.25	2,763.00	2,930.59	72.62
421	J198FH	8.25	2,776.00	2,930.59	66.98
422	J200FH	8.25	2,783.00	2,930.70	64.00
423	J202FH	8.25	2,760.00	2,930.78	74.00
424	J204FH	8.25	2,777.00	2,930.90	66.68
425	J206FH	8.25	2,889.00	3,036.30	63.82
426	J208FH	8.25	2,879.00	3,035.75	67.92
427	J20FH	8.25	2,850.00	3,017.45	72.56
428	J210FH	8.25	2,892.00	3,035.69	62.26
429	J212FH	8.25	2,881.00	3,035.21	66.82
430	J214FH	8.25	2,738.00	2,930.95	83.61
431	J216FH	8.25	2,743.00	2,931.17	81.53
432	J218FH	8.25	2,722.00	2,931.21	90.65
433	J22	8.25	2,852.00	3,017.45	71.69
434	J220FH	8.25	2,725.00	2,931.22	89.35
435	J222FH	8.25	2,732.00	2,931.23	86.33
436	J224	8.25	2,730.00	2,931.22	87.19
437	J226FH	8.25	2,736.00	2,931.22	84.59
438	J228FH	8.25	2,738.00	2,931.16	83.70
439	J230FH	8.25	2,747.00	2,931.50	79.95
440	J232FH	8.25	2,723.00	2,930.71	90.00
441	J234FH	8.25	2,728.00	2,930.71	87.83
442	J236FH	8.25	2,738.00	2,931.06	83.65
443	J238FH	8.25	2,745.00	2,931.41	80.77
444	J240FH	8.25	2,720.00	2,930.69	91.29
445	J242FH	8.25	2,742.00	2,931.25	82.00
446	J244FH	8.25	2,755.00	2,979.25	97.17
447	J246FH	8.25	2,835.00	3,006.86	74.47
448	J248FH	8.25	2,740.00	2,930.75	82.65
449	J24FH	8.25	2,842.00	3,017.45	76.02
450	J250FH	8.25	2,749.00	2,931.33	79.00

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
451	J252FH	8.25	2,743.00	2,931.29	81.58
452	J254FH	8.25	2,743.00	2,931.28	81.58
453	J256FH	8.25	2,804.00	2,984.98	78.42
454	J258FH	8.25	2,778.00	2,984.56	89.50
455	J260FH	8.25	2,797.00	2,983.76	80.92
456	J262FH	8.25	2,796.00	2,982.78	80.93
457	J264FH	8.25	2,799.00	2,982.35	79.45
458	J266FH	8.25	2,812.00	2,985.43	75.15
459	J268FH	8.25	2,810.00	2,985.02	75.84
460	J26FH	8.25	2,849.00	3,017.45	72.99
461	J270FH	8.25	2,807.00	2,984.09	76.73
462	J272FH	8.25	2,824.00	2,986.44	70.38
463	J274FH	8.25	2,804.00	2,986.37	79.02
464	J276FH	8.25	2,818.00	2,985.76	72.69
465	J278FH	8.25	2,824.00	2,986.34	70.34
466	J28	8.25	2,922.00	3,051.59	56.15
467	J280FH	8.25	2,819.00	2,985.90	72.32
468	J282FH	8.25	2,841.00	2,988.13	63.75
469	J284FH	8.25	2,843.00	2,989.05	63.28
470	J286FH	8.25	2,844.00	2,990.41	63.44
471	J288FH	8.25	2,849.00	2,991.96	61.95
472	J290FH	8.25	2,794.00	2,979.09	80.20
473	J292FH	8.25	2,856.00	2,990.32	58.20
474	J294FH	8.25	2,845.00	2,987.71	61.83
475	J296FH	8.25	2,843.00	2,987.92	62.79
476	J298FH	8.25	2,852.00	2,992.66	60.95
477	J300FH	8.25	2,875.00	3,007.80	57.54
478	J302FH	8.25	2,871.00	3,003.74	57.52
479	J304FH	8.25	2,872.00	3,001.36	56.05
480	J306FH	8.25	2,864.00	2,994.39	56.50
481	J308FH	8.25	2,858.00	2,994.14	58.99
482	J310FH	8.25	2,752.00	2,931.80	77.91
483	J312FH	8.25	2,739.00	2,930.58	83.01
484	J314FH	8.25	2,743.00	2,931.24	81.56
485	J316FH	8.25	2,734.00	2,930.99	85.35
486	J318FH	8.25	2,720.00	2,930.67	91.28
487	J320FH	8.25	2,716.00	2,930.58	92.98
488	J322FH	8.25	2,721.00	2,930.57	90.81
489	J324FH	8.25	2,727.00	2,930.60	88.22
490	J326FH	8.25	2,729.00	2,930.51	87.32
491	J328FH	8.25	2,736.00	2,930.34	84.21
492	J330FH	8.25	2,727.00	2,930.33	88.10
493	J332FH	8.25	2,736.00	2,930.37	84.22
494	J334FH	8.25	2,739.00	2,930.44	82.95
495	J336FH	8.25	2,733.00	2,930.88	85.74
496	J338FH	8.25	2,725.00	2,930.43	89.01
497	J340FH	8.25	2,739.00	2,930.88	83.14
498	J342FH	8.25	2,728.00	2,930.62	87.79
499	J344FH	8.25	2,736.00	2,930.88	84.44
500	J346FH	8.25	2,740.00	2,930.88	82.71

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
501	J348FH	8.25	2,746.00	2,931.08	80.19
502	J34FH	8.25	2,922.00	3,053.26	56.87
503	J350FH	8.25	2,746.00	2,931.09	80.20
504	J352FH	8.25	2,735.00	2,930.74	84.81
505	J354FH	8.25	2,749.00	2,931.23	78.96
506	J356FH	8.25	2,721.00	2,930.72	90.87
507	J358FH	8.25	2,733.00	2,930.75	85.69
508	J36	8.25	2,906.00	3,041.27	58.61
509	J360FH	8.25	2,705.00	2,929.97	97.48
510	J362FH	8.25	2,705.00	2,930.10	97.53
511	J364FH	8.25	2,718.00	2,930.28	91.98
512	J366FH	8.25	2,721.00	2,930.28	90.68
513	J368FH	8.25	2,717.00	2,930.26	92.40
514	J370FH	8.25	2,731.00	2,930.32	86.37
515	J372FH	8.25	2,731.00	2,930.34	86.38
516	J374FH	8.25	2,704.00	2,930.38	98.09
517	J376FH	8.25	2,705.00	2,930.41	97.67
518	J380FH	8.25	2,947.00	3,046.33	43.04
519	J382FH	8.25	2,948.00	3,046.33	42.61
520	J384FH	8.25	2,945.00	3,046.33	43.91
521	J388	8.25	2,946.00	3,046.33	43.47
522	J38FH	8.25	2,913.00	3,036.99	53.73
523	J392	8.25	2,952.00	3,046.33	40.87
524	J394	8.25	2,945.00	3,046.33	43.91
525	J396	8.25	2,942.00	3,046.33	45.21
526	J398FH	8.25	2,943.00	3,046.33	44.77
527	J40	8.25	2,916.00	3,037.51	52.65
528	J400	8.25	2,902.00	3,044.65	61.81
529	J402FH	65.58	2,912.00	3,044.61	57.46
530	J404FH	8.25	2,917.00	3,044.59	55.28
531	J406FH	8.25	2,921.00	3,044.87	53.67
532	J408	8.25	2,918.00	3,044.87	54.97
533	J410FH	8.25	2,922.00	3,045.08	53.33
534	J412FH	8.25	2,929.00	3,045.49	50.48
535	J414	8.25	2,928.00	3,053.07	54.19
536	J416FH	8.25	2,928.00	3,055.14	55.09
537	J418FH	8.25	2,926.00	3,055.14	55.96
538	J420FH	8.25	2,918.00	3,055.70	59.67
539	J422FH	8.25	2,928.00	3,054.41	54.78
540	J424FH	8.25	2,928.00	3,054.36	54.75
541	J426FH	8.25	2,927.00	3,054.33	55.17
542	J42FH	8.25	2,919.00	3,037.51	51.35
543	J430	8.25	2,923.00	3,055.76	57.52
544	J432	8.25	2,924.00	3,055.74	57.08
545	J434FH	8.25	2,926.00	3,055.75	56.22
546	J436	8.25	2,922.00	3,055.74	57.95
547	J438	8.25	2,923.00	3,055.74	57.52
548	J440FH	8.25	2,925.00	3,054.30	56.03
549	J442FH	8.25	2,926.00	3,054.69	55.76
550	J444FH	8.25	2,930.00	3,051.97	52.85

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
551	J446	8.25	2,909.00	3,057.35	64.28
552	J448	8.25	2,923.00	3,055.70	57.50
553	J44FH	8.25	2,918.00	3,036.99	51.56
554	J450FH	8.25	2,918.00	3,044.81	54.95
555	J452FH	65.58	2,915.00	3,044.71	56.20
556	J454	8.25	2,841.00	2,987.89	63.65
557	J456FH	8.25	2,706.00	2,929.86	97.00
558	J458FH	8.25	2,709.00	2,929.86	95.70
559	J46	8.25	2,896.00	3,036.61	60.93
560	J460FH	8.25	2,713.00	2,929.86	93.96
561	J462FH	8.25	2,713.00	2,929.87	93.97
562	J464	8.25	2,711.00	2,929.87	94.83
563	J466	8.25	2,707.00	2,929.86	96.57
564	J468	8.25	2,712.00	2,929.86	94.40
565	J470	8.25	2,712.00	2,929.89	94.41
566	J472	8.25	2,712.00	2,929.86	94.40
567	J474	8.25	2,712.00	2,929.87	94.40
568	J476	7.10	2,815.00	3,074.56	112.47
569	J478FH	8.25	2,816.00	3,074.57	112.04
570	J48	8.25	2,900.00	3,035.74	58.81
571	J480FH	8.25	2,796.00	3,074.70	120.76
572	J482FH	129.17	2,796.00	3,074.85	120.83
573	J484FH	8.25	2,811.00	3,075.11	114.44
574	J486FH	8.25	2,840.00	3,075.48	102.03
575	J488FH	8.25	2,820.00	3,075.47	110.70
576	J490FH	8.25	2,818.00	3,075.47	111.56
577	J492FH	8.25	2,820.00	3,075.46	110.69
578	J494FH	129.17	2,818.00	3,075.39	111.53
579	J496FH	8.25	2,815.00	3,075.57	112.91
580	J500FH	8.25	2,823.00	3,075.69	109.49
581	J508FH	8.25	2,847.00	3,075.71	99.10
582	J50FH	8.25	2,695.00	2,930.38	101.99
583	J510FH	8.25	2,856.00	3,075.74	95.21
584	J512	8.25	2,872.00	3,075.74	88.28
585	J514FH	8.25	2,869.00	3,075.78	89.60
586	J516	8.25	2,867.00	3,075.79	90.47
587	J518FH	8.25	2,865.00	3,075.83	91.35
588	J52	8.25	2,742.00	2,930.88	81.84
589	J522FH	8.25	2,824.00	3,075.70	109.06
590	J524	8.25	2,815.00	3,075.67	112.95
591	J526FH	8.25	2,840.00	3,075.74	102.14
592	J528FH	8.25	2,854.00	3,075.79	96.10
593	J532FH	8.25	2,858.00	3,075.86	94.40
594	J534	8.25	2,860.00	3,075.89	93.54
595	J54	8.25	2,738.00	2,930.88	83.57
596	J540	89.12	2,927.00	3,045.88	51.51
597	J546	7.10	2,760.00	3,156.38	171.75
598	J548	7.10	2,760.00	3,154.30	170.85
599	J550	7.10	2,760.00	3,149.79	168.90
600	J552	7.10	2,760.00	3,147.00	167.69

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
601	J554	7.10	2,760.00	3,149.17	168.63
602	J556	7.10	2,760.00	3,150.89	169.37
603	J558	7.10	2,760.00	3,154.40	170.89
604	J560	8.25	2,875.00	3,027.95	66.27
605	J562	7.10	2,865.00	3,028.74	70.95
606	J564	8.25	2,820.00	2,984.37	71.22
607	J566FH	8.25	2,922.00	3,044.93	53.27
608	J568FH	8.25	2,928.00	3,044.87	50.64
609	J56FH	8.25	2,740.00	2,930.64	82.60
610	J570FH	8.25	2,929.00	3,044.87	50.21
611	J572	8.25	2,939.00	3,044.79	45.84
612	J574	8.25	2,937.00	3,044.79	46.71
613	J576	8.25	2,942.00	3,044.65	44.48
614	J578	8.25	2,940.00	3,044.79	45.41
615	J580FH	8.25	2,939.00	3,044.79	45.84
616	J582	8.25	2,922.00	3,044.91	53.26
617	J584FH	8.25	2,842.00	3,075.65	101.24
618	J586	8.25	2,865.00	3,075.77	91.33
619	J588	8.25	2,857.00	3,075.78	94.80
620	J58FH	8.25	2,734.00	2,930.55	85.16
621	J590FH	8.25	2,833.00	3,075.64	105.14
622	J594FH	8.25	2,826.00	3,075.64	108.17
623	J596FH	8.25	2,803.00	3,075.39	118.03
624	J60	8.25	2,728.00	2,930.51	87.75
625	J600FH	8.25	2,846.00	3,075.75	99.55
626	J602	8.25	2,846.00	3,075.75	99.55
627	J604	8.25	2,945.00	3,044.38	43.06
628	J606FH	8.25	2,950.00	3,044.04	40.75
629	J608	8.25	2,943.00	3,044.38	43.93
630	J610FH	8.25	2,936.00	3,044.80	47.14
631	J612FH	8.25	2,931.00	3,044.85	49.33
632	J614	8.25	2,931.00	3,044.79	49.30
633	J616	89.12	2,933.00	3,044.77	48.43
634	J618	7.10	3,143.00	3,167.43	10.59
635	J62	8.25	2,723.00	2,930.52	89.92
636	J620	8.25	2,865.00	2,995.23	56.43
637	J622FH	8.25	2,826.00	2,989.07	70.66
638	J624FH	8.25	2,835.00	2,989.06	66.75
639	J626FH	8.25	2,805.00	2,989.07	79.76
640	J630FH	8.25	2,825.00	2,989.06	71.09
641	J634FH	8.25	2,831.00	2,989.05	68.49
642	J638FH	8.25	2,790.00	2,989.06	86.25
643	J64	8.25	2,742.00	2,930.40	81.63
644	J640FH	8.25	2,930.00	3,044.78	49.74
645	J642FH	8.25	2,929.00	3,044.81	50.18
646	J646FH	8.25	2,934.00	3,044.77	48.00
647	J648FH	8.25	2,799.00	2,930.53	56.99
648	J650FH	8.25	2,790.00	2,930.52	60.89
649	J652FH	8.25	2,774.00	2,930.52	67.82
650	J654FH	8.25	2,772.00	2,930.43	68.65

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
651	J656FH	8.25	2,779.00	2,930.37	65.59
652	J658FH	8.25	2,784.00	2,930.42	63.45
653	J660FH	8.25	2,774.00	2,930.17	67.67
654	J662FH	144.82	2,765.00	2,930.03	71.51
655	J664FH	8.25	2,784.00	2,930.17	63.33
656	J666FH	8.25	2,792.00	2,930.37	59.95
657	J668	144.82	2,805.00	2,929.98	54.15
658	J66FH	8.25	2,733.00	2,930.31	85.49
659	J670	8.25	2,746.42	2,931.15	80.04
660	J672FH	8.25	2,747.00	2,931.14	79.79
661	J674	8.25	2,931.48	3,046.11	49.67
662	J676FH	8.25	2,935.42	3,046.08	47.95
663	J678FH	8.25	2,934.28	3,045.87	48.35
664	J680FH	8.25	2,931.09	3,045.69	49.65
665	J682	8.25	2,926.25	3,045.59	51.71
666	J684FH	8.25	2,930.42	3,045.65	49.93
667	J686FH	8.25	2,929.00	3,045.80	50.61
668	J688	8.25	2,924.95	3,045.82	52.37
669	J68FH	8.25	2,743.00	2,930.29	81.15
670	J690	8.25	2,925.00	3,045.82	52.35
671	J692FH	8.25	2,932.10	3,045.97	49.34
672	J694	8.25	2,923.00	3,045.47	53.07
673	J696	8.25	2,935.00	3,044.80	47.57
674	J698	8.25	2,929.52	3,044.96	50.02
675	J700FH	8.25	2,936.95	3,044.96	46.80
676	J702	8.25	2,925.68	3,045.32	51.84
677	J704FH	8.25	2,926.37	3,045.32	51.54
678	J706FH	8.25	2,934.71	3,045.32	47.93
679	J708FH	8.25	2,930.45	3,044.96	49.62
680	J70FH	8.25	2,731.00	2,930.31	86.36
681	J710FH	8.25	2,935.73	3,044.83	47.27
682	J712	8.25	2,721.80	2,930.70	90.52
683	J714FH	8.25	2,726.17	2,930.70	88.62
684	J716	8.25	2,720.00	2,930.70	91.30
685	J718FH	8.25	2,723.42	2,930.70	89.82
686	J72	8.25	2,724.00	2,930.71	89.57
687	J720FH	8.25	2,781.00	2,985.78	88.73
688	J724	8.25	2,934.00	3,044.81	48.01
689	J728	8.25	2,932.00	3,044.81	48.88
690	J730FH	8.25	2,932.00	3,044.81	48.88
691	J732	8.25	2,930.00	3,044.81	49.75
692	J736	8.25	2,922.00	3,044.86	53.23
693	J738FH	8.25	2,924.00	3,044.84	52.36
694	J74	8.25	2,911.00	3,042.48	56.97
695	J740FH	8.25	2,916.00	3,044.90	55.85
696	J742FH	8.25	2,938.00	3,044.80	46.28
697	J744	8.25	2,942.00	3,044.80	44.54
698	J746	8.25	2,944.00	3,043.68	43.19
699	J748	89.12	2,950.00	3,043.59	40.55
700	J750FH	8.25	2,941.00	3,043.63	44.47

