Pleasant View City Corporation

Culinary Water Capital Facilities Plan and Impact Fee Facilities Plan

September 2017
Adopted October 10, 2017

Prepared by
JONES & ASSOCIATES
Consulting Engineers

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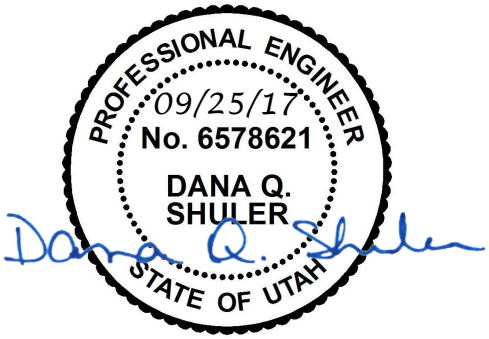
Consulting Engineers

CULINARY WATER
CAPITAL FACILITIES PLAN
AND
IMPACT FEE FACILITIES PLAN

for

PLEASANT VIEW CITY



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ORDINANCE 2017-15

AN ORDINANCE OF THE PLEASANT VIEW CITY COUNCIL ADOPTING THE CULINARY WATER CAPITAL FACILITIES PLAN AND IMPACT FEES FACILITIES PLAN AND THE CULINARY WATER IMPACT FEES ANALYSIS AND ESTABLISHING THE IMPACT FEES.

WHEREAS Pleasant View City has over the years developed a water supply and distribution system; and

WHEREAS it is imperative to plan for the future demands on and anticipated improvements of the system; and

WHEREAS the City Council wishes to continue to provide for growth by improving its water system; and

WHEREAS growth pressures place a strong demand on the existing system and necessitate system improvements to accommodate that growth; and

WHEREAS it is an accepted planning principle that new growth should pay for the impacts that it causes; and

WHEREAS the City Council has analyzed the impact that new growth has on the water system; and

WHEREAS the City Council finds that the impact fee for all new development is justified by the written Culinary Water Capital Facilities Plan and Impact Fee Facilities Plan from Jones & Associates Consulting Engineers and the Culinary Water Impact Fees Analysis from Zions Public Finance, Inc. and should be charged at the time of building permit approval;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF PLEASANT VIEW CITY, UTAH, AS FOLLOWS:

SECTION 1: The Culinary Water Capital Facilities Plan & Impact Fee Facilities Plan, dated September 2017 and prepared by Jones & Associates Consulting Engineers, is hereby adopted.

SECTION 2: The Culinary Water Impact Fees Analysis, dated September 26, 2017 is hereby adopted.

SECTION 2: As substantiated by the above Plans and Analysis the Impact Fees are adopted as stated in the Culinary Water Impact Fee Analysis.

SECTION 3: Effective Dates:

- The Culinary Water Impact Fee Facilities Plan & Impact Fee Analysis, dated September 2017 and prepared by Jones & Associates Consulting Engineers shall take effect immediately upon posting.
- The Culinary Water Impact Fees Analysis, dated September 26, 2017 shall take effect immediately upon posting.
- The Impact Fees shall take effect January 8, 2018 (90 days after the day on which the impact fee enactment is approved)

ORDINANCE ADOPTED this 10TH day of October, 2017.

Toby Mileski, Mayor

Attest:

Laurie Hansen, City Recorder

Posted: Oct 16, 2017

PLEASANT VIEW CITY INCORPORATED Seal WEBER COUNTY, UTAH

This Ordinance has been approved by the following vote of the Pleasant View City Council:

Council Member Boehme	Absent
Council Member Burns	Yes
Council Member Gibson	Yes
Council Member Hansen	Yes
Council Member Urry	Yes

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ac-ft	acre-feet
APFO	Adequate Public Facilities Ordinance
conn	connection
DDW	Division of Drinking Water
ERC	Equivalent Residential Connection
gal	gallon
GOMB	Governor's Office of Management and Budget
gpd	gallons per day
gpm	gallons per minute
HGL	hydraulic grade line
IFFP	Impact Fee Facilities Plan
LOS	Level of Service
MG	million gallons
MGD	million gallons per day
MOU	Memorandum of Understanding
O&M	Operation and Maintenance
PRV	pressure reducing valve
psi	pounds per square inch
sq. mi.	square miles
UAC	Utah Administrative Code
VFD	Variable frequency drive
WBWCD	Weber Basin Water Conservancy District

1.0 EXECUTIVE SUMMARY

Pleasant View City's potable water system was analyzed for source capacity, storage capacity, and distribution system adequacy. The existing system's supply and storage was found to be compliant with the Utah Administrative Code; however, the existing system's ability to meet fire flow was deficient in some areas. Projected build-out of the City will require additional source capacity and distribution system upgrades. Storage capacity for build-out is dependent on the size and type of buildings constructed and location and density of the developments.

The system's elements and their current and future compliance with State code are summarized in Table 1.1.

Table 1.1 – Summary of Compliance

Element		Compliant?	
		Current	Projected Build-Out
Source – flowrate	Peak Day Demand	Yes[1]	No
Source – annual volume	Average Yearly Demand	Yes	No
Storage Capacity		Yes	Yes
Distribution System		Yes	No

[1]Once the Weber Basin Connection is online.

Current compliance does not eliminate the immediate need for projects, as other factors contribute to the relevancy of the projects, such as problematic conditions (leaks, accessibility, etc.) and emergency preparedness. Advanced planning for the replacement of ageing infrastructure approaching its life expectancy is also recommended.

A full list of recommended projects is found in Section 7 of this report. These projects are a summary of deficiencies and potential problems in the existing system and future deficiencies based on projected growth.

Table 1.2 below gives the total costs associated with these projects.

Table 1.2 – Projects Cost Summary

	Cost Breakdown	
Estimated Total Cost	Replacement/ Deficiency	Impact Fee Eligible
$6,195,438	**$3,408,672**	**$2,786,765**

2.0 INTRODUCTION

2.1 Background

This report independently analyzes and reviews Pleasant View City's culinary water system and identifies projects necessary to bring the current system into full compliance with regulations; update and/or repair infrastructure based on known needs and condition; and plan for future growth.

2.2 Study Area

The Study Area, as defined by this report, is the current and future area served by Pleasant View City's water distribution system. Pleasant View City currently serves with culinary water the area east of US 89 within the city boundaries (5.253 sq. mi.) and plans to serve the areas east of US 89 identified for future annexation (0.923 sq. mi.), as shown in Exhibit 2.1, as feasible. The total Study Area is therefore 6.176 sq. mi., approximately.

Other culinary water service providers within the city limits are Bona Vista Water Improvement District ("Bona Vista") which serves the area west of US 89, and Pole Patch Water System, which serves a small area in the northeast corner of the City. These service areas within the city limits are illustrated in Exhibit 2.1.

2.3 City Characteristics

The current Pleasant View City boundary encompasses approximately 7.02 sq. mi. The proposed annexation boundary includes an additional 2.46 sq. mi. The terrain generally slopes from the northeast corner of the city limits radially to south and west, with elevations ranging between 4300 and 6100 feet (Google Earth, 2016).

Land use is primarily residential with some agriculture and commercial/industrial uses. According to the Pleasant View City General Plan (2009), the City's vision for future land use remains primarily residential; however, the City would like to increase retail and commercial development in the future. For the purposes of this Plan, future needs have been estimated based on the 2009 General Plan with the amended Future Land Use Map (May 2017). The service boundary and/or the proposed land use may change depending on development. These factors may require periodic adjustments to this Plan and the recommended culinary water capital facilities projects. The Future Land Use Map used is included as Exhibit 2.2.

2.4 Water System Overview

Pleasant View City owns and maintains all of the culinary water storage and distribution facilities needed to serve its customers. This includes seven (7) storage reservoirs and a multitude of transmission lines and distribution lines. The City produces the majority of the culinary water from its wells and springs. The City's current water system is illustrated in Exhibit 2.1.

Pleasant View has recently entered into a contract with Weber Basin Water Conservancy District ("Weber Basin" or "WBWCD") for the purchase of 275 ac-ft of contract water. Rather than drilling new wells or developing additional springs, the City plans on meeting future demands primarily by purchasing additional water from WBWCD.

Within the City's water services limits, Pineview Water Systems services customers with secondary water. Currently, only 33 existing water customers are without secondary water service. The City requires secondary water for all new development. Therefore, irrigation demand on the culinary water system has been considered only for those currently using culinary water for irrigation.

3.0 ERCS, SIZING REQUIREMENTS, AND GROWTH ESTIMATES

3.1 Equivalent Residential Connection

Water use varies from connection to connection throughout a water system. In order to avoid the complexity of analyzing each connection, a simple basic unit of water use can be defined for the purposes of comparison. This basic unit is called an Equivalent Residential Connection, or ERC. An ERC quantifies the typical daily water needed for one single family residential connection within the system, the most common type of connection in the City, and is then applied to non-residential users based on water usage. This unit is needed in order to quantify non-residential users and evaluate the system with one single equalizing unit of measure.

> *"Equivalent Residential Connection (ERC) is a term used to evaluate service connections to consumers other than the typical residential domicile. Public water system management is expected to review annual metered drinking water volumes delivered to non-residential connections and estimate the equivalent number of residential connections that these represent based upon the average of annual metered drinking water volumes delivered to true single family residential connections. This information is utilized in [the] evaluation of the system's source and storage capacities (refer to R309-510)." -Utah Administrative Code R309-110-4*

Metered water usage for residential customers from 2013 through 2016 was analyzed in order to calculate the equivalent residential connection usage. See Table 3.1 below for a summary of the average usage per year in gallons per day.

Table 3.1 – Yearly Average Use per Residence

Year	Average Use per Single-Family Residence (gpd)
2013	202.7
2014	199.7
2015	193.0
2016	173.8
Average	**178.6**

3.1.1 Residential vs. Non-Residential ERCs

The average use per residence shown in Table 3.1 quantifies an ERC: 1 ERC = 178.6 gpd. (This quantity is relatively low compared to other cities of the same size and circumstance; e.g. South Weber – 210 gpd/ERC, Santaquin – 200 gpd/ERC. This may be due to old, inaccurate customer meters.)

The calculated use per ERC is then applied to non-residential users of the system based on their consumption. Some commercial connections can have an impact on the water system of several typical residences.

For example, in the past four (4) years, the eight (8) churches used an average of 364 gpd/connection, which is the equivalent of two (2) regular residential connections. Another way to state that is: one (1) church equals two (2) ERCs. This and other non-residential connections can be equated as follows:

Table 3.2 – Sample Non-Residential Connections

Connection Type	Average Use (gpd/conn.)	ERCs
Church (avg.)	363	2.0
Commercial (avg.)	662	3.7
School[1]		
• Weber High	30,258	169
• Lomond View Elementary	2,192	12.3

[1]Assuming 9-month usage, 5 days/week

3.1.2 Irrigation

Pleasant View City currently has 33 "non-secondary" customers in the Pole Patch area that use culinary water for both domestic and irrigation purposes. The City accounts for these connections in a separate billing category making for easy analyzation of the data.

For comparison purposes, the number of ERCs attributable to irrigation can be found by subtracting the average domestic use from the total usage, then comparing the irrigation use to the average ERC usage. On an average yearly basis, each irrigation connection was the equivalent of 5.1 ERCs.

Considerations must be made when calculating usage per day since this use is confined to the typical irrigation season. By adjusting the annual irrigation use to account for the approximately 183 days in the irrigation season (April 15 to October 15), it was found that over the past four (4) years, each irrigation connection was the equivalent of 10.1 ERCs (Table 3.3). This does not include the domestic use of that connection.

Table 3.3 – Irrigation Connections

Year	Non-Secondary Annual Average Use (gpd/conn.)	Average Domestic Use (gpd/conn.)	Average Yearly Irrigation Use (gpd/conn.)	Average Yearly Irrigation Use (ERCs/conn.)	Average Daily Irrigation Use (gpd/conn.)	Average Daily Irrigation Use (ERCs/conn.)
2013	1,129	185.6	943.4	5.1	1,881	10.1
2014	1,034	181.2	852.8	4.7	1,701	9.4
2015	1,020	174.0	846.0	4.9	1,687	9.7
2016	1,142	173.8	968.2	5.6	1,932	11.1
Average	**1,081**	**178.6**	**902.6**	**5.1**	**1,800**	**10.1**

3.1.3 ERC Summary

A summary of the ERCs for the City based on metered water use is shown in Table 3.4. This is an annual summary; therefore, irrigation connections were calculated using the equivalent of 5.1 ERCs as described in the previous section.

Table 3.4 – Total Yearly Average ERCs

Year	Single Family Residences	Irrigation ERCs	Other ERCs	Total ERCs
2013	1,884	168	341	2,393
2014	1,998	155	400	2,553
2015	2,038	160	445	2,644
2016	2,074	184	465	2,722

3.1.4 Production vs. Consumption

Various factors within a water system cause water production to be higher than consumption. In Pleasant View, production includes water pumped from wells, collected from springs, and soon, delivered from WBWCD. Consumption is the metered water actually delivered to the consumer. Factors that cause this difference include non-metered connections or uses, old and/or inaccurate water meters, water main breaks, leaks, overflows, firefighting activities, and water line flushing.

$$Production = Consumption + Losses$$

or

$$Consumption = Production - Losses$$

By way of comparison, the data in the following Table 3.5 shows the consumption per ERC versus production per ERC. For Pleasant View City, on average, 81 gpd/ERC, or 31%, is attributable to losses.

Table 3.5 – Consumption versus Production

	Consumption (gpd/ERC)	Production (gpd/ERC)
2013	185.6	268.1
2014	181.2	251.3
2015	174.0	260.8
2016	173.8	258.6
Average	**178.6**	**259.7**

3.2 Sizing Requirements

3.2.1 Culinary

The Utah Department of Environmental Quality's Division of Drinking Water ("DDW") provides standard minimum requirements for sizing water infrastructure, including sources, storage, and distribution facilities. A summary of the DDW requirements per component is shown in the following table:

Table 3.6 – DDW Component Sizing Requirements (Culinary)

Component	Measurement	DDW Requirement
Sources	• Flowrate • Volume	• 800 gpd/ERC for Peak Day Demand • 146,000 gallons/ERC for Average Yearly Demand (400 gpd/ERC)
Storage Facilities	• Volume	• 400 gallons/ERC • 60,000 gallons fire storage
Distribution System	• Pressure	• 20 psi during conditions of fire flow and fire demand experienced during peak day demand • 30 psi during peak instantaneous demand • 40 psi during peak day demand

3.2.2 Irrigation

For irrigation sizing, the Utah Administrative Code ("UAC") references a map entitled "Irrigated Crop Consumptive Use Zones and Normal Annual Effective Precipitation, Utah." According to the map, Pleasant View City falls within Zone 4, which, according to Table 510-3 of the UAC, requires 3.96 gpm/irrigated acre for peak day demand and 1.87 ac-ft/irrigated acre for average yearly demand.

The irrigation users in Pleasant View City are located in and near the Pole Patch subdivision. By agreement, these customers are limited to irrigating one-third (⅓) of an acre each, which is mainly lawns and landscaping. Therefore, according to the UAC, these users should be assessed 1.32 gpm for peak day demand (3.96 x ⅓ = 1.32) and 0.623 ac-ft/connection for average yearly demand. However, based on four (4) years of metered usage data, it was found that these connections used an average 1,800 gpd/connection during the 183 day irrigation season. This equates to an average yearly demand of 1.01 ac-ft/connection and a peak day demand 2.50 gpm/connection, which was calculated by applying a peaking factor of two (2) to the average flow.

It is clear that the metered water usage exceeds the State's minimum sizing requirements; therefore, the actual usage, at a minimum, should be used when analyzing irrigation water demand. Additionally, to account for usage variation from year-to-year, a safety factor of 1.5 has been applied to these averages. This is summarized in the following table.

Table 3.7 – Irrigation Sizing Comparison

	Average Yearly Demand (ac-ft/ irr. acre)	Average Yearly Demand (ac-ft/conn.) (⅓ acre)	Peak Day Demand (gpm/ irr. acre)	Peak Day Demand (gpm/conn.) (⅓ acre)
Utah Administrative Code	1.87	0.623	3.96	1.32
Actual Usage	-	1.01	-	2.50
Actual x 1.5 safety factor		**1.515**	-	**3.75**

As clearly seen in the table, the calculated use is considerably higher than the flow calculated using the UAC parameters. Therefore, the values shown below have been used as the minimum sizing requirements for irrigation:

- 5,400 gpd/connection (3.75 gpm/connection) for peak day demand
- 494,000 gal/connection (1.515 ac-ft/connection) for average yearly demand

3.2.3 Exception to the Rule

A variance from these sizing requirements can be obtained from the DDW when certain criteria are met. Utah Administrative Code R309-510-5 outlines the requirements.

> *"Depending on the reduction being sought, the supporting information may include actual water use data representing peak day demand, average day demand for indoor and irrigation uses, fire flow requirements established by the local fire code official, etc. Each reduction request and supporting information will be reviewed on a case-by-case basis because of the wide variety of factors to be considered, such as water system configuration and size, built-in redundancy, water user type, safety factors, method and quality of data collected, water losses, reliability of the source, etc."*

The DDW has developed guidance documents to be used when considering a request for reduction in source and/or storage requirements. These guidance documents are found in Appendix A.

A request for reduction typically requires water entities to expend upfront costs for additional metering and SCADA equipment, collect data for three (3) years, and analyze the collected data, and then submit a variance request. This process does not guarantee that a reduction in sizing parameters will be granted.

Therefore, for the purposes of this Plan, the standard DDW requirements for culinary usage have been used, and the City data plus a safety factor have been used for irrigation use.

3.3 Growth Estimates

3.3.1 Population Projections

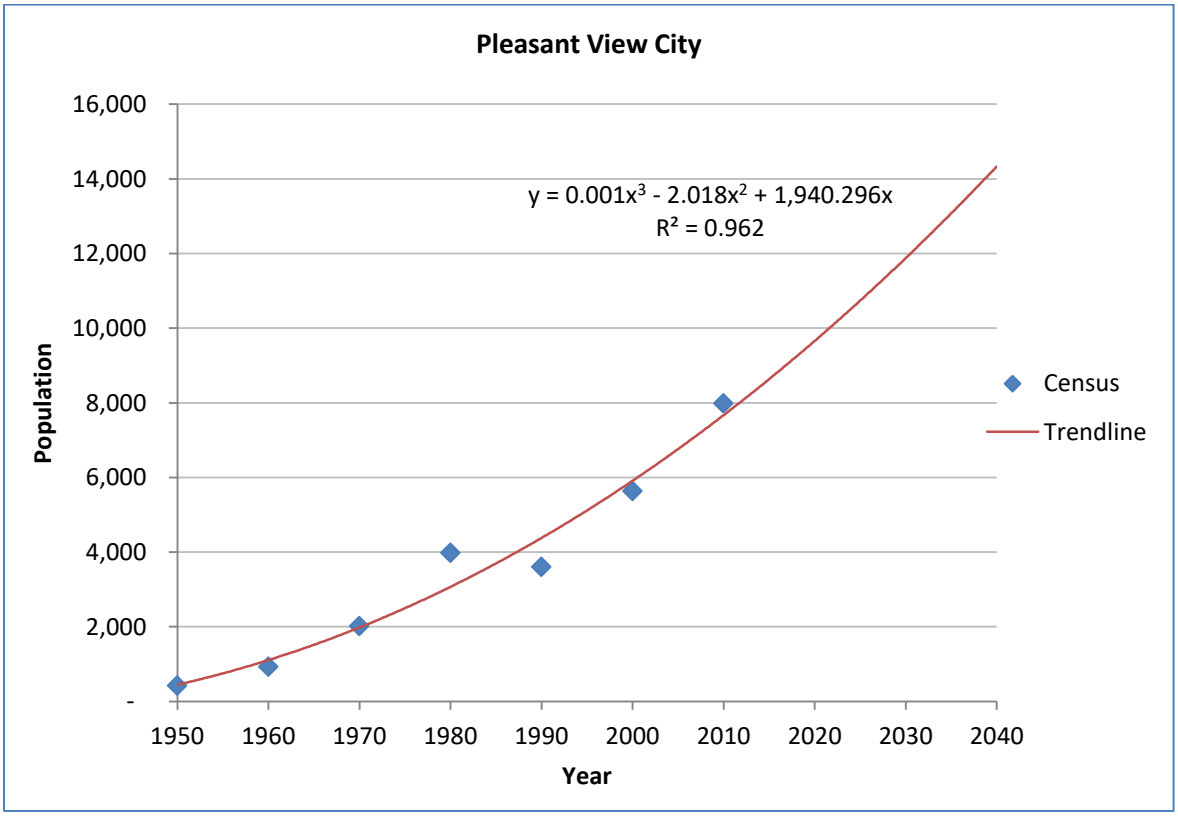
Historical population data was gathered from official US Census Bureau data. The last 70 years of census data and the average yearly growth rate are shown in Table 3.8.

