



SPRINGVILLE CITY

**2022 WATER CONSERVATION
PLAN UPDATE**

(HAL Project No.: 260.58.100)



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Lance Nielsen, P.E.
Principal, Project Engineer



December 2022

ACKNOWLEDGEMENTS

Successful completion of this water conservation plan update was made possible by the cooperation and assistance of many individuals, including the Mayor of Springville, City Council members, and City Staff as shown below. We sincerely appreciate the cooperation and assistance provided by these individuals.

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
TABLE OF CONTENTS	ii
LIST OF TABLES AND FIGURES	iii
CHAPTER 1 – INTRODUCTION	1-1
PURPOSE	1-1
BACKGROUND	1-1
CHAPTER 2 – EXISTING WATER SYSTEMS	2-1
SYSTEM PROFILES	2-1
M&I Water Connections	2-1
INVENTORY OF WATER RESOURCES	2-2
WATER RIGHTS	2-3
RELIABLE WATER SUPPLY	2-4
ULS Pipeline	2-4
HISTORICAL SUPPLY	2-5
CHAPTER 3 – WATER USE	3-1
PER CAPITA WATER USE	3-1
FUTURE WATER NEEDS	3-1
CHAPTER 4 – WATER & REVENUE LOSS CONTROL	4-1
WATER LOSS	4-1
BILLING RATES	4-2
CHAPTER 5 – CONSERVATION GOALS & PRACTICES	5-1
IDENTIFIED PROBLEMS	5-1
WATER CONSERVATION GOALS	5-1
Provo River Regional Goals	5-1
Springville City Water Conservation Goals	5-2
BEST MANAGEMENT PRACTICES	5-2
Existing Best Management Practices	5-2
Proposed Best Management Practice	5-3
CHAPTER 6 – IMPLEMENTATION PLAN	6-1
REFERENCES	R-1
APPENDIX A WATER USE PROJECTIONS	
APPENDIX B ADDITIONAL WATER CONSERVATION MEASURES	
APPENDIX C SPRINGVILLE CITY COUNCIL ADOPTION OF CONSERVATION PLAN	

LIST OF TABLES AND FIGURES

TABLE 2-1: DRINKING WATER CONNECTIONS	2-1
FIGURE 2-1: TOTAL SERVICE CONNECTIONS	2-2
TABLE 2-2: CULINARY WATER RIGHTS.....	2-3
TABLE 2-3: PI WATER RIGHTS	2-4
TABLE 2-4: RELIABLE WATER SUPPLY	2-4
TABLE 2-5: HISTORICAL DRINKING WATER SUPPLY	2-5
TABLE 2-6: HISTORICAL PI WATER SUPPLY	2-5
FIGURE 3-1: HISTORICAL PER-CAPITA WATER USE.....	3-1
FIGURE 3-2: WATER USE PROJECTIONS	3-2
TABLE 4-1: HISTORICAL DRINKING WATER LOSS.....	4-1
FIGURE 4-1: HISTORICAL DRINKING WATER PRODUCTION & USE	4-2
TABLE 4-2: DRINKING WATER RATES	4-2
TABLE 4-3: PRESSURIZED IRRIGATION RATES.....	4-3
TABLE 5-1: PROVO RIVER REGION CONSERVATION GOALS	5-1
TABLE 5-2: SPRINGVILLE CITY CONSERVATION GOALS	5-2
TABLE 5-2: BEST MANAGEMENT PRACTICES.....	5-3
TABLE 6-1: IMPLEMENTATION PLAN	1

CHAPTER 1 – INTRODUCTION

PURPOSE

The purpose of this plan is to assess the water conservation alternatives available to Springville, Utah (the City), to set reasonable and achievable goals to conserve water, and to identify the methods and measures which the City will take to reach these goals. This plan will serve as a guide to maintaining the same level of service to Springville's residents into the future.

This plan addresses future water needs and the City's ability to meet these needs. The City may choose the presented alternatives that best suit their interests, while attaining the selected goals. Once the conservation measures are implemented, the water system will be monitored to ensure that the methods are effective in improving water conservation.