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
701	J752	89.12	2,946.00	3,043.57	42.28
702	J754	8.25	2,944.00	3,043.63	43.17
703	J756	8.25	2,948.00	3,044.04	41.61
704	J758	8.25	2,952.00	3,044.04	39.88
705	J76	8.25	2,886.00	3,042.78	67.93
706	J774	8.25	2,738.00	2,930.32	83.33
707	J776	8.25	2,736.00	2,930.32	84.20
708	J778	8.25	2,771.00	2,930.39	69.06
709	J780	8.25	2,770.00	2,930.39	69.50
710	J782	8.25	2,812.00	2,986.19	75.47
711	J784FH	8.25	2,774.00	2,930.51	67.82
712	J786FH	8.25	2,781.00	2,985.78	88.73
713	J788FH	8.25	2,921.00	3,046.15	54.23
714	J78FH	8.25	2,932.00	3,045.64	49.24
715	J790FH	8.25	2,926.00	3,044.82	51.49
716	J792	89.12	2,943.00	3,044.76	44.09
717	J794	815.81	2,907.00	3,044.68	59.66
718	J796	87.97	2,889.00	3,044.35	67.31
719	J802	8.25	2,774.00	2,930.53	67.82
720	J804	8.25	2,799.00	3,074.47	119.36
721	J80FH	8.25	2,925.00	3,044.20	51.65
722	J814	7.10	2,981.00	3,162.87	78.81
723	J816	7.10	2,963.00	3,044.03	35.11
724	J818	7.10	2,954.00	3,044.04	39.01
725	J82FH	8.25	2,917.00	3,043.23	54.70
726	J838	7.10	3,004.53	3,164.00	69.10
727	J84FH	8.25	2,922.00	3,043.23	52.53
728	J86	8.25	2,925.00	3,044.77	51.90
729	J88	8.25	2,916.00	3,041.13	54.22
730	J90	8.25	2,922.00	3,044.78	53.20
731	J92FH	8.25	2,948.00	3,048.74	43.65
732	J942	7.10	2,907.00	3,044.40	59.53
733	J946	7.10	2,983.37	3,163.30	77.96
734	J948	7.10	2,946.00	3,089.20	62.05
735	J94FH	8.25	2,950.00	3,047.00	42.03
736	J954	7.10	2,847.00	3,020.65	75.24
737	J960	7.10	2,851.00	3,022.82	74.45
738	J962	7.10	2,855.00	3,024.06	73.25
739	J964	7.10	2,861.00	3,025.73	71.38
740	J966	7.10	2,861.00	3,026.84	71.86
741	J968	7.10	2,915.00	3,045.00	56.33
742	J96FH	8.25	2,941.00	3,048.31	46.50
743	J970	7.10	2,924.00	3,044.90	52.38
744	J972	7.10	2,917.00	3,045.10	55.51
745	J974	7.10	2,919.00	3,045.00	54.60
746	J976	7.10	2,926.00	3,044.90	51.52
747	J978	7.10	2,934.00	3,046.85	48.90
748	J980	7.10	2,934.00	3,046.70	48.83
749	J982	7.10	2,928.00	3,046.35	51.28
750	J984	7.10	2,944.00	3,062.18	51.21

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Peak Day Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
751	J986	7.10	2,923.00	3,051.32	55.60
752	J988	7.10	2,921.00	3,047.63	54.87
753	J98FH	8.25	2,936.00	3,050.36	49.55
754	J990	7.10	2,916.00	3,045.99	56.32
755	J992	7.10	2,923.00	3,045.06	52.89
756	J994	7.10	2,946.00	3,089.76	62.29
757	J996	7.10	2,910.00	3,044.79	58.40
758	J998	7.10	2,908.00	3,044.68	59.22

Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1	J-100FH	9.23	2,876.00	2,996.53	52.23
2	J-101	9.23	2,865.00	3,066.44	87.28
3	J-102FH	9.23	2,868.00	3,071.35	88.11
4	J-103FH	9.23	2,871.00	3,071.64	86.94
5	J-104	9.23	2,839.00	2,997.06	68.49
6	J-105FH	9.23	2,875.00	3,071.89	85.31
7	J-106FH	9.23	2,877.00	3,069.94	83.60
8	J-107FH	9.23	2,936.00	3,076.07	60.69
9	J-108	9.23	2,876.00	3,071.37	84.65
10	J-109FH	9.23	2,875.00	3,071.65	85.21
11	J-10FH	9.23	2,741.00	2,930.24	82.00
12	J-110	9.23	2,879.00	3,071.89	83.58
13	J-111	9.23	2,899.50	3,072.22	74.84
14	J-112	9.23	2,879.00	3,072.21	83.72
15	J-113	9.23	2,885.00	3,073.14	81.52
16	J-114FH	9.23	2,885.50	3,072.62	81.08
17	J-115	9.23	2,885.00	3,072.62	81.29
18	J-116FH	9.23	2,881.00	3,073.90	83.58
19	J-117	9.23	2,897.00	3,072.77	76.16
20	J-118FH	9.23	2,891.00	3,073.15	78.93
21	J-119FH	9.23	2,889.00	3,073.50	79.94
22	J-11FH	9.23	2,740.00	2,929.80	82.24
23	J-12	9.23	2,766.00	2,932.46	72.13
24	J-120	9.23	2,887.00	3,073.82	80.95
25	J-1208	9.23	2,822.00	3,004.64	79.14
26	J-121	9.23	2,878.00	3,074.18	85.01
27	J-1210	9.23	2,760.00	3,106.87	150.30
28	J-122FH	9.23	2,880.00	3,074.33	84.20
29	J-123	9.23	2,870.00	3,074.18	88.47
30	J-124	9.23	2,892.00	3,073.89	78.81
31	J-125	9.23	2,892.00	3,073.89	78.81
32	J-1254	9.23	3,000.00	3,162.99	70.62
33	J-1268	9.23	3,200.00	3,301.00	43.76
34	J-1269	9.23	3,200.00	3,301.00	43.76
35	J-126FH	9.23	2,901.00	3,074.19	75.04
36	J-127	9.23	2,901.00	3,074.26	75.07
37	J-1273	9.23	2,823.00	3,007.70	80.03
38	J-128FH	9.23	2,935.00	3,076.06	61.12
39	J-129	9.23	2,899.00	3,073.82	75.75
40	J-13	9.23	2,751.00	2,985.35	101.54
41	J-130	9.23	2,932.00	3,076.05	62.42
42	J-131FH	9.23	2,901.00	3,073.50	74.74
43	J-132FH	9.23	2,925.00	3,075.99	65.42
44	J-133FH	9.23	2,903.00	3,073.23	73.76
45	J-134FH	9.23	2,927.00	3,075.99	64.56
46	J-135	9.23	2,905.00	3,072.97	72.78
47	J-136FH	9.23	2,910.00	3,072.64	70.47
48	J-137	9.23	2,901.00	3,072.61	74.36
49	J-138FH	9.23	2,902.00	3,072.60	73.92
50	J-139FH	9.23	2,877.00	3,072.57	84.74

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
51	J-140	9.23	2,885.00	3,071.73	80.91
52	J-141FH	9.23	2,900.00	3,071.73	74.41
53	J-142	9.23	2,885.00	3,071.67	80.89
54	J-143FH	9.23	2,890.00	3,071.48	78.64
55	J-144FH	9.23	2,897.00	3,070.27	75.08
56	J-145FH	9.23	2,889.00	3,070.00	78.43
57	J-146	9.23	2,888.00	3,070.12	78.91
58	J-147FH	9.23	2,891.00	3,069.50	77.34
59	J-148	9.23	2,908.00	3,071.84	70.99
60	J-149FH	9.23	2,905.00	3,070.39	71.66
61	J-14FH	9.23	2,750.00	2,930.70	78.30
62	J-150	9.23	2,909.00	3,070.57	70.01
63	J-151FH	9.23	2,893.00	3,070.33	76.84
64	J-152	9.23	2,874.00	3,002.78	55.80
65	J-153FH	9.23	2,892.50	3,069.74	76.80
66	J-154	9.23	2,892.00	3,069.74	77.02
67	J-155	9.23	2,894.00	3,069.94	76.23
68	J-156FH	9.23	2,894.00	3,069.97	76.25
69	J-157	9.23	2,870.00	3,069.95	86.64
70	J-158FH	9.23	2,900.00	3,070.13	73.72
71	J-159	9.23	2,896.00	3,070.13	75.45
72	J-15FH	9.23	2,753.00	2,930.70	77.00
73	J-160FH	9.23	2,903.50	3,070.30	72.27
74	J-161FH	9.23	2,897.00	3,070.26	75.07
75	J-162FH	9.23	2,880.00	3,069.97	82.31
76	J-163	9.23	2,885.00	3,070.07	80.19
77	J-164FH	9.23	2,910.00	3,070.91	69.72
78	J-165FH	9.23	2,915.00	3,071.06	67.62
79	J-166	9.23	2,915.00	3,071.46	67.79
80	J-167FH	9.23	2,909.00	3,072.15	70.69
81	J-168FH	9.23	2,917.00	3,072.43	67.35
82	J-169FH	9.23	2,921.00	3,075.98	67.15
83	J-16FH	9.23	2,640.00	2,930.06	125.68
84	J-170FH	9.23	2,917.00	3,075.13	68.52
85	J-171	9.23	2,916.00	3,071.61	67.42
86	J-172	9.23	2,909.00	3,072.15	70.69
87	J-173FH	9.23	2,920.00	3,071.60	65.69
88	J-174	9.23	2,921.00	3,071.41	65.17
89	J-175FH	9.23	2,915.00	3,072.19	68.11
90	J-176	9.23	2,915.00	3,072.18	68.11
91	J-177FH	9.23	2,929.00	3,075.42	63.44
92	J-178	9.23	2,920.00	3,073.24	66.40
93	J-179	9.23	2,920.00	3,073.38	66.46
94	J-17FH	9.23	2,638.00	2,930.04	126.54
95	J-18	9.23	2,637.00	2,930.04	126.97
96	J-180	9.23	2,933.00	3,075.78	61.87
97	J-181	9.23	2,915.00	3,073.76	68.79
98	J-182	9.23	2,915.00	3,073.79	68.80
99	J-183FH	9.23	2,915.00	3,073.78	68.80
100	J-184FH	9.23	2,915.00	3,073.22	68.56

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
101	J-185	9.23	2,920.00	3,073.99	66.72
102	J-186FH	9.23	2,910.00	3,074.36	71.22
103	J-187	9.23	2,915.00	3,073.33	68.61
104	J-188	9.23	2,909.00	3,074.90	71.88
105	J-189FH	9.23	2,915.00	3,076.92	70.16
106	J-191	9.23	2,915.00	3,073.28	68.58
107	J-192	9.23	2,910.00	3,073.26	70.74
108	J-193FH	9.23	2,917.00	3,073.28	67.72
109	J-194	9.23	2,917.00	3,070.77	66.63
110	J-195	9.23	2,916.50	3,070.77	66.85
111	J-196	9.23	2,909.00	3,070.63	70.03
112	J-197	9.23	2,908.00	3,070.62	70.47
113	J-198FH	9.23	2,900.00	3,070.55	73.90
114	J-199	9.23	2,902.00	3,070.65	73.08
115	J-19FH	9.23	2,636.00	2,930.03	127.40
116	J-1FH	9.23	2,720.00	2,929.70	90.86
117	J-2	9.23	2,720.00	2,929.70	90.86
118	J-200	9.23	2,895.00	3,070.28	75.95
119	J-201	9.23	2,890.00	3,070.20	78.08
120	J-202	9.23	2,892.00	3,070.19	77.21
121	J-203	9.23	2,883.00	3,070.18	81.10
122	J-204FH	9.23	2,880.00	3,070.07	82.36
123	J-205	9.23	2,885.00	3,070.30	80.29
124	J-206	9.23	2,890.00	3,070.44	78.19
125	J-207	9.23	2,883.00	3,070.27	81.14
126	J-208	9.23	2,939.00	3,076.17	59.43
127	J-209	9.23	2,825.00	3,006.07	78.46
128	J-20FH	9.23	2,745.00	2,931.00	80.59
129	J-21	9.23	2,745.00	2,930.57	80.41
130	J-210	9.23	2,937.00	3,075.98	60.22
131	J-211FH	9.23	2,830.00	3,006.07	76.29
132	J-212FH	9.23	2,824.00	3,006.07	78.89
133	J-213	9.23	2,825.00	3,009.83	80.09
134	J-214FH	9.23	2,835.00	3,009.83	75.75
135	J-215FH	9.23	2,825.00	3,009.83	80.09
136	J-216	9.23	2,830.00	3,014.29	79.85
137	J-217	9.23	2,830.00	3,017.05	81.05
138	J-218FH	9.23	2,838.00	3,014.29	76.39
139	J-219	9.23	2,830.00	3,014.28	79.85
140	J-22	9.23	2,920.00	3,075.20	67.25
141	J-220	9.23	2,924.00	3,076.61	66.12
142	J-221FH	9.23	2,748.00	2,930.93	79.26
143	J-222FH	9.23	2,732.00	2,931.38	86.39
144	J-223	9.23	2,720.00	2,930.87	91.37
145	J-224	9.23	2,750.00	2,931.21	78.52
146	J-225FH	9.23	2,752.00	2,931.05	77.58
147	J-226	9.23	2,740.00	2,930.94	82.74
148	J-227FH	9.23	2,845.00	2,993.11	64.18
149	J-228	9.23	2,755.00	2,931.05	76.28
150	J-229FH	9.23	2,753.00	2,930.89	77.08

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
151	J-23	9.23	2,751.00	2,988.17	102.77
152	J-230	9.23	2,755.00	2,930.89	76.21
153	J-231	9.23	2,750.00	2,930.85	78.36
154	J-232FH	9.23	2,755.00	2,930.79	76.17
155	J-233	9.23	2,750.00	2,930.80	78.34
156	J-234	9.23	2,770.00	2,930.76	69.66
157	J-235FH	9.23	2,765.00	2,930.70	71.80
158	J-236	9.23	2,768.00	2,930.69	70.50
159	J-237	9.23	2,765.00	2,930.68	71.79
160	J-238	9.23	2,778.00	2,930.65	66.14
161	J-24	9.23	2,800.00	2,990.20	82.41
162	J-240	9.23	2,778.00	2,930.64	66.14
163	J-241	9.23	2,780.00	2,930.11	65.04
164	J-242	9.23	2,760.00	2,930.55	73.90
165	J-243	9.23	2,924.00	3,075.80	65.78
166	J-244	9.23	2,770.00	2,930.55	69.56
167	J-245	9.23	2,770.00	2,930.55	69.56
168	J-246	9.23	2,878.00	3,002.76	54.06
169	J-247FH	9.23	2,857.50	2,997.18	60.52
170	J-248	9.23	2,920.00	3,078.29	68.59
171	J-249	9.23	2,920.00	3,078.56	68.70
172	J-250FH	9.23	2,750.00	2,930.80	78.34
173	J-251	9.23	2,750.00	2,930.80	78.34
174	J-252	9.23	2,750.00	2,930.81	78.34
175	J-253	9.23	2,745.00	2,930.80	80.51
176	J-254	9.23	2,735.00	2,930.24	84.60
177	J-255FH	9.23	2,728.00	2,930.17	87.60
178	J-256	9.23	2,728.00	2,930.15	87.59
179	J-257	9.23	2,725.00	2,929.71	88.70
180	J-258FH	9.23	2,735.00	2,929.61	84.33
181	J-259	9.23	2,735.00	2,929.52	84.28
182	J-25FH	9.23	2,758.00	2,989.39	100.26
183	J-26	9.23	2,760.00	2,989.39	99.39
184	J-260FH	9.23	2,735.00	2,929.48	84.27
185	J-261	9.23	2,735.00	2,929.47	84.26
186	J-262	9.23	2,735.00	2,929.46	84.26
187	J-263	9.23	2,720.00	2,929.43	90.75
188	J-264	9.23	2,710.00	2,929.35	95.04
189	J-265	9.23	2,700.00	2,929.04	99.24
190	J-266FH	9.23	2,700.00	2,929.03	99.24
191	J-267FH	9.23	2,751.00	2,934.38	79.46
192	J-268	9.23	2,700.00	2,929.16	99.30
193	J-269FH	9.23	2,700.00	2,929.16	99.29
194	J-27	9.23	2,770.00	2,990.18	95.40
195	J-270FH	9.23	2,700.00	2,929.35	99.38
196	J-271FH	9.23	2,735.00	2,929.48	84.27
197	J-272	9.23	2,824.00	3,004.74	78.32
198	J-273FH	9.23	2,705.00	2,929.58	97.31
199	J-274FH	9.23	2,705.00	2,929.59	97.32
200	J-275FH	9.23	2,785.00	2,987.92	87.92

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
201	J-277	9.23	2,920.00	3,076.92	67.99
202	J-278FH	9.23	2,740.00	2,931.43	82.95
203	J-279FH	9.23	2,730.00	2,930.83	87.02
204	J-28	9.23	2,807.00	2,992.06	80.19
205	J-280FH	9.23	2,741.00	2,930.36	82.05
206	J-281FH	9.23	2,703.00	2,929.60	98.19
207	J-282	9.23	2,720.00	2,929.68	90.85
208	J-283FH	9.23	2,715.00	2,929.71	93.03
209	J-284FH	9.23	2,720.00	2,929.93	90.96
210	J-285	9.23	2,720.00	2,929.71	90.87
211	J-286	9.23	2,720.00	2,929.94	90.97
212	J-287	9.23	2,720.00	2,930.08	91.03
213	J-288FH	9.23	2,720.00	2,929.70	90.86
214	J-289	9.23	2,720.00	2,929.73	90.88
215	J-290	9.23	2,720.00	2,929.73	90.88
216	J-291FH	9.23	2,921.00	3,074.83	66.65
217	J-292FH	9.23	2,705.00	2,929.64	97.34
218	J-293FH	9.23	2,755.00	2,986.68	100.39
219	J-294	9.23	2,913.00	3,076.79	70.97
220	J-295	9.23	2,946.00	3,115.97	73.65
221	J-296	9.23	2,990.00	3,124.09	58.10
222	J-297FH	9.23	2,705.00	2,929.62	97.33
223	J-298	9.23	2,760.00	2,930.59	73.92
224	J-299	9.23	2,770.00	2,930.55	69.57
225	J-29FH	9.23	2,815.00	2,992.97	77.11
226	J-3	9.23	2,730.00	2,929.88	86.61
227	J-300	9.23	2,915.00	3,076.92	70.16
228	J-301FH	9.23	2,800.00	3,081.61	122.02
229	J-302FH	9.23	2,705.00	2,929.62	97.33
230	J-303FH	9.23	2,730.00	2,929.69	86.53
231	J-304	9.23	3,000.00	3,153.89	66.68
232	J-305FH	9.23	2,877.50	2,996.53	51.58
233	J-306	9.23	2,877.50	3,069.80	83.32
234	J-307FH	9.23	2,740.00	2,929.71	82.20
235	J-308	9.23	3,042.00	3,088.18	20.01
236	J-309	9.23	2,760.00	2,930.56	73.90
237	J-30FH	9.23	2,816.00	2,993.85	77.06
238	J-31	9.23	2,815.00	2,994.49	77.77
239	J-310	9.23	2,930.00	3,076.23	63.36
240	J-311	9.23	2,925.00	3,077.59	66.12
241	J-312	9.23	2,870.00	3,075.44	89.02
242	J-313	9.23	2,800.00	2,997.06	85.39
243	J-314	9.23	2,780.00	2,996.75	93.92
244	J-315FH	9.23	2,930.00	3,076.01	63.26
245	J-316	9.23	2,843.00	2,993.11	65.04
246	J-317FH	9.23	2,902.00	3,070.67	73.09
247	J-318FH	9.23	2,922.00	3,078.17	67.67
248	J-319FH	9.23	2,924.00	3,077.45	66.49
249	J-32	9.23	2,800.00	2,996.10	84.97
250	J-320	9.23	2,922.00	3,077.30	67.29