Table 3.8 – Historic Population Data and Growth Rate

Year	Census	Average Growth Rate per Year
1950	420	-
1960	927	12.07%
1970	2,021	11.80%
1980	3,983	9.71%
1990	3,603	-0.95%
2000	5,632	5.63%
2010	7,979	4.17%

One way to project the population is by plotting the historic population and mathematically estimating a curve to best fit the data. The following figure displays the findings:

Figure 3.9 – Historic and Projected Population



The regression equation for the growth trendline is shown in the figure. The R^2 value, shown below the equation, represents how well the trendline fits the data, with an R^2 value of 1.0 being a perfect fit. The trendline was found to be fairly accurate with an R^2 value of 0.962.

The projected populations from the 2009 Pleasant View City General Plan were compared to the projections issued by the Governor's Office of Management and Budget ("GOMB") and the regression equation of the trendline.

Table 3.10 – Population Projections

Year	2009 General Plan	GOMB	Regression Equation
2020	10,951	9,204	9,656
2030	12,935	11,876	11,875
2040	16,258	15,626	14,330

The above data shows that the General Plan contains the most aggressive growth estimates and the regression equation resulting in the least aggressive. Note that the General Plan did not have the benefit of the 2010 census at the time of its development. **For the purposes of this Plan, the GOMB projections have been used.**

3.3.2 ERC Projections and "Build-Out"

The ERC concept can also be applied to undeveloped land in order to estimate the amount of water needed in areas of growth or redevelopment. ERC values have been applied to the undeveloped areas on the City's Future Land Use Map within the existing and future water service area. Non-residential water uses will vary greatly and can be difficult to estimate; therefore, assumptions were made in order to estimate the ERC values in these areas. Using the Future Land Use Map, 3,141 ERCs have been assigned to the developable land in the City. Irrigation use was not considered. All the expected future ERCs are shown in Exhibit 3.1.

Using updated information for 2016 in conjunction with the projected ERCs shown in Exhibit 3.1, projected residential and non-residential ERCs, and the projected total ERCs are shown in Table 3.11. Since part of Pleasant View City is serviced by Bona Vista, the population does not directly correlate with the serviced ERCs; however, the growth rate can be applied to the current number of ERCs to project the future ERCs serviced by the water system. Following the same growth trend as the population, the projected growth of ERCs was determined.

Pleasant View served 2,539 non-irrigation (domestic) ERCs in 2016. Based on the projected growth, Pleasant View will add approximately 3,123 ERCs by 2050, which nearly equals the 3,141 ERCs assigned to developable ground, for a total of 5,662 ERCs. This development will take the City to its "built-out" condition, meaning that no more land is available to development. This does not take into consideration higher density redevelopment. Due to changes in the economy, growth rate, and land use, it is recommended that this plan be reviewed every five (5) to seven (7) years.

Table 3.11 – Population and ERC Projections[1]

Year	Population Projection	Annual Growth Rate	Projected Residential ERCs	Projected Other ERCs	Projected Total ERCs[1,2]	Additional ERCs from 2016
2010	7,979[3]	-	n/a	n/a	n/a	
2015	8,592	1.54%	2,038[4]	445[4]	2,483[4]	
2016	-	-	-	-	2,539[4]	-
2020	9,204	1.42%	2,138	477	2,660	121
2025	10,540	2.90%	2,500	546	3,046	507
2030	11,876	2.54%	2,817	615	3,432	893
2035	13,751	3.16%	3,262	712	3,974	1,435
2040	15,626	2.73%	3,706	809	4,516	1,977
2045	17,497[5]	2.40%	4,150	906	5,056	2,517
2050[5] (Build-out)	19,593[5]	2.40%	4,647	1,015	5,662	3,123

[1] *Non-irrigation*
[2] *Yearly Average*
[3] *Census data*
[4] *Actual*
[5] *No GOMB available; estimated using average growth rate from previous years.*

4.0 WATER SOURCES

4.1 Water Source Requirements

Utah Administrative Code R309-510-7 states:

"Sources shall legally and physically meet water demands under two conditions:

(a) The water system's source capacity shall be able to meet the anticipated water demand on the day of highest water consumption, which is the peak day demand.

(b) The water system's source capacity shall also be able to provide one year's supply of water, which is the average yearly demand."

The rule then differentiates between indoor water use and irrigation use. As described in Sections 3.2.1 and 3.2.2, the following criteria were used:

Table 4.1 – Water Source Requirements

Type	Peak Day Demand	Average Yearly Demand
Domestic (State standards)	800 gpd/ERC	146,000 gal/ERC (0.448 ac-ft/ERC)
Irrigation (City data plus 1.5 safety factor)	5,400 gpd/conn.	494,000 gal/conn. (1.515 ac-ft/conn.)

4.2 Existing Water Sources

4.2.1 Water Rights

Pleasant View obtains its water from several sources: potable water wells and developed springs (owned and operated by the City), and, soon, Weber Basin. Appendix B contains water rights data for each of the City's sources. The following table contains a summary of the water rights information.

Table 4.2 – Existing Water Rights

Name of Source	Priority Date	Water Right No.	Flow – Nature of Use	Max. Approved Production (ac-ft/yr)
Three Springs	2002	a26328 (35-11440)	Municipal	69.8
Underground water well	1966	a4918 (35-1168)	Municipal	186.78
Underground water wells (2)	2014	a40216 (35-1172)	Municipal	855
Alder Creek Spring	1999	a23833 (35-284)	Municipal	223.63
Jessie Creek Well	2014	a29692 (35-4429)	Municipal	2171.94

Name of Source	Priority Date	Water Right No.	Flow – Nature of Use	Max. Approved Production (ac-ft/yr)
Creek Well)				
Little Missouri, Alder Creek, and Big Hollow Springs	2002	a26329 (35-7054, 35-069, 35-7070)	Municipal	556
Weber Basin	2016 (contract date)	N/A	Contract Water	275.00
			TOTAL	**4,866.65**

4.2.2 Wells/Springs

While a water right may be for 855 ac-ft/yr, **the source can be rated only for which it produces safely and consistently**. Table 4.3 lists the capacities of the City's producing water sources, as found at the end of 2016:

Table 4.3 – Existing Well/Spring Production Capacity[1]

Water Source (Common Name)	Average Flow Rate Capacity			Peak Flow Rate Capacity	
	gpm	MGD	ac-ft/yr	gpm	MGD
Mac Wade Well	317	0.456	511	397	0.572
Jessie Creek Well	25	0.036	40	400	0.576
Alder Creek Well	100	0.144	161	230	0.331
Alder Creek Spring	175	0.252	282	175	0.252
Little Missouri Spring[2]	30	0.043	48	30	0.043
Well #4 (Hell's Well)	60	0.086	97	300	0.432
TOTAL	**807**	**1.162**	**1,302**	**1,532**	**2.206**

[1]Sources of information include: Technical Memorandum (Hansen, Allen & Luce, 2014); Alder Well test pump of rehabilitated well (2016); Jessie Creek pump rehabilitation and 24-hour flow test (June 2017).
[2]Spring is currently offline due to source protections issues. It is expected to be back online in late 2017. Spring flow meter installed 2017; rating of spring capacity may increase.

It should be noted that the table above only considers the water sources that are currently utilized in the culinary water system. Other water rights and water sources are and will be used throughout the City for other municipal uses. Additionally, they may be used if contracting with WBWCD in the future.

4.2.3 WBWCD Contract

In early 2016, Pleasant View City purchased water from WBWCD. Currently, the City is contracted for a total of 275 ac-ft/year (248,500 gpd or 170 gpm average). The Weber Basin contract contains provisions for penalties when the maximum daily flow rate (two [2] times the average flow rate) is exceeded. This would equate to pumping 491,000 gpd or 340 gpm for 24 hours continually.

The Weber Basin source of water under this contract is a well located at approximately 830 West 2550 North. Since the well is not running continually, water supplied may be wheeled through Bona Vista's distribution system. Due to this configuration, Bona Vista's system capability had to be taken into consideration when designing the City's new pump station. Bona Vista determined that the maximum flowrate their system could provide was 300 gpm. Therefore, the pump station will contain controls to limit the maximum flowrate to 300 gpm.

At the time of this report, the city-owned booster pump station and connecting water lines were under construction. Once complete, Pleasant View City will be able to utilize this water source. **For the purposes of this report, this water source is considered eminent and has been modeled as though it is already part of the system**, with an average flow rate of 170 gpm with a peak flow rate of 300 gpm.

4.2.4 Total Source Capability

Table 4.4 provides a summary of the water sources. Currently, the City's water sources are capable of yielding an average of 1,577 ac-ft/yr with a peak flow rate of 2.638 MGD.

Table 4.4 –Water Source Production Totals

Water Source	Average Flow Rate Capacity			Peak Flow Rate Capacity	
	gpm	MGD	ac-ft/yr	gpm	MGD
Springs/wells	807	1.162	1,302	1,532	2.206
WBWCD Contract Water (2017)	170	0.245	275	300	0.432
TOTAL	**977**	**1.408**	**1,577**	**1,832**	**2.638**

4.3 Water Source Requirements – Existing and Future

4.3.1 Average Yearly Demand

In 2016, the City's sources' annual capacities were short of the required annual average source requirements. Since then, additional flow from Alder Creek Spring has been brought online, the Alder Well has been rehabilitated, and the Jessie Creek well pump has been repaired. By the end of 2017, the Weber Basin connection will be complete and online.

Shown in Tables 4.5a and 4.5b are the results of the application of 1) the State's source requirement of 146,000 gal/ERC (0.448 ac-ft/ERC) for the average yearly demand for the existing ERCs and 2) the calculated 1.515 ac-ft/connection for the City's 33 irrigation users (from Table 3.7), and compares that total source requirement to the available source capacities in 2016 and 2017.

Table 4.5a –2016 Average Annual Water Source Requirement vs. Capacity

2016	Domestic	Irrigation	TOTALS (ac-ft)
Available Source Capacity			**1,116**
ERCs or connections	2,539	33	
Annual Average Source Requirement (ac-ft/ERC or ac-ft/conn.)	0.448	1.515	
Total Annual Average Source Requirement (ac-ft)	1,137	50	**1,187**
		Excess Capacity (ac-ft)	**-71**

Table 4.5b –2017 Average Annual Water Source Requirement vs. Capacity

2017	Domestic	Irrigation	TOTALS (without WB connection) (ac-ft)	TOTALS (with WB connection (ac-ft)
Available Source Capacity			**1,302**	**1,577**
ERCs or connections (as of May 2017)	2,554	33		
Annual Average Source Requirement (ac-ft/ERC or ac-ft/conn.)	0.448	1.515		
Total Annual Average Source Requirement (ac-ft)	1,144	50	**1,194**	**1,194**
		Excess Capacity (ac-ft)	**108**	**383**
		Excess Capacity (ERCs)	**241**	**855**

As shown in Table 4.5a, during 2016, the City was not in compliance with the State's average annual requirements (1,116 ac-ft available vs. 1,187 ac-ft required). However, after bringing the additional arm of Alder Creek Spring online and rehabilitating the Alder Well and the Jessie Creek well pump, and once the Weber Basin connection is complete, **the City will have 383 ac-ft, or 855 ERCs, of excess capacity.**

In order to determine whether the City has enough water source to meet the future average yearly demand, ERC and irrigation demand projections were made. The State's source requirement of 0.448 ac-ft/ERC was applied to the projected domestic ERCs and the more conservative 1.515 ac-ft/connection was applied to the projected irrigation connections. Assuming that all of the City's sources stay online and maintain their average annual flows, **the City should be able to meet the average annual requirement until about 2029**. This is illustrated in the following table.

Table 4.6 – Projected Average Yearly Demand

Year	Projected Domestic ERCs	Total Projected Domestic Use (ac-ft/yr)	Projected Irrigation Con-nections	Total Projected Irrigation Use (ac-ft/yr)	Total Projected Use (ac-ft/yr)	Existing Total Source Capacity (ac-ft/yr)	Demand vs. Source (ac-ft/yr)
2015[1]	2,483	1,112	33	50	1,162	1,116	-46
2020	2,660	1,192	34	52	1,243	1,577	334
2025	3,046	1,365	35	53	1,418	1,577	159
2030	3,432	1,538	36	55	1,592	1,577	-15
2035	3,974	1,780	37	56	1,836	1,577	-259
2040	4,516	2,023	38	58	2,081	1,577	-504
2045	5,057	2,265	39	59	2,324	1,577	-747
2050 (build-out)	5,662	2,537	40	61	2,597	1,577	-1,020

[1]Actual

With an existing capacity of 1,577 ac-ft and 2,597 ac-ft needed for build-out, **an additional 1,020 ac-ft of water will be needed to support full build-out of the City**. (This takes into consideration the 275 ac-ft of contract water not yet connected into the system.) This could be done through additional "Take or Pay" contracts with WBWCD; however, we recommend a change in the approach to future water source acquisition. A detailed discussion about this alternate approach is found in Section 4.4.1.

4.3.2 Peak Day Demand

Similar to the tables showing the average annual water source requirement versus capacity, Tables 4.7a and 4.7b show the results of the application of the State's source requirement of 800 gpd peak day demand for the existing ERCs and the calculated 3.75 gpm/connection for the City's 33 irrigation users (from Table 3.7), and compares that total source requirement to the available source capacities in 2016 and 2017.

Table 4.7a –2016 Peak Day Demand Requirement vs. Capacity

2016	Domestic	Irrigation	TOTALS (MGD)
Available Peak Flow Rate Capacity			**1.695**
ERCs or connections	2,539	33	
Peak Day Demand Requirement (gpd/ERC or gpd/conn.)	800	5,400	
Total Peak Day Demand Requirement (MGD)	2.031	0.178	**2.209**
		Excess Capacity (MGD)	**-0.514**

Table 4.7b –2017 Peak Day Demand Requirement vs. Capacity

2017	Domestic	Irrigation	TOTALS (without WB connection) (MGD)	TOTALS (with WB connection (MGD)
Available Peak Flow Rate Capacity			**2.206**	**2.638**
ERCs or connections (as of May 2017)	2,554	33		
Peak Day Demand Requirement (gpd/ERC or gpd/conn.)	800	5,400		
Total Peak Day Demand Requirement (MGD)	2.042	0.178	**2.221**	**2.221**
		Excess Capacity (MGD)	**-0.015**	**0.416**
		Excess Capacity (ERCs)	**-**	**520**

As shown in Table 4.7a, during 2016, the City was significantly short of meeting the peak day demand as required by the State. However, after bringing the additional arm of Alder Creek Spring online and rehabilitating the Alder Well and the Jessie Creek Well pump, and **once the Weber Basin connection is complete, the City will have 0.416 MGD, or 520 ERCs, of excess capacity.**

In order to determine whether the City has enough water source to meet peak day demand, ERC and irrigation demand projections were made. The State's source requirement of 800 gpd/ERC was applied to the projected domestic ERCs and 3.75 gpm/connection was applied to the projected irrigation connections. Assuming that all of the City's sources are able to maintain their listed peak flows, **the City should be able to meet the peak day demand requirement until about 2025**. This is illustrated in the following table.

Table 4.8 – Projected Peak Day Demand vs. Source Summary

Year	Projected Domestic ERCs	Projected Domestic Peak Day Demand[2] (MGD)	Projected Irrigation Con-nections	Projected Irrigation Peak Day Demand (MGD)	Total Projected Peak Day Demand (MGD)	Existing Maximum Available Flow Rate[3] (MGD)	Demand vs. Source (MGD)
2015	2,483[1]	1.986	33	0.178	2.165	1.695[4]	-0.470
2020	2,660	2.128	34	0.184	2.311	2.638	0.327
2025	3,046	2.437	35	0.189	2.626	2.638	0.012
2030	3,432	2.746	36	0.194	2.940	2.638	-0.302
2035	3,974	3.179	37	0.200	3.379	2.638	-0.741
2040	4,516	3.613	38	0.205	3.818	2.638	-1.180
2045	5,057	4.045	39	0.211	4.256	2.638	-1.618
2050 (build-out)	5,662	4.530	40	0.216	4.746	2.638	-2.108

[1] *Actual data*
[2] *ERCs x 800 gpd/ERC ÷ 1,000,000 gal/MG*
[3] *Existing total maximum flow rate available from all sources (wells, springs, and WBWCD) from Table 4.4.*
[4] *Prior to 2016/2017 source rehabilitations and WBWCD connection*

The City's water sources combined with the Weber Basin connection are able to produce a peak flow of 2.638 MGD. **An additional 2.108 MGD will be needed to support the 4.746 MGD needed at full build-out of the City**.

4.3.3 Summary

Once the Weber Basin connection is online, the City will be compliant with the State regulations regarding Average Annual Demand and Peak Day Demand, as described in the previous two (2) sections. Shown in the following summary table are the excess ERCs that the City has under these conditions. The Peak Day Demand is the controlling limitation, meaning that there are less excess ERCs related to Peak Day Demand than Average Annual Demand. It is highly recommended that the City's water sources be closely monitored for changes in their production capacity.

Table 4.9 – 2017 Excess Capacity Summary

As of June 1, 2017	Excess Capacity Without WB connection	With WB connection	
Average Annual Demand	108 ac-ft 241 ERCs	383 ac-ft 855 ERCs	
Peak Day Demand	none	0.416 MGD 520 ERCs	Controlling Limitation

4.3.4 Approved, yet Unbuilt, ERCs

Prior to enacting the Adequate Public Facilities Ordinance ("APFO"), several subdivisions were already in the subdivision approval process. Additionally, a couple of other subdivisions were either operating under a development agreement or other circumstance to permit them to move forward without having to meet the APFO. The total number of ERCs associated with those subdivisions was approximately 406. In 2013, approximately 320 of those lots were undeveloped. As of June 1, 2017, only 43 lots remain unbuilt. These 43 lots do not account for the numerous other empty legal parcels of land scattered throughout the City. These empty lots have not been considered in the count of the existing ERCs; only currently metered customers were included.