BACKGROUND

Historically, the City has consistently met its primary goal of meeting the water demands for its residents. Engineering, master planning, and good civic leadership have been the keys for keeping the City on track. This plan will serve as a guide to maintaining the same level of service to Springville Residents into the future.

The City of Springville recognizes the need for proactive planning to meet the water needs of its residents. The Utah State Legislature has passed legislation requiring public water suppliers to prepare and periodically update a Water Conservation Plan. This report is an update to the 2016 Water Conservation Plan for the City. Included in this document are descriptions of the drinking water and pressurized irrigation (PI) systems, summaries of water consumption rates, assessments of water conservation alternatives, goals for water conservation, and details for existing and proposed conservation measures for the City.

CHAPTER 2 – EXISTING WATER SYSTEMS

SYSTEM PROFILES

The City is located in southern Utah County, on the eastern side of Utah Lake. The City boundaries include approximately 15 square miles, with an additional annexation area of approximately 17 square miles planned for future acquisition. The City also services some residents in Hobble Creek Canyon, which is outside the City limits.

M&I Water Connections

The City owns and operates both a public drinking water system and a public pressurized irrigation system servicing 9,666 and 1,591 connections respectively (Utah Division of Water Rights, 2022). The City began service for the pressurized irrigation system in 2019 and is actively pursuing growth of the system. A summary of the drinking water system connections for 2005 to 2021 is included in Table 2-1 below.

Table 2-1: Drinking Water Connections

Year	Connection Distribution					Total Connections
	Residential	Commercial	Industrial	Institutional	Other	
2005	93.59%	4.96%	0.48%	0.86%	0.11%	7,240
2006	93.43%	5.09%	0.46%	0.90%	0.12%	7,334
2007	93.53%	5.04%	0.40%	0.90%	0.13%	7,664
2008	93.31%	5.19%	0.39%	0.98%	0.14%	7,770
2009	92.48%	5.16%	0.38%	0.99%	0.99%	7,964
2010	92.48%	5.16%	0.37%	0.98%	1.01%	8,084
2011	92.39%	5.23%	0.33%	1.02%	1.03%	8,159
2012	92.22%	5.23%	0.33%	1.16%	1.05%	8,177
2013	91.82%	5.42%	0.01%	1.70%	1.05%	8,471
2014	92.12%	5.59%	0.09%	1.78%	0.41%	8,531
2015	90.76%	5.97%	0.09%	3.18%	-	8,765
2016	92.08%	5.84%	0.09%	1.99%	-	8,685
2017	93.83%	4.01%	0.09%	2.06%	-	8,673
2018	92.43%	5.48%	0.09%	2.00%	-	8,983
2019	92.75%	4.91%	0.56%	1.78%	-	9,099
2020	92.74%	4.93%	0.62%	1.70%	-	9,344
2021	92.76%	4.98%	0.60%	1.67%	-	9,666

Source: Utah Division of Water Rights

As shown in Table 2-1, most of the drinking water system connections are residential; while not shown in any table or figure, this is also the case for the pressurized irrigation system. The “other” category of service connections in Table 2-1 includes stock, wholesale, miscellaneous, and unmetered connections. The City has made efforts to install meters on unmetered connections,

and as of 2016, no unmetered connections have been reported to the Division of Water Rights. Water meters are read monthly, March through October, and are replaced on an as-needed basis.

In 2019, the City began reporting service for customers within the pressurized irrigation system to the Division of Water Rights. The pressurized irrigation system currently only serves the newer developments on the west side of the City. Since the PI service began, the City has expanded it rapidly, with the total number of connections growing from 894 in 2019 to 1,399 in 2021 (Utah Division of Water Rights, 2022). Figure 2-1 shows a chart of the total service connections for both the drinking water system and pressurized irrigation system from 2005 to 2021.