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
251	J-321FH	9.23	2,924.00	3,076.81	66.21
252	J-322FH	9.23	2,936.00	3,076.36	60.82
253	J-323FH	9.23	2,930.00	3,076.49	63.47
254	J-324FH	9.23	2,926.00	3,076.75	65.32
255	J-325FH	9.23	2,924.00	3,076.98	66.29
256	J-326FH	9.23	2,928.00	3,076.73	64.44
257	J-327FH	9.23	2,928.00	3,076.61	64.39
258	J-328FH	9.23	2,933.00	3,076.46	62.16
259	J-329FH	9.23	2,934.00	3,076.43	61.72
260	J-330	9.23	2,934.00	3,076.44	61.72
261	J-331	9.23	2,923.00	3,076.80	66.64
262	J-333	9.23	2,885.00	3,070.28	80.28
263	J-334	9.23	2,885.00	3,070.28	80.28
264	J-335	9.23	2,745.00	2,931.03	80.61
265	J-336	9.23	2,745.00	2,931.03	80.61
266	J-33FH	9.23	2,820.00	2,995.20	75.91
267	J-34	9.23	2,830.00	2,995.45	71.69
268	J-35	9.23	2,827.00	2,994.37	72.52
269	J-36	9.23	2,820.00	2,994.43	75.58
270	J-37	9.23	2,825.00	2,993.83	73.15
271	J-38FH	9.23	2,821.00	2,993.06	74.55
272	J-39FH	9.23	2,836.00	2,994.27	68.58
273	J-4	9.23	2,729.00	2,929.88	87.04
274	J-40	9.23	2,839.00	2,994.25	67.27
275	J-41	9.23	2,837.00	2,994.23	68.13
276	J-42	9.23	2,835.00	2,993.87	68.84
277	J-43	9.23	2,833.00	2,993.15	69.40
278	J-44FH	9.23	2,805.00	2,992.12	81.08
279	J-45	9.23	2,805.00	2,992.35	81.18
280	J-46	9.23	2,780.00	2,992.11	91.91
281	J-47	9.23	2,760.00	2,992.11	100.57
282	J-48	9.23	2,780.00	2,992.11	91.91
283	J-49	9.23	2,801.00	2,992.73	83.08
284	J-5	9.23	2,751.00	2,930.12	77.61
285	J-50	9.23	2,803.00	2,992.35	82.05
286	J-51	9.23	2,800.00	2,992.73	83.51
287	J-52	9.23	2,839.00	2,996.24	68.13
288	J-53	9.23	2,842.00	2,995.94	66.70
289	J-54	9.23	2,920.00	3,074.14	66.79
290	J-55	9.23	2,842.00	2,995.79	66.64
291	J-56	9.23	2,847.00	2,995.89	64.51
292	J-57	9.23	2,850.00	2,995.89	63.21
293	J-58	9.23	2,837.00	2,994.38	68.19
294	J-59	9.23	2,860.00	3,081.61	96.02
295	J-6	9.23	2,757.00	2,930.46	75.16
296	J-61	9.23	2,847.00	2,994.35	63.85
297	J-63FH	9.23	2,839.00	2,994.35	67.31
298	J-64	9.23	2,839.00	2,994.14	67.22
299	J-65	9.23	2,851.50	2,995.87	62.55
300	J-66FH	9.23	2,847.00	2,995.50	64.35

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## Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
301	J-67	9.23	2,842.00	2,994.46	66.06
302	J-68FH	9.23	2,839.00	2,994.14	67.22
303	J-69FH	9.23	2,839.00	2,993.69	67.03
304	J-7	9.23	2,754.00	2,930.09	76.30
305	J-70	9.23	2,837.00	2,993.13	67.65
306	J-71	9.23	2,839.50	2,993.78	66.85
307	J-73FH	9.23	2,830.00	2,991.02	69.77
308	J-74	9.23	2,843.00	2,994.03	65.44
309	J-75	9.23	2,845.00	2,994.10	64.60
310	J-76	9.23	2,849.00	2,994.19	62.91
311	J-77FH	9.23	2,914.00	3,075.55	70.00
312	J-78	9.23	2,940.00	3,076.23	59.03
313	J-79	9.23	2,842.00	2,992.02	65.01
314	J-80FH	9.23	2,940.00	3,076.18	59.01
315	J-81FH	9.23	2,841.00	2,992.61	65.69
316	J-82	9.23	2,921.00	3,075.98	67.15
317	J-83	9.23	2,760.00	2,931.20	74.18
318	J-84	9.23	2,760.00	2,983.42	96.81
319	J-85FH	9.23	2,849.50	2,995.75	63.37
320	J-86	9.23	2,851.50	2,995.74	62.50
321	J-87	9.23	2,852.00	2,996.03	62.41
322	J-88	9.23	2,854.00	2,996.24	61.63
323	J-89	9.23	2,857.00	2,996.00	60.23
324	J-8FH	9.23	2,752.00	2,930.09	77.17
325	J-9	9.23	2,757.00	2,930.68	75.25
326	J-90	9.23	2,857.00	2,996.00	60.23
327	J-91	9.23	2,857.00	2,996.07	60.26
328	J-92	9.23	2,861.00	2,996.36	58.65
329	J-93FH	9.23	2,858.00	2,996.24	59.90
330	J-94	9.23	2,857.00	2,996.54	60.46
331	J-95	9.23	2,863.50	2,996.44	57.60
332	J-956	9.23	2,847.00	3,023.57	76.51
333	J-958	9.23	2,856.00	3,025.29	73.35
334	J-96	9.23	2,863.00	2,996.44	57.82
335	J-97FH	9.23	2,936.00	3,076.09	60.70
336	J-98	9.23	2,866.75	2,996.53	56.23
337	J-99	9.23	2,866.50	2,996.52	56.34
338	J1000	9.23	2,903.00	3,076.29	75.09
339	J1002	9.23	2,892.00	3,076.28	79.85
340	J1004	9.23	2,939.00	3,076.21	59.45
341	J1006	9.23	2,937.00	3,076.21	60.32
342	J1008	9.23	2,940.00	3,076.21	59.02
343	J100FH	9.23	2,933.00	3,077.10	62.44
344	J1010	9.23	2,941.00	3,076.21	58.58
345	J1012	9.23	2,941.00	3,076.21	58.59
346	J1014	9.23	2,942.00	3,076.21	58.15
347	J1016	9.23	2,943.00	3,076.21	57.72
348	J1018	9.23	2,940.00	3,076.21	59.02
349	J1020	9.23	2,944.00	3,076.20	57.28
350	J1022	9.23	2,947.00	3,076.20	55.98

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
351	J1024	9.23	2,941.00	3,076.20	58.58
352	J1026	9.23	2,953.00	3,084.71	57.07
353	J1028	9.23	2,868.00	3,084.72	93.91
354	J102FH	9.23	2,936.00	3,076.05	60.68
355	J1030	9.23	2,890.00	3,084.72	84.37
356	J1032	9.23	2,873.00	3,084.72	91.74
357	J1034	9.23	2,915.00	3,084.71	73.54
358	J1036	9.23	2,761.00	2,931.84	74.02
359	J1038	9.23	2,764.00	2,931.95	72.77
360	J1040	9.23	2,764.00	2,931.87	72.74
361	J1042	9.23	2,766.00	2,931.91	71.89
362	J1044	9.23	2,768.00	2,931.89	71.01
363	J1048	9.23	3,000.00	3,154.51	66.95
364	J104FH	9.23	2,929.00	3,075.54	63.49
365	J1050	9.23	2,861.00	3,048.14	81.09
366	J1054	0.00	2,940.00	3,109.50	73.45
367	J1056	0.00	2,929.50	3,076.59	63.73
368	J1062	0.00	3,000.00	3,124.09	53.77
369	J1068	0.00	3,138.90	3,165.37	11.47
370	J106FH	9.23	2,923.00	3,075.38	66.03
371	J108FH	9.23	2,921.00	3,075.63	67.00
372	J10FH	9.23	2,845.00	3,020.80	76.18
373	J110FH	9.23	2,914.00	3,075.36	69.92
374	J112FH	9.23	2,934.00	3,076.24	61.63
375	J114FH	9.23	2,932.00	3,075.79	62.30
376	J116FH	9.23	2,925.00	3,075.22	65.09
377	J118FH	9.23	2,929.00	3,076.52	63.92
378	J12	9.23	2,845.00	3,020.92	76.22
379	J120FH	9.23	2,930.00	3,075.80	63.17
380	J122FH	9.23	2,930.00	3,075.24	62.93
381	J124FH	9.23	2,922.00	3,074.99	66.29
382	J126FH	9.23	2,899.00	3,075.50	76.48
383	J128FH	9.23	2,902.00	3,074.26	74.64
384	J130FH	9.23	2,881.00	3,075.46	84.26
385	J132FH	9.23	2,887.00	3,074.39	81.20
386	J134FH	9.23	2,894.00	3,074.00	77.99
387	J136FH	9.23	2,898.00	3,073.82	76.18
388	J138FH	9.23	2,924.00	3,073.79	64.90
389	J140FH	9.23	2,920.00	3,073.22	66.39
390	J142FH	9.23	2,923.00	3,073.19	65.08
391	J144FH	9.23	2,808.00	3,081.61	118.55
392	J146FH	9.23	2,810.00	3,081.61	117.69
393	J148FH	9.23	2,816.00	3,081.61	115.09
394	J14FH	9.23	2,845.00	3,020.61	76.09
395	J150FH	9.23	2,868.00	3,081.61	92.56
396	J152FH	9.23	2,932.00	3,072.84	61.03
397	J154FH	9.23	2,929.00	3,074.33	62.97
398	J156FH	9.23	2,929.00	3,073.89	62.78
399	J158FH	9.23	2,928.00	3,073.97	63.25
400	J16	9.23	2,849.00	3,020.59	74.35

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
401	J160FH	9.23	2,912.00	3,070.73	68.78
402	J162FH	9.23	2,918.00	3,072.01	66.73
403	J164FH	9.23	2,911.00	3,071.68	69.62
404	J166FH	9.23	2,911.00	3,072.93	70.16
405	J168FH	9.23	2,905.00	3,073.20	72.88
406	J170FH	9.23	2,882.00	3,073.44	82.95
407	J172FH	9.23	2,884.00	3,072.94	81.87
408	J174FH	9.23	2,877.00	3,072.39	84.66
409	J176FH	9.23	2,881.00	3,072.04	82.78
410	J178FH	9.23	2,888.00	3,071.67	79.58
411	J180FH	9.23	2,880.00	3,071.41	82.94
412	J182FH	9.23	2,863.00	3,071.36	90.28
413	J184FH	9.23	2,863.00	3,069.81	89.61
414	J186	9.23	2,788.00	2,930.55	61.77
415	J188FH	9.23	2,775.00	2,930.55	67.40
416	J18FH	9.23	2,844.00	3,020.58	76.51
417	J190FH	9.23	2,893.00	3,070.27	76.81
418	J192FH	9.23	2,766.00	2,930.55	71.30
419	J194FH	9.23	2,780.00	2,930.55	65.23
420	J196FH	9.23	2,763.00	2,930.57	72.61
421	J198FH	9.23	2,776.00	2,930.56	66.97
422	J200FH	9.23	2,783.00	2,930.63	63.97
423	J202FH	9.23	2,760.00	2,930.68	73.96
424	J204FH	9.23	2,777.00	2,930.76	66.62
425	J206FH	9.23	2,889.00	3,070.47	78.63
426	J208FH	9.23	2,879.00	3,070.20	82.85
427	J20FH	9.23	2,850.00	3,020.58	73.91
428	J210FH	9.23	2,892.00	3,070.23	77.23
429	J212FH	9.23	2,881.00	3,070.01	81.90
430	J214FH	9.23	2,738.00	2,930.80	83.54
431	J216FH	9.23	2,743.00	2,930.97	81.45
432	J218FH	9.23	2,722.00	2,930.87	90.51
433	J22	9.23	2,852.00	3,020.58	73.05
434	J220FH	9.23	2,725.00	2,930.88	89.21
435	J222FH	9.23	2,732.00	2,930.89	86.18
436	J224	9.23	2,730.00	2,930.88	87.04
437	J226FH	9.23	2,736.00	2,930.88	84.44
438	J228FH	9.23	2,738.00	2,930.79	83.53
439	J230FH	9.23	2,747.00	2,931.23	79.83
440	J232FH	9.23	2,723.00	2,930.15	89.76
441	J234FH	9.23	2,728.00	2,930.15	87.59
442	J236FH	9.23	2,738.00	2,930.63	83.47
443	J238FH	9.23	2,745.00	2,931.09	80.63
444	J240FH	9.23	2,720.00	2,930.06	91.02
445	J242FH	9.23	2,742.00	2,930.75	81.79
446	J244FH	9.23	2,755.00	2,986.03	100.10
447	J246FH	9.23	2,835.00	3,014.28	77.68
448	J248FH	9.23	2,740.00	2,930.20	82.41
449	J24FH	9.23	2,842.00	3,020.58	77.38
450	J250FH	9.23	2,749.00	2,930.96	78.84

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
451	J252FH	9.23	2,743.00	2,930.86	81.40
452	J254FH	9.23	2,743.00	2,930.84	81.39
453	J256FH	9.23	2,804.00	2,992.48	81.67
454	J258FH	9.23	2,778.00	2,992.11	92.77
455	J260FH	9.23	2,797.00	2,991.26	84.17
456	J262FH	9.23	2,796.00	2,990.19	84.14
457	J264FH	9.23	2,799.00	2,989.69	82.62
458	J266FH	9.23	2,812.00	2,993.09	78.47
459	J268FH	9.23	2,810.00	2,992.76	79.19
460	J26FH	9.23	2,849.00	3,020.58	74.35
461	J270FH	9.23	2,807.00	2,991.81	80.08
462	J272FH	9.23	2,824.00	2,994.63	73.93
463	J274FH	9.23	2,804.00	2,994.81	82.68
464	J276FH	9.23	2,818.00	2,993.15	75.89
465	J278FH	9.23	2,824.00	2,993.94	73.63
466	J28	9.23	2,922.00	3,076.92	67.13
467	J280FH	9.23	2,819.00	2,993.84	75.76
468	J282FH	9.23	2,841.00	2,995.92	67.13
469	J284FH	9.23	2,843.00	2,995.88	66.24
470	J286FH	9.23	2,844.00	2,995.92	65.83
471	J288FH	9.23	2,849.00	2,996.05	63.72
472	J290FH	9.23	2,794.00	2,985.16	82.83
473	J292FH	9.23	2,856.00	2,995.26	60.34
474	J294FH	9.23	2,845.00	2,994.08	64.60
475	J296FH	9.23	2,843.00	2,994.22	65.52
476	J298FH	9.23	2,852.00	2,996.18	62.47
477	J300FH	9.23	2,875.00	3,007.99	57.63
478	J302FH	9.23	2,871.00	3,004.70	57.93
479	J304FH	9.23	2,872.00	3,002.76	56.66
480	J306FH	9.23	2,864.00	2,996.53	57.43
481	J308FH	9.23	2,858.00	2,996.46	59.99
482	J310FH	9.23	2,752.00	2,931.29	77.69
483	J312FH	9.23	2,739.00	2,929.85	82.69
484	J314FH	9.23	2,743.00	2,930.64	81.30
485	J316FH	9.23	2,734.00	2,930.32	85.07
486	J318FH	9.23	2,720.00	2,929.94	90.97
487	J320FH	9.23	2,716.00	2,929.83	92.65
488	J322FH	9.23	2,721.00	2,929.82	90.48
489	J324FH	9.23	2,727.00	2,929.86	87.90
490	J326FH	9.23	2,729.00	2,929.76	86.99
491	J328FH	9.23	2,736.00	2,929.56	83.87
492	J330FH	9.23	2,727.00	2,929.54	87.76
493	J332FH	9.23	2,736.00	2,929.59	83.88
494	J334FH	9.23	2,739.00	2,929.67	82.62
495	J336FH	9.23	2,733.00	2,930.22	85.45
496	J338FH	9.23	2,725.00	2,929.67	88.68
497	J340FH	9.23	2,739.00	2,930.22	82.85
498	J342FH	9.23	2,728.00	2,929.92	87.49
499	J344FH	9.23	2,736.00	2,930.22	84.15
500	J346FH	9.23	2,740.00	2,930.22	82.42

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
501	J348FH	9.23	2,746.00	2,930.47	79.93
502	J34FH	9.23	2,922.00	3,077.48	67.37
503	J350FH	9.23	2,746.00	2,930.49	79.94
504	J352FH	9.23	2,735.00	2,930.09	84.53
505	J354FH	9.23	2,749.00	2,930.68	78.72
506	J356FH	9.23	2,721.00	2,930.08	90.59
507	J358FH	9.23	2,733.00	2,930.11	85.41
508	J36	9.23	2,906.00	3,072.71	72.23
509	J360FH	9.23	2,705.00	2,929.09	97.10
510	J362FH	9.23	2,705.00	2,929.25	97.17
511	J364FH	9.23	2,718.00	2,929.47	91.63
512	J366FH	9.23	2,721.00	2,929.47	90.33
513	J368FH	9.23	2,717.00	2,929.45	92.05
514	J370FH	9.23	2,731.00	2,929.53	86.02
515	J372FH	9.23	2,731.00	2,929.55	86.03
516	J374FH	9.23	2,704.00	2,929.60	97.75
517	J376FH	9.23	2,705.00	2,929.63	97.33
518	J380FH	9.23	2,947.00	3,076.18	55.98
519	J382FH	9.23	2,948.00	3,076.18	55.54
520	J384FH	9.23	2,945.00	3,076.18	56.84
521	J388	9.23	2,946.00	3,076.18	56.41
522	J38FH	9.23	2,913.00	3,070.90	68.42
523	J392	9.23	2,952.00	3,076.18	53.81
524	J394	9.23	2,945.00	3,076.18	56.84
525	J396	9.23	2,942.00	3,076.19	58.15
526	J398FH	9.23	2,943.00	3,076.19	57.71
527	J40	9.23	2,916.00	3,071.21	67.25
528	J400	9.23	2,902.00	3,076.04	75.41
529	J402FH	9.23	2,912.00	3,075.96	71.04
530	J404FH	9.23	2,917.00	3,075.90	68.85
531	J406FH	9.23	2,921.00	3,076.02	67.17
532	J408	9.23	2,918.00	3,076.02	68.47
533	J410FH	9.23	2,922.00	3,076.01	66.73
534	J412FH	9.23	2,929.00	3,076.01	63.70
535	J414	9.23	2,928.00	3,077.60	64.82
536	J416FH	9.23	2,928.00	3,078.13	65.05
537	J418FH	9.23	2,926.00	3,078.13	65.92
538	J420FH	9.23	2,918.00	3,078.32	69.46
539	J422FH	9.23	2,928.00	3,077.91	64.96
540	J424FH	9.23	2,928.00	3,077.87	64.94
541	J426FH	9.23	2,927.00	3,077.85	65.36
542	J42FH	9.23	2,919.00	3,071.21	65.95
543	J430	9.23	2,923.00	3,078.30	67.29
544	J432	9.23	2,924.00	3,078.29	66.85
545	J434FH	9.23	2,926.00	3,078.30	65.99
546	J436	9.23	2,922.00	3,078.29	67.72
547	J438	9.23	2,923.00	3,078.29	67.29
548	J440FH	9.23	2,925.00	3,077.84	66.23
549	J442FH	9.23	2,926.00	3,077.97	65.85
550	J444FH	9.23	2,930.00	3,077.30	63.83