4.4 Future Water Source Needs

Currently, the City has adequate source capacity to meet the existing demands. As explained in Sections 4.3.1 and 4.3.2, it is anticipated that the City will need additional source(s) around the year 2025. We recommend that the City investigate new source options ahead of 2025 since it can take several years to obtain the proper approvals and develop a new water source. Alternatively, the City can continue to purchase water from WBWCD. Two (2) purchase options are described in the following section. It is still recommended that the City begin the process to acquire additional water several years in advance, as WBWCD may need time to develop additional sources or conveyance systems.

4.4.1 WBWCD Water Purchase Approaches

The City's current contract with WBWCD is a "Take or Pay" contract. This type of contract specifies that WBWCD commits to supplying the contract amount of water, and the City agrees to pay for the total contract amount annually, whether or not it is all used.

The cost per acre foot of water is made up of two portions: the "Capital" portion and the "Operation and Maintenance" ("O&M") portion. The Capital portion pays for the construction part of developing that associated water. The O&M portion pays for the ongoing costs associated with the equipment and labor necessary to deliver the water. The Capital portion is a fixed cost, but the O&M portion varies every year.

The 2017 price for District III Take or Pay Contract water is $538.70/ac-ft. WBWCD expects this block of water to last until about 2026, then they will start selling District IV water. Preliminary work puts the estimated cost of District IV water to be about $765.00/ac-ft.

Take or Pay contracts require the purchaser to pay a high upfront capital cost. Weber Basin has developed an alternative to this contracting method, known as a Capital Charge Contract. This contract allows a city or service district to essentially adopt and assess WBWCD's impact fee. Then, with the issuance of each new building permit, the building permit applicant pays a water impact fee that includes the WBWCD impact fee. Doing this automatically contracts the City for the amount of water associated with the number of ERCs for the building permit (1 ERC = 0.448 ac-ft/yr). This approach covers both residential and non-residential uses. Collected impact fees are passed on to WBWCD, who then assesses and totals the amount of water being added to the City's annual contract. Because the capital portion of the water is paid for by the impact fee, the City is only responsible for the O&M

portion of the water on an annual basis thereafter. Table 4.10 below gives a brief summary of this method compared to the current rate of Take or Pay contracts.

Table 4.10 – WBWCD Water (District III Costs)

Type of Contract	Total Cost[1] (per ac-ft)	Total Cost[1] (per ERC)	WBWCD Impact Fee[2] (per ERC)	Annual Cost[1] (paid by City)	
				(per ac-ft)	(per ERC)
Take or Pay Contract	$539	$241	N.A.	$539	$241
Impact Fee Pass-Through Contract	N.A.	N.A.	$4,363	$104	$47

[1]Cost is current as of the date of this report. WBWCD annually evaluates and updates these costs.
[2]The Impact Fee is a one-time fee paid by owner at the time of building permit issuance.
[3]The ERC basis is 1 ERC = 0.448 ac-ft.

We recommend that the City investigate this Impact Fee Pass-Through method of purchasing additional water from WBWCD for the followings reasons:

1. This method eliminates the need to guess when growth and development will occur in conjunction with the timing of purchasing additional water source. The City only acquires and pays for as much water as is needed.
2. The City does not start paying for the water until a building permit is issued, the home is built, and the connection is made. This means that the City no longer has to "float" the cost of the water before a utility fee is generated to cover the on-going costs, which could be years.
3. It allows for new development to "pay their way" as it relates to the acquisition of new water source rather than burdening the existing residents with higher user rates.
4. This method is also a benefit to new development as it will keep the annual cost of water significantly lower than the Take or Pay contract approach.

It is recommended that the City enter into this now, but include a provision that it does not go into effect until the City runs out of its existing water. This can be done by providing an annual update to Weber Basin stating the existing source capacity versus demand, which would give the remaining available ERCs. It can then be estimated when the contract would go into effect.

4.4.2 Other Water Source Needs

Whether the City chooses to purchase future water from Weber Basin or not, existing sources must be maintained. Several of the City's wells and springs are in need of rehabilitation. The status of each water source is shown in the following table.

Table 4.11 – Existing Water Source Status

Water Source (Common Name)	Date of Original Development	Date of Last Rehabilitation	Latest Evaluation	Recommendation[1]
Mac Wade Well	1968	unknown	2014	Monitor static water level
Jessie Creek Well	2004	unknown	2004 (pump test)	Study long-term pumping and recovery patterns
Alder Creek Well	1981	2016	2016	Monitor iron level
Alder Creek Spring	1944	unknown	2017	Monitor
Little Missouri Spring	unknown	unknown	unknown	Monitor[2]
Well #4	2014	n/a	2014	n/a[2]

[1]From Water Source Evaluation Technical Memorandum, Hansen Allen & Luce, Inc., February 19, 2014
[2]2017 project included installation of flow meter

4.5 Projects

In regard to the City's current and future water sources, the following projects are recommended, in order of recommended priority:

4.5.1 Existing Water Source Deficiencies

	Project	Description
1	Little Missouri Spring – source investigation, delineation, and rehabilitation	Source is currently offline due to unknown source location and lack of secure source protection zone. • Investigate and identify the location of the source and update source delineation; • Secure land rights to protect source; and • Rehabilitate source collection.

4.5.2 Existing Water Source Maintenance Projects

	Project	Description
1	Water Sources Flow Evaluation • Mac Wade Well • Jessie Creek Well • Alder Creek Spring • Little Missouri Spring	Add flow meters to existing sources (where applicable) to obtain accurate source production flows. Water meters at the sources will provide more accurate data for water source capacities and to prove up on water rights.
2	Customer Water Meters Replacement (ongoing project)	Implement a program to incrementally replace old customer water meters. New water meters will provide more accurate data for water accounting and billing purposes.
3	Alder Creek Spring Evaluation and Rehabilitation	Investigate Alder Creek Spring source and rehabilitate if necessary.
4	Well Pumps Variable Frequency Drives • Mac Wade Well • Well #4 • Alder Creek Well	Add variable frequency drives (VFDs) to well pumps for added control and flexibility. VFDs will also provide soft starts and stops which will to help mitigate instantaneous electrical draw and thus reducing the peak demand charge and reduce water hammer, respectively.

4.5.3 Future Water Source Deficiencies

	Project	Description
1	WBWCD Contract for Impact Fee Pass-Through	In lieu of developing new groundwater sources, this project would put in place the recommendation of adopting the Impact Fee Pass-Through approach for acquiring additional water source from WBWCD on an as-needed basis, as discussed in Section 4.4.1. See Section 6.5.3 for infrastructure related to this project.

5.0 WATER STORAGE

5.1 Water Storage Requirements

Utah Administrative Code R309-510-8 states:

> *Each public water system, or storage facility serving connections within a specific area, shall provide:*
> *(a) equalization storage volume, to satisfy average day demands for water for indoor use and irrigation use,*
> *(b) fire flow storage volume, if the water system is equipped with fire hydrants intended to provide fire suppression water or as required by the local fire code official, and*
> *(c) emergency storage, if deemed appropriate by the water supplier or the Director.*

Based on Table 510-4 of the aforementioned rule, 400 gallons/ERC of storage is required for equalization storage for indoor or domestic use.

Using Table 510-5 of the same rule, 2,848 gallons/irrigated acre is required for irrigation storage. However, as described in Section 3.2, the irrigation users of the Pleasant View water system use considerably more water than the State Code estimates. Equalization storage is used to mitigate the peak flows during a day; therefore, using the State's requirements of 3.96 gpm/irr. acre for peak day demand, we can calculate how long of a peak flow equates to the required storage:

$$2{,}848\,\frac{gal}{irr.\,acre} \div 3.96\,\frac{gpm}{irr.\,acre} = 720\,min$$

Applying this timeframe to what we have deemed to be the peak day demand flow for each irrigation connection:

$$3.75\,\frac{gpm}{conn.} \times 720\,min = 2{,}700\,\frac{gal}{conn.}$$

By comparison, the State requires 2,848 gal/irrigated acre, while we have calculated 2,700 gal/conn. or 8,100 gal/irrigated acre, since the Pole Patch residents are limited to irrigating one-third of an acre (2700 x 3 = 8100). Therefore, for the purposes of this report, we will use a storage requirement of 2,700 gallons/connection for the irrigation users.

Fire flow storage may be dictated by the local fire official, or, if none is available, a minimum of 1,000 gpm for 60 minutes shall be used (60,000 gallons). The North View Fire Marshal has indicated the minimum was acceptable.

5.2 Existing Water Storage

The Pleasant View City water system operates eight (8) pressure zones plus two (2) subzones within pressure zone 3. Zones are provided so that pressure can be generally kept within a desired operating pressure range. The zones are separated by pressure reducing valves, or PRVs, to regulate the pressure

at the water travels down gradient. In order for water storage tanks to service a zone, the tank must be located above that zone. While not all of Pleasant View's tanks can service all zones, the tanks are generally arranged to provide storage for each zone or above.

Exhibit 5.1 illustrates the locations of the City's water storage reservoirs. Table 5.1 below lists the reservoirs' capacities and which pressure zones each reservoir feeds. Additionally, Pole Patch HOA owns and operates two (2) water storage reservoirs with a combined volume of 165,000 gallons. While not counted towards the City's inventory, this storage helps to mitigate instantaneous peak flows in the Pole Patch service area.

Table 5.1 – Existing Water Storage

Name	Location	Direct Feeds to Zone	Downfeeds to Zones	Capacity (gal)
Jessie Creek	North of Pole Patch	8	All, except 7	800,000
Macs	Burnham Dr.	6	6 and below	200,000
Well #4	Above 4575 N.	6	6 and below	500,000
Alder Creek #1	End of 4575 N	7	7 and below	500,000
Alder Creek #2	End of 4575 N	6	6 and below	200,000
Little Mo.	4150 N 1050 W	3b	3b, 2, 1	70,000
500 West	3925 N 500 West	3	3, 2, 1	300,000
			TOTAL	**2,570,000**

The current water storage situation is shown in Table 5.2 in the following section.

5.3 Future Water Storage Needs

Table 5.2 details the projected storage required from current through buildout, including required fire storage of 60,000 gallons (1,000 gpm for 60 minutes).

Table 5.2 – Projected Required Storage Capacity

Year	Projected Domestic ERCs	Required Domestic Storage (MG)	Projected Irrigation Connections	Required Irrigation Storage (MG)	Required Fire Storage (MG)	Total Required Storage (MG)
2017	2,554[1]	1.022	33[1]	0.089	0.060	1.171
2020	2,660	1.064	34	0.092	0.060	1.216
2025	3,046	1.218	35	0.095	0.060	1.373
2030	3,432	1.373	36	0.097	0.060	1.530
2035	3,974	1.590	37	0.100	0.060	1.749
2040	4,516	1.806	38	0.103	0.060	1.969
2045	5,057	2.023	39	0.105	0.060	2.188
2050	5,662	2.265	40	0.108	0.060	2.433

[1] *Actual*

Comparing the existing (2.570 MG) and projected (2.433 MG) required storage volume, it appears evident that **the system has and will have adequate storage through build-out;** however, depending on where future water sources are located, **additional storage may be needed** for operational capabilities and to convey water from the source location to higher elevation points of delivery. See section 5.4 for additional information.

5.4 Pending Water Storage

In 2016, Pleasant View City entered into a three-way Memorandum of Understanding ("MOU") with Weber Basin and Bona Vista Improvement District. This MOU outlined the operational limitations placed on Pleasant View's new pump station since supply water will be wheeled through Bona Vista's distribution system when Weber Basin's well is not actively pumping. Essentially, this limited Pleasant View's maximum pump rate to 300 gpm. Additionally, in order to prevent frequent pumping starts and stops, to normalize the pumping rate, and to have the capability to pump during non-peak times, it was also agreed that Pleasant View would construct a new reservoir on Zone 1 (the zone to which the pump station feeds). This reservoir will also allow the City to more fully utilize the purchased contract water. The City agreed to construct a 400,000 gallon reservoir by June 2019.

Pressure zone 1 currently serves approximately 620 ERCs, with an additional 1,200 estimated future ERCs based on the Future Land Use Map. It is likely that future purchased water from Weber Basin will be provided at or near Zone 1. Therefore, in order to make full use of purchased water and to service future development, approximately 1,200,000 gallons of storage is recommended in Zone 1 in order to transfer water to higher zones for future development. However, creating too much storage too soon creates operational issues such as loss of chlorine residual due to low turnover of the water. Therefore, **it is recommended that a 600,000 gallon reservoir be constructed now** to comply with the contractual obligations and for more efficient operation of the pump station, with provisions made to add a second 600,000 gallon reservoir on the same site in the future when it becomes warranted.

5.5 Bona Vista Storage Reservoir

In 2015, Pleasant View hired Sunrise Engineering ("Sunrise") to conduct a source and storage feasibility study. In their report, Sunrise analyzed the feasibility of obtaining water from various sources, one of which was purchasing Weber Basin water and wheeling in through Bona Vista's distribution system. This particular option included the purchase of the Bona Vista 1 MG Storage Reservoir (Sunrise Engineering, Inc., December 29, 2015). This reservoir's maximum water elevation, or hydraulic grade line ("HGL"), is 4,826-ft, putting it in between two of the City's pressure zones with HGLs of 4,960-ft and 4,781-ft. Since this reservoir falls between pressure zones, it cannot be directly connected to the distribution system. The reservoir could be connected to zone 3 through a pressure reducing valve, which is inefficient. Much of the energy and cost spent pumping water up to this reservoir would automatically be wasted as the water flows through the PRV to reduce the pressure, or energy, of the water. Based on Sunrise's report, out of five (5) water source options considered, this option has the highest annual cost and second highest cost per acre-foot. Overall, purchasing a hydraulically inefficient, 20-year old reservoir and pump station is **not recommended**.

5.6 Projects

From a holistic view, the City is compliant with the State's regulations regarding storage volume. However, as described in the previous sections, the City may need additional storage for conveyance purposes, and it has obligated itself to construct a new reservoir on zone 1.

The 2016 sanitary survey performed by the Weber-Morgan Health Department on behalf of the DDW revealed deficiencies on several of the existing tanks. All of the deficiencies are related to the overflows. The deficiency identified at the Macs tank is considered a high priority and is being budgeted for the 2017/2018 Fiscal Year.

In regard to the City's current and future water storage infrastructure, the following projects are recommended, in order of recommended priority:

5.6.1 Existing Water Storage Deficiencies

	Project	Description
1	Overflow Modifications • Macs • Little Mo • 500 West	Modify overflows on reservoirs to be compliant with regulations, including but not limited to installing new overflow weirs in the reservoirs, constructing an air gap, and discharging to a storm drain of adequate capacity.

5.6.2 Existing Water Storage Maintenance Projects

	Project	Description
1	Alder Creek Reservoir Rehabilitation	Seal cracks in existing reservoir; add meter
2	Reservoir-Distribution System Meters • Macs • Alder 1 • Alder 2 • Well #4	Add meters to reservoir-distribution system connections at each of the reservoirs to meter water being delivered to the distribution system.

5.6.3 Future Water Storage Deficiencies

	Project	Description
1	Zone 1 Reservoir #1 and Related Infrastructure	Locate and purchase property and easements; design and construct new 600,000 gallon Zone 1 reservoir and transmission line.
2	Zone 5 Reservoir and Related Infrastructure	See Sections 6.4 and 6.5.3.
3	Zone 1 Reservoir #2	Design and construct second (2nd) 600,000 gallon Zone 1 reservoir.

6.0 WATER DISTRIBUTION SYSTEM

6.1 Water Distribution System Requirements

Utah Administrative Code sections R309-105 and R309-510-9 describe the minimum requirements that a public water distribution system must meet.

Specifically, R309-105-9 (Minimum Water Pressure) discusses minimum water pressures under specific conditions:

> *(1) Unless otherwise specifically approved by the Director, no water supplier shall allow any connection to the water system where the dynamic water pressure at the point of connection will fall below 20 psi during the normal operation of the water system. Water systems approved prior to January 1, 2007, are required to maintain the above minimum dynamic water pressure at all locations within their distribution system. Existing public drinking water systems, approved prior to January 1, 2007, which expand their service into new areas or supply new subdivisions shall meet the minimum dynamic water pressure requirements in R309-105-9(2) at any point of connection in the new service areas or new subdivisions.*
>
> *(2) Unless otherwise specifically approved by the Director, new public drinking water systems constructed after January 1, 2007 shall be designed and shall meet the following minimum water pressures at points of connection:*
>
> *(a) 20 psi during conditions of fire flow and fire demand experienced during peak day demand;*
>
> *(b) 30 psi during peak instantaneous demand; and*
>
> *(c) 40 psi during peak day demand.*
>
> *(3) Individual home booster pumps are not allowed as indicated in R309-540-5(4)(c).*

R309-510-9 (Distribution System Sizing) references the above and goes on to discuss the peak instantaneous demand for indoor and irrigation use and fire flow.

Additionally, Pleasant View City is serviced by North View Fire District. Per the Fire Marshal, a fire flow of 1,000 gpm is required, and has therefore been set as the existing Level of Service ("LOS").

All of the above referenced parameters have been used when modeling the water distribution system.

6.2 Water Model

"EPANET [2] is a computer program that performs extended period simulation of hydraulic and water quality behavior within pressurized pipe networks." (Rossman, 2000) The free software was widely used through the 2000s. Since then, newer, costlier software has been developed, although many use EPANET as the engine behind a more user-friendly interface. For this report, EPANET was used due to its availability to all, and its wide ability to be imported into new programs if desired.

A dynamic 24-hour model was developed to model the water system. The dynamic model takes into consideration the water supply and demand throughout the course of a day. Diurnal, or 24-hour, demand patterns were developed for several categories of water users as described below.

Residential: Studies have found that typical daily residential water use have the greatest peak around 7:00 a.m. and a lesser peak at 7:00 p.m. The Pleasant View Water Utilities Superintendent has found that the system consistently sees an additional peak around 10:00 p.m.