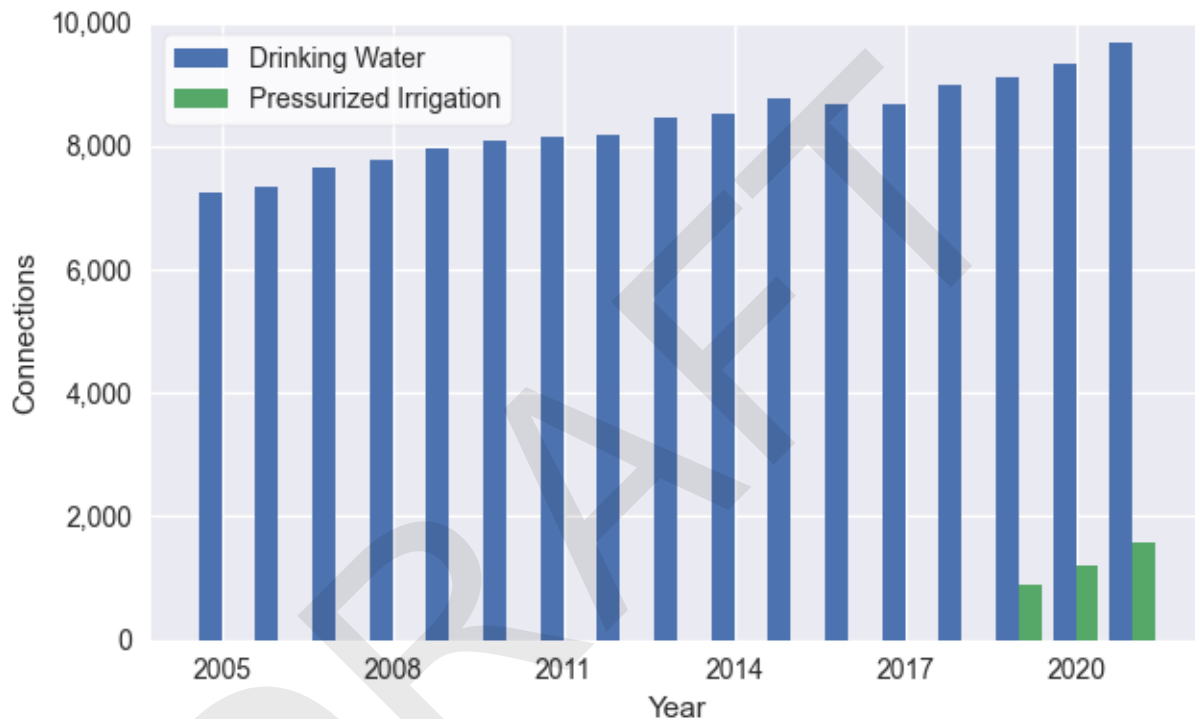


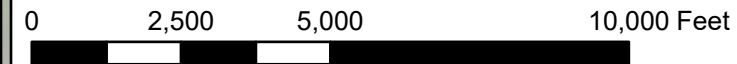
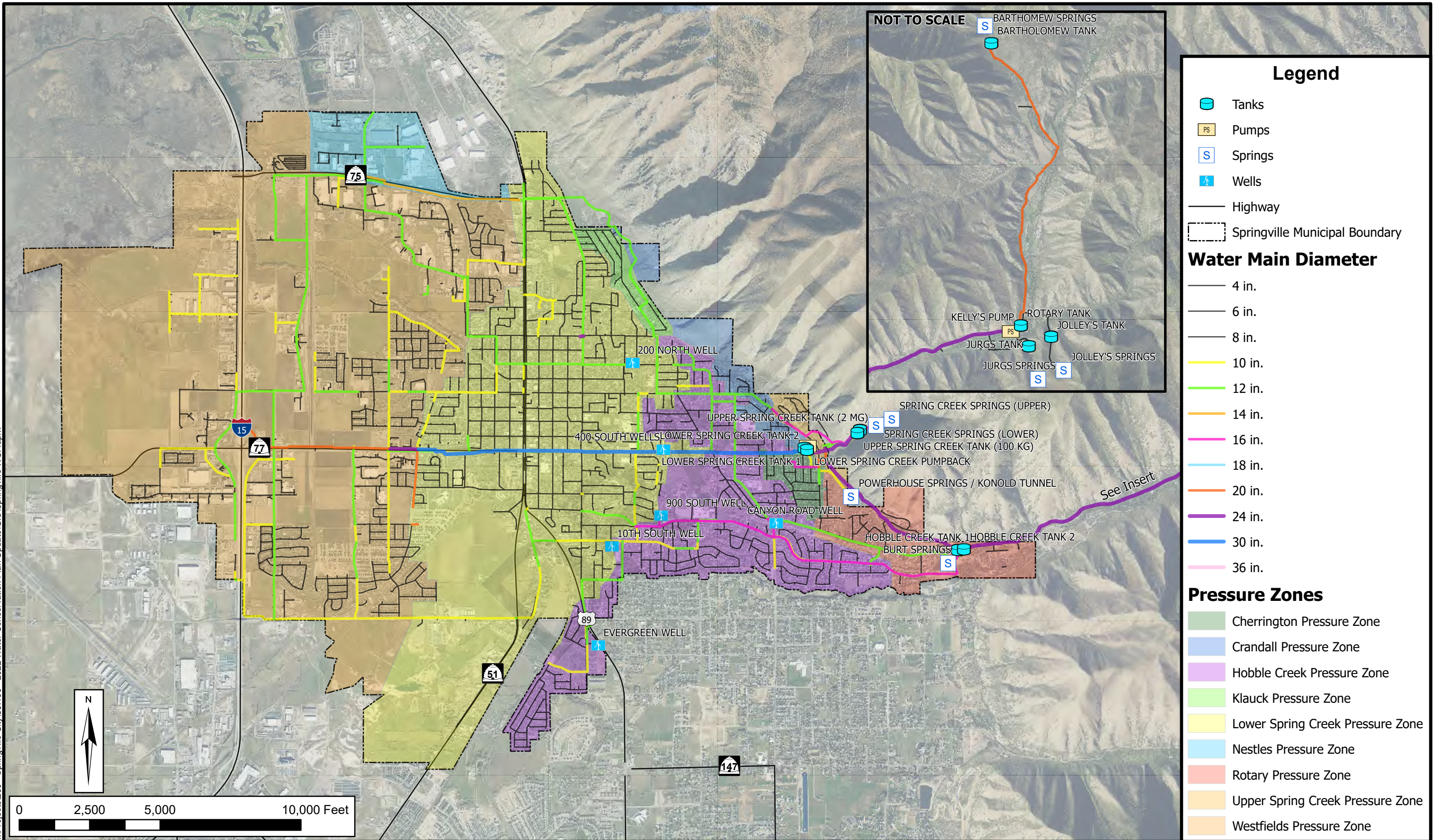
Figure 2-1: Total Service Connections

INVENTORY OF WATER RESOURCES

The drinking water system consists of nine main pressure zones and services the residents of Springville City and a small number of the residents in Hobble Creek Canyon. There is a total of seven wells and four springs which supply water for the drinking water system. The City uses eight storage tanks for drinking water storage. Figure 2-2 shows a map of the drinking water system.