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
551	J446	9.23	2,909.00	3,078.85	73.59
552	J448	9.23	2,923.00	3,078.32	67.30
553	J44FH	9.23	2,918.00	3,070.89	66.25
554	J450FH	9.23	2,918.00	3,076.45	68.66
555	J452FH	9.23	2,915.00	3,076.26	69.87
556	J454	9.23	2,841.00	2,994.23	66.39
557	J456FH	9.23	2,706.00	2,928.96	96.61
558	J458FH	9.23	2,709.00	2,928.96	95.31
559	J46	9.23	2,896.00	3,070.67	75.69
560	J460FH	9.23	2,713.00	2,928.96	93.57
561	J462FH	9.23	2,713.00	2,928.97	93.58
562	J464	9.23	2,711.00	2,928.97	94.44
563	J466	9.23	2,707.00	2,928.96	96.17
564	J468	9.23	2,712.00	2,928.96	94.01
565	J470	9.23	2,712.00	2,929.00	94.02
566	J472	9.23	2,712.00	2,928.96	94.01
567	J474	9.23	2,712.00	2,928.97	94.01
568	J476	9.23	2,815.00	3,084.61	116.82
569	J478FH	9.23	2,816.00	3,084.61	116.39
570	J48	9.23	2,900.00	3,070.28	73.78
571	J480FH	9.23	2,796.00	3,084.63	125.06
572	J482FH	9.23	2,796.00	3,084.65	125.07
573	J484FH	9.23	2,811.00	3,084.68	118.59
574	J486FH	9.23	2,840.00	3,084.72	106.04
575	J488FH	9.23	2,820.00	3,084.71	114.70
576	J490FH	9.23	2,818.00	3,084.71	115.57
577	J492FH	9.23	2,820.00	3,084.71	114.70
578	J494FH	9.23	2,818.00	3,084.71	115.57
579	J496FH	9.23	2,815.00	3,084.72	116.87
580	J500FH	9.23	2,823.00	3,084.72	113.41
581	J508FH	9.23	2,847.00	3,084.73	103.01
582	J50FH	9.23	2,695.00	2,929.60	101.65
583	J510FH	9.23	2,856.00	3,084.73	99.11
584	J512	9.23	2,872.00	3,084.73	92.18
585	J514FH	9.23	2,869.00	3,084.74	93.48
586	J516	9.23	2,867.00	3,084.75	94.35
587	J518FH	9.23	2,865.00	3,084.77	95.22
588	J52	9.23	2,742.00	2,930.22	81.56
589	J522FH	9.23	2,824.00	3,084.73	112.97
590	J524	9.23	2,815.00	3,084.72	116.87
591	J526FH	9.23	2,840.00	3,084.74	106.04
592	J528FH	9.23	2,854.00	3,084.75	99.98
593	J532FH	9.23	2,858.00	3,084.78	98.26
594	J534	9.23	2,860.00	3,084.79	97.40
595	J54	9.23	2,738.00	2,930.22	83.29
596	J540	9.23	2,927.00	3,077.91	65.39
597	J546	9.23	2,760.00	3,109.45	151.42
598	J548	9.23	2,760.00	3,099.40	147.06
599	J550	9.23	2,760.00	3,083.33	140.10
600	J552	9.23	2,760.00	3,078.90	138.18

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
601	J554	9.23	2,760.00	3,030.48	117.20
602	J556	9.23	2,760.00	3,067.09	133.06
603	J558	9.23	2,760.00	3,096.16	145.66
604	J560	9.23	2,875.00	3,065.55	82.57
605	J562	9.23	2,865.00	3,066.44	87.28
606	J564	9.23	2,820.00	2,991.00	74.09
607	J566FH	9.23	2,922.00	3,076.69	67.03
608	J568FH	9.23	2,928.00	3,076.59	64.39
609	J56FH	9.23	2,740.00	2,929.91	82.29
610	J570FH	9.23	2,929.00	3,076.59	63.95
611	J572	9.23	2,939.00	3,076.45	59.56
612	J574	9.23	2,937.00	3,076.49	60.44
613	J576	9.23	2,942.00	3,076.41	58.24
614	J578	9.23	2,940.00	3,076.42	59.11
615	J580FH	9.23	2,939.00	3,076.42	59.54
616	J582	9.23	2,922.00	3,076.67	67.02
617	J584FH	9.23	2,842.00	3,084.74	105.18
618	J586	9.23	2,865.00	3,084.75	95.22
619	J588	9.23	2,857.00	3,084.77	98.69
620	J58FH	9.23	2,734.00	2,929.80	84.84
621	J590FH	9.23	2,833.00	3,084.74	109.08
622	J594FH	9.23	2,826.00	3,084.74	112.11
623	J596FH	9.23	2,803.00	3,084.71	122.07
624	J60	9.23	2,728.00	2,929.76	87.42
625	J600FH	9.23	2,846.00	3,084.74	103.45
626	J602	9.23	2,846.00	3,084.74	103.45
627	J604	9.23	2,945.00	3,076.34	56.91
628	J606FH	9.23	2,950.00	3,076.26	54.71
629	J608	9.23	2,943.00	3,076.34	57.78
630	J610FH	9.23	2,936.00	3,076.55	60.90
631	J612FH	9.23	2,931.00	3,076.62	63.10
632	J614	9.23	2,931.00	3,076.57	63.08
633	J616	9.23	2,933.00	3,076.56	62.20
634	J618	9.23	3,143.00	3,300.99	68.46
635	J62	9.23	2,723.00	2,929.76	89.59
636	J620	9.23	2,865.00	2,996.52	56.99
637	J622FH	9.23	2,826.00	3,005.94	77.97
638	J624FH	9.23	2,835.00	3,005.93	74.06
639	J626FH	9.23	2,805.00	3,001.62	85.20
640	J630FH	9.23	2,825.00	3,005.92	78.39
641	J634FH	9.23	2,831.00	3,005.92	75.79
642	J638FH	9.23	2,790.00	2,999.77	90.89
643	J64	9.23	2,742.00	2,929.62	81.30
644	J640FH	9.23	2,930.00	3,076.56	63.50
645	J642FH	9.23	2,929.00	3,076.58	63.95
646	J646FH	9.23	2,934.00	3,076.56	61.77
647	J648FH	9.23	2,799.00	2,930.55	57.00
648	J650FH	9.23	2,790.00	2,930.55	60.90
649	J652FH	9.23	2,774.00	2,930.55	67.83
650	J654FH	9.23	2,772.00	2,930.53	68.69

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
651	J656FH	9.23	2,779.00	2,930.53	65.66
652	J658FH	9.23	2,784.00	2,930.54	63.49
653	J660FH	9.23	2,774.00	2,930.53	67.82
654	J662FH	9.23	2,765.00	2,930.53	71.72
655	J664FH	9.23	2,784.00	2,930.53	63.49
656	J666FH	9.23	2,792.00	2,930.54	60.03
657	J668	9.23	2,805.00	2,930.53	54.39
658	J66FH	9.23	2,733.00	2,929.51	85.15
659	J670	9.23	2,746.42	2,930.94	79.95
660	J672FH	9.23	2,747.00	2,930.94	79.70
661	J674	9.23	2,931.48	3,076.17	62.70
662	J676FH	9.23	2,935.42	3,076.17	60.99
663	J678FH	9.23	2,934.28	3,076.17	61.48
664	J680FH	9.23	2,931.09	3,076.17	62.86
665	J682	9.23	2,926.25	3,076.17	64.96
666	J684FH	9.23	2,930.42	3,076.17	63.15
667	J686FH	9.23	2,929.00	3,076.17	63.77
668	J688	9.23	2,924.95	3,076.17	65.52
669	J68FH	9.23	2,743.00	2,929.48	80.80
670	J690	9.23	2,925.00	3,076.17	65.50
671	J692FH	9.23	2,932.10	3,076.17	62.42
672	J694	9.23	2,923.00	3,076.17	66.37
673	J696	9.23	2,935.00	3,076.28	61.22
674	J698	9.23	2,929.52	3,076.23	63.57
675	J700FH	9.23	2,936.95	3,076.23	60.35
676	J702	9.23	2,925.68	3,076.18	65.21
677	J704FH	9.23	2,926.37	3,076.18	64.91
678	J706FH	9.23	2,934.71	3,076.18	61.30
679	J708FH	9.23	2,930.45	3,076.23	63.17
680	J70FH	9.23	2,731.00	2,929.52	86.02
681	J710FH	9.23	2,935.73	3,076.27	60.90
682	J712	9.23	2,721.80	2,930.15	90.28
683	J714FH	9.23	2,726.17	2,930.15	88.38
684	J716	9.23	2,720.00	2,930.15	91.06
685	J718FH	9.23	2,723.42	2,930.15	89.58
686	J72	9.23	2,724.00	2,930.15	89.33
687	J720FH	9.23	2,781.00	2,998.01	94.03
688	J724	9.23	2,934.00	3,076.41	61.70
689	J728	9.23	2,932.00	3,076.40	62.57
690	J730FH	9.23	2,932.00	3,076.40	62.57
691	J732	9.23	2,930.00	3,076.42	63.44
692	J736	9.23	2,922.00	3,076.52	66.95
693	J738FH	9.23	2,924.00	3,076.49	66.07
694	J74	9.23	2,911.00	3,074.26	70.74
695	J740FH	9.23	2,916.00	3,076.61	69.59
696	J742FH	9.23	2,938.00	3,076.38	59.96
697	J744	9.23	2,942.00	3,076.36	58.22
698	J746	9.23	2,944.00	3,076.21	57.29
699	J748	9.23	2,950.00	3,076.21	54.69
700	J750FH	9.23	2,941.00	3,076.21	58.58

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
701	J752	9.23	2,946.00	3,076.20	56.42
702	J754	9.23	2,944.00	3,076.21	57.29
703	J756	9.23	2,948.00	3,076.26	55.57
704	J758	9.23	2,952.00	3,076.26	53.84
705	J76	9.23	2,886.00	3,074.55	81.70
706	J774	9.23	2,738.00	2,929.52	82.99
707	J776	9.23	2,736.00	2,929.52	83.85
708	J778	9.23	2,771.00	2,930.53	69.13
709	J780	9.23	2,770.00	2,930.53	69.56
710	J782	9.23	2,812.00	2,994.64	79.14
711	J784FH	9.23	2,774.00	2,930.54	67.83
712	J786FH	9.23	2,781.00	2,997.75	93.92
713	J788FH	9.23	2,921.00	3,075.98	67.15
714	J78FH	9.23	2,932.00	3,075.81	62.31
715	J790FH	9.23	2,926.00	3,076.44	65.18
716	J792	9.23	2,943.00	3,076.22	57.73
717	J794	9.23	2,907.00	3,077.53	73.89
718	J796	9.23	2,889.00	3,076.28	81.15
719	J802	9.23	2,774.00	2,930.55	67.83
720	J804	9.23	2,799.00	3,084.60	123.75
721	J80FH	9.23	2,925.00	3,075.23	65.09
722	J814	9.23	2,981.00	3,147.86	72.30
723	J816	9.23	2,963.00	3,076.25	49.07
724	J818	9.23	2,954.00	3,076.25	52.97
725	J82FH	9.23	2,917.00	3,074.65	68.31
726	J838	9.23	3,004.53	3,154.46	64.97
727	J84FH	9.23	2,922.00	3,074.65	66.14
728	J86	9.23	2,925.00	3,075.22	65.09
729	J88	9.23	2,916.00	3,073.33	68.17
730	J90	9.23	2,922.00	3,075.22	66.39
731	J92FH	9.23	2,948.00	3,076.52	55.69
732	J942	9.23	2,907.00	3,076.45	73.42
733	J946	9.23	2,983.37	3,150.38	72.36
734	J948	9.23	2,946.00	3,109.50	70.85
735	J94FH	9.23	2,950.00	3,076.21	54.69
736	J954	9.23	2,847.00	3,022.70	76.13
737	J960	9.23	2,851.00	3,024.14	75.02
738	J962	9.23	2,855.00	3,024.98	73.65
739	J964	9.23	2,861.00	3,026.14	71.56
740	J966	9.23	2,861.00	3,026.93	71.90
741	J968	9.23	2,915.00	3,076.79	70.10
742	J96FH	9.23	2,941.00	3,076.40	58.67
743	J970	9.23	2,924.00	3,076.67	66.15
744	J972	9.23	2,917.00	3,076.96	69.31
745	J974	9.23	2,919.00	3,076.79	68.37
746	J976	9.23	2,926.00	3,076.67	65.28
747	J978	9.23	2,934.00	3,078.61	62.66
748	J980	9.23	2,934.00	3,078.50	62.61
749	J982	9.23	2,928.00	3,078.25	65.10
750	J984	9.23	2,944.00	3,089.78	63.17

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Peak Instantaneous Demand

	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
751	J986	9.23	2,923.00	3,081.88	68.84
752	J988	9.23	2,921.00	3,079.23	68.56
753	J98FH	9.23	2,936.00	3,076.86	61.04
754	J990	9.23	2,916.00	3,078.10	70.24
755	J992	9.23	2,923.00	3,077.59	66.98
756	J994	9.23	2,946.00	3,109.91	71.02
757	J996	9.23	2,910.00	3,076.42	72.11
758	J998	9.23	2,908.00	3,076.27	72.91

Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
1	J-100FH	51.73	2,995.39	1,250.00	48.14	4,018.22
2	J-102FH	86.00	3,066.48	1,250.00	77.72	6,622.10
3	J-103FH	84.81	3,066.72	1,250.00	76.22	5,765.79
4	J-105FH	83.15	3,066.89	1,250.00	74.52	5,453.24
5	J-106FH	81.71	3,065.58	1,250.00	72.60	6,058.99
6	J-107FH	57.80	3,069.40	1,250.00	49.85	3,764.46
7	J-109FH	83.09	3,066.76	1,250.00	74.69	5,679.39
8	J-10FH	82.80	2,932.09	1,250.00	76.98	4,155.00
9	J-110	81.41	3,066.89	1,250.00	71.58	4,504.34
10	J-111	72.62	3,067.10	1,250.00	63.26	4,254.65
11	J-112	81.50	3,067.09	1,250.00	19.05	1,247.42
12	J-113	79.16	3,067.69	1,250.00	71.54	5,784.80
13	J-115	79.04	3,067.42	1,250.00	58.45	2,374.33
14	J-116FH	81.07	3,068.09	1,250.00	73.81	6,109.61
15	J-117	73.89	3,067.53	1,250.00	66.38	5,615.20
16	J-118FH	76.57	3,067.72	1,250.00	69.42	6,134.48
17	J-119FH	77.52	3,067.91	1,250.00	68.70	4,658.88
18	J-11FH	83.08	2,931.73	1,250.00	76.43	3,983.18
19	J-12	72.54	2,933.41	1,250.00	70.12	4,573.51
20	J-120	78.46	3,068.07	1,250.00	70.62	5,417.31
21	J-121	82.43	3,068.23	1,250.00	75.31	6,305.91
22	J-122FH	81.59	3,068.30	1,250.00	74.68	6,495.11
23	J-123	85.89	3,068.23	1,250.00	66.03	2,577.70
24	J-124	76.31	3,068.10	1,250.00	66.20	3,964.05
25	J-125	76.31	3,068.10	1,250.00	61.93	2,941.61
26	J-126FH	72.48	3,068.28	1,250.00	65.88	6,232.66
27	J-127	72.49	3,068.30	1,250.00	64.93	5,237.13
28	J-128FH	58.23	3,069.40	1,250.00	50.26	3,781.18
29	J-129	73.26	3,068.08	1,250.00	66.29	5,852.70
30	J-131FH	72.33	3,067.92	1,250.00	65.36	5,840.20
31	J-132FH	62.55	3,069.36	1,250.00	52.58	3,299.41
32	J-133FH	71.41	3,067.80	1,250.00	64.80	6,381.23
33	J-134FH	61.69	3,069.36	1,250.00	47.37	2,451.24
34	J-135	70.49	3,067.69	1,250.00	63.86	6,350.92
35	J-136FH	68.26	3,067.53	1,250.00	61.42	5,928.19

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
36	J-137	72.14	3,067.49	1,250.00	64.18	5,065.44
37	J-138FH	71.71	3,067.49	1,250.00	49.06	2,059.40
38	J-139FH	82.52	3,067.44	1,250.00	74.33	5,533.45
39	J-140	78.79	3,066.85	1,250.00	69.33	4,491.07
40	J-141FH	72.29	3,066.84	1,250.00	43.59	1,790.13
41	J-142	78.78	3,066.81	1,250.00	69.96	4,993.10
42	J-143FH	76.59	3,066.76	1,250.00	69.33	6,682.80
43	J-144FH	73.36	3,066.31	1,250.00	65.27	5,933.36
44	J-145FH	76.72	3,066.05	1,250.00	68.21	5,948.47
45	J-147FH	75.90	3,066.17	1,250.00	67.32	5,507.36
46	J-149FH	69.94	3,066.42	1,250.00	61.91	5,567.47
47	J-14FH	79.25	2,932.91	1,250.00	72.39	3,943.79
48	J-151FH	75.14	3,066.40	1,250.00	66.58	5,389.97
49	J-153FH	75.29	3,066.25	1,250.00	65.85	4,633.39
50	J-156FH	74.67	3,066.34	1,250.00	65.23	4,566.15
51	J-158FH	72.11	3,066.41	1,250.00	62.38	4,212.04
52	J-15FH	77.95	2,932.90	1,250.00	53.27	2,024.80
53	J-160FH	70.62	3,066.49	1,250.00	61.41	4,419.26
54	J-161FH	73.43	3,066.47	1,250.00	63.41	4,132.84
55	J-162FH	80.74	3,066.33	1,250.00	63.03	2,727.78
56	J-164FH	67.94	3,066.79	1,250.00	60.53	5,943.87
57	J-165FH	65.84	3,066.94	1,250.00	58.40	5,535.77
58	J-167FH	68.65	3,067.43	1,250.00	62.02	6,559.27
59	J-168FH	65.29	3,067.67	1,250.00	58.92	6,558.09
60	J-169FH	64.28	3,069.36	1,250.00	46.45	2,188.90
61	J-16FH	126.76	2,932.55	1,250.00	99.70	2,713.44
62	J-170FH	65.87	3,069.02	1,250.00	60.64	7,996.35
63	J-173FH	63.94	3,067.57	1,250.00	56.52	5,116.95
64	J-175FH	66.70	3,068.93	1,250.00	58.91	4,691.25
65	J-177FH	60.89	3,069.53	1,250.00	55.03	5,786.65
66	J-178	64.19	3,068.15	1,250.00	58.17	6,809.14
67	J-179	64.22	3,068.22	1,250.00	58.28	6,892.59
68	J-17FH	127.62	2,932.53	1,250.00	87.77	2,191.91
69	J-181	66.68	3,068.89	1,250.00	58.21	4,064.94
70	J-182	66.77	3,069.10	1,250.00	55.95	3,233.31