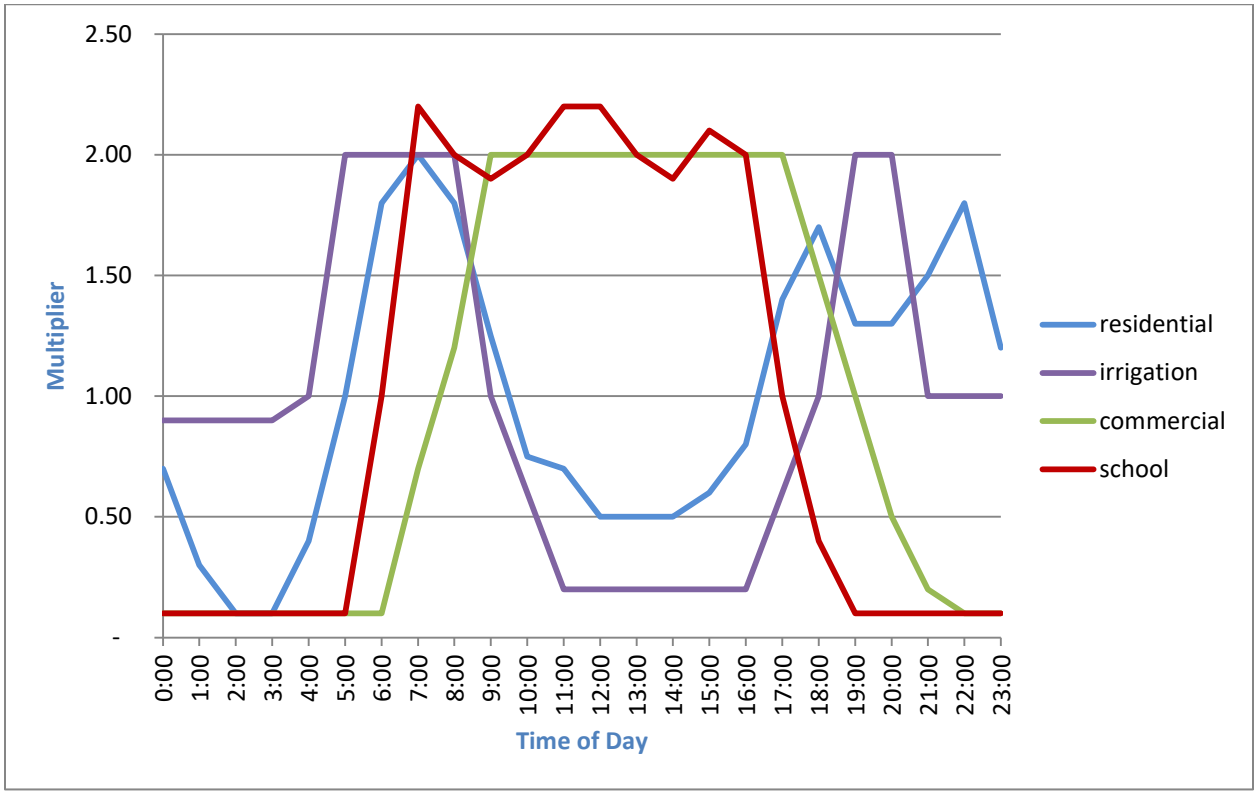
Irrigation: Ideally, outdoor watering should occur between 6:00 p.m. and 9:00 a.m. to reduce the amount of water lost to evaporation and wind. Many irrigation providers have rules in place as such. Therefore, irrigation use has been modeled as occurring between these hours.

Commercial: For commercial users in the City, the same time pattern concept was applied. While commercial use varies based on the business type, a generalized trend was created to mimic a standard 8-5 business.

School: On an average school day, Weber High School consumes the equivalent of 169 homes. This was considered significant enough to create a time pattern for the schools. Shown in Figure 6.1, the majority of the water use at the schools occurs between 6:00 a.m. and 4:00 p.m., extraordinary events aside.

The curves represent usage on a normal operating day, with the highs and lows being percentages of the average 24-hour use. The average of each of these curves is 1.00.

Figure 6.1 – Diurnal Demand Patterns



The number of ERCs served was added to each node within the system. For example, a cul-de-sac with five (5) homes would be modeled by allocating five (5) ERCs to the node located in that cul-de-sac. Nodes serving irrigation users were assigned two (2) patterns, residential and irrigation. Each irrigation user was assigned one (1) ERC for residential use and 10 ERCs for irrigation use (re: Section 3.1.2).

6.3 Existing Water Distribution System

The existing water system model was updated to reflect recent development and projects, and new usage data for the non-residential users. The model was then run for each scenario listed in R309-105-9(2).

First, average day demand of 0.2667 gpm/ERC (400 gpd/ERC) was placed on the model. Three (3) nodes fell just below 40 psi in this scenario. Two (2) of the nodes are located on 4575 N near 900 West, and the third node is located on the downstream side of a PRV located at 1100 W at 4300 N. Customers on 4575 N are serviced by a parallel, higher pressure water line, and the first lot downstream of the aforementioned PRV has a pressure gain of 6 psi due to elevation loss. (Nodes directly downstream of storage reservoirs were not considered.)

Then, peak day demand of 0.556 gpm/ERC (800 gpd/ERC) was placed on the model. The peaks in the diurnal curves account for the peak instantaneous demands, which are double the peak day demand, or 1.112 gpm/ERC. The results are described below:

1. **Fire Flow**: (20 psi required) The fire flow (1,000 gpm) was applied in conjunction with peak day demand. The following areas failed to meet the fire flow requirements:
    a. The entirety of Evergreen Drive, from 4000 N to Pleasant View Drive;
    b. Many of the dead end lines in the Majestic Heights Subdivisions (between 4200 N and 4575 N, and 425 W and 100 W); and
    c. The ends of 2-inch water lines located at Budge Ln and the northwestern end of Pleasant View Dr.
2. **Peak Instantaneous Demand**: (30 psi required) Peak instantaneous demand occurs at 7:00 a.m. when nearly all of the diurnal curves hit their peaks. A few nodes at the top of a pressure zone or immediately downstream of a PRV fell to 36 or 37 psi, but still meet the required 30 psi minimum for the peak instantaneous demand scenario.
3. **Peak Day Demand**: (40 psi required) Peak day demand was applied to the model. No customer's pressure falls below 40 psi during the peak day demand scenario.

The DDW [R309-400-6(8)(h) and R309-550-5(4) and (5)] rules indicate that for those lines containing fire hydrants, the minimum water line size shall be 8-inch unless a hydraulic analysis indicates that required flow and pressures can be maintained by existing 6-inch lines.

Projects relating to the existing system listed in Section 6.5 are divided into two (2) categories: those needed to correct an existing deficiency and those needed for maintenance purposes, providing needed reliability and redundancy in the system, and emergency preparedness. These projects are considered existing deficiencies.

6.3.1 Hydraulic Modeling Rule

The DDW's Hydraulic Modeling Rule (R309-511) requires that the existing water model is updated and re-run as development occurs in order to re-evaluate the system for compliance with minimum requirements and identify any deficiencies that would result due to the proposed development. *Any system improvements or upsizing necessary in order to be compliant must be done as part of the development in order to receive approval.*

The existing water model created for this study will continue to be updated as projects are completed, and as new developments are proposed and constructed around the City.

6.3.2 "Fixed" Water Model

Since impact fees cannot be used to correct existing deficiencies, the water model was updated to "correct" deficiencies and substandard lines prior to proceeding with the future development model. By doing this, the future model will clearly show where growth causes the system to fail to meet the minimum requirements.

6.4 Future Water Distribution System

Starting with the "fixed" existing water system model, the future water model was developed. The Future Land Use Map was used to estimate where and what type of users are expected in the future. Residential areas were assigned ERCs based on the area and expected density. ERCs for the commercial areas were estimated based on the size of each parcel, as shown in Exhibit 3.1. The projected ERCs were then added to the future water model in order to check the capacity of the lines and the water pressures.

Future water acquisition is likely to be from Weber Basin. According to Weber Basin, their next expected source will be about one-mile east of their existing "North Weber" well, located at 750 W 2550 N, putting the new source just east of the The Cove Apartments. A new pump station will be needed at the connection to Weber Basin's source. Water from this new source can be conveyed to the future Zone 1 Reservoir via the distribution system, then pumped up to a future Zone 5 reservoir, which would service zones 5 and below. By adding these new reservoirs and pump stations and adjusting zone 5-6 PRVs to keep water in the upper pressure zones, water from the City's existing sources can be used to serve the uppermost pressure zones, and Weber Basin water will serve the lower half of the City. This scenario will likely be the best use of water and energy.

Based on the above narrative, the additional source, pump stations, transmission lines, and storage reservoirs were added to the model at the best anticipated locations.

New future pipes were initially sized at 8-inch, the minimum required pipe size. The future model was then run to see where upsizing of the lines may be needed. A few water lines needed to be upsized in order to reduce friction losses and/or handle the fire flow. A list of these water lines is found in Section 6.5.1.

Exhibit 6.1 contains the approximate future water model schematic with the appropriately sized water lines.

6.5 Projects

The following is a summarized list of the water distribution system projects listed by type: existing system deficiency, maintenance, and future system deficiency. These projects are graphically represented on Exhibits 7.1a and 7.1b "Projects Map."

It should be noted that Jessie Creek well is the only source for zone 8 where future development may occur. Additionally, Alder Spring is the only source capable of serving zone 7. It is standard practice to have redundant water sources and/or system interconnectivity so that if a source is taken out of service either for emergency or maintenance purposes, a backup water source is available to service the area.

While Weber Basin's plan is to develop a source to the east, as described above, it would be in the City's best interest to investigate potential sources to the west. The majority of development and new infrastructure is likely to occur on the west side of Pleasant View making a source from the west more hydraulically efficient.

6.5.1 Existing Water System Deficiencies

	Project	Description/Purpose
1	Water Line Replacements	Upsize water lines to 8-inch to meet DDW regulations for pressure or fire flow: • 250 W, north of 4350 N • 1050 W between 3800 N and 3925 N • 3500 North, east of 800 W • Pleasant View Dr, north of Woodruff Auto Service • All of Evergreen (4000 N to PV Dr), 4000 N to 1100 W, north to PRV • Budge Lane (~1550 W, aka Price Ln) between Pleasant View Dr and US 89 • Elberta Dr between 400 W and 300 W

6.5.2 Existing Water System Maintenance Projects

	Project	Description/Purpose
1	Pressure Reducing Valves Replacements	Replace non-functioning or obsolete PRVs to improve system functionality and hydraulic efficiency. • 1100 W at 3550 N (6-inch line) • 800 W at 3900 N • 1100 W at Pleasant View Dr • 300 W at 3350 N • 1100 W at 4300 N (12-in) • 350 W at 4300 N • 300 W at 4150 N
2	Services Transfer and Water Line Abandonment	Transfer services from old 4-inch or 6-inch line to newer 8-inch water line; abandon old, failing water lines. • 4300 N between 900 W and 500 W • Pleasant View Dr between 600 W and 400 W • Elberta Dr between 600 W and 500 W
3	Backup water sources for zones 7 and 8	Research options to provide backup water sources to zones 7 and 8

6.5.3 Future Water System Deficiencies

	Project	Description/Purpose
1	Weber Basin East Pump Station	New pump station and transmission line for future water source (assumed to be 1-mile east of existing connection at 750 W 2550 N).
2	2700 North Crossing at 600 W Upsizing	When Weber Basin East Pump Station is installed, the water line crossing under 2700 N at 600 W will need to be upsized to 12-inch.
3	Future Development Water Lines Upsizing	The following water lines should be upsized from the standard 8-inch water line. Locations include the following and are subject to change depending on development layout: • 4600 N, 900 W to 1100 W, upsize to 12-inch • Line from Jessie Creek transmission line to 4900 N at 1100 W, upsize to 10-inch • 1100 W, 4600 N to 4300 N, upsize to 10-inch • Future Skyline Dr between 1100 W and 1700 W, upsize to 12-inch • 1550 W, Pleasant View Dr to Skyline Dr, upsize to 12-inch
4	Zone 5 Reservoir and Related Infrastructure	Locate and purchase property and easements; design and construct new Zone 5 reservoir, pump station, and transmission line. (See Section 6.4 for more information.)

7.0 SUMMARY: PROJECTS AND COST ESTIMATES

As detailed in the previous sections, the existing and future water systems have been analyzed to determine needed system improvements. These improvements have been grouped, mainly by geography and type, and prioritized based on criticality and condition. The projects and their associated ratings are shown in Table 7.1.

While some of these projects will be driven by development, others are necessary to meet regulatory conditions or to provide better efficiency and reliability of the system. Consequently, these projects may be constructed and/or funded in part or entirely by either developers or by the City. Therefore, we have attempted to evaluate the project costs and categorize them to reflect these conditions. A summarized list of the projects and their associated costs is shown in Table 7.2. An itemized cost estimate for each project is included in Appendix C. A map of the City showing each project's location is included as Exhibits 7.1a and 7.1b.

Table 7.1 – Project Ratings

Project No.	Project Description	Rated 1-5, with 5 being highest priority and 0 being only with development			Total Rating
		Criticality	Condition	When Needed	
1	Overflow Modifications or Exceptions • Macs • Little Mo • 500 West	5	5	5	15
2	Zone 1 Reservoir #1 and Related Infrastructure	5	5	5	15
3	Water Line Replacements to Correct Existing Deficiency • 250 W, north of 4350 N • 1050 W between 3800 N and 3925 N • 3500 North, east of 800 W • Pleasant View Dr, north of Woodruff Auto Service • All of Evergreen (4000 N to PV Dr), 4000 N to 1100 W, north to PRV • Budge Lane (~1550 W, aka Price Ln) between Pleasant View Dr and US 89 • Elberta Dr between 400 W and 300 W	5	4	5	14
4	Alder Creek Reservoir 2 Rehabilitation	4	4	5	13
5	Pressure Reducing Valves Replacement • 1100 W at 3550 N (8-inch line from Little Mo.) • 800 W at 3900 N • 500 W at 4400 N (Christofferson's field) • 500 W at 4050 W • 500 W at Elberta • 300 W at 4150 N (re-build)	5	4	4	13
6	Replace dual water lines on 4575 N between 900 W and 350 W with 12-inch water line	4	4	4	12
7	Generator at Well #4	4	3	5	12

Project No.	Project Description	Rated 1-5, with 5 being highest priority and 0 being only with development			Total Rating
		Criticality	Condition	When Needed	
8	Reservoir-Distribution System Connection Meters • Macs/Jessie • Little Mo • Alder 1 • Alder 2 and meter overflow • Well #4	2	3	5	10
9	Services Transfer and Water Line Abandonment • 4300 N between 900 W and 500 W • Pleasant View Dr between 600 W and 400 W • Elberta Dr between 600 W and 400 W • Pleasant View Dr between 1000 W and 1100 W • 600 W, south of canal - Shady Lane Park Restrooms	3	4	3	10
10	WBWCD Contract for Impact Fee Pass-Through	5	0	4	9
11	Weber Basin East Pump Station, Transmission Line, and 2700 North Crossing at 600 W Upsizing	5	0	4	9
12	Replace water line on Pleasant View Dr between 800 W and 600 W; on Elberta between 700 W and 600 W	2	4	3	9
13	Little Missouri Spring - source investigation, delineation, and rehabilitation	3	3	2	8
14	Water Sources Flow Evaluation • Mac Wade Well • Jessie Creek Well • Alder Creek Spring • Little Missouri Spring • Well #4	2	2	4	8
15	Alder Creek Spring Evaluation and Rehabilitation	2	2	4	8

Project No.	Project Description	Rated 1-5, with 5 being highest priority and 0 being only with development			Total Rating
		Criticality	Condition	When Needed	
16	Well Pumps Variable Frequency Drives • Mac Wade Well • Well #4 • Alder Creek Well	1	2	3	6
17	Future Development Water Lines Upsizing • 4600 N, 900 W to 1100 W, upsize to 12-inch • Line from Jessie Creek transmission line to 4900 N at 1100 W, upsize to 10-inch • 1100 W, 4600 N to 4300 N, upsize to 10-inch • Future Skyline Dr between 1100 W and 1700 W, upsize to 12-inch • 1550 W, Pleasant View Dr to Skyline Dr, upsize to 12-inch	3	0	2	5
18	Zone 5 Reservoir and Related Infrastructure	3	0	2	5
19	Zone 1 Reservoir #2	2	0	2	4

Table 7.2 – Projects Cost Summary

Project No.	Project Description	Total Estimated Cost	Cost Breakdown		Proposed Budget Year
			Replace-ment/ Deficiency	Impact Fee Eligible	
1	Overflow Modifications or Exceptions • Macs • Little Mo • 500 West	$68,750	$68,750	$0	2017-2018
2	Zone 1 Reservoir #1 and Related Infrastructure	$1,691,875	$50,733	$1,641,142	2017-2018, 2018-2019
3	Water Line Replacements to Correct Existing Deficiency • 250 W, north of 4350 N • 1050 W between 3800 N and 3925 N • 3500 North, east of 800 W • Pleasant View Dr, north of Woodruff Auto Service • All of Evergreen (4000 N to PV Dr), 4000 N to 1100 W, north to PRV • Budge Lane (~1550 W, aka Price Ln) between Pleasant View Dr and US 89 • Elberta Dr between 400 W and 300 W	$1,645,500	$1,645,500	$0	2017-2018, 2018-2019
4	Alder Creek Reservoir 2 Rehabilitation	$60,000	$60,000	$0	2017-2018
5	Pressure Reducing Valves Replacement • 1100 W at 3550 N (8-inch linefrom Little Mo.) • 800 W at 3900 N • 500 W at 4400 N (Christofferson's field) • 500 W at 4050 W • 500 W at Elberta • 300 W at 4150 N (re-build)	$165,000	$165,000	$0	2018-2019, 2019-2020
6	Replace dual water lines on 4575 N between 900 W and 350 W with 12-inch water line	$408,125	$408,125	$0	2019-2020

Project No.	Project Description	Total Estimated Cost	Cost Breakdown		Proposed Budget Year
			Replace-ment/ Deficiency	Impact Fee Eligible	
7	Generator at Well #4	$90,000	$90,000	$0	2020-2021
8	Reservoir-Distribution System Connection Meters • Macs/Jessie • Little Mo • Alder 1 • Alder 2 and meter overflow • Well #4	$93,750	$93,750	$0	2020-2021
9	Services Transfer and Water Line Abandonment • 4300 N between 900 W and 500 W • Pleasant View Dr between 600 W and 400 W • Elberta Dr between 600 W and 400 W • Pleasant View Dr between 1000 W and 1100 W • 600 W, south of canal - Shady Lane Park Restrooms	$190,063	$190,063	$0	2021-2022
10	WBWCD Contract for Impact Fee Pass-Through	$22,000	$0	$22,000	2022-2023*
11	Weber Basin East Pump Station, Transmission Line, and 2700 North Crossing at 600 W Upsizing	$1,198,750	$0	$1,198,750	2023-2024, 2024-2025*
12	Replace water line on Pleasant View Dr between 800 W and 600 W; on Elberta between 700 W and 600 W	$430,375	$430,375	$0	2025-2026
13	Little Missouri Spring - source investigation, delineation, and rehabilitation	$75,625	$75,625	$0	2025-2026
14	Water Sources Flow Evaluation • Mac Wade Well • Jessie Creek Well • Alder Creek Spring • Little Missouri Spring • Well #4	$13,200	$13,200	$0	2026-2027

Project No.	Project Description	Total Estimated Cost	Cost Breakdown		Proposed Budget Year
			Replace-ment/ Deficiency	Impact Fee Eligible	
15	Alder Creek Spring Evaluation and Rehabilitation	$83,050	$83,050	$0	2027-2028
16	Well Pumps Variable Frequency Drives • Mac Wade Well • Well #4 • Alder Creek Well	$28,125	$28,125	$0	2028-2029
17	Future Development Water Lines Upsizing • 4600 N, 900 W to 1100 W, upsize to 12-inch • Line from Jessie Creek transmission line to 4900 N at 1100 W, upsize to 10-inch • 1100 W, 4600 N to 4300 N, upsize to 10-inch • Future Skyline Dr between 1100 W and 1700 W, upsize to 12-inch • 1550 W, Pleasant View Dr to Skyline Dr, upsize to 12-inch	TBD			development driven
18	Zone 5 Reservoir and Related Infrastructure	TBD			development driven
19	Zone 1 Reservoir #2	TBD			development driven
	TOTALS	**$6,195,438**	**$3,408,672**	**$2,786,765**	

*Projects 10 and 11 should be completed in the Proposed Budget Years as shown; however, the associated water is not applicable until approximately 2025.

8.0 IMPACT FEE FACILITIES PLAN

8.1 Introduction

The Culinary Water System Impact Fee will be enacted as a means for new development to pay for their impact on the existing Culinary Water System. Utah state law requires that an Impact Fee Facilities Plan (IFFP) be prepared before an Impact Fee can be implemented. The law requires that the IFFP contains only the costs for short term (6-10 year) growth, and it must also not raise the existing level of service. This report will summarize information from the previous sections as it pertains to the enactment of the impact fee.

Title 11, Chapter 36a, Part 3 of the Utah State Code outlines the requirements relating to Impact Fees. An Impact Fee Analysis is also required to be prepared before an Impact Fee can be implemented. The Impact Fee Analysis will be performed by Zions Public Finance, Inc. as separate document.

Due to the time sensitivity of this Plan, review and update of this Plan should occur in approximately six (6) years.

8.2 Service Area

Pleasant View City is bounded by Harrisville City to the south, North Ogden City to the east, Box Elder County to the north, and Farr West City to the west. The City is traversed by US 89 and SR 134 (2700 North). Bona Vista Water Improvement District services the area west of US 89. The proposed service area includes all of the area in the current annexation boundary, minus the area serviced by Bona Vista.

The culinary water system serves its customers from one, interconnected system. This system includes multiple water sources, pressure zones, and storage facilities.

8.3 Level of Service

The Utah Administrative Code outlines minimum requirements for storage, supply, and system pressure. These requirements for the water supply, storage, and distribution are detailed in Sections 4, 5, and 6 of this report, respectively. A summary is as follows:

Table 8.1 – Level of Service

Component	Measurement	DDW Requirement
Sources	• Flowrate • Volume	• 800 gpd/ERC for Peak Day Demand • 146,000 gallons/ERC for Average Yearly Demand (0.448 ac-ft/ERC)
Storage Facilities	• Volume	• 400 gallons/ERC • 60,000 gallons fire storage
Distribution System	• Pressure	• 20 psi during conditions of fire flow and fire demand experienced during peak day demand • 30 psi during peak instantaneous demand • 40 psi during peak day demand

Meeting the State's minimum requirements is the City's existing level of service.

Once the Weber Basin Pump Station is online, the culinary water supply and storage will meet the established levels of service as outlined in this section. The distribution system is lacking appropriate fire flows in a few areas, as detailed in Section 6.3.

The City intends to maintain the existing level of service and meet all minimum requirements established in the Utah Administrative Code.

8.4 Population Projection

Section 3.3 of this report discusses the long term growth projections for Pleasant View City. This section will focus on the growth during the next decade as applicable to impact fees.

In Section 3.3.1, it was concluded that the population projections estimated by the Governor's Office of Management and Budget were to be used for this report. Therefore, using the GOMB's growth rates, population and ERCs were estimated for the next eight (8) years.

Table 8.2 – Population and ERC Projections (IFFP)

Year	Population	ERCs	Increase from 2016
2016	8,694	2,539	-
2017	8,819	2,576	37
2018	8,946	2,613	74
2019	9,075	2,650	111
2020	9,204	2,688	149
2021	9,441	2,758	219
2022	9,685	2,829	290
2023	9,935	2,902	363
2024	10,191	2,977	438
2025	10,454	3,054	515

8.5 Excess Capacity

Future growth will utilize the excess capacity in existing facilities as well as the capacity in new projects contained in this report. Water projects previously constructed using City funds were examined to determine each component's excess capacity.

Utah Code 11-36a-202 (Prohibitions on Impact Fees) states:

(1) A local political subdivision or private entity may not:

(a) impose an impact fee to:

(i) cure deficiencies in a public facility serving existing development;

(ii) raise the established level of service of a public facility serving existing development;

(iii) recoup more than the local political subdivision's or private entity's costs actually incurred for excess capacity in an existing system improvement; or

(iv) include an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with:

(A) generally accepted cost accounting practices; and

(B) the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement.

In this section, excess capacity, if any, will be determined and evaluated.

8.5.1 Sources

As described in Section 4.3, once the Weber Basin Pump Station is online, this new water source and infrastructure should be able to accommodate 520 ERCs beyond existing demand.

Construction Cost (water line, pump station)	$626,000
Other Costs (survey, property acquisition, legal, engineering, SCADA)	151,889
Total Cost Attributable to Weber Basin Connection Project	$777,889
Percent Excess Capacity	96%
Impact Eligible Portion of Weber Basin Connection Project	**$746,773**

8.5.2 Water Storage

With 2.57 million gallons (MG) of functioning capacity system-wide, Pleasant View City has about 1.49 MG more storage than it currently requires (1.08 MG), and 0.14 MG more than is statutorily required at build-out (2.43 MG).

Table 8.3 – Excess Capacity - Storage

	Volume (gallons)	ERCs[1]
Total Existing Storage (2016)	2,570,000	6,425
Total Existing Required Storage	1,075,600	
Existing Required Storage (Indoor) 400 gal/ERC x 2,539 ERCs = 1,015,600 gal.		
Existing Required Storage (Fire Flow) (1,000 gpm x 60 minutes) = 60,000 gal.		
Existing Excess Storage	**1,494,400**	**3,736**

[1]Calculated using regulatory requirement of 400 gallons/ERC.

With the majority of development likely to occur on the west and south sides of the City, and with future water sources likely to enter the water system at the lowest pressure zone, additional storage reservoirs may be needed to distribute water throughout the water system, as discussed in Section 5.3.

Overall, Pleasant View's existing storage has enough excess capacity to support the estimated 674 additional ERCS anticipated in 2027, as well as enough excess capacity to support the projected build-out of 3,123 additional domestic ERCs in 2050.

Costs are known for the most recent water storage project, the Well #4 Reservoir. The entirety of this 500,000 gallon concrete reservoir, which can support 1,250 ERCs, can be considered excess capacity.

Construction Costs (structure, appurtenances, site work) $459,445
Other Costs (survey, property acquisition, engineering, testing) 188,319
Total Cost Attributable to Well #4 Reservoir Project $647,764
Percent Excess Capacity 100%
Impact Eligible Portion of Well #4 Reservoir Project $647,764

8.5.3 Water Distribution

The majority of the City's existing distribution system consists of 6-inch and 8-inch water lines. Some larger lines have been installed at key locations to accommodate higher flows. Overall, upsizing of water lines has not been significant enough to warrant the calculation of the system's excess capacity.

8.6 Future Development Needs

With so much ground that remains undeveloped, it is nearly impossible to predict where growth will happen over the next 6 to 10 years. The most active areas over the past few years have been the infill developments within the City where infrastructure is already available. As development occurs, projects will be chosen based on need. Figures 7.1a and 7.1b, Projects Map, show the approximate planned project locations.

Table 8.4 shows the projects most likely to be completed in the next eight (8) years that contain improvements required for future growth. The column labeled "Impact Fee Eligible" are the portions of

the projects that may be paid for through Impact Fees (i.e. System Improvements as defined in Utah Code 11-36a-102).

The Zone 1 Reservoir #1 and its related infrastructure, along with the new Weber Basin Pump Station, will meet the regulatory requirements until approximately 2025. Contractually, the City is required to construct a 400,000 gallon reservoir in order to put to use the purchased Weber Basin water, which will serve 520 additional ERCs. However, for future planning and operation, a 600,000 gallon reservoir is proposed. Therefore, the impact fee eligible portion of the project cost was proportioned in order to reflect this situation.

Table 8.4 – Most Likely System Improvement Projects (through 2025)

CFP Project Number	Project Description	Additional ERCs Served	Total Estimated Cost	Cost Breakdown		Proposed Budget Year
				Replacement/ Deficiency	Impact Fee Eligible	
2	Zone 1 Reservoir #1 and Related Infrastructure (**includes only two-thirds of overall impact fee eligible cost*)	520	$1,623,125	$57,110	$1,044,010*	2017-2018, 2018-2019
	TOTALS		**$1,623,125**	**$57,110**	**$1,044,010**	

8.7 Certification

Per Utah Code 11-36a-306(1) – Certification of impact fee facilities plan:

I certify that the attached impact fee facilities plan:

1. includes only the costs of 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 the day on which 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; or
    c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and
3. complies in each and every relevant respect with the Impact Fees Act.

Dana Q. Shuler

Dana Q. Shuler, P.E. – City Engineer

9.0 ACKNOWLEDGEMENTS

Gathering data and information for use in this report can be tedious. Understanding how the water system works is critical when modeling the system. We'd like to thank the following people for their assistance in the preparation of this report:

Tyson Jackson

Laurie Hellstrom

10.0 WORKS CITED

Google Earth. (2016, July 8). Retrieved October 19, 2016, from Pleasant View City.

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Sunrise Engineering, Inc. (December 29, 2015). *Source and Storage Feasibility Study.* Pleasant View City, UT.

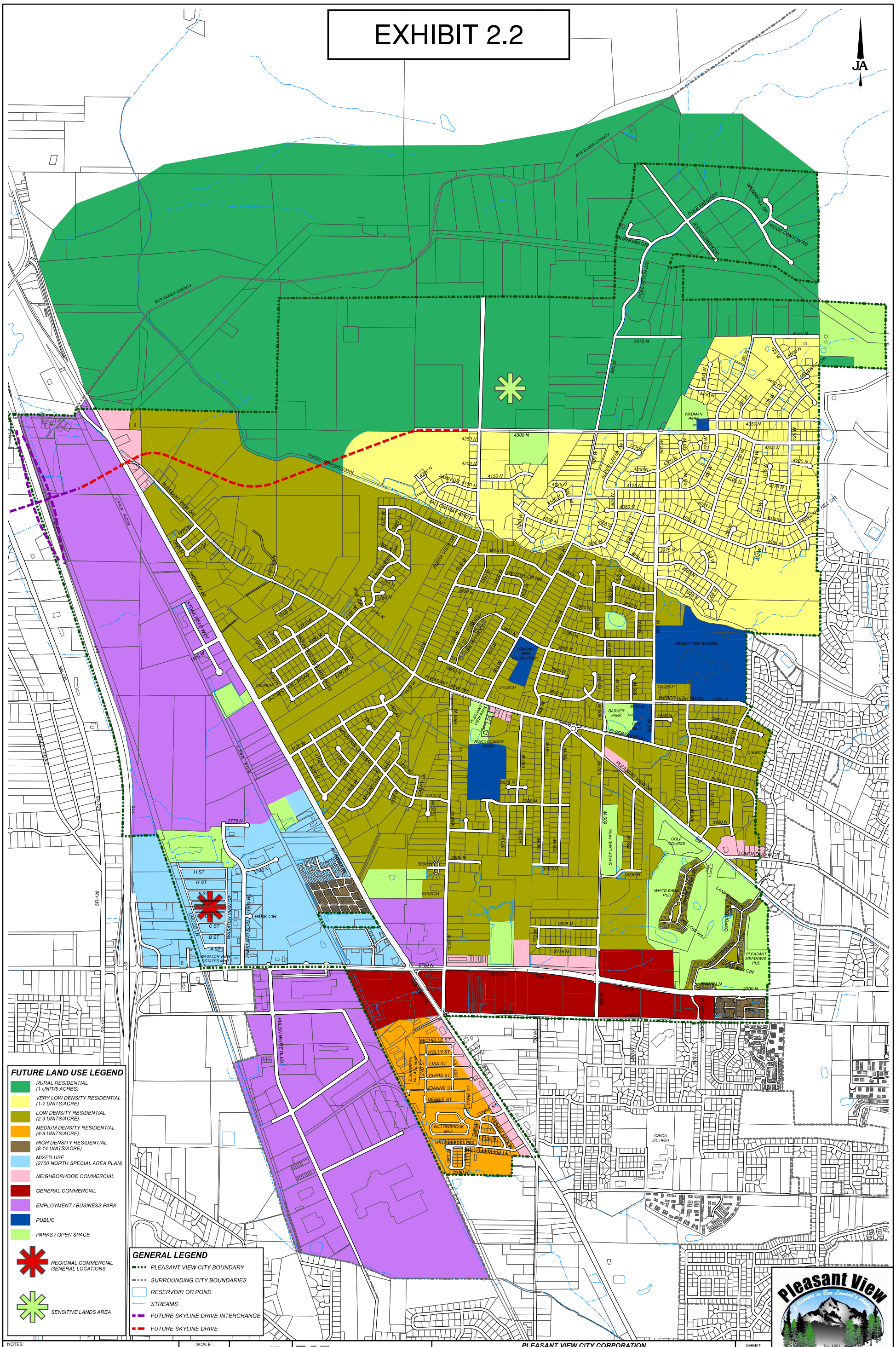
Exhibits

EXHIBIT 2.1 REMOVED

FOR SECURITY PURPOSES

CONTACT PLEASANT VIEW
CITY FOR INFORMATION

EXHIBIT 2.2



NOTES:

PLEASANT VIEW CITY ORDINANCE 2017-03

SCALE: Not to Scale

MM/DD/YYYY 02/28/2017 ADOPTED

DESIGNED BEB
DRAWN BEB
CHECKED BKJ

JA JONES & ASSOCIATES CONSULTING ENGINEERS
1716 East 5600 South
South Ogden, Utah 84403 (801) 476-9767

PLEASANT VIEW CITY CORPORATION

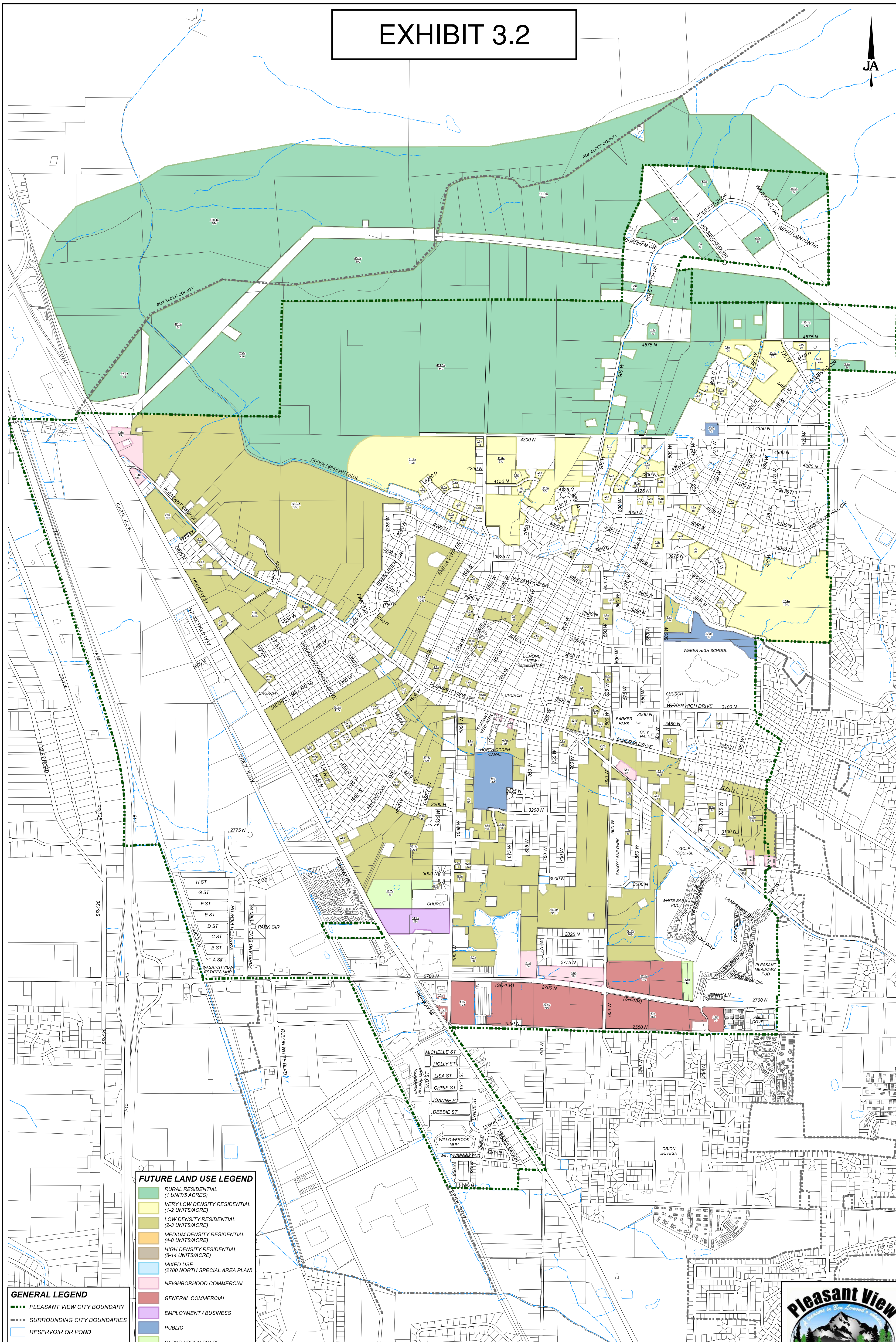
GENERAL PLAN

FUTURE LAND USE MAP

SHEET: 00 OF SHEETS

Pleasant View — A Treasure in Ben Lomond's Shadow — Est.1851 — City

EXHIBIT 3.2



NOTES:

#a / #c = # Acres / # ERC (Equivalent Residential Connections)

TOTAL FUTURE RESIDENTIAL CONNECTIONS = 2830
TOTAL FUTURE NON-RESIDENTIAL CONNECTIONS = 311

SCALE: Not to Scale

MM/DD/YYYY: 05/03/2017

DESIGNED: BEB
DRAWN: BEB
CHECKED: BKJ

JA JONES & ASSOCIATES CONSULTING ENGINEERS
1716 East 5600 South
South Ogden, Utah 84403 (801) 476-9767

PLEASANT VIEW CITY CORPORATION
CULINARY WATER CAPITAL FACILITIES PLAN
DEVELOPABLE GROUND & ERCs

SHEET: 3.1
OF SHEETS

Pleasant View City — A treasure in Ben Lomond's shadow — Est. 1851

EXHIBIT 5.1 REMOVED

FOR SECURITY PURPOSES

CONTACT PLEASANT VIEW CITY FOR INFORMATION

EXHIBIT 6.1 REMOVED

FOR SECURITY PURPOSES

CONTACT PLEASANT VIEW
CITY FOR INFORMATION

EXHIBIT 7.1a REMOVED

FOR SECURITY PURPOSES

CONTACT PLEASANT VIEW
CITY FOR INFORMATION

EXHIBIT 7.1b REMOVED

FOR SECURITY PURPOSES

CONTACT PLEASANT VIEW
CITY FOR INFORMATION

Appendix A

Division of Drinking Water

Reduction in Source and Storage Guidelines

Information Needed for Reduction in Source Sizing

Public Drinking Water Systems (PWSs) are required to have sufficient source capacity to meet both (1) the anticipated water demand on the day of highest water consumption ("Peak Day Demand") and (2) the quantity needed for the entire year ("Average Yearly Demand"). Both demand types apply to indoor water use and irrigation water use if a drinking water system also supplies irrigation water. The Director may allow a reduced source sizing requirement per Utah Administrative Code R309-510-5 if the water system presents sufficient and acceptable water specific data justifying the reduced source requirement (instead of the default source requirements in R309-510-7). The reduction request and the data supporting the request are reviewed on a case-by-case basis due to a wide variety of factors to consider and differences in water systems.

Prior to collecting or compiling the data supporting a reduction request, the PWS representative should **consult with the Division of Drinking Water engineering staff to identify the information needed for a reduction request and to establish a data collection protocol**.