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
71	J-183FH	66.77	3,069.10	1,250.00	45.65	2,015.12
72	J-184FH	67.67	3,071.17	1,250.00	62.33	7,395.65
73	J-186FH	68.93	3,069.08	1,250.00	63.00	6,509.13
74	J-187	66.27	3,067.94	1,250.00	59.52	5,634.77
75	J-188	69.64	3,069.73	1,250.00	64.30	7,692.84
76	J-189FH	67.41	3,070.56	1,250.00	57.89	3,535.56
77	J-191	66.24	3,067.88	1,250.00	58.82	5,017.97
78	J-192	68.40	3,067.85	1,250.00	60.94	5,151.97
79	J-19FH	128.48	2,932.52	1,250.00	60.25	1,625.14
80	J-1FH	91.75	2,931.74	1,250.00	77.85	2,986.45
81	J-204FH	80.75	3,066.37	1,250.00	49.31	1,856.82
82	J-20FH	82.05	2,934.36	1,250.00	78.69	6,404.92
83	J-211FH	73.92	3,000.59	1,250.00	53.44	2,253.71
84	J-212FH	76.52	3,000.59	1,250.00	57.89	2,461.94
85	J-214FH	73.23	3,004.01	1,250.00	47.94	1,981.32
86	J-215FH	77.57	3,004.01	1,250.00	54.90	2,225.13
87	J-217	77.99	3,009.99	1,250.00	67.13	4,029.95
88	J-218FH	73.57	3,007.80	1,250.00	45.52	1,888.45
89	J-22	64.81	3,069.57	1,250.00	59.48	7,166.36
90	J-221FH	80.84	2,934.56	1,250.00	69.11	3,200.56
91	J-222FH	88.00	2,935.09	1,250.00	86.50	9,360.84
92	J-225FH	79.53	2,935.54	1,250.00	77.91	9,267.35
93	J-227FH	64.17	2,993.09	1,250.00	52.51	2,876.26
94	J-229FH	79.25	2,935.90	1,250.00	77.62	9,757.61
95	J-232FH	78.56	2,936.31	1,250.00	76.88	10,063.90
96	J-235FH	74.47	2,936.87	1,250.00	72.65	10,037.60
97	J-247FH	59.11	2,993.91	1,250.00	53.58	4,448.55
98	J-250FH	80.58	2,935.96	1,250.00	77.51	6,671.74
99	J-255FH	88.95	2,933.27	1,250.00	69.01	2,587.16
100	J-258FH	85.19	2,931.60	1,250.00	77.66	3,881.29
101	J-25FH	100.65	2,990.30	1,250.00	86.93	4,612.82
102	J-260FH	85.13	2,931.48	1,250.00	76.40	3,627.40
103	J-266FH	100.14	2,931.11	1,250.00	75.84	2,431.07
104	J-267FH	79.51	2,934.49	1,250.00	79.18	5,144.39
105	J-269FH	100.19	2,931.21	1,250.00	80.73	2,717.58

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
106	J-270FH	100.25	2,931.37	1,250.00	85.60	3,129.92
107	J-271FH	85.13	2,931.48	1,250.00	77.44	3,872.02
108	J-273FH	98.16	2,931.54	1,250.00	91.05	4,408.29
109	J-274FH	98.17	2,931.55	1,250.00	91.06	4,403.74
110	J-275FH	88.27	2,988.71	1,250.00	73.05	4,336.93
111	J-278FH	83.54	2,932.79	1,250.00	79.65	4,686.86
112	J-279FH	87.70	2,932.41	1,250.00	83.12	4,677.86
113	J-280FH	82.84	2,932.19	1,250.00	77.37	4,259.64
114	J-281FH	99.03	2,931.56	1,250.00	91.83	4,395.87
115	J-283FH	93.87	2,931.64	1,250.00	87.09	4,332.06
116	J-284FH	91.77	2,931.79	1,250.00	62.86	2,054.38
117	J-288FH	91.70	2,931.63	1,250.00	84.50	4,138.31
118	J-291FH	64.10	3,068.94	1,250.00	58.77	7,658.93
119	J-292FH	98.18	2,931.59	1,250.00	91.20	4,423.90
120	J-293FH	100.86	2,987.76	1,250.00	83.75	4,448.55
121	J-294	67.98	3,069.89	1,250.00	62.62	8,019.93
122	J-295	66.59	3,099.69	1,250.00	58.11	6,050.40
123	J-297FH	98.18	2,931.58	1,250.00	90.80	4,312.03
124	J-29FH	76.72	2,992.06	1,250.00	68.80	6,102.85
125	J-301FH	118.17	3,072.72	1,250.00	111.00	7,124.98
126	J-302FH	98.18	2,931.58	1,250.00	90.92	4,344.66
127	J-303FH	87.37	2,931.63	1,250.00	79.79	3,902.37
128	J-305FH	51.48	2,996.31	1,250.00	51.08	5,670.75
129	J-307FH	83.05	2,931.66	1,250.00	76.52	4,042.64
130	J-30FH	76.47	2,992.48	1,250.00	69.16	6,360.89
131	J-311	63.14	3,070.72	1,250.00	57.68	7,694.31
132	J-312	86.16	3,068.85	1,250.00	80.46	8,965.73
133	J-315FH	60.39	3,069.38	1,250.00	53.96	5,194.52
134	J-317FH	71.41	3,066.80	1,250.00	61.11	3,896.61
135	J-318FH	64.62	3,071.14	1,250.00	59.86	8,232.14
136	J-319FH	63.53	3,070.62	1,250.00	58.67	8,111.22
137	J-321FH	63.35	3,070.19	1,250.00	57.95	6,624.63
138	J-322FH	57.93	3,069.70	1,250.00	52.81	6,931.81
139	J-323FH	60.60	3,069.86	1,250.00	55.00	6,036.97
140	J-324FH	62.42	3,070.05	1,250.00	57.35	7,474.75

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
141	J-325FH	63.36	3,070.24	1,250.00	58.35	7,748.33
142	J-326FH	61.57	3,070.10	1,250.00	56.05	6,219.25
143	J-327FH	61.50	3,069.93	1,250.00	56.37	7,209.64
144	J-328FH	59.28	3,069.82	1,250.00	53.96	6,463.98
145	J-329FH	58.85	3,069.82	1,250.00	53.20	5,842.67
146	J-33FH	74.98	2,993.03	1,250.00	68.08	6,385.54
147	J-38FH	74.18	2,992.20	1,250.00	66.66	6,041.14
148	J-39FH	67.94	2,992.80	1,250.00	60.53	5,056.27
149	J-44FH	80.91	2,991.72	1,250.00	70.90	4,787.48
150	J-54	64.40	3,068.62	1,250.00	58.85	7,412.60
151	J-63FH	66.71	2,992.97	1,250.00	60.16	5,571.78
152	J-66FH	63.55	2,993.66	1,250.00	58.32	5,658.68
153	J-68FH	66.72	2,992.99	1,250.00	60.62	5,886.02
154	J-69FH	66.72	2,992.99	1,250.00	60.37	5,496.21
155	J-73FH	70.61	2,992.95	1,250.00	62.33	4,250.19
156	J-77FH	67.21	3,069.11	1,250.00	62.06	8,290.30
157	J-80FH	56.09	3,069.45	1,250.00	50.60	6,162.22
158	J-81FH	65.89	2,993.05	1,250.00	57.80	4,032.40
159	J-82	64.28	3,069.36	1,250.00	51.39	2,752.75
160	J-85FH	62.56	2,993.87	1,250.00	57.02	4,779.79
161	J-8FH	78.09	2,932.22	1,250.00	63.11	2,596.96
162	J-93FH	59.03	2,994.23	1,250.00	49.41	2,877.70
163	J-956	75.16	3,020.46	1,250.00	65.73	3,955.22
164	J-958	73.12	3,024.74	1,250.00	64.90	3,542.28
165	J-97FH	57.81	3,069.41	1,250.00	51.29	4,894.43
166	J1000	72.09	3,069.39	1,250.00	65.86	6,304.47
167	J1002	76.76	3,069.16	1,250.00	70.58	6,814.93
168	J1004	56.49	3,069.37	1,250.00	48.96	4,057.76
169	J1006	57.36	3,069.37	1,250.00	50.15	4,373.18
170	J1008	56.05	3,069.37	1,250.00	46.93	3,258.43
171	J100FH	59.52	3,070.37	1,250.00	53.30	4,996.74
172	J1010	55.62	3,069.37	1,250.00	46.17	3,128.55
173	J1012	55.62	3,069.37	1,250.00	44.74	2,758.35
174	J1014	55.19	3,069.37	1,250.00	47.59	3,903.43
175	J1016	54.76	3,069.37	1,250.00	48.46	5,126.64

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
176	J1018	56.05	3,069.37	1,250.00	45.01	2,748.37
177	J1020	53.84	3,068.26	1,250.00	33.12	1,741.22
178	J1022	52.54	3,068.26	1,250.00	31.24	1,663.50
179	J1024	55.14	3,068.25	1,250.00	33.58	1,734.75
180	J1026	53.80	3,077.16	1,250.00	32.88	1,654.73
181	J1028	90.63	3,077.16	1,250.00	80.01	3,843.85
182	J102FH	57.86	3,069.54	1,250.00	51.94	5,367.58
183	J1030	81.09	3,077.16	1,250.00	66.99	2,944.12
184	J1032	88.46	3,077.16	1,250.00	74.58	3,166.46
185	J1034	70.26	3,077.16	1,250.00	52.89	2,316.34
186	J1036	74.57	2,933.09	1,250.00	71.16	4,402.08
187	J1038	73.28	2,933.12	1,250.00	70.31	4,491.10
188	J1040	73.27	2,933.10	1,250.00	69.66	4,243.77
189	J1042	72.41	2,933.11	1,250.00	68.97	4,262.44
190	J1044	71.54	2,933.11	1,250.00	67.04	3,860.45
191	J104FH	60.73	3,069.17	1,250.00	53.48	4,367.26
192	J106FH	63.30	3,069.10	1,250.00	56.30	4,806.30
193	J108FH	64.20	3,069.17	1,250.00	58.91	7,386.23
194	J10FH	72.88	3,013.20	1,250.00	61.71	3,796.39
195	J110FH	67.19	3,069.07	1,250.00	62.00	8,214.97
196	J112FH	58.84	3,069.79	1,250.00	53.00	5,521.08
197	J114FH	59.65	3,069.67	1,250.00	53.49	5,279.32
198	J116FH	62.48	3,069.20	1,250.00	54.68	4,079.87
199	J118FH	61.10	3,070.02	1,250.00	55.32	5,817.00
200	J12	73.01	3,013.50	1,250.00	61.84	3,801.00
201	J120FH	60.54	3,069.72	1,250.00	54.46	5,426.33
202	J122FH	60.47	3,069.56	1,250.00	54.37	5,445.65
203	J124FH	63.69	3,068.98	1,250.00	58.40	7,660.96
204	J126FH	73.64	3,068.95	1,250.00	68.01	7,873.80
205	J128FH	72.06	3,068.30	1,250.00	62.90	4,151.37
206	J130FH	81.41	3,068.87	1,250.00	75.68	8,464.36
207	J132FH	78.58	3,068.35	1,250.00	70.96	5,551.61
208	J134FH	75.47	3,068.17	1,250.00	65.28	3,888.01
209	J136FH	73.69	3,068.07	1,250.00	63.95	3,970.18
210	J138FH	62.54	3,068.33	1,250.00	56.00	5,494.78

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
211	J140FH	64.07	3,067.86	1,250.00	56.89	5,063.90
212	J142FH	62.85	3,068.04	1,250.00	53.17	3,445.30
213	J144FH	114.70	3,072.72	1,250.00	108.31	7,922.28
214	J146FH	113.84	3,072.72	1,250.00	108.49	10,047.21
215	J148FH	111.24	3,072.72	1,250.00	106.65	13,423.59
216	J14FH	72.65	3,012.67	1,250.00	61.50	3,789.02
217	J150FH	88.99	3,073.37	1,250.00	85.27	14,298.34
218	J152FH	59.95	3,070.35	1,250.00	52.96	4,814.83
219	J154FH	61.06	3,069.93	1,250.00	55.22	5,745.58
220	J156FH	60.94	3,069.65	1,250.00	50.53	3,049.29
221	J158FH	61.07	3,068.95	1,250.00	51.44	3,300.42
222	J16	70.91	3,012.65	1,250.00	56.25	2,979.58
223	J160FH	67.05	3,066.75	1,250.00	53.02	2,768.50
224	J162FH	64.66	3,067.24	1,250.00	57.53	5,428.76
225	J164FH	67.58	3,066.98	1,250.00	60.50	6,064.56
226	J166FH	67.88	3,067.65	1,250.00	60.56	5,315.86
227	J168FH	70.53	3,067.78	1,250.00	63.07	5,313.82
228	J170FH	80.53	3,067.85	1,250.00	72.45	5,368.62
229	J172FH	79.54	3,067.56	1,250.00	71.12	5,170.05
230	J174FH	82.42	3,067.21	1,250.00	73.04	4,749.73
231	J178FH	77.47	3,066.79	1,250.00	68.39	4,735.92
232	J180FH	80.87	3,066.63	1,250.00	73.28	6,771.06
233	J182FH	88.19	3,066.53	1,250.00	80.23	7,094.89
234	J184FH	87.64	3,065.26	1,250.00	78.10	6,217.59
235	J188FH	70.97	2,938.78	1,250.00	65.65	7,289.04
236	J18FH	73.08	3,012.65	1,250.00	55.99	2,731.85
237	J190FH	75.17	3,066.49	1,250.00	41.78	1,693.45
238	J192FH	74.87	2,938.79	1,250.00	72.64	12,783.82
239	J194FH	68.72	2,938.60	1,250.00	61.17	3,805.96
240	J196FH	76.08	2,938.59	1,250.00	74.19	12,744.04
241	J198FH	70.34	2,938.34	1,250.00	61.76	3,509.56
242	J200FH	66.96	2,937.53	1,250.00	65.03	10,100.01
243	J202FH	76.63	2,936.85	1,250.00	57.75	2,316.61
244	J204FH	69.02	2,936.29	1,250.00	38.58	1,637.30
245	J208FH	81.22	3,066.45	1,250.00	66.04	3,095.05

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
246	J20FH	70.48	3,012.65	1,250.00	55.09	2,864.32
247	J212FH	80.31	3,066.35	1,250.00	61.47	2,599.54
248	J214FH	85.76	2,935.92	1,250.00	79.72	4,853.92
249	J216FH	83.40	2,935.48	1,250.00	57.54	2,072.58
250	J218FH	92.08	2,934.51	1,250.00	66.55	2,250.63
251	J22	69.61	3,012.65	1,250.00	52.65	2,648.03
252	J220FH	90.78	2,934.52	1,250.00	68.39	2,404.13
253	J222FH	87.76	2,934.53	1,250.00	70.90	2,769.28
254	J226FH	86.02	2,934.52	1,250.00	63.68	2,315.17
255	J228FH	85.06	2,934.31	1,250.00	67.22	2,608.16
256	J230FH	81.38	2,934.82	1,250.00	79.00	7,509.23
257	J232FH	91.11	2,933.27	1,250.00	62.66	2,124.30
258	J234FH	88.94	2,933.27	1,250.00	63.43	2,228.21
259	J236FH	84.92	2,933.99	1,250.00	67.61	2,661.08
260	J238FH	82.13	2,934.54	1,250.00	79.11	6,769.13
261	J240FH	92.02	2,932.37	1,250.00	67.36	2,299.77
262	J242FH	82.86	2,933.23	1,250.00	75.30	3,966.02
263	J244FH	100.64	2,987.26	1,250.00	82.60	4,297.09
264	J246FH	74.87	3,007.80	1,250.00	51.23	2,149.98
265	J248FH	83.72	2,933.21	1,250.00	65.87	2,627.31
266	J24FH	73.94	3,012.65	1,250.00	55.56	2,617.12
267	J250FH	80.25	2,934.21	1,250.00	75.73	5,337.56
268	J252FH	82.68	2,933.81	1,250.00	76.06	4,369.70
269	J254FH	82.63	2,933.70	1,250.00	75.64	4,221.01
270	J256FH	81.47	2,992.01	1,250.00	71.22	4,464.04
271	J258FH	92.60	2,991.71	1,250.00	75.61	3,172.69
272	J260FH	84.14	2,991.19	1,250.00	73.47	4,953.64
273	J262FH	84.27	2,990.49	1,250.00	72.64	4,693.31
274	J264FH	82.79	2,990.07	1,250.00	70.80	4,855.43
275	J266FH	78.14	2,992.34	1,250.00	69.72	5,173.96
276	J268FH	78.88	2,992.04	1,250.00	70.28	5,577.77
277	J26FH	70.91	3,012.65	1,250.00	52.39	2,526.23
278	J270FH	79.90	2,991.39	1,250.00	70.46	5,619.68
279	J272FH	73.17	2,992.87	1,250.00	65.96	5,781.19
280	J274FH	81.84	2,992.87	1,250.00	74.77	6,554.70

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
281	J276FH	75.68	2,992.65	1,250.00	68.50	5,808.16
282	J278FH	73.13	2,992.79	1,250.00	66.31	5,837.83
283	J280FH	75.22	2,992.59	1,250.00	67.41	5,343.80
284	J282FH	66.07	2,993.49	1,250.00	60.15	6,136.77
285	J284FH	65.26	2,993.62	1,250.00	59.71	5,844.56
286	J286FH	64.94	2,993.87	1,250.00	60.10	5,871.44
287	J288FH	62.91	2,994.20	1,250.00	58.04	5,093.51
288	J290FH	86.20	2,992.95	1,250.00	72.25	3,267.05
289	J292FH	59.56	2,993.45	1,250.00	53.41	4,396.36
290	J294FH	64.19	2,993.14	1,250.00	57.41	4,689.28
291	J296FH	65.08	2,993.19	1,250.00	58.20	4,670.30
292	J298FH	61.62	2,994.20	1,250.00	56.58	4,725.53
293	J300FH	51.51	2,993.89	1,250.00	36.39	1,938.22
294	J302FH	53.25	2,993.89	1,250.00	40.84	2,268.34
295	J304FH	52.81	2,993.88	1,250.00	28.29	1,487.07
296	J306FH	56.59	2,994.61	1,250.00	52.51	4,605.84
297	J308FH	59.19	2,994.61	1,250.00	54.90	4,669.27
298	J310FH	78.30	2,932.71	1,250.00	74.23	4,433.69
299	J312FH	83.52	2,931.76	1,250.00	75.99	3,761.64
300	J314FH	82.03	2,932.32	1,250.00	76.16	4,035.37
301	J316FH	85.82	2,932.06	1,250.00	80.11	4,311.82
302	J318FH	91.77	2,931.79	1,250.00	81.25	3,401.08
303	J320FH	93.47	2,931.72	1,250.00	86.64	4,281.37
304	J322FH	91.30	2,931.71	1,250.00	79.62	3,226.59
305	J324FH	88.72	2,931.75	1,250.00	79.78	3,603.31
306	J326FH	87.82	2,931.69	1,250.00	80.49	3,959.43
307	J328FH	84.73	2,931.54	1,250.00	75.98	3,588.80
308	J330FH	88.63	2,931.54	1,250.00	80.10	3,762.30
309	J332FH	84.74	2,931.57	1,250.00	76.53	3,697.32
310	J334FH	83.47	2,931.63	1,250.00	76.52	3,947.06
311	J336FH	86.26	2,932.07	1,250.00	75.08	3,160.75
312	J338FH	89.56	2,931.68	1,250.00	81.31	3,834.14
313	J340FH	83.66	2,932.07	1,250.00	73.20	3,195.74
314	J342FH	88.39	2,932.00	1,250.00	80.44	3,863.67
315	J344FH	84.96	2,932.07	1,250.00	74.45	3,223.68