The list below outlines typical issues to address when requesting a reduction in the **source** sizing. The review will include, but is not limited to, the issues identified below.

Intent of the Reduction Request

- Specifics of sizing reduction being sought (e.g., reduction in source sizing; reduction in peak day or yearly average demand, indoor water use, etc.)
- Proposed reduced amount versus the default requirement.

Water System Type, Size, Complexity, and Water Use Demand

- Type of water system (e.g., community, non-community, etc.).
- Size and complexity of water system (e.g. number of sources, number of connections, area served, facilities, ability to move water from multiple locations)
- Types and purposes of water use (e.g., industrial, residential, restaurant, camp ground, mixed use, etc.).
- Water system configuration and operation strategy in providing redundancies (e.g., backup power, spare parts, number of sources, service area served by multiple tanks or sources, etc.).
- Redundancy of water sources (e.g., emergency source, wholesale connection, etc.).
- Reliability and consistency of water sources (e.g., range of seasonal fluctuation of spring flows, reliability and availability of additional water sources, period of record, etc.).

Equivalent Residential Connections

- Rationale and methodology in determining number of Equivalent Residential Connections (ERCs) for present connections and estimated future connections (if ERCs are used in the calculations).
- Accounting of commercial, industrial, and other significant water uses if applicable.

Future Growth and Usage Projections

- Extent of the service area or the water system that is built out.

- History relevant to growth and water system capacity.
- Future development and annexation potential within the service area of the water system.
- How future growth is determined and managed (e.g., zoning ordinances, established process in reviewing and approving new developments, master plans, etc.).
- Current demand versus capacity needed to meet obligated and future demands.

Indoor versus Irrigation Water Use

- Extent of service connections that are served by a secondary irrigation system versus the ones that do not have irrigation water use demand (i.e., the information needed to estimate the irrigation water use demand imposed on the drinking water system).
- How the indoor and irrigation water use data is separated and measured.
- Future plan for conversion from an irrigation system to drinking water or vice versa (if applicable).
- Urban versus rural (more irrigation use) land use.

Water Use Data

- Actual water use data indicative of **peak day** demand. (e.g., daily data from residential meters, daily metered/measured data from sources and storage sources, etc.)
- Actual data indicative of **indoor water** use during peak day demand (if use data includes indoor and irrigation use); how is it separated and accounted for.
- Types of water use data (i.e., metered at the service connections, metered at the sources or pump stations, etc.).
- Tank levels and associated water outflows during the study period if using water use data metered at the sources and pump stations.
- Sufficient data to establish a statistically significant demand value (e.g., sufficient data points to represent or account for all or the majority of water uses; sufficient data points indicative of historical trend such as a minimum of 3 years; removing the outliers of non-usage service connections from the number of ERCs used for calculation when the water use data were metered at the service connections; etc.).

Water Loss

- Assessment of water loss through the distribution system (if the water use data is metered at the service connections).
- Accounting of water loss in peak day estimates.

Safety Factor

- Safety factors applied in the analysis and rationale.
- Examples
    - Redundant or excessive available storage capacity.
    - Emergency connection to another water system.
    - Reduced source sizing amount being 12% above the actual peak day indoor water use data.

Information Needed for Reduction in Storage Sizing

Public Drinking Water Systems (PWSs) are required to have sufficient ”equalization storage” capacity to meet the average day demands for indoor and irrigation water uses, and fire suppression storage volume if the water system is equipped with hydrants for fire suppression or is required by the fire authority to provide fire flow. The default “equalization storage” volumes are outlined in R309-510-8 and Tables 510-4 and 5. The Director may allow a reduced storage sizing requirement per Utah Administrative Code R309-510-5 if the water system presents sufficient and acceptable water system specific data justifying the reduced storage sizing. The reduction request is reviewed on a case-by-case basis due to the wide variety of factors and differences in water systems.

Prior to collecting or compiling water use data for the reduction request, the PWS representative should **consult with the Division of Drinking Water engineering staff to identify the information needed for a reduction request and/or to establish a data collection protocol**.

The lists below outline typical issues to address when requesting for reduced **storage** sizing. The review will include, but is not limited to, the issues identified below.

Intent of the Reduction Request

- Specifics of sizing reduction being sought (e.g., reduction in storage sizing for indoor water use, fire flow, etc.).
- Proposed reduced amount versus the default requirement.

Fire Suppression Storage

- A statement from the local fire code official indicating the required fire flow and duration or water storage volume if the PWS is required to provide fire flow or if the PWS is equipped with hydrants intended for fire suppression.

Nature of Water System and Water Use

- Type of water system (e.g., transient, community, or non-transient non-community, etc.).
- Size and complexity of water system (e.g., multiple ways to move water around, excessive source capacity, multiple storage tanks, number of connections serving, etc).
- Types and purposes of water use (e.g., industrial, residential, restaurant, camp ground, mixed use, etc.).
- Rationale and methodology in determining number of Equivalent Residential Connections (ERCs) for present connections and estimated future connections (if ERCs are used in the calculation).
- Water system configuration and operation strategy in providing redundancies (e.g., spare parts, service area served by multiple tanks or sources, etc.).
- Operation strategy in dealing with water outage and minimizing risk to public health (e.g., storage, water hauling, emergency connection to another system, backup power, etc.).

- Capacity and redundancy of water sources (e.g., emergency source, wholesale connection, etc.).
- Reliability and consistency of water source (e.g., range of seasonal fluctuation of spring flows, gravity feed source, pumped source that is covered by two independent substations or built-in generator or a transfer switch, etc.).

Future Growth and Usage Projections

- Extent of the service area or the water system that is built out.
- History relevant to growth & water system capacity.
- Future development and annexation potential within the service area of the water system.
- How future growth is determined and managed (e.g., zoning ordinances, established process in reviewing and approving new developments, master plans, etc.).
- Current demand versus capacity needed to meet obligated and future demands.
- Letter from local authority with jurisdiction over development and land use supporting the reduction request.
- Potential changes in zoning, densification, or land use designations.

Indoor versus Irrigation Water Use

- Extent of the service connections that are served by a secondary irrigation system or do not have irrigation demand (i.e., the information needed to estimate the irrigation demand imposed on the drinking water system).
- How indoor and irrigation water uses are separated and measured.
- Future plan of conversion from an irrigation system to drinking water or vice versa.
- Urban versus rural (more irrigation use) land use.

Water Use Data

- Actual average day water use data.
- Types of water use data (i.e., metered at the service connections, metered at the sources or pump stations, etc.).
- Sufficient data to establish a statistically significant value (e.g., sufficient data points to represent or account for all or the majority of the water uses, sufficient data points indicative of historical trend such as a minimum of 3 years, etc.).
- Peak Instantaneous Demand when request is for no storage.

Water Loss

- Assessment of water loss through the distribution system (if the water use data are metered at the service connections).
- Accounting for water loss in average day estimates.

Safety Factor

- Safety factors applied in the analysis and rationale.
- Examples
    - Excessive available source with backup power or means of conveyance.
    - Emergency connection to another water system or another emergency source.
    - Reduced storage sizing being 10% above the actual average day indoor water use data.

Appendix B

Pleasant View City Water Rights

Utah.gov Services   Agencies   Search all of Utah.gov »

Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 08/10/2016 Page 1

CHANGE: **a26328** WATER RIGHT: 35-11440 CERT. NO.: AMENDATORY? No COUNTY TAX ID#:
BASE WATER RIGHTS: 35-11440
RIGHT EVIDENCED BY: 35-11440 (which is a portion of 35-7152)
CHANGES: Point of Diversion [ ], Place of Use [X], Nature of Use [X], Reservoir Storage [ ].

NAME: Pleasant View City
ADDR: 520 West Elberta Drive
Pleasant View UT 84414
REMARKS:

DATES, ETC.

FILED: 02/06/2002|PRIORITY: 02/06/2002|ADV BEGAN: 02/21/2002|ADV ENDED: 02/28/2002|NEWSPAPER: Standard Examiner
ImpairDesig[NO]|IMP NOTICE:
Water Rights which the State Engineer has Identified may Experience Quantity Impairment:

ProtestEnd:03/20/2002|PROTESTED: [No]|HEARNG HLD: |SE ACTION: [Approved]|ActionDate:06/25/2003|PROOF DUE: 06/30/2017
EXTENSION: |ELEC/PROOF:[ ]|ELEC/PROOF: |CERT/WUC: |LAP, ETC: |LAPS LETTER:
RUSH LETTR: |RENOVATE: |RECON REQ: |TYPE: [ ]

STATUS LINE
Status: Approved

H E R E T O F O R E

FLOW: 0.3 cfs

SOURCE: Three Springs

COUNTY: Weber

35-291 is an open number. Application A16220 has been recoded to 35-7152.

H E R E A F T E R

FLOW: 0.3 cfs

SOURCE: Three Springs

COUNTY: Weber COM DESC: Pleasant View Area

The place of use is within the service area of Pleasant View City.

The purpose of this Application is to change the nature of use from irrigation to municipal use. In changing from irrigation to municipal use, the City understands that it will be subject to the diversion and depletion limits associated with the irrigation uses. Therefore, there will be no enlargement of the water rights.

POINT(S) OF DIVERSION ------> MAP VIEW****

Point Surface:
(1) N 504 ft W 1078 ft from SE cor, Sec 19, T 7N, R 1W, SLBM
Dvrting Wks:
Source:
(2) N 170 ft W 1474 ft from SE cor, Sec 19, T 7N, R 1W, SLBM
Dvrting Wks:
Source:
(3) S 96 ft W 900 ft from NE cor, Sec 30, T 7N, R 1W, SLBM
Dvrting Wks:
Source:

SAME AS HERETOFORE

PLACE OF USE ------>

```
                          --NW¼--   --NE¼--   --SW¼--   --SE¼--
                         |N N S S||N N S S||N N S S||N N S S|
                         |W E W E||W E W E||W E W E||W E W E|
Sec 19 T  7N R  1W SLBM   * : : : ** : : : ** : : : ** : :X:X*
Sec 30 T  7N R  1W SLBM   * : : : **X:X: : ** : : : ** : : : *
```

CHANGED as follows:

```
                          --NW¼--   --NE¼--   --SW¼--   --SE¼--
                         |N N S S||N N S S||N N S S||N N S S|
                         |W E W E||W E W E||W E W E||W E W E|
Sec 17 T  7N R  1W SLBM   *X:X:X:X** : : : **X:X:X:X**X:X:X:X*
Sec 18 T  7N R  1W SLBM   * : : : **X:X:X:X**X:X:X:X**X:X:X:X*
Sec 19 T  7N R  1W SLBM   *X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 20 T  7N R  1W SLBM   *X:X:X:X** : : : **X:X:X:X** : : : *
Sec 29 T  7N R  1W SLBM   *X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 30 T  7N R  1W SLBM   *X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 31 T  7N R  1W SLBM   *X:X:X:X**X:X:X:X** : : : ** : : : *
Sec 32 T  7N R  1W SLBM   *X:X:X:X** : : : ** : : : ** : : : *
Sec 13 T  7N R  2W SLBM   * : : : ** : : : **X:X:X:X**X:X:X:X*
Sec 14 T  7N R  2W SLBM   * : : : ** : : : ** : : : **X:X:X:X*
Sec 23 T  7N R  2W SLBM   * : : : **X:X:X:X** : : : **X:X:X:X*
Sec 24 T  7N R  2W SLBM   *X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 25 T  7N R  2W SLBM   *X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 36 T  7N R  2W SLBM   * : : : **X:X:X:X** : : : ** : : : *
```

NATURE OF USE ------>	CHANGED as follows:
IRR = values are in acres. STK = values are in ELUs meaning Cattle or Equivalent. DOM = values are in EDUs meaning Equivalent Domestic Units (or Families).	
SUPPLEMENTAL to Other Water Rights: No	SUPPLEMENTAL to Other Water Rights: No
IRR: 22.0000 USED 05/01 - 09/30	MUN: Pleasant View USED 01/01 - 12/31

EXTENSIONS OF TIME WITHIN WHICH TO FILE PROOF

FILED: 06/26/2008	PUB BEGAN:	PUB ENDED:	NEWSPAPER: No Adv Required	
ProtestEnd:	PROTESTED: [ ]	HEARNG HLD:	SE ACTION: [Approved]	ActionDate:07/30/2008 PROOF DUE: 06/30/2013
FILED: 05/10/2013	PUB BEGAN:	PUB ENDED:	NEWSPAPER: No Adv Required	
ProtestEnd:	PROTESTED: [No]	HEARNG HLD:	SE ACTION: [Approved]	ActionDate:08/12/2013 PROOF DUE: 06/30/2017

E N D O F D A T A

Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 08/10/2016 Page 1

CHANGE: **a4918** WATER RIGHT: 35-1168 CERT. NO.: 11904 COUNTY TAX ID#:

BASE WATER RIGHTS: 35-1168

RIGHT EVIDENCED BY: Water Right 35-1168 (a4110)

CHANGES: Point of Diversion [X], Place of Use [X], Nature of Use [X], Reservoir Storage [ ].

NAME: Pleasant View City

ADDR: 520 West Elberta Drive
Pleasant View UT 84414

REMARKS:

DATES, ETC.

FILED: 05/23/1966|PRIORITY: 05/23/1966|ADV BEGAN: 06/30/1966|ADV ENDED: |NEWSPAPER:
ImpairDesig[NO]|IMP NOTICE:
Water Rights which the State Engineer has Identified may Experience Quantity Impairment:

ProtestEnd: |PROTESTED: [No]|HEARNG HLD: |SE ACTION: [Approved]|ActionDate:09/13/1966|PROOF DUE:
EXTENSION: |ELEC/PROOF:[ ]|ELEC/PROOF: |CERT/WUC: 01/14/1983|LAP, ETC: |LAPS LETTER:
RUSH LETTR: |RENOVATE: |RECON REQ: |TYPE: [ ]

***STATUS LINE**

Status: Certificated

H E R E T O F O R E

FLOW: 3.0 cfs

SOURCE: Underground Water Well

COUNTY: Weber

POINT(S) OF DIVERSION ------> MAP VIEW****

Point Underground:

(1) S 740 ft E 1220 ft from NW cor, Sec 30, T 7N, R 1W, SLBM

Diameter: 15 ins. Depth: 600 to ft. WELL ID#: 000000

PLACE OF USE ------>

	--NW¼--	--NE¼--	--SW¼--	--SE¼--
	N N S S	N N S S	N N S S	N N S S
	W E W E	W E W E	W E W E	W E W E
Sec 17 T 7N R 1W SLBM	* : : :	** : : :	**X: :X:	** : : :
Sec 18 T 7N R 1W SLBM	* : : :	** : : :	**X:X:X:X	**X:X:X:X
Sec 19 T 7N R 1W SLBM	* : : :	** : : :	**X:X:X:X	**X:X:X:X
Sec 20 T 7N R 1W SLBM	*X: :X:	** : : :	**X: :X:	** : : :
Sec 29 T 7N R 1W SLBM	*X: :X:	** : : :	**X: :X:	** : : :
Sec 30 T 7N R 1W SLBM	*X: :X:	** : : :	**X: :X:	** : : :
Sec 31 T 7N R 1W SLBM	*X:X:X:X	**X:X: :	**X:X: :	** : : :
Sec 19 T 7N R 2W SLBM	* : : :	** : : :	**X:X:X:X	
Sec 23 T 7N R 2W SLBM	* : : :	**X:X:X:X	** : : :	**X:X:X:X
Sec 24 T 7N R 2W SLBM	* : : :	** : : :	** : : :	**X:X:X:X
Sec 25 T 7N R 2W SLBM	* : : :	**X:X:X:X	** : : :	**X:X:X:X
Sec 36 T 7N R 2W SLBM	* : : :	**X:X:X:X	** : : :	** : : :

NATURE OF USE ------>

IRR = values are in acres.
STK = values are in ELUs meaning Cattle or Equivalent.
DOM = values are in EDUs meaning Equivalent Domestic Units (or Families).

SUPPLEMENTAL to Other Water Rights: Yes

MUN: Pleasant View USED 01/01 - 12/31

H E R E A F T E R

FLOW: 0.258 cfs

SOURCE: Underground Water Well

COUNTY: Weber COM DESC:

CHANGED AS FOLLOWS: (Click Location link for WRPLAT)

UNDERGROUND: (Click Link for PLAT data, Well ID# link for data.)

(1) S 2503 ft W 1620 ft from NE cor, Sec 30, T 7N, R 1W, SLBM

Diameter: 16 ins. Depth: 190 to ft. WELL ID#:

CHANGED as follows:

	--NW¼--	--NE¼--	--SW¼--	--SE¼--
	N N S S	N N S S	N N S S	N N S S
	W E W E	W E W E	W E W E	W E W E
Sec 17 T 7N R 1W SLBM	* : : :	** : : :	**X:X:X:X	** : : :
Sec 18 T 7N R 1W SLBM	* : : :	** : : :	** : : :	**X:X:X:X
Sec 19 T 7N R 1W SLBM	* : :X:	X**X:X:X:X	**X:X:X:X	**X: :X:X
Sec 20 T 7N R 1W SLBM	*X: :X:	X** : : :	** : : :	** : : :
Sec 29 T 7N R 1W SLBM	*X: :X:	X** : : :	**X:X: :	** : : :
Sec 30 T 7N R 1W SLBM	*X:X:X:	**X:X:X:X	** : : :	** : : :
Sec 23 T 7N R 2W SLBM	* : : :	** :X: :	** : : :	** : : :
Sec 24 T 7N R 2W SLBM	*X: :X:	X** : : :	** :X: :	**X:X: :X

CHANGED as follows:

SUPPLEMENTAL to Other Water Rights: Yes

DOM: 674.0000 Group Total USED 01/01 - 12/31

OTH: COMMERCIAL: Store,Gas Station,3 USED 01/01 - 12/31
Churches,2 Cafe,Bank,5 Schools & a # of service connection

E N D O F D A T A

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 08/10/2016 Page 1

CHANGE: **a40216** WATER RIGHT: 35-1172 CERT. NO.: AMENDATORY? No COUNTY TAX ID#:
BASE WATER RIGHTS: 35-1172
RIGHT EVIDENCED BY: 35-1172
CHANGES: Point of Diversion [X], Place of Use [ ], Nature of Use [ ], Reservoir Storage [ ].

NAME: Pleasant View City
ADDR: 520 West Elberta Drive
Pleasant View UT 84414
INTEREST: 100% REMARKS:

DATES, ETC.

FILED: 09/30/2014 | PRIORITY: 09/30/2014 | ADV BEGAN: 10/23/2014 | ADV ENDED: 10/30/2014 | NEWSPAPER: Standard Examiner
ImpairDesig[NO] | IMP NOTICE:
Water Rights which the State Engineer has Identified may Experience Quantity Impairment:

ProtestEnd:11/19/2014 | PROTESTED: [Hear Hel] | HEARNG HLD:02/11/2015 | SE ACTION: [Approved] | ActionDate:04/30/2015 | PROOF DUE:
EXTENSION: | ELEC/PROOF:[ ] | ELEC/PROOF: | CERT/WUC: | LAP, ETC: | LAPS LETTER:
RUSH LETTR: | RENOVATE: | RECON REQ: | TYPE: [ ]

STATUS LINE
Status: Approved

H E R E T O F O R E	H E R E A F T E R
FLOW: 2.03 cfs OR 855.0 acre-feet	FLOW: 2.03 cfs OR 855.0 acre-feet
SOURCE: Underground Water Well	SOURCE: Underground Water Wells (2)
COUNTY: Weber	COUNTY: Weber COM DESC: Pleasant View City
	Pleasant View City has drilled a new well to serve the water needs of its citizens, and seeks to add the new well as an approved point of diversion to this water right. The City recognizes that this water right has a depletion limit of 550.8 acre-feet per year, as previously determined by the Division of Water Rights.
POINT(S) OF DIVERSION ------> MAP VIEW****	**SAME AS HERETOFORE, AND IN ADDITION TO: (Click link for WRPLAT)**
Point Underground:	UNDERGROUND: (Click Link for PLAT data, Well ID# link for data.)
(1) S 1204 ft W 1212 ft from NE cor, Sec 18, T 7N, R 1W, SLBM	(1) N 2475 ft E 1499 ft from SW cor, Sec 17, T 7N, R 1W, SLBM
Diameter: 12 ins. Depth: 530 to ft. WELL ID#: 5389	Diameter: 8 ins. Depth: 575 to ft. WELL ID#: 437680
NATURE OF USE ------>	**SAME AS HERETOFORE**
IRR = values are in acres. STK = values are in ELUs meaning Cattle or Equivalent. DOM = values are in EDUs meaning Equivalent Domestic Units (or Families).	
SUPPLEMENTAL to Other Water Rights: No	SUPPLEMENTAL to Other Water Rights: No
MUN: Pleasant View USED 01/01 - 12/31	

PROTESTANTS

NAME: Robert and Ruth Christofferson	NAME:
ADDR: 279 East Elberta Drive Ogden, UT 84404	ADDR:
TYPE: APPL	TYPE:
RCVD: 11/18/2014	RCVD:

E N D O F D A T A

Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 08/10/2016 Page 1

CHANGE: **a23833** WATER RIGHT: 35-284 CERT. NO.: AMENDATORY? No COUNTY TAX ID#:
BASE WATER RIGHTS: 35-284
RIGHT EVIDENCED BY: 35-284 (A16050)
CHANGES: Point of Diversion [X], Place of Use [X], Nature of Use [X], Reservoir Storage [ ].

NAME: Pleasant View City
ADDR: 520 West Elberta Dr.
Pleasant View UT 84414
INTEREST: 100% REMARKS:

DATES, ETC.

FILED: 09/21/1999|PRIORITY: 09/21/1999|ADV BEGAN: 11/05/1999|ADV ENDED: 11/12/1999|NEWSPAPER: Standard Examiner
ImpairDesig[NO]|IMP NOTICE:
Water Rights which the State Engineer has Identified may Experience Quantity Impairment:

ProtestEnd:12/02/1999|PROTESTED: [No]|HEARNG HLD: |SE ACTION: [Approved]|ActionDate:08/03/2001|PROOF DUE: 08/31/2007
EXTENSION: |ELEC/PROOF:[Proof]|ELEC/PROOF:08/31/2007|CERT/WUC: 05/24/2010|LAP, ETC: |LAPS LETTER:
RUSH LETTR: |RENOVATE: |RECON REQ: |TYPE: [ ]

***STATUS LINE**
Status: Certificated

**********************H E R E T O F O R E********************** **********************H E R E A F T E R**********************

FLOW: 0.499 cfs	FLOW: 0.499 cfs
SOURCE: Little Missouri Spg & Alder Crk Spg	SOURCE: Alder Creek Spring
COUNTY: Weber	COUNTY: Weber COM DESC:
The certificate expanded the period of use from Sept. 15 to May 1 to year round.	Place of Use is within the service area of Pleasant View City

POINT(S) OF DIVERSION ------> MAP VIEW****	**CHANGED AS FOLLOWS: (Click Location link for WRPLAT)**
Point Surface: (1) N 2015 ft E 499 ft from S4 cor, Sec 17, T 7N, R 1W, SLBM Dvrting Wks: Source: Alder Creek Spring (2) S 903 ft W 164 ft from N4 cor, Sec 19, T 7N, R 1W, SLBM Dvrting Wks: Source: Little Missouri Spring	Point Surface: (1) N 2015 ft E 499 ft from S4 cor, Sec 17, T 7N, R 1W, SLBM Dvrting Wks: Source: Alder Creek Stream Alt?: No

PLACE OF USE ------>

	--NW¼-- --NE¼-- --SW¼-- --SE¼--	
	N N S S||N N S S||N N S S||N N S S	N N S S||N N S S||N N S S||N N S S
	W E W E||W E W E||W E W E||W E W E	W E W E||W E W E||W E W E||W E W E
Sec 17 T 7N R 1W SLBM	* : : : ** : : : **X:X:X:X** : : : *	
Sec 18 T 7N R 1W SLBM	* : : : ** : : : ** : : : **X:X:X:X*	
Sec 19 T 7N R 1W SLBM	* : :X:X**X:X:X:X**X:X:X:X**X: :X:X*	
Sec 20 T 7N R 1W SLBM	*X:X:X: ** : : : ** : : : ** : : : *	
Sec 29 T 7N R 1W SLBM	*X:X:X: ** : : : **X:X: : ** : : : *	
Sec 30 T 7N R 1W SLBM	*X:X:X: **X:X:X:X** : : : ** : : : *	
Sec 23 T 7N R 2W SLBM	* : : : ** :X: : ** : : : ** : : : *	
Sec 24 T 7N R 2W SLBM	*X: :X:X** : : : **X:X: : ** :X: :X*	