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
316	J346FH	83.23	2,932.07	1,250.00	74.95	3,567.32
317	J348FH	80.74	2,932.33	1,250.00	75.22	4,162.63
318	J34FH	64.48	3,070.81	1,250.00	59.03	6,472.77
319	J350FH	80.75	2,932.35	1,250.00	75.27	4,178.50
320	J352FH	85.46	2,932.22	1,250.00	72.76	3,005.93
321	J354FH	79.57	2,932.64	1,250.00	74.59	4,401.06
322	J356FH	91.53	2,932.25	1,250.00	76.73	2,948.48
323	J358FH	86.32	2,932.23	1,250.00	78.52	3,865.99
324	J360FH	98.00	2,931.16	1,250.00	79.74	2,784.73
325	J362FH	98.05	2,931.29	1,250.00	85.06	3,325.08
326	J364FH	92.50	2,931.47	1,250.00	82.86	3,654.37
327	J366FH	91.20	2,931.47	1,250.00	81.79	3,665.31
328	J368FH	92.92	2,931.45	1,250.00	84.72	4,000.50
329	J370FH	86.88	2,931.52	1,250.00	78.34	3,702.17
330	J372FH	86.89	2,931.52	1,250.00	79.63	4,020.36
331	J374FH	98.60	2,931.56	1,250.00	87.99	3,611.03
332	J376FH	98.18	2,931.58	1,250.00	90.89	4,331.91
333	J380FH	53.03	3,069.38	1,250.00	45.30	3,620.21
334	J382FH	52.59	3,069.38	1,250.00	44.99	3,656.07
335	J384FH	53.89	3,069.38	1,250.00	47.77	5,198.75
336	J388	53.46	3,069.38	1,250.00	47.42	5,246.11
337	J392	50.86	3,069.38	1,250.00	44.04	4,022.08
338	J394	53.90	3,069.38	1,250.00	47.91	5,357.55
339	J396	55.19	3,069.38	1,250.00	48.93	5,172.68
340	J398FH	54.76	3,069.38	1,250.00	48.54	5,174.17
341	J400	72.50	3,069.33	1,250.00	67.30	8,657.23
342	J402FH	68.15	3,069.29	1,250.00	62.95	8,234.79
343	J404FH	65.98	3,069.26	1,250.00	60.78	7,938.41
344	J406FH	64.27	3,069.33	1,250.00	54.63	3,450.29
345	J408	65.57	3,069.33	1,250.00	58.35	4,817.12
346	J410FH	63.84	3,069.33	1,250.00	55.82	4,109.10
347	J412FH	60.81	3,069.34	1,250.00	52.40	3,729.49
348	J416FH	62.01	3,071.11	1,250.00	54.73	4,198.02
349	J418FH	62.88	3,071.11	1,250.00	57.36	6,116.10
350	J420FH	66.39	3,071.23	1,250.00	60.69	6,152.30

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
351	J422FH	61.95	3,070.98	1,250.00	57.05	7,376.36
352	J424FH	61.95	3,070.97	1,250.00	56.02	5,524.52
353	J426FH	62.38	3,070.97	1,250.00	56.57	5,729.05
354	J42FH	64.23	3,067.25	1,250.00	52.58	3,087.85
355	J434FH	62.92	3,071.22	1,250.00	55.06	3,960.82
356	J440FH	63.25	3,070.97	1,250.00	58.15	7,134.18
357	J442FH	62.84	3,071.04	1,250.00	57.81	7,304.57
358	J444FH	60.87	3,070.49	1,250.00	55.95	7,707.70
359	J44FH	64.55	3,066.98	1,250.00	52.18	2,963.18
360	J450FH	65.68	3,069.59	1,250.00	60.45	7,893.73
361	J452FH	66.91	3,069.43	1,250.00	61.71	8,102.57
362	J456FH	97.51	2,931.05	1,250.00	64.17	2,023.86
363	J458FH	96.21	2,931.05	1,250.00	64.31	2,054.49
364	J46	74.01	3,066.80	1,250.00	61.87	3,421.88
365	J460FH	94.48	2,931.05	1,250.00	61.80	2,004.18
366	J462FH	94.49	2,931.06	1,250.00	67.64	2,226.12
367	J478FH	109.95	3,069.76	1,250.00	103.99	10,409.40
368	J480FH	119.15	3,070.98	1,250.00	113.42	11,347.00
369	J482FH	119.74	3,072.34	1,250.00	114.43	12,207.76
370	J484FH	113.90	3,073.87	1,250.00	109.20	12,769.49
371	J486FH	102.25	3,075.98	1,250.00	98.79	15,121.86
372	J488FH	110.95	3,076.05	1,250.00	106.25	8,945.29
373	J490FH	111.85	3,076.13	1,250.00	106.57	7,915.15
374	J492FH	111.02	3,076.22	1,250.00	105.55	7,637.90
375	J494FH	111.85	3,076.15	1,250.00	104.23	6,007.91
376	J496FH	113.37	3,076.63	1,250.00	108.33	8,268.78
377	J500FH	110.09	3,077.07	1,250.00	105.27	8,197.42
378	J508FH	99.71	3,077.13	1,250.00	94.77	7,395.44
379	J50FH	102.50	2,931.56	1,250.00	86.92	3,034.65
380	J510FH	95.86	3,077.23	1,250.00	91.07	7,354.19
381	J512	88.93	3,077.23	1,250.00	82.75	5,546.87
382	J514FH	90.27	3,077.32	1,250.00	85.84	7,558.18
383	J516	91.14	3,077.35	1,250.00	86.85	7,845.47
384	J518FH	92.05	3,077.45	1,250.00	88.45	9,598.10
385	J522FH	109.66	3,077.08	1,250.00	105.28	9,083.50

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
386	J526FH	102.78	3,077.20	1,250.00	98.52	8,825.45
387	J528FH	96.77	3,077.33	1,250.00	92.93	9,376.98
388	J532FH	95.11	3,077.51	1,250.00	92.24	13,815.27
389	J534	94.27	3,077.57	1,250.00	91.96	21,711.63
390	J536	67.46	3,069.68	1,250.00	61.74	8,160.93
391	J540	62.37	3,070.95	1,250.00	56.83	7,530.15
392	J566FH	64.03	3,069.77	1,250.00	58.47	7,202.39
393	J568FH	61.37	3,069.64	1,250.00	55.63	6,536.27
394	J56FH	83.12	2,931.82	1,250.00	76.65	4,015.40
395	J570FH	60.94	3,069.64	1,250.00	53.00	4,064.21
396	J572	56.53	3,069.47	1,250.00	50.71	5,960.66
397	J574	57.41	3,069.49	1,250.00	50.98	5,139.21
398	J576	55.17	3,069.33	1,250.00	48.10	4,498.04
399	J578	56.09	3,069.46	1,250.00	50.24	5,854.47
400	J580FH	56.53	3,069.46	1,250.00	49.97	4,944.74
401	J582	64.01	3,069.74	1,250.00	57.91	6,098.18
402	J584FH	101.68	3,076.66	1,250.00	98.61	16,682.37
403	J588	95.41	3,077.19	1,250.00	92.74	18,273.68
404	J58FH	85.68	2,931.73	1,250.00	78.79	4,003.97
405	J590FH	105.58	3,076.66	1,250.00	98.80	6,005.70
406	J594FH	108.61	3,076.66	1,250.00	99.01	4,696.81
407	J596FH	118.35	3,076.15	1,250.00	108.51	5,007.40
408	J600FH	100.20	3,077.24	1,250.00	95.09	7,161.42
409	J602	100.20	3,077.24	1,250.00	96.04	8,873.01
410	J604	53.75	3,069.06	1,250.00	44.05	3,117.30
411	J606FH	51.44	3,068.72	1,250.00	38.12	2,291.58
412	J608	54.62	3,069.06	1,250.00	42.63	2,592.72
413	J610FH	57.86	3,069.53	1,250.00	51.21	4,967.96
414	J612FH	60.07	3,069.64	1,250.00	53.72	5,468.28
415	J614	60.03	3,069.55	1,250.00	51.63	3,837.91
416	J616	59.15	3,069.52	1,250.00	50.70	3,853.53
417	J620	56.50	2,995.38	1,250.00	35.80	1,724.95
418	J622FH	73.20	2,994.93	1,250.00	65.85	5,377.70
419	J624FH	69.30	2,994.92	1,250.00	55.24	2,797.95
420	J626FH	81.99	2,994.21	1,250.00	72.19	4,511.89

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
421	J630FH	73.63	2,994.92	1,250.00	53.92	2,270.34
422	J634FH	71.03	2,994.92	1,250.00	47.05	1,954.16
423	J638FH	88.30	2,993.78	1,250.00	77.93	4,533.67
424	J640FH	60.46	3,069.53	1,250.00	52.64	4,189.55
425	J642FH	60.91	3,069.57	1,250.00	52.82	4,047.02
426	J646FH	58.72	3,069.52	1,250.00	49.64	3,471.71
427	J648FH	116.61	3,068.11	1,250.00	109.08	9,120.27
428	J650FH	120.26	3,067.55	1,250.00	112.00	8,635.89
429	J652FH	126.89	3,066.85	1,250.00	117.44	8,071.02
430	J654FH	127.84	3,067.04	1,250.00	117.43	6,737.89
431	J656FH	124.91	3,067.28	1,250.00	115.59	7,493.28
432	J658FH	122.79	3,067.38	1,250.00	113.39	7,267.69
433	J660FH	127.08	3,067.29	1,250.00	117.22	7,053.97
434	J662FH	130.92	3,067.15	1,250.00	117.16	5,070.77
435	J664FH	122.83	3,067.47	1,250.00	113.51	7,271.52
436	J666FH	119.51	3,067.82	1,250.00	110.49	7,245.74
437	J66FH	86.01	2,931.50	1,250.00	78.57	3,955.59
438	J672FH	81.66	2,935.45	1,250.00	28.57	1,366.55
439	J674	59.75	3,069.37	1,250.00	53.06	5,093.78
440	J676FH	58.04	3,069.37	1,250.00	50.96	4,536.40
441	J678FH	58.53	3,069.36	1,250.00	50.14	3,702.13
442	J680FH	59.91	3,069.36	1,250.00	51.62	3,850.72
443	J682	62.01	3,069.36	1,250.00	54.27	4,356.04
444	J684FH	60.20	3,069.36	1,250.00	51.94	3,897.40
445	J686FH	60.82	3,069.36	1,250.00	52.22	3,763.24
446	J688	62.57	3,069.36	1,250.00	54.01	3,890.56
447	J68FH	81.67	2,931.47	1,250.00	69.69	2,986.63
448	J690	62.55	3,069.36	1,250.00	52.91	3,446.47
449	J692FH	59.48	3,069.36	1,250.00	51.49	3,981.76
450	J694	63.42	3,069.36	1,250.00	55.57	4,375.48
451	J696	58.24	3,069.40	1,250.00	52.25	5,866.02
452	J698	60.60	3,069.38	1,250.00	53.42	4,705.20
453	J700FH	57.38	3,069.38	1,250.00	47.93	3,221.30
454	J702	62.26	3,069.36	1,250.00	54.37	4,263.54
455	J704FH	61.96	3,069.36	1,250.00	53.43	3,874.66

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
456	J706FH	58.34	3,069.36	1,250.00	45.65	2,561.48
457	J708FH	60.20	3,069.38	1,250.00	52.38	4,137.77
458	J70FH	86.88	2,931.52	1,250.00	75.79	3,242.90
459	J710FH	57.92	3,069.40	1,250.00	51.56	5,312.51
460	J714FH	89.73	2,933.26	1,250.00	66.26	2,359.02
461	J718FH	90.92	2,933.26	1,250.00	63.89	2,187.26
462	J720FH	92.03	2,993.39	1,250.00	81.79	4,713.84
463	J724	58.71	3,069.50	1,250.00	50.47	3,730.29
464	J728	59.58	3,069.50	1,250.00	51.67	3,970.21
465	J730FH	59.58	3,069.50	1,250.00	49.09	3,021.22
466	J732	60.45	3,069.52	1,250.00	52.45	3,976.56
467	J736	63.97	3,069.64	1,250.00	57.74	5,786.55
468	J738FH	63.09	3,069.60	1,250.00	56.64	5,467.21
469	J74	68.16	3,068.30	1,250.00	57.10	3,307.17
470	J740FH	66.61	3,069.73	1,250.00	61.35	8,008.67
471	J742FH	56.97	3,069.47	1,250.00	50.46	4,979.45
472	J744	55.22	3,069.44	1,250.00	49.35	5,740.16
473	J746	53.88	3,068.35	1,250.00	35.56	1,904.34
474	J748	51.24	3,068.27	1,250.00	31.13	1,770.52
475	J750FH	55.16	3,068.30	1,250.00	32.42	1,670.18
476	J752	52.97	3,068.25	1,250.00	31.37	1,745.45
477	J754	53.86	3,068.30	1,250.00	33.62	1,771.48
478	J756	52.31	3,068.72	1,250.00	36.96	2,078.36
479	J758	50.57	3,068.72	1,250.00	31.20	1,689.80
480	J76	79.04	3,068.42	1,250.00	72.63	6,990.13
481	J778	128.32	3,067.15	1,250.00	118.19	6,911.60
482	J784FH	126.90	3,066.87	1,250.00	117.22	7,677.32
483	J786FH	92.00	2,993.33	1,250.00	81.84	4,745.42
484	J788FH	64.28	3,069.36	1,250.00	48.45	2,373.67
485	J78FH	59.49	3,069.30	1,250.00	54.24	6,875.19
486	J790FH	62.20	3,069.54	1,250.00	53.86	3,905.13
487	J792	54.76	3,069.37	1,250.00	48.49	5,239.79
488	J794	71.08	3,071.04	1,250.00	65.46	9,079.16
489	J796	77.97	3,068.93	1,250.00	72.30	8,549.20
490	J798	48.92	3,067.91	1,250.00	36.97	2,435.36

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Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
491	J800	67.06	3,067.77	1,250.00	54.90	3,107.15
492	J80FH	62.41	3,069.03	1,250.00	57.20	7,645.93
493	J814	100.50	3,212.95	1,250.00	100.45	113,673.48
494	J816	45.80	3,068.71	1,250.00	9.33	1,020.72
495	J818	49.71	3,068.71	1,250.00	28.70	1,569.08
496	J820	106.17	3,205.47	1,250.00	98.93	8,714.78
497	J822	105.60	3,210.23	1,250.00	101.81	11,471.18
498	J824	99.91	3,211.33	1,250.00	97.82	14,039.81
499	J826	96.77	3,211.04	1,250.00	93.55	10,732.08
500	J828	93.26	3,211.38	1,250.00	90.16	9,748.71
501	J82FH	65.70	3,068.62	1,250.00	58.86	5,326.75
502	J830	93.62	3,211.29	1,250.00	89.91	8,399.48
503	J832	95.44	3,211.13	1,250.00	91.73	8,584.76
504	J834	88.02	3,212.33	1,250.00	86.35	13,120.27
505	J836	90.51	3,211.29	1,250.00	83.73	5,006.63
506	J838	90.10	3,212.48	1,250.00	89.05	18,185.05
507	J840	115.20	3,210.76	1,250.00	107.45	5,348.15
508	J842	117.01	3,210.76	1,250.00	106.24	4,362.85
509	J844	105.41	3,211.26	1,250.00	101.33	7,853.18
510	J846	105.64	3,211.25	1,250.00	100.74	6,799.67
511	J848	108.30	3,211.23	1,250.00	103.12	6,649.17
512	J84FH	63.53	3,068.62	1,250.00	51.91	2,950.70
513	J850	108.52	3,211.22	1,250.00	103.73	7,070.75
514	J852	105.14	3,211.34	1,250.00	102.85	14,042.08
515	J854	102.39	3,211.34	1,250.00	99.74	10,566.45
516	J856	101.02	3,211.34	1,250.00	98.43	10,617.90
517	J858	62.87	3,033.54	1,250.00	58.80	3,586.73
518	J86	62.48	3,069.20	1,250.00	53.04	3,394.58
519	J860	63.32	3,044.19	1,250.00	55.71	3,425.89
520	J862	64.53	3,048.41	1,250.00	55.24	3,494.72
521	J864	69.14	3,044.19	1,250.00	48.14	1,977.34
522	J866	65.95	3,054.25	1,250.00	55.05	3,694.79
523	J868	57.78	3,060.17	1,250.00	46.82	3,596.84
524	J870	60.08	3,059.22	1,250.00	48.29	3,331.49
525	J872	67.40	3,059.09	1,250.00	55.51	3,631.65

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Peak Day Demand with Fire Flow