NATURE OF USE ------>	**CHANGED as follows:**
IRR = values are in acres. STK = values are in ELUs meaning Cattle or Equivalent. DOM = values are in EDUs meaning Equivalent Domestic Units (or Families).	
SUPPLEMENTAL to Other Water Rights: Yes	SUPPLEMENTAL to Other Water Rights: No
DOM: 674.0000 USED 01/01 - 12/31	MUN: Pleasant View USED 01/01 - 12/31
OTH: OTHER: Domestic in 1 store, USED 01/01 - 12/31 1 gas station, 3 churchs, 2 cafes, 1 bank and 5 schools.	

```
|-------------------------------------------------------------||-------------------------------------------------------------|
 _____________________________________________________________  _____________________________________________________________
 _____________________________________________________________  _____________________________________________________________
|RESERVOIR STORAGE -->                                         ||SAME AS HERETOFORE                                          |
|-------------------------------------------------------------||-------------------------------------------------------------|
|Storage 01/01 to 12/31, in Unnamed Reservoir #1               ||                                                             |
| with a maximum capacity of  acre-feet, located in:           ||                                                             |
|                            --NW¼--  --NE¼--  --SW¼--  --SE¼-- ||                                                             |
|  Height of Dam:         ft |N N S S||N N S S||N N S S||N N S S||                                                             |
|  Area Inundat           acs|W E W E||W E W E||W E W E||W E W E||                                                             |
|Sec 19 T  7N R  1W SLBM     * : : :X** : : : ** : : : ** : : : *||                                                             |
|-------------------------------------------------------------||-------------------------------------------------------------|
|-------------------------------------------------------------||-------------------------------------------------------------|
|Storage 01/01 to 12/31, in Unnamed Reservoir #2               ||                                                             |
| with a maximum capacity of  acre-feet, located in:           ||                                                             |
|                            --NW¼--  --NE¼--  --SW¼--  --SE¼-- ||                                                             |
|  Height of Dam:         ft |N N S S||N N S S||N N S S||N N S S||                                                             |
|  Area Inundat           acs|W E W E||W E W E||W E W E||W E W E||                                                             |
|Sec 20 T  7N R  1W SLBM     *X: : : ** : : : ** : : : ** : : : *||                                                             |
|-------------------------------------------------------------||-------------------------------------------------------------|
|-------------------------------------------------------------||-------------------------------------------------------------|
 _____________________________________________________________  _____________________________________________________________
*-------------------------------------------------------------------------------------------------------------------------------*
EXTENSIONS OF TIME WITHIN WHICH TO FILE PROOF*********************************************************************************
*-------------------------------------------------------------------------------------------------------------------------------*
FILED:     08/31/2004|PUB BEGAN:           |PUB ENDED:           |NEWSPAPER: No Adv Required
ProtestEnd:          |PROTESTED: [No      ]|HEARNG HLD:          |SE ACTION: [Approved]|ActionDate:10/12/2004|PROOF DUE:  08/31/2007
--------------------------------------------------------------------------------------------------------------------------------
********************************************************************************************************************************
**********************************************END  OF  DATA*********************************************************************
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Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 08/10/2016 Page 1

CHANGE: **a29692** WATER RIGHT: 35-4429 CERT. NO.: COUNTY TAX ID#:

BASE WATER RIGHTS: 35-4429

RIGHT EVIDENCED BY: 35-4429(A39057)

CHANGES: Point of Diversion [X], Place of Use [ ], Nature of Use [ ], Reservoir Storage [ ].

NAME: Pleasant View City

ADDR: 520 West Elberta Drive
Ogden UT 84414-1408

INTEREST: 100% REMARKS:

DATES, ETC.

FILED: 12/29/2004|PRIORITY: 12/29/2004|ADV BEGAN: 01/27/2005|ADV ENDED: 02/03/2005|NEWSPAPER: Standard Examiner
ImpairDesig[NO]|IMP NOTICE:
Water Rights which the State Engineer has Identified may Experience Quantity Impairment:

ProtestEnd:02/23/2005|PROTESTED: [No]|HEARNG HLD: |SE ACTION: [Approved]|ActionDate:03/01/2006|PROOF DUE:
EXTENSION: |ELEC/PROOF:[ ]|ELEC/PROOF: |CERT/WUC: |LAP, ETC: |LAPS LETTER:
RUSH LETTR: |RENOVATE: |RECON REQ: |TYPE: [ ]

***STATUS LINE**

Status: Approved
Related Distribution System: 63-WEBER RIVER (WEBER & DAVIS)

H E R E T O F O R E	**H E R E A F T E R**
FLOW: 3.0 cfs	FLOW: 3.0 cfs
SOURCE: Underground Water Well	SOURCE: Underground Water Well (existing)
COUNTY: Weber	COUNTY: Weber COM DESC: Pleasant View City
	The purpose of the change application is to change the point of diversion to the Jessie Creek Well site and no longer seek use of the well located at South 1865 feet and East 669 feet from the NW Corner, Section 17, T7N,R1W.
POINT(S) OF DIVERSION ------> MAP VIEW****	**CHANGED AS FOLLOWS: (Click Location link for WRPLAT)**
Point Underground:	UNDERGROUND: (Click Link for PLAT data, Well ID# link for data.)
(1) S 1865 ft E 669 ft from NW cor, Sec 17, T 7N, R 1W, SLBM	(1) N 635 ft W 1061 ft from SE cor, Sec 07, T 7N, R 1W, SLBM
Diameter: 1 ins. Depth: 1000 to ft. WELL ID#: 000000	Diameter: 14 ins. Depth: 1500 to ft. WELL ID#:
COMMENT:	COMMENT: Jessie Creek Well
NATURE OF USE ------>	**SAME AS HERETOFORE**
IRR = values are in acres. STK = values are in ELUs meaning Cattle or Equivalent. DOM = values are in EDUs meaning Equivalent Domestic Units (or Families).	
SUPPLEMENTAL to Other Water Rights: No	SUPPLEMENTAL to Other Water Rights: No
MUN: Pleasant View USED 01/01 - 12/31	

E N D O F D A T A

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 08/10/2016

WATER RIGHT: **35-4430** APPLICATION/CLAIM NO.: **A39058** CERT. NO.: 12750

OWNERSHIP

NAME: Pleasant View City (Public Water Supplier)
ADDR: 520 West Elberta Drive
Pleasant View UT 84414
INTEREST: 100%

DATES, ETC.

LAND OWNED BY APPLICANT? Yes COUNTY TAX ID#:
FILED: 10/10/1968 | PRIORITY: 10/10/1968 | PUB BEGAN: 11/07/1968 | PUB ENDED: | NEWSPAPER:
ProtestEnd: | PROTESTED: [No] | HEARNG HLD: | SE ACTION: [Approved] | ActionDate:03/13/1981 | PROOF DUE: 08/31/1985
EXTENSION: | ELEC/PROOF:[ ] | ELEC/PROOF: | CERT/WUC: 12/19/1986 | LAP, ETC: | LAPS LETTER:
RUSH LETTR: | RENOVATE: | RECON REQ: | TYPE: [ ]
PD BOOK: [35-] | MAP: [ ] | PUB DATE:

*TYPE -- DOCUMENT -- STATUS
Type of Right: Application to Appropriate Source of Info: Certificate **Status: Certificate**

LOCATION OF WATER RIGHT*(Points of Diversion: Click on Location to access PLAT Program.)********* MAP VIEW ***************

FLOW: 0.73 cfs
SOURCE: Underground Water Well
COUNTY: Weber COMMON DESCRIPTION:

POINT OF DIVERSION -- UNDERGROUND: (Click Well ID# link for more well data.)
(1) N 1821 ft W 331 ft from S4 cor, Sec 17, T 7N, R 1W, SLBM
DIAMETER OF WELL: 10 ins. DEPTH: 646 to ft. YEAR DRILLED: 1981 WELL LOG? Yes WELL ID#: 30375

USES OF WATER RIGHT****** *ELU -- Equivalent Livestock Unit (cow, horse, etc.)* ******** *EDU -- Equivalent Domestic Unit or 1 Family*
(The Beneficial Use Amount is the quantity of Use that this Water Right contributes to the Group Total.)

SUPPLEMENTAL GROUP NO.: 201748. Water Rights Appurtenant to the following use(s):
35-284(CERT),291(RNUM),1168(CERT),1172(APP),**4430(CERT)**

DOMESTIC: Beneficial Use Amt: 0.0 EDUs of the Group Total of 674. PERIOD OF USE: 01/01 TO 12/31

COMMERCIAL: store, gas station, 3 churches, 2 cafes, bank, 5 schools PERIOD OF USE: 01/01 TO 12/31
Acre Feet Contributed by this Right for this Use: 0.0

###PLACE OF USE:

	NORTH WEST QUARTER				NORTH EAST QUARTER				SOUTH WEST QUARTER				SOUTH EAST QUARTER			
	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE
Sec 17 T 7N R 1W SLBM																
Sec 18 T 7N R 1W SLBM																
Sec 19 T 7N R 1W SLBM																
Sec 20 T 7N R 1W SLBM																
Sec 29 T 7N R 1W SLBM																
Sec 30 T 7N R 1W SLBM																
Sec 23 T 7N R 2W SLBM																
Sec 24 T 7N R 2W SLBM																

SUPPLEMENTAL GROUP NO.: 205279. Water Rights Appurtenant to the following use(s):
35-284(CERT),1172(APP),4429(APP),**4430(CERT)**,11440(CERT)
Although the volume of water in 35-4430 has not been evaluated, usage data from the well (Alder Creek 2) should give some idea or understanding of how it might be quantified.

MUNICIPAL: Pleasant View PERIOD OF USE: 01/01 TO 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated
Period of use for 35-284 is Sep 15 to May 1.

UNDERLYING RIGHT FOR THE FOLLOWING SEWAGE REUSE NOTICES:

NS009 | FILED: August 18, 2004 | APPLICANT: Central Weber Sewer Improvement District | STATUS: APP

E N D O F D A T A

Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 08/10/2016 Page 1

CHANGE: **a26329** WATER RIGHT: 35-7054 CERT. NO.: COUNTY TAX ID#:

BASE WATER RIGHTS: 35-7054
35-7069
35-7070

RIGHT EVIDENCED BY: 35-7054, 35-7069, 35-7070 (Awards 54, 69, and 70 in the Ogden River Decree)

CHANGES: Point of Diversion [X], Place of Use [X], Nature of Use [X], Reservoir Storage [ ].

NAME: Pleasant View City
ADDR: 520 West Elberta Drive
Plesant View UT 84414
REMARKS:

DATES, ETC.

FILED: 02/06/2002|PRIORITY: 02/06/2002|ADV BEGAN: 02/21/2002|ADV ENDED: 02/28/2002|NEWSPAPER: Standard Examiner
ImpairDesig[NO]|IMP NOTICE:
Water Rights which the State Engineer has Identified may Experience Quantity Impairment:

ProtestEnd:03/20/2002|PROTESTED: [No]|HEARNG HLD: |SE ACTION: [Approved]|ActionDate:01/29/2003|PROOF DUE: 01/31/2017
EXTENSION: |ELEC/PROOF:[ ]|ELEC/PROOF: |CERT/WUC: |LAP, ETC: |LAPS LETTER:
RUSH LETTR: |RENOVATE: |RECON REQ: |TYPE: [ ]

STATUS LINE

Status: Approved

H E R E T O F O R E

FLOW: 1.74 cfs

SOURCE: Little Missouri, Alder Creek, & Big Hollow Springs

COUNTY: Weber

Ogden Decree No. 54

Not for official use

Proposed Determination No. 711 (a)

H E R E A F T E R

FLOW: 1.74 cfs

SOURCE: Little Missouri, Alder Creek, & Big Hollow Springs

COUNTY: Weber COM DESC: Pleasant View

The place of use is within the service area of Pleasant View City.

The primary purpose of this Application is to change the nature of use from irrigation to municipal use. The points of diversion listed in the Ogden River Decree were very general. Therefore, this application also provides meaningful legal descriptions, although the sources are essentially the same as before. In changing from irrigation to municipal, the City understands that it will be subject to the diversion and depletion limits associated with the irrigation uses. Therefore, there will be no enlargement of the water rights.

POINT(S) OF DIVERSION ------> MAP VIEW**

Point Surface:
(1) N 375 ft E 719 ft from S4 cor, Sec 17, T 7N, R 1W, SLBM
Dvrting Wks: Stevens & Cragun Ditch
Source: Alder Creek Spring
(2) 0 ft 0 ft from S4 cor, Sec 17, T 7N, R 1W, SLBM
Dvrting Wks: Stevens & Cragun Ditch
Source: Alder Creek Spring - **Note: as per decree
(3) N 1406 ft E 125 ft from S4 cor, Sec 18, T 7N, R 1W, SLBM
Dvrting Wks: Stevens & Cragun Ditch
Source: Big Hollow Spring
(4) 0 ft 0 ft from SE cor, Sec 18, T 7N, R 1W, SLBM
Dvrting Wks: Stevens & Cragun Ditch
Source: Big Hollow Spring - **Note: as per decree
(5) S 903 ft W 164 ft from N4 cor, Sec 19, T 7N, R 1W, SLBM
Dvrting Wks: Alder Creek Ditch
Source: Little Missouri Spring
(6) S 1815 ft E 1685 ft from NW cor, Sec 19, T 7N, R 1W, SLBM
Dvrting Wks: Alder Crk Ditch from Pipeline
Source: Little Missouri Spring - **Note: as per decree

Point Rediversion:
(1) S 1815 ft E 1685 ft from NW cor, Sec 19, T 7N, R 1W, SLBM
Dvrting Wks: Alder Crk. Ditch from P. Line
Source: Little Missouri Spring

CHANGED AS FOLLOWS: (Click Location link for WRPLAT)

Point Surface:
(1) N 375 ft E 719 ft from S4 cor, Sec 17, T 7N, R 1W, SLBM
Dvrting Wks: Stevens & Cragun Ditch
Source: Alder Creek Spring
(2) N 2015 ft E 499 ft from S4 cor, Sec 17, T 7N, R 1W, SLBM
Dvrting Wks:
Source: Alder Creek Spring
(3) N 1406 ft E 125 ft from S4 cor, Sec 18, T 7N, R 1W, SLBM
Dvrting Wks: Stevens & Cragun Ditch
Source: Big Hollow Spring
(4) N 1406 ft E 125 ft from S4 cor, Sec 18, T 7N, R 1W, SLBM
Dvrting Wks:
Source: Big Hollow Spring
(5) S 903 ft W 164 ft from N4 cor, Sec 19, T 7N, R 1W, SLBM
Dvrting Wks: Alder Creek Ditch
Source: Little Missouri Spring

Stream Alt?: No

PLACE OF USE ------>

	--NW¼--	--NE¼--	--SW¼--	--SE¼--
	N N S S W E W E	N N S S W E W E	N N S S W E W E	N N S S W E W E
Sec 17 T 7N R 1W SLBM	* : : :	** : : :	**X:X:X:X	**X:X:X:X*
Sec 18 T 7N R 1W SLBM	* : : :	** : : :	**X:X:X:X	**X:X:X:X*
Sec 19 T 7N R 1W SLBM	* : :X:X	** : :X:X	**X:X:X:X	**X:X:X:X*
Sec 30 T 7N R 1W SLBM	*X:X:X:X	** : : :	** : : :	** : : : *
Sec 24 T 7N R 2W SLBM	*X:X:X:X	**X:X:X:X	**X:X:X:X	**X:X:X:X*
Sec 25 T 7N R 2W SLBM	* : : :	** :X: :	** : : :	** : : : *

CHANGED as follows:

	--NW¼--	--NE¼--	--SW¼--	--SE¼--
	N N S S W E W E	N N S S W E W E	N N S S W E W E	N N S S W E W E
Sec 17 T 7N R 1W SLBM	*X:X:X:X	** : : :	**X:X:X:X	**X:X:X:X*
Sec 18 T 7N R 1W SLBM	* : : :	**X:X:X:X	**X:X:X:X	**X:X:X:X*
Sec 19 T 7N R 1W SLBM	*X:X:X:X	**X:X:X:X	**X:X:X:X	**X:X:X:X*
Sec 20 T 7N R 1W SLBM	*X:X:X:X	** : : :	**X:X:X:X	** : : : *
Sec 29 T 7N R 1W SLBM	*X:X:X:X	**X:X:X:X	**X:X:X:X	**X:X:X:X*
Sec 30 T 7N R 1W SLBM	*X:X:X:X	**X:X:X:X	**X:X:X:X	**X:X:X:X*
Sec 31 T 7N R 1W SLBM	*X:X:X:X	** : : :	** : : :	** : : : *
Sec 32 T 7N R 1W SLBM	*X:X:X:X	** : : :	** : : :	** : : : *
Sec 13 T 7N R 2W SLBM	* : : :	** : : :	**X:X:X:X	**X:X:X:X*
Sec 14 T 7N R 2W SLBM	* : : :	** : : :	** : : :	**X:X:X:X*
Sec 23 T 7N R 2W SLBM	* : : :	**X:X:X:X	** : : :	**X:X:X:X*
Sec 24 T 7N R 2W SLBM	*X:X:X:X	**X:X:X:X	**X:X:X:X	**X:X:X:X*
Sec 25 T 7N R 2W SLBM	*X:X:X:X	**X:X:X:X	**X:X:X:X	**X:X:X:X*
Sec 36 T 7N R 2W SLBM	* : : :	**X:X:X:X	** : : :	** : : : *

NATURE OF USE ------>

IRR = values are in acres.
STK = values are in ELUs meaning Cattle or Equivalent.
DOM = values are in EDUs meaning Equivalent Domestic Units (or Families).

SUPPLEMENTAL to Other Water Rights: No

IRR: 139.0000 USED 03/01 - 11/01

CHANGED as follows:

SUPPLEMENTAL to Other Water Rights: No

MUN: Pleasant View USED 01/01 - 12/31

EXTENSIONS OF TIME WITHIN WHICH TO FILE PROOF

FILED: 12/13/2007	PUB BEGAN:	PUB ENDED:	NEWSPAPER: No Adv Required
ProtestEnd:	PROTESTED: [ ]	HEARNG HLD:	SE ACTION: [Approved] ActionDate:12/28/2007 PROOF DUE: 01/31/2012
FILED: 12/19/2011	PUB BEGAN:	PUB ENDED:	NEWSPAPER: No Adv Required
ProtestEnd:	PROTESTED: [ ]	HEARNG HLD:	SE ACTION: [Approved] ActionDate:01/19/2012 PROOF DUE: 01/31/2017

END OF DATA

Appendix C

Project Cost Estimates

Project No.: 1
Description: Overflow Modifications or Exceptions
- Macs
- Little Mo
- 500 West

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	New overflow and discharge line at Macs Reservoir	1 ls	$ 25,000	$ 25,000	$ 25,000	$ -
2	Modify drain piping at Little Mo Reservoir	1 ls	15,000	15,000	15,000	-
3	Modify drain piping at 500 West Reservoir	1 ls	15,000	15,000	15,000	-
			Subtotal	$ 55,000	$ 55,000	$ -
			15% Engineering & Construction Management	8,250	8,250	-
			10% Contingency	5,500	5,500	-
			TOTAL	**$ 68,750**	**$ 68,750**	**$ -**

Project No.: 2
Description: Zone 1 Reservoir #1 and Related Infrastructure

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Acquire property	1 ac	$ 125,000	$ 125,000	$ 4,398	$ 120,602
2	Construct new 600,000 gallons concrete water storage reservoir	1 ls	750,000	750,000	26,389	723,611.11
3	Install 12" water line	3,800 lf	70	266,000	9,359	256,641
4	Install 12" butterfly valve	5 ea	3,500	17,500	616	16,884
5	Connect to existing water line	1 ea	3,000	3,000	106	2,894
6	Patch asphalt road	1,500 lf	20	30,000	1,056	28,944
7	Mobilization	1 ls	107,000	107,000	3,765	103,235
			Subtotal	$ 1,298,500	$ 45,688	$ 1,252,812
			15% Engineering & Construction Management	194,775	6,853	187,922
			10% Contingency	129,850	4,569	125,281
			TOTAL	**$ 1,623,125**	**$ 57,110**	**$ 1,566,015**

Notes:
1. 96% of Weber Basin contract water (2016), and therefore 96% of the cost, is available for new development and is impact fee eligible.

Project No.: 3

Description: Water Line Replacements to Correct Existing Deficiency

- 250 W, north of 4350 N
- 1050 W between 3800 N and 3925 N
- 3500 North, east of 800 W
- Pleasant View Dr, north of Woodruff Auto Service
- All of Evergreen (4000 N to PV Dr), 4000 N to 1100 W, north to PRV
- Budge Lane (~1550 W, aka Price Ln) between Pleasant View Dr and US 89
- Elberta Dr between 400 W and 300 W

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Construct 8" water line	9,390 lf	$ 50	$ 469,500	$ 469,500	$ -
2	Install 8" valve	23 ea	2,500	57,500	57,500	-
3	Install fire hydrant	16 ea	6,500	104,000	104,000	-
4	Restore water service	108 ea	2,500	270,000	270,000	-
5	Connect to existing water line	29 ea	3,000	87,000	87,000	-
6	Repair asphalt road	10,420 lf	20	208,400	208,400	-
7	Mobilization	1 ls	120,000	120,000	120,000	-
			Subtotal	$ 1,316,400	$ 1,316,400	$ -
		15% Engineering & Construction Management		197,460	197,460	-
			10% Contingency	131,640	131,640	-
			TOTAL	**$ 1,645,500**	**$ 1,645,500**	**$ -**

Project No.: 4
Description: Alder Creek Reservoir 2 Rehabilitation

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Replace roof coating	1 ls	$ 15,000	$ 15,000	$ 15,000	
2	Seal interior cracks	200 lf	100	20,000	20,000	
3	Replace ladder	1 ea	3,000	3,000	3,000	
4	Replace overflow	1 ea	5,000	5,000	5,000	
5	Mobilization	1 ls	5,000	5,000	5,000	
			Subtotal	$ 48,000	$ 48,000	$ -
		15% Engineering & Construction Management		7,200	7,200	-
			10% Contingency	4,800	4,800	-
			TOTAL	**$ 60,000**	**$ 60,000**	**$ -**

Project No.: 5

Description: Pressure Reducing Valves Replacement

- 1100 W at 3550 N (8-inch linefrom Little Mo.)
- 800 W at 3900 N
- 500 W at 4400 N (Christofferson's field)
- 500 W at 4050 W
- 500 W at Elberta
- 300 W at 4150 N (re-build)

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Replace PRV - 1100 W at 3550 N (8-inch)	1 ls	$ 20,000	$ 20,000	$ 20,000	$ -
2	Replace PRV - 800 W at 3900 N (6-inch)	1 ls	15,000	15,000	15,000	-
3	Replace PRV - 500 W at 4400 N (12-inch)	1 ls	35,000	35,000	35,000	-
4	Replace PRV - 500 W at 4050 N (8-inch)	1 ls	20,000	20,000	20,000	-
5	Replace PRV - 500 W at Elberta Dr. (10-inch)	1 ls	25,000	25,000	25,000	-
6	Rehabilitate PRV - 300 W at 4150 N (6-inch)	1 ls	5,000	5,000	5,000	-
7	Mobilization	1 ls	12,000	12,000	12,000	-
			Subtotal	$ 132,000	$ 132,000	$ -
			15% Engineering & Construction Management	19,800	19,800	-
			10% Contingency	13,200	13,200	-
			TOTAL	**$ 165,000**	**$ 165,000**	**$ -**

Notes:

Lump sum costs include valves and appurtenances, vault replacement, water line connections, and asphalt repair.

Project No.: 6
Description: Replace dual water lines on 4575 N between 900 W and 350 W with 12-inch water line

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Construct 12" water line	2,750 lf	70	$ 192,500	$ 192,500	$ -
2	Install 12" valve	5 ea	3,500	17,500	17,500	-
3	Install fire hydrant	5 ea	6,000	30,000	30,000	-
4	Restore water service	6 ea	2,500	15,000	15,000	-
5	Connect to existing water line	5 ea	3,000	15,000	15,000	-
6	Repair asphalt road	1,325 lf	20	26,500	26,500	-
7	Mobilization	1 ls	30,000	30,000	30,000	-
			Subtotal	$ 326,500	$ 326,500	$ -
			15% Engineering & Construction Management	48,975	48,975	-
			10% Contingency	32,650	32,650	-
			TOTAL	**$ 408,125**	**$ 408,125**	**$ -**

Project No.: 7
Description: Generator at Well #4

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Furnish and install diesel generator	1 ls	$ 60,000	$ 60,000	$ 60,000	$ -
2	Modify electrical to accommodate new generator	1 ls	5,000	5,000	5,000	-
3	Mobilization	1 ls	7,000	7,000	7,000	-
			Subtotal	$ 72,000	$ 72,000	$ -
			15% Engineering & Construction Management	10,800	10,800	-
			10% Contingency	7,200	7,200	-
			TOTAL	**$ 90,000**	**$ 90,000**	**$ -**

Project No.: 8

Description: Reservoir-Distribution System Connection Meters

- Macs/Jessie
- Little Mo
- Alder 1
- Alder 2 and meter overflow
- Well #4

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Install metering manhole	6 ea	$ 5,000	$ 30,000	$ 30,000	$ -
2	Install meter	6 ea	3,000	18,000	18,000	-
3	Modify electrical and SCADA	5 ea	4,000	20,000	20,000	-
4	Mobilization	1 ls	7,000	7,000	7,000	-
			Subtotal	$ 75,000	$ 75,000	$ -
		15% Engineering & Construction Management		11,250	11,250	-
			10% Contingency	7,500	7,500	-
			TOTAL	**$ 93,750**	**$ 93,750**	**$ -**

Project No.: 9

Description: Services Transfer and Water Line Abandonment

- 4300 N between 900 W and 500 W
- Pleasant View Dr between 600 W and 400 W
- Elberta Dr between 600 W and 400 W
- Pleasant View Dr between 1000 W and 1100 W
- 600 W, south of canal - Shady Lane Park Restrooms

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Transfer water service	36 ea	$ 2,500	$ 90,000	$ 90,000	$ -
2	Install 1" water service line	1,635 lf	20	32,700	32,700	-
3	Patch asphalt road	668 lf	20	13,350	13,350	-
4	Abandon existing water line	4 ea	500	2,000	2,000	-
5	Mobilization	1 ls	14,000	14,000	14,000	-
			Subtotal	$ 152,050	$ 152,050	$ -
		15% Engineering & Construction Management		22,808	22,808	-
			10% Contingency	15,205	15,205	-
			TOTAL	**$ 190,063**	**$ 190,063**	**$ -**

Project No.: 10
Description: WBWCD Contract for Impact Fee Pass-Through

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Engineering and Attorney fees for analysis and review of contract with WBWCD for Impact Fee Pass-Through approach of purchasing water	1 ls	$ 20,000	$ 20,000	$ -	$ 20,000
			Subtotal	$ 20,000	$ -	$ 20,000
			10% Contingency	2,000	-	2,000
			TOTAL	**$ 22,000**	**$ -**	**$ 22,000**

Project No.: 11
Description: Weber Basin East Pump Station, Transmission Line, and 2700 North Crossing at 600 W Upsizing

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Property acquisition	0.5 ac	$ 150,000	$ 75,000	$ -	$ 75,000
2	Construct pump station	1 ls	450,000	450,000	-	450,000
3	Install 14" water line	2,700 lf	80	216,000	-	216,000
4	Install 14" butterfly valve	4 ea	4,000	16,000	-	16,000
5	Install 12" water line in 20" casing by bore across 2700 N	125 lf	120	15,000	-	15,000
6	Install 12" butterfly valve	2 ea	3,500	7,000	-	7,000
7	Connect to existing water line	3 ea	3,000	9,000	-	9,000
8	Install fire hydrant	6 ea	6,000	36,000	-	36,000
9	Patch asphalt road	2,700 lf	20	54,000	-	54,000
10	Mobilization	1 ls	81,000	81,000	-	81,000
			Subtotal	$ 959,000	$ -	$ 959,000
			15% Engineering & Construction Management	143,850	-	143,850
			10% Contingency	95,900	-	95,900
			TOTAL	**$ 1,198,750**	**$ -**	**$ 1,198,750**

Project No.: 12
Description: Replace water line on Pleasant View Dr between 800 W and 600 W; on Elberta between 700 W and 600 W

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Construct 10" water line	2,630 lf	$ 60	$ 157,800	$ 157,800	$ -
2	Install 10" valve	9 ea	3,000	27,000	27,000	-
3	Install fire hydrant	2 ea	6,500	13,000	13,000	-
4	Restore water service	11 ea	2,500	27,500	27,500	-
5	Connect to existing water line	10 ea	3,000	30,000	30,000	-
6	Repair asphalt road	2,850 lf	20	57,000	57,000	-
7	Mobilization	1 ls	32,000	32,000	32,000	-
			Subtotal	$ 344,300	$ 344,300	$ -
		15% Engineering & Construction Management		51,645	51,645	-
			10% Contingency	34,430	34,430	-
			TOTAL	**$ 430,375**	**$ 430,375**	**$ -**

Project No.: 13
Description: Little Missouri Spring - source investigation, delineation, and rehabilitation

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Source investigation	1 ls	$ 3,000	$ 3,000	$ 3,000	$ -
2	Source delineation	1 ls	7,500	7,500	7,500	-
3	Spring rehabilitation	1 ls	50,000	50,000	50,000	-
			Subtotal	$ 60,500	$ 60,500	$ -
		15% Engineering & Construction Management		9,075	9,075	-
			10% Contingency	6,050	6,050	-
			TOTAL	**$ 75,625**	**$ 75,625**	**$ -**

Project No.: 14
Description: Water Sources Flow Evaluation
- Mac Wade Well
- Jessie Creek Well
- Alder Creek Spring
- Little Missouri Spring
- Well #4

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Data collection and processing	1 ls	2,000	$ 2,000	$ 2,000	$ -
2	Engineering Report	1 ls	10,000	10,000	10,000	-
			Subtotal	$ 12,000	$ 12,000	$ -
			10% Contingency	1,200	1,200	-
			TOTAL	**$ 13,200**	**$ 13,200**	**$ -**

Project No.: 15
Description: Alder Creek Spring Evaluation and Rehabilitation

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Source investigation	1 ls	$ 3,000	$ 3,000	$ 3,000	$ -
2	Source delineation	1 ls	7,500	7,500	7,500	-
3	Spring rehabilitation	1 ls	65,000	65,000	65,000	-
			Subtotal	$ 75,500	$ 75,500	$ -
			10% Contingency	7,550	7,550	-
			TOTAL	**$ 83,050**	**$ 83,050**	**$ -**

Project No.: 16

Description: Well Pumps Variable Frequency Drives

- Mac Wade Well
- Well #4
- Alder Creek Well

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Install VFD including electrical moficiations	3 ea	$ 7,500	$ 22,500	$ 22,500	$ -
			Subtotal	$ 22,500	$ 22,500	$ -
			15% Engineering & Construction Management	3,375	3,375	-
			10% Contingency	2,250	2,250	-
			TOTAL	**$ 28,125**	**$ 28,125**	**$ -**

Project No.: 17

Description: Future Development Water Lines Upsizing

- 4600 N, 900 W to 1100 W, upsize to 12-inch
- Line from Jessie Creek transmission line to 4900 N at 1100 W, upsize to 10-inch
- 1100 W, 4600 N to 4300 N, upsize to 10-inch
- Future Skyline Dr between 1100 W and 1700 W, upsize to 12-inch
- 1550 W, Pleasant View Dr to Skyline Dr, upsize to 12-inch

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Upsize to 10-inch water line	0 lf	$ -	$ -	$ -	$ -
2	Upsize to 12-inch water line	0 lf	-	-	-	-
3	Upsize to 10-inch valve	0 ea	-	-	-	-
4	Upsize to 12-inch valve	0 ea	-	-	-	-
			Subtotal	$ -	$ -	$ -
			15% Engineering & Construction Management	-	-	-
			10% Contingency	-	-	-
			TOTAL	**$ -**	**$ -**	**$ -**

Project No.: 18
Description: Zone 5 Reservoir and Related Infrastructure

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Acquire property		$ -	$ -	$ -	$ -
2	Construct new 1 MG concrete water storage reservoir		-	-	-	-
3	Install 12" water line		-	-	-	-
4	Install 12" butterfly valve		-	-	-	-
5	Connect to existing waterline		-	-	-	-
6	Patch asphalt road		-	-	-	-
7	Mobilization		-	-	-	-
			Subtotal	$ -	$ -	$ -
			15% Engineering & Construction Management	-	-	-
			10% Contingency	-	-	-
			TOTAL	**$ -**	**$ -**	**$ -**

Project No.: 19
Description: Zone 1 Reservoir #2

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown	
					Replacement/ Deficiency	Impact Fee Eligible
1	Construct new 600,000 gallon concrete water storage reservoir		$ -	$ -	$ -	$ -
2	Water line connections and modification		-	-	-	-
3	Mobilization		-	-	-	-
			Subtotal	$ -	$ -	$ -
			15% Engineering & Construction Management	-	-	-
			10% Contingency	-	-	-
			TOTAL	**$ -**	**$ -**	**$ -**