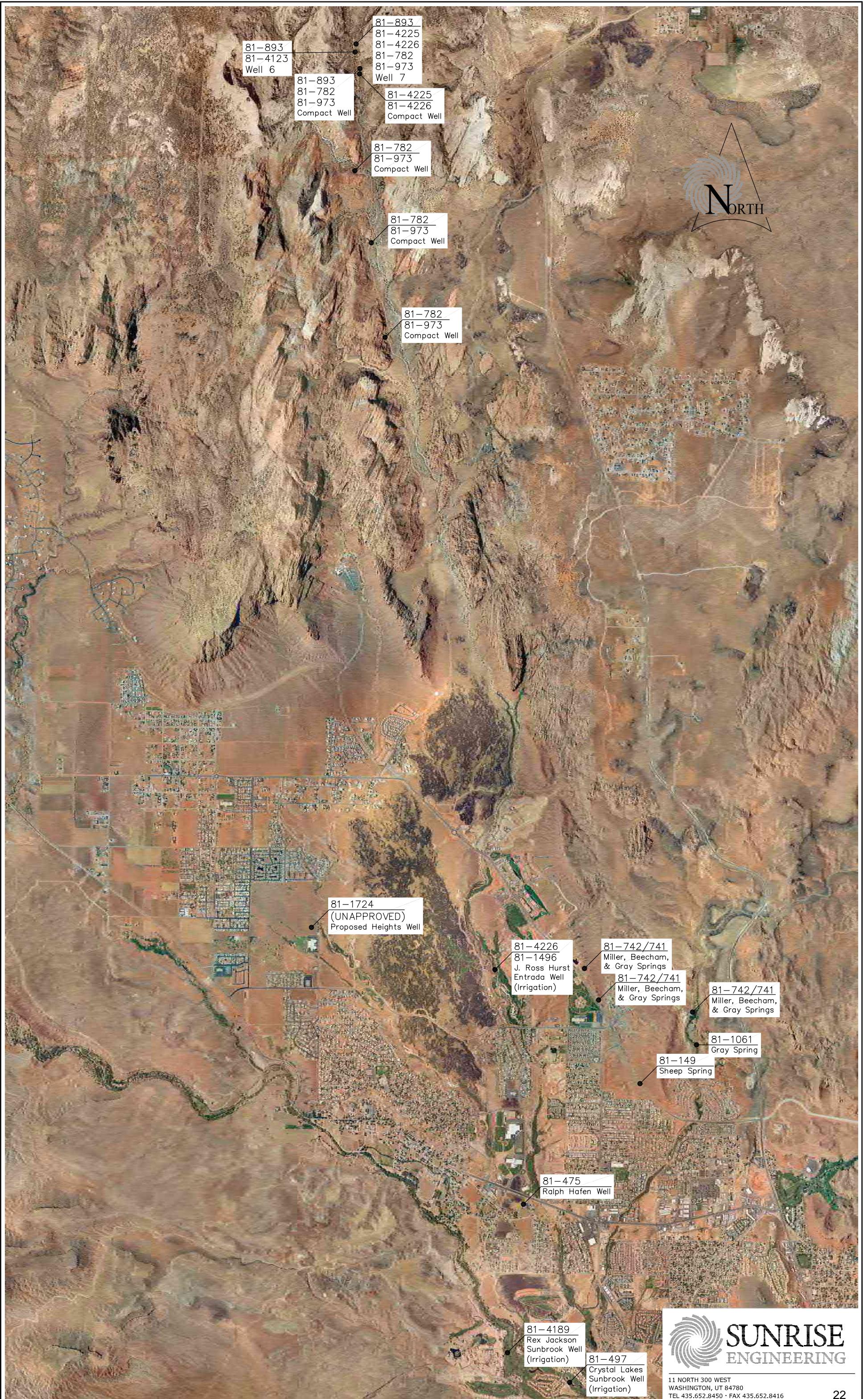
	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
526	J874	59.17	3,059.09	1,250.00	45.82	2,877.56
527	J876	58.65	3,059.09	1,250.00	39.14	2,103.28
528	J878	60.86	3,059.09	1,250.00	37.56	1,896.17
529	J88	65.83	3,067.94	1,250.00	57.77	4,388.06
530	J880	66.39	3,059.09	1,250.00	46.11	2,260.41
531	J882	70.37	3,059.22	1,250.00	55.81	3,095.93
532	J884	75.48	3,067.76	1,250.00	57.96	2,581.87
533	J886	67.62	3,067.76	1,250.00	60.09	5,430.79
534	J888	69.50	3,068.52	1,250.00	62.70	6,034.98
535	J890	67.49	3,068.31	1,250.00	60.69	6,076.72
536	J892	73.06	3,068.52	1,250.00	62.42	3,767.36
537	J894	64.41	3,068.32	1,250.00	57.86	6,207.82
538	J896	66.17	3,067.35	1,250.00	58.81	5,851.61
539	J898	65.62	3,067.39	1,250.00	55.95	3,988.59
540	J90	63.78	3,069.20	1,250.00	57.48	5,451.01
541	J900	63.68	3,067.39	1,250.00	55.61	4,822.76
542	J902	65.60	3,067.93	1,250.00	58.54	6,001.23
543	J904	54.22	3,067.82	1,250.00	45.33	3,654.87
544	J906	54.95	3,067.85	1,250.00	46.36	3,849.17
545	J908	60.81	3,067.86	1,250.00	52.42	4,343.23
546	J910	56.20	3,067.86	1,250.00	44.80	2,822.94
547	J912	58.08	3,067.86	1,250.00	49.04	3,820.00
548	J914	54.75	3,067.85	1,250.00	45.64	3,590.65
549	J916	55.07	3,067.85	1,250.00	43.57	2,734.28
550	J918	45.85	3,067.82	1,250.00	33.15	2,036.17
551	J920	45.39	3,067.82	1,250.00	28.11	1,601.60
552	J922	50.41	3,067.82	1,250.00	37.19	2,196.43
553	J924	44.86	3,067.82	1,250.00	29.78	1,739.35
554	J926	53.79	3,067.82	1,250.00	42.35	2,678.97
555	J928	50.37	3,067.82	1,250.00	39.42	2,593.38
556	J92FH	52.80	3,069.85	1,250.00	47.60	6,047.42
557	J930	50.26	3,067.82	1,250.00	37.05	2,189.45
558	J932	51.76	3,067.82	1,250.00	40.93	2,706.41
559	J934	53.42	3,067.82	1,250.00	32.23	1,658.07
560	J936	54.13	3,067.82	1,250.00	44.58	3,363.44

Peak Day Demand with Fire Flow

	ID	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)
561	J938	66.09	3,070.83	1,250.00	59.32	5,731.62
562	J940	62.71	3,070.83	1,250.00	51.80	3,125.03
563	J942	70.19	3,069.00	1,250.00	64.48	7,637.58
564	J944	121.83	3,210.76	1,250.00	109.42	4,104.32
565	J946	99.30	3,212.54	1,250.00	98.53	25,054.83
566	J948	58.20	3,080.32	1,250.00	51.41	6,753.42
567	J94FH	51.79	3,069.51	1,250.00	46.45	5,880.22
568	J950	61.16	3,079.04	1,250.00	54.13	6,724.93
569	J952	61.08	3,080.72	1,250.00	52.66	4,512.55
570	J954	74.18	3,018.19	1,250.00	63.74	3,875.93
571	J960	74.07	3,021.94	1,250.00	64.42	3,537.15
572	J962	73.25	3,024.06	1,250.00	64.14	3,362.43
573	J964	71.88	3,026.88	1,250.00	65.07	3,496.53
574	J966	72.68	3,028.74	1,250.00	69.66	4,179.28
575	J968	67.12	3,069.90	1,250.00	61.82	8,076.51
576	J96FH	55.80	3,069.77	1,250.00	49.38	4,566.79
577	J970	63.14	3,069.72	1,250.00	56.37	5,186.79
578	J972	66.32	3,070.07	1,250.00	60.99	7,980.61
579	J974	65.38	3,069.89	1,250.00	60.01	7,708.01
580	J976	62.27	3,069.72	1,250.00	52.66	3,404.90
581	J978	59.54	3,071.41	1,250.00	53.81	6,735.23
582	J980	59.51	3,071.34	1,250.00	53.83	6,895.69
583	J982	62.04	3,071.18	1,250.00	56.42	7,307.87
584	J984	57.89	3,077.60	1,250.00	51.12	6,518.76
585	J986	65.41	3,073.96	1,250.00	59.00	7,115.55
586	J988	65.56	3,072.31	1,250.00	59.59	7,168.83
587	J98FH	58.14	3,070.17	1,250.00	51.39	4,428.65
588	J990	67.35	3,071.44	1,250.00	61.66	7,518.53
589	J992	64.15	3,071.05	1,250.00	58.61	7,566.67
590	J994	58.37	3,080.72	1,250.00	51.62	6,839.72
591	J996	69.14	3,069.56	1,250.00	63.18	6,508.39
592	J998	69.93	3,069.39	1,250.00	64.19	6,989.38

# APPENDIX C

## WATER RIGHTS INVENTORY



# APPENDIX D

## OPINION OF PROBABLE COST

**SUNRISE ENGINEERING INC.**

11 North 300 West, Washington, Utah 84780

Tel: (435) 652-8450

### **Engineer's Opinion of Probable Cost**

## SANTA CLARA CITY WATER FACILITY PLAN PROJECTS

NW/MG 11/15/2022

SUNRISE ENGINEERING INC.

11 North 300 West, Washington, Utah 84780

Tel: (435) 652-8450

### **Engineer's Opinion of Probable Cost**

## SANTA CLARA CITY WATER FACILITY PLAN PROJECTS

NW/MG 11/15/2022

NO.	DESCRIPTION	Est Quantity	Units	Unit Price	TOTAL COST	I.F. Eligible	Impact Fee Eligible Cost
<b>North Hamblin Pkwy to North Town Rd 12" Line</b>							
1	Mobilization	1	LS	\$ 8,200	\$ 8,200	100%	\$ 8,200
2	Traffic Control	1	LS	\$ 5,000	\$ 5,000	100%	\$ 5,000
3	Materials Sampling & Testing	1	LS	\$ 5,000	\$ 5,000	100%	\$ 5,000
4	12" PVC Line, Fittings, Bedding, Backfill & Tracer Wire (C900, Class 150, SDR 18; or C909 PC150)	1,000	LN FT.	\$ 100	\$ 100,000	100%	\$ 100,000
5	12" Gate Valve Assembly	4	Each	\$ 5,000	\$ 20,000	100%	\$ 20,000
6	2.5" Bituminous Patch w/ Base	8,800	SF	\$ 5.00	\$ 44,000	100%	\$ 44,000
		<b>SUBTOTAL</b>			\$ 182,200	100%	\$ 182,200
		<b>CONTINGENCY</b>		20%	\$ 37,000	100%	\$ 37,000.00
		<b>CONSTRUCTION TOTAL</b>			\$ 219,200		\$ 219,200
	<b>INCIDENTALS</b>						
7	Administration		LS	1%	\$ 2,200	100%	\$ 2,200
8	Engineering Design		LS	12.5%	\$ 27,400	100%	\$ 27,400
9	Engineering Construction Services		HOURLY	8%	\$ 17,600	100%	\$ 17,600
10	Legal & Fiscal/ROW	1	EST.		\$ 20,000	100%	\$ 20,000
11	Miscellaneous	1	EST.		\$ 5,000	100%	\$ 5,000
12	GIS Mapping	1	EST.		\$ 1,000	100%	\$ 1,000
		<b>TOTAL PROJECT COST</b>			\$ 292,400	100%	\$ 292,400

**SUNRISE ENGINEERING INC.**

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**Engineer's Opinion of Probable Cost**
**SANTA CLARA CITY WATER FACILITY PLAN PROJECTS**

NW/MG 11/15/2022

NO.	DESCRIPTION	Est Quantity	Units	Unit Price	TOTAL COST	I.F. Eligible	Impact Fee Eligible Cost
<b>10" to 12" PRV Enlargement</b>							
13	Mobilization	1	LS	\$ 6,250	\$ 6,250	100%	\$ 6,250
14	Traffic Control	1	LS	\$ 5,000	\$ 5,000	100%	\$ 5,000
15	Materials Sampling & Testing	1	LS	\$ 5,000	\$ 5,000	100%	\$ 5,000
16	12" PVC Line, Fittings, Bedding, Backfill & Tracer Wire (C900, Class 150, SDR 18; or C909 PC150)	100	LN FT.	\$ 100.00	\$ 10,000	100%	\$ 10,000
17	12" PRV	1	EA	\$ 15,000.00	\$ 15,000	100%	\$ 15,000
18	PRV Station w/ Appurtenances	1	EA	\$ 100,000	\$ 100,000	100%	\$ 100,000
				<b>SUBTOTAL</b>	\$ 141,250	100%	\$ 141,250
				<b>CONTINGENCY</b>	20% \$ 29,000	100%	\$ 29,000
				<b>CONSTRUCTION TOTAL</b>	\$ 170,250		\$ 170,250
	<b>INCIDENTALS</b>						
17	Administration		LS	1%	\$ 1,800	100%	\$ 1,800
19	Engineering Design		LS	12.5%	\$ 21,300	100%	\$ 21,300
20	Engineering Construction Services		HOURLY	8%	\$ 13,700	100%	\$ 13,700
21	GIS Mapping	0	EST.		\$ 1,500	100%	\$ 1,500
							\$ -
				<b>TOTAL PROJECT COST</b>	\$ 208,550	100%	\$ 208,550

**SUNRISE ENGINEERING INC.**

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**Engineer's Opinion of Probable Cost**
**SANTA CLARA CITY WATER FACILITY PLAN PROJECTS**

NW/MG 11/15/2022

NO.	DESCRIPTION	Est Quantity	Units	Unit Price	TOTAL COST	I.F. Eligible	Impact Fee Eligible Cost
<b>12" Line Well Connection to Snow Canyon Tank</b>							
22	Mobilization	1	LS	\$ 137,500	\$ 137,500	100%	\$ 137,500
23	Traffic Control	1	LS	\$ 5,000	\$ 5,000	100%	\$ 5,000
24	Materials Sampling & Testing	1	LS	\$ 5,000	\$ 5,000	100%	\$ 5,000
23	12" PVC Line, Fittings, Bedding, Backfill & Tracer Wire (C900, Class 150, SDR 18; or C909 PC150)	26,000	LF	\$ 100	\$ 2,600,000	100%	\$ 2,600,000
25	Misc fittings, pipe, and valve assembly	1	LS	\$ 150,000	\$ 150,000	100%	\$ 150,000
				<b>SUBTOTAL</b>	\$ 2,897,500	100%	\$ 2,897,500
				<b>CONTINGENCY</b>	20% \$ 580,000	100%	\$ 580,000
				<b>CONSTRUCTION TOTAL</b>	\$ 3,477,500		\$ 3,477,500
	<b>INCIDENTALS</b>						
26	Administration		LS	1%	\$ 34,800	100%	\$ 34,800
27	Engineering Design		LS	9.0%	\$ 313,000	100%	\$ 313,000
28	Engineering Construction Services		HOURLY	8%	\$ 278,200	100%	\$ 278,200
29	Legal & Fiscal/Environmental	0	EST.		\$ 50,000	100%	\$ 50,000
30	Miscellaneous	0	EST.		\$ 15,000	100%	\$ 15,000
31	GIS Mapping	0	EST.		\$ 1,500	100%	\$ 1,500
							\$ -
				<b>TOTAL PROJECT COST</b>	\$ 4,170,000		\$ 4,170,000

**SUNRISE ENGINEERING INC.**

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**Engineer's Opinion of Probable Cost**
**SANTA CLARA CITY WATER FACILITY PLAN PROJECTS**

NW/MG 11/15/2022

NO.	DESCRIPTION	Est Quantity	Units	Unit Price	TOTAL COST	I.F. Eligible	Impact Fee Eligible Cost	
<b>New Well</b>								
45	Mobilization	1	LS	\$ 68,350	\$ 68,350	100%	\$ 68,350	
46	Traffic Control	1	LS	\$ 5,000	\$ 5,000	100%	\$ 5,000	
47	Materials Sampling & Testing	1	LS	\$ 5,000	\$ 5,000	100%	\$ 5,000	
46	Conductor Casing	1	LS	\$ 40,000	\$ 40,000	100%	\$ 40,000	
48	20" Diameter Well Drilling	1,200	LF	\$ 200	\$ 240,000	100%	\$ 240,000	
49	GeoPhysical Logging	1	LS	\$ 5,000	\$ 5,000	100%	\$ 5,000	
50	18" Diameter Well Casing	1,200	LF	\$ 250	\$ 300,000	100%	\$ 300,000	
51	18" Diameter Stainless Steel Screen	1,200	LF	\$ 200	\$ 240,000	100%	\$ 240,000	
52	Misc pipes, fittings, etc	1	LS	\$ 50,000	\$ 50,000	100%	\$ 50,000	
53	Conductor Casing Removal	1	LS	\$ 10,000	\$ 10,000	100%	\$ 10,000	
54	Pea Gravel (Disinfected)	600	LF	\$ 15	\$ 9,000	100%	\$ 9,000	
55	Disenfection	1	LS	\$ 5,000	\$ 5,000	100%	\$ 5,000	
56	Well Drillers Report	1	LS	\$ 3,000	\$ 3,000	100%	\$ 3,000	
57	Well Equipping	1	LS	\$ 175,000	\$ 175,000	100%	\$ 175,000	
58	Well House Building	1	LS	\$ 175,000	\$ 175,000	100%	\$ 175,000	
59	Well Site Electrical	1	LS	\$ 100,000	\$ 100,000	100%	\$ 100,000	
60	Metering Manhole	1	EA	\$ 15,000.00	\$ 15,000	100%	\$ 15,000	
				<b>SUBTOTAL</b>	\$ 1,445,350	100%	\$ 1,445,350	
				<b>CONTINGENCY</b>	20%	\$ 290,000	100%	\$ 290,000
				<b>CONSTRUCTION TOTAL</b>	\$ 1,735,350		\$ 1,735,350	
<b>INCIDENTALS</b>								
61	Administration		LS	1%	\$ 17,400	100%	\$ 17,400	
62	Engineering Design		LS	9.0%	\$ 156,200	100%	\$ 156,200	
63	Engineering Construction Services		HOURLY	8%	\$ 138,900	100%	\$ 138,900	
64	Legal & Fiscal/Environmental	0	EST.		\$ 50,000	100%	\$ 50,000	
65	Miscellaneous	0	EST.		\$ 15,000	100%	\$ 15,000	
66	GIS Mapping	0	EST.		\$ 1,500	100%	\$ 1,500	
							\$ -	
				<b>TOTAL PROJECT COST</b>	\$ 2,114,350		\$ 2,114,350	

**SUNRISE ENGINEERING INC.**

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**Engineer's Opinion of Probable Cost**

**SANTA CLARA CITY WATER FACILITY PLAN PROJECTS**

NW/MG 11/15/2022

NO.	DESCRIPTION	Est Quantity	Units	Unit Price	TOTAL COST	I.F. Eligible	Impact Fee Eligible Cost
<b>Irrigation: Riesling Avenue 8" Line</b>							
1	Mobilization	1	LS	\$ 4,440	\$ 4,440	100%	\$ 4,440
2	8" PVC Irrigation Line (DR-18), Bedding, Backfill, Tracer Wire, Etc.	1,200	LF	\$ 60	\$ 72,000	100%	\$ 72,000
3	Misc Connections and Tie Ins	1	LS	\$ 2,400	\$ 2,400	100%	\$ 2,400
4	2.5" Bituminous Surface Coarse	3,600	SF	\$ 3.00	\$ 10,800	100%	\$ 10,800
5	6" Untreated Base Course	3,600	SF	\$ 1.00	\$ 3,600	100%	\$ 3,600
6				<b>SUBTOTAL</b>	\$ 93,240	100%	\$ 93,240
7				<b>CONTINGENCY</b>	20% \$ 19,000	100%	\$ 19,000.00
8				<b>CONSTRUCTION TOTAL</b>	\$ 112,240		\$ 112,240
9	INCIDENTALS						
10	Administration		LS	1%	\$ 1,200	100%	\$ 1,200
11	Engineering Design		LS	11.3%	\$ 12,700	100%	\$ 12,700
12	Engineering Construction Services		HOURLY	8%	\$ 9,000	100%	\$ 9,000
13	GIS Mapping		EST.		\$ 1,000	100%	\$ 1,000
						100%	
				<b>TOTAL PROJECT COST</b>	\$ 136,140	100%	\$ 136,140

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**Engineer's Opinion of Probable Cost**

**SANTA CLARA CITY WATER FACILITY PLAN PROJECTS**

NW/MG 11/15/2022

NO.	DESCRIPTION	Est Quantity	Units	Unit Price	TOTAL COST	I.F. Eligible	Impact Fee Eligible Cost
<b>Irrigation: Crestview Drive 8" Line</b>							
1	Mobilization	1	LS	\$ 16,430	\$ 16,430	100%	\$ 16,430
2	8" PVC Irrigation Line (DR-18), Bedding, Backfill, Tracer Wire, Etc.	5,300	LF	\$ 60.00	\$ 318,000	100%	\$ 318,000
3	Misc Connections and Tie Ins	1	LS	\$ 10,600.00	\$ 10,600	100%	\$ 10,600
4	2.5" Bituminous Surface Coarse	15,900	SF	\$ 3.00	\$ 47,700	100%	\$ 47,700
5	6" Untreated Base Course	15,900	SF	\$ 1.00	\$ 15,900	100%	\$ 15,900
6				<b>SUBTOTAL</b>	\$ 345,030	100%	\$ 345,030
14				<b>CONTINGENCY</b>	20% \$ 70,000	100%	\$ 70,000.00
15				<b>CONSTRUCTION TOTAL</b>	\$ 415,030		\$ 415,030
16	INCIDENTALS						
6	Administration		LS	1%	\$ 4,200	100%	\$ 4,200
14	Engineering Design		LS	12.5%	\$ 51,900	100%	\$ 51,900
15	Engineering Construction Services		HOURLY	8%	\$ 33,300	100%	\$ 33,300
16	Legal & Fiscal/Interim Financing	0	EST.			100%	\$ -
17	Miscellaneous	0	EST.			100%	\$ -
18	GIS Mapping	0	EST.		\$ 800	100%	\$ 800
				<b>TOTAL PROJECT COST</b>	\$ 505,230	100%	\$ 505,230

**S U N R I S E   E N G I N E E R I N G   I N C.**

11 North 300 West, Washington, Utah 84780

Tel: (435) 652-8450

**Engineer's Opinion of Probable Cost**

**SANTA CLARA CITY WATER FACILITY PLAN PROJECTS**

NW/MG 11/15/2022

NO.	DESCRIPTION	Est Quantity	Units	Unit Price	TOTAL COST	I.F. Eligible	Impact Fee Eligible Cost
<b>Irrigation: Villa Bonita 8" Line</b>							
19	Mobilization	1	LS	\$ 3,300	\$ 3,300	100%	\$ 3,300
20	8" PVC Irrigation Line (DR-18), Bedding, Backfill, Tracer Wire, Etc.	750	LF	\$ 60	\$ 45,000	100%	\$ 45,000
21	Misc Connections and Tie Ins	1	LS	\$ 1,500	\$ 12,000	100%	\$ 12,000
22	2.5" Bituminous Surface Coarse	2,250	SF	\$ 3.00	\$ 6,750	100%	\$ 6,750
23	6" Untreated Base Course	2,250	SF	\$ 1.00	\$ 2,250	100%	\$ 2,250
			<b>SUBTOTAL</b>		\$ 69,300	100%	\$ 69,300
			<b>CONTINGENCY</b>	20%	\$ 14,000	100%	\$ 14,000.00
			<b>CONSTRUCTION TOTAL</b>		\$ 83,300		\$ 83,300
	<b>INCIDENTALS</b>						\$ -
24	Administration		LS	1%	\$ 900	100%	\$ 900
25	Engineering Design		LS	9.5%	\$ 8,000	100%	\$ 8,000
26	Engineering Construction Services		HOURLY	8%	\$ 6,700	100%	\$ 6,700
27	GIS Mapping	0	EST.		\$ 1,000	100%	\$ 1,000
						100%	
	<b>TOTAL PROJECT COST</b>				\$ 99,900	100%	\$ 99,900

**S U N R I S E   E N G I N E E R I N G   I N C.**

11 North 300 West, Washington, Utah 84780

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**Engineer's Opinion of Probable Cost**

**SANTA CLARA CITY WATER FACILITY PLAN PROJECTS**

NW/MG 11/15/2022

NO.	DESCRIPTION	Est Quantity	Units	Unit Price	TOTAL COST	I.F. Eligible	Impact Fee Eligible Cost
<b>Irrigation: North Town Road 8" Line</b>							
28	Mobilization	1	LS	\$ 18,075	\$ 18,075	100%	\$ 18,075
29	8" PVC Irrigation Line (DR-18), Bedding, Backfill, Tracer Wire, Etc.	4,885	LF	\$ 60	\$ 293,100	100%	\$ 293,100
30	Misc Connections and Tie Ins	1	LS	\$ 9,770	\$ 9,770	100%	\$ 9,770
31	2.5" Bituminous Surface Coarse	14,655	SF	\$ 3.00	\$ 43,965	100%	\$ 43,965
32	6" Untreated Base Course	14,655	SF	\$ 1.00	\$ 14,655	100%	\$ 14,655
			<b>SUBTOTAL</b>		\$ 379,565	100%	\$ 379,565
			<b>CONTINGENCY</b>	20%	\$ 76,000	100%	\$ 76,000.00
			<b>CONSTRUCTION TOTAL</b>		\$ 455,565		\$ 455,565
	<b>INCIDENTALS</b>						\$ -
33	Administration		LS	1%	\$ 4,600	100%	\$ 4,600
34	Engineering Design		LS	12.5%	\$ 57,000	100%	\$ 57,000
35	Engineering Construction Services		HOURLY	8%	\$ 36,500	100%	\$ 36,500
36	Legal & Fiscal/ROW	0	EST.		\$ 20,000	100%	\$ 20,000
37	Miscellaneous	0	EST.		\$ 5,000	100%	\$ 5,000
38	GIS Mapping	0	EST.		\$ 1,000	100%	\$ 1,000
						100%	\$ -
	<b>TOTAL PROJECT COST</b>				\$ 579,665	100%	\$ 579,665

**S U N R I S E   E N G I N E E R I N G   I N C.**

11 North 300 West, Washington, Utah 84780

Tel: (435) 652-8450

**Engineer's Opinion of Probable Cost**

**SANTA CLARA CITY WATER FACILITY PLAN PROJECTS**

NW/MG 11/15/2022

NO.	DESCRIPTION	Est Quantity	Units	Unit Price	TOTAL COST	I.F. Eligible	Impact Fee Eligible Cost
<b>Irrigation: Sycamore Drive 8" Line</b>							
39	Mobilization	1	LS	\$ 4,070	\$ 4,070	100%	\$ 4,070
40	8" PVC Irrigation Line (DR-18), Bedding, Backfill, Tracer Wire, Etc.	1,100	LF	\$ 60	\$ 66,000	100%	\$ 66,000
41	Misc Connections and Tie Ins	1	LS	\$ 2,200	\$ 2,200	100%	\$ 2,200
42	2.5" Bituminous Surface Coarse	3,300	SF	\$ 3.00	\$ 9,900	100%	\$ 9,900
43	6" Untreated Base Course	3,300	SF	\$ 1.00	\$ 3,300	100%	\$ 3,300
			<b>SUBTOTAL</b>		\$ 85,470	100%	\$ 85,470
			<b>CONTINGENCY</b>	20%	\$ 18,000	100%	\$ 18,000.00
			<b>CONSTRUCTION TOTAL</b>		\$ 103,470		\$ 103,470
<b>INCIDENTALS</b>							
44	Administration		LS	1%	\$ 1,100	100%	\$ 1,100
45	Engineering Design		LS	9.7%	\$ 10,100	100%	\$ 10,100
46	Engineering Construction Services		HOURLY	8%	\$ 8,300	100%	\$ 8,300
47	GIS Mapping	0	EST.		\$ 1,500	100%	\$ 1,500
							\$ -
			<b>TOTAL PROJECT COST</b>		\$ 124,470	100%	\$ 124,470

**S U N R I S E   E N G I N E E R I N G   I N C.**

11 North 300 West, Washington, Utah 84780

Tel: (435) 652-8450

**Engineer's Opinion of Probable Cost**

**SANTA CLARA CITY WATER FACILITY PLAN PROJECTS**

NW/MG 11/15/2022

NO.	DESCRIPTION	Est Quantity	Units	Unit Price	TOTAL COST	I.F. Eligible	Impact Fee Eligible Cost
<b>Irrigation: Claude Drive 8" Line</b>							
48	Mobilization	1	LS	\$ 4,070	\$ 4,070	100%	\$ 4,070
49	8" PVC Irrigation Line (DR-18), Bedding, Backfill, Tracer Wire, Etc.	1,100	LF	\$ 60	\$ 66,000	100%	\$ 66,000
50	Misc Connections and Tie Ins	1	LS	\$ 2,200	\$ 2,200	100%	\$ 2,200
51	2.5" Bituminous Surface Coarse	3,300	SF	\$ 3.00	\$ 9,900	100%	\$ 9,900
52	6" Untreated Base Course	3,300	SF	\$ 1.00	\$ 3,300	100%	\$ 3,300
			<b>SUBTOTAL</b>		\$ 85,470	100%	\$ 85,470
			<b>CONTINGENCY</b>	20%	\$ 18,000	100%	\$ 18,000.00
			<b>CONSTRUCTION TOTAL</b>		\$ 103,470		\$ 103,470
<b>INCIDENTALS</b>							
53	Administration		LS	1%	\$ 1,100	100%	\$ 1,100
54	Engineering Design		LS	9.7%	\$ 10,100	100%	\$ 10,100
55	Engineering Construction Services		HOURLY	8%	\$ 8,300	100%	\$ 8,300
56	GIS Mapping	0	EST.		\$ 1,500	100%	\$ 1,500
							\$ -
			<b>TOTAL PROJECT COST</b>		\$ 124,470	100%	\$ 124,470

**SUNRISE ENGINEERING INC.**

11 North 300 West, Washington, Utah 84780

Tel: (435) 652-8450

**Engineer's Opinion of Probable Cost****SANTA CLARA CITY WATER FACILITY PLAN PROJECTS**

NW/MG 5/10/2023

NO.	DESCRIPTION	Est Quantity	Units	Unit Price	TOTAL COST	I.F. Eligible	Impact Fee Eligible Cost
<b>Irrigation:Additional Water Share Purchase</b>							
57	Water Share (4ac-ft)	20	EA	\$ 15,000	\$ 300,000	100%	\$ 300,000
				<b>SUBTOTAL</b>	\$ 300,000	100%	\$ 300,000
				<b>CONTINGENCY</b>	20%	\$ 60,000	100% \$ 60,000.00
				<b>CONSTRUCTION TOTAL</b>		\$ 360,000	\$ 360,000
	INCIDENTALS						
58	Administration/Legal Services		LS	1%	\$ 3,600	100%	\$ 3,600
							\$ -
				<b>TOTAL PROJECT COST</b>		<b>\$ 363,600</b>	<b>100%</b> \$ 363,600

# APPENDIX E

## PROJECTED CASH FLOW

## CASHFLOW PROJECTIONS

# **CULINARY WATER MASTER PLAN**

## **CITY OF SANTA CLARA**

## CASHFLOW PROJECTIONS

CULINARY WATER MASTER PLAN  
CITY OF SANTA CLARA

	Fiscal Year Beginning July								
	2034	2035	2036	2037	2038	2039	2040	2041	2042
	2035	2036	2037	2038	2039	2040	2041	2042	2043
Average Rate ERU	\$59.05	\$59.79	\$60.53	\$61.29	\$62.06	\$62.83	\$63.62	\$64.41	\$65.22
Connection Fee	\$316	\$325	\$335	\$345	\$355	\$366	\$377	\$388	\$400
Impact fee	\$3,057	\$3,057	\$3,057	\$3,057	\$3,057	\$3,057	\$3,057	\$3,057	\$3,057
WCWCD Surcharge Rate/ERU	\$1.75	\$1.75	\$1.75	\$1.75	\$1.75	\$1.75	\$1.75	\$1.75	\$1.75
<b>System Users:</b>									
Total Existing ERU's	5,811	6,043	6,285	6,536	6,798	7,070	7,353	7,647	7,953
New ERU's:	232	242	251	261	272	283	294	306	318
<b>REVENUES:</b>									
User Fees	4,199,772	4,422,360	4,656,745	4,903,553	5,163,441	5,437,103	5,725,270	6,028,709	6,348,231
Other Operating Revenues	78,567	80,924	83,351	85,852	88,427	91,080	93,813	96,627	96,627
Connection Fees	73,250	78,700	84,076	90,048	96,659	103,585	110,839	118,824	127,188
Impact Fees	710,551	738,973	768,532	799,273	831,244	864,494	899,073	935,036	972,438
Interest Income	76,143	123,485	178,309	241,245	327,791	424,488	532,148	651,638	783,896
Gain on Disposal	0	0	0	0	0	0	0	0	0
WCWCD Surcharge									
Estimated Irrigation User Fee									
<b>TOTAL REVENUE:</b>	<b>\$5,138,283</b>	<b>\$5,444,442</b>	<b>\$5,771,013</b>	<b>\$6,119,970</b>	<b>\$6,507,562</b>	<b>\$6,920,750</b>	<b>\$7,361,143</b>	<b>\$7,830,834</b>	<b>\$8,328,380</b>
<b>EXPENSES: (Inc. O&amp;M &amp; Debt Serv.)</b>	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Salaries, Wages, & Benefits (100's)	1,074,330	1,128,046	1,184,449	1,243,671	1,305,855	1,371,147	1,439,705	1,511,690	1,587,274
Materials & Supplies (200's)	596,827	614,732	633,174	652,169	671,734	691,886	712,642	734,022	756,042
Professional & Technical Services (300's)	69,315	71,394	73,536	75,742	78,014	80,355	82,765	85,248	87,806
Special Dept. Materials & Supplies (400's)	94,720	97,562	100,489	103,504	106,609	109,807	113,101	116,494	119,989
Other Charges (500's)	38,182	39,327	40,507	41,722	42,974	44,263	45,591	46,959	48,368
Capital Expenses (700's)	239,371	246,552	253,949	261,567	269,414	277,497	285,821	294,396	303,228
Others (900's)	884,759	911,302	938,641	966,800	995,804	1,025,678	1,056,449	1,088,142	1,120,787
Irrigation System Expenses	67,196	69,212	71,288	73,427	75,629	77,898	80,235	82,642	85,122
<b>Sub-Total Operation &amp; Maintenance</b>	<b>\$3,064,700</b>	<b>\$3,178,127</b>	<b>\$3,296,032</b>	<b>\$3,418,602</b>	<b>\$3,546,033</b>	<b>\$3,678,532</b>	<b>\$3,816,310</b>	<b>\$3,959,594</b>	<b>\$4,108,615</b>
<b>EXISTING DEBT SERVICE (800's)</b>									
Debt Payment to Water District	63,600	63,600	63,600	63,600	63,600	63,600	63,600	63,600	63,600
All other Debt	285,722	285,722	285,722	285,722	285,722	285,722	285,722	285,722	285,722
<b>Sub-Total Existing Debt Service</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>
<b>NEW DEBT SERVICE</b>									
Division of Water Resources	0	0	0	0	0	0	0	0	0
Revenue Bond Reserves 10%	0	0	0	0	0	0	0	0	0
<b>Sub-Total New Debt Service</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Debt Service</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>	<b>\$349,322</b>
<b>PROPOSED PROJECT EXPENSES</b>									
Culinary: Water Right Recommendations									
Culinary: North Hamblin Pkwy to North Town Rd 12" Line									
Culinary: 10" to 12" PRV Enlargement									
Culinary: 12" Line Well Connection to Snow Canyon Tank									
Culinary: New Well									
Irrigation: Riesling Avenue 8" Line									
Irrigation: Crestview Drive 8" Line									
Irrigation: Villa Bonita 8" Line									
Irrigation: North Town Road 8" Line									
Irrigation: Sycamore Drive 8" Line									
Irrigation: Claude Drive 8" Line									
Irrigation:Additional Water Share Purchase									
Renewal and Replacement Fund	188,321	193,992	199,887	188,396	194,768	201,393	208,282	215,446	222,897
<b>TOTAL EXPENSES:</b>	<b>\$3,954,734</b>	<b>\$4,073,833</b>	<b>\$4,197,633</b>	<b>\$3,956,320</b>	<b>\$4,090,123</b>	<b>\$4,229,246</b>	<b>\$4,373,914</b>	<b>\$4,524,362</b>	<b>\$4,680,834</b>
<b>Net Cashflow</b>	<b>\$1,183,549</b>	<b>\$1,370,609</b>	<b>\$1,573,380</b>	<b>\$2,163,650</b>	<b>\$2,417,438</b>	<b>\$2,691,504</b>	<b>\$2,987,229</b>	<b>\$3,306,473</b>	<b>\$3,647,546</b>
<b>CASH ON HAND</b>									
*Fund Balance	3,087,128	4,457,737	6,031,117	8,194,767	10,612,206	13,303,710	16,290,939	19,597,412	23,244,958
Renewal and Replacement Account Balance:	2,888,806	3,082,798	3,282,686	3,471,082	3,665,850	3,867,242	4,075,524	4,290,970	4,513,867
<b>Total</b>	<b>\$5,975,934</b>	<b>\$7,540,535</b>	<b>\$9,313,803</b>	<b>\$11,665,849</b>	<b>\$14,278,055</b>	<b>\$17,170,952</b>	<b>\$20,366,463</b>	<b>\$23,888,381</b>	<b>\$27,758,824</b>
*Fund Balance is obtained by adding the previous year's balance to the net cash flow, minus any self funded portion of future projects.									

# APPENDIX F

## IMPACT FEE CERTIFICATION

## CERTIFICATION OF IMPACT FEE ANALYSIS BY CONSULTANT

In accordance with Utah Code Annotated, § 11-36a-306 Nathan Wallentine, P.E., on behalf of Sunrise Engineering, Inc., makes the following certification:

I certify that the attached impact fee facilities plan and impact fee analysis:

1. Includes only the costs for qualifying public facilities that are:
  - a. Allowed under the Impact Fees Act; and
  - b. Actually incurred; or
  - c. Projected to be incurred or encumbered within six years after each impact fee is paid;
2. Does not include:
  - a. costs of operation and maintenance of public facilities;
  - b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
  - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and that methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and
3. Offsets costs with grants or other alternate sources of payment (if grants or other sources of payment have been applied for and received and such information was made available when the Impact Fee Analysis was prepared); and
4. Complies in each and every relevant respect with the Impact Fees Act.

Nathan Wallentine, P.E. makes this certification with the following qualifications:

1. All of the recommendations for implementations of the Impact Fee Facilities Plan ("IFFP") made in the IFFP documents or in the Impact Fee Analysis documents are followed in their entirety by Santa Clara City staff and elected officials.
2. If all or a portion of the IFFP's or Impact Fee Analyses are modified or amended, this certification is no longer valid.
3. All information provided to Sunrise Engineering, Inc., its contractors or suppliers is assumed to be correct, complete and accurate. This includes information provided by the City and outside sources.

4. The undersigned is trained and licensed as a professional engineer and has not been trained or licensed as a lawyer. Nothing in the foregoing certification shall be deemed an opinion of law or an opinion of compliance with law which under applicable professional licensing laws or regulations or other laws or regulations must be rendered by a lawyer licensed in the State of Utah.
5. The foregoing Certification is an expression of professional opinion based on the undersigned's best knowledge, information and belief and shall not be construed as a warranty or guaranty of any fact or circumstance.
6. The foregoing certification is made only to Santa Clara City and may not be used or relied upon by any other person or entity without the expressed written authorization of the undersigned.

Sunrise Engineering, Inc.

By: 

Dated: August 2, 2023