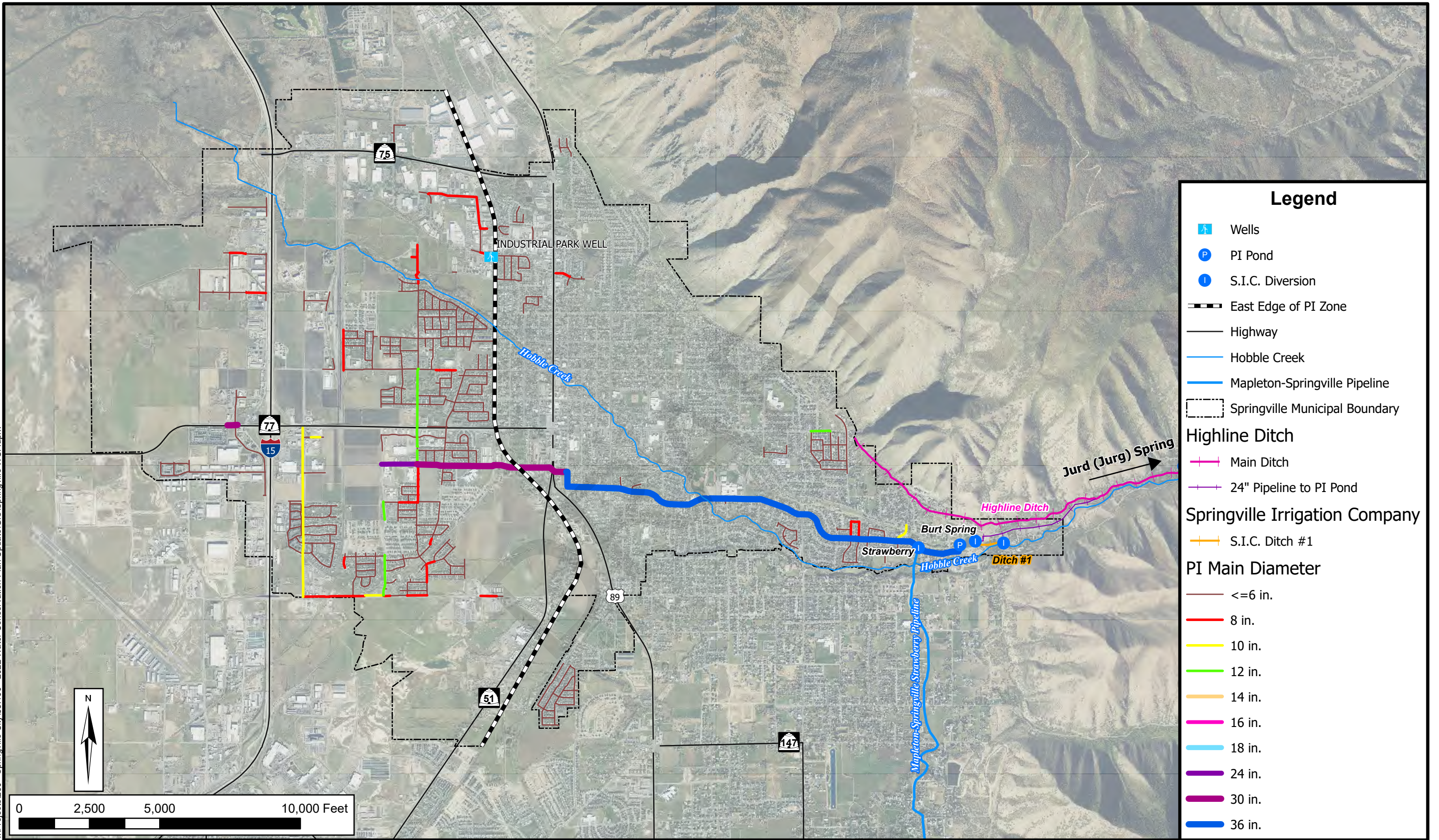
The pressurized irrigation system primarily uses Hobble Creek, Burt Springs, and Strawberry Reservoir as water sources, with a small amount of water source coming from Jurd Spring (a.k.a. Jurg Spring), which flows into the middle reach of Hobble Creek. The Industrial Park Well (an artesian well) flows into little Spring Creek. The water from the Industrial Park Well is subsequently drawn from Little Spring Creek to service an industrial customer’s outdoor irrigation. Figure 2-3 shows a map of the pressurized irrigation system.

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**SPRINGVILLE
 2022 WATER CONSERVATION PLAN UPDATE**

DRINKING WATER SYSTEM



WATER RIGHTS

The 2020 Drinking Water Master Plan identifies the water rights currently held by the City and potential water rights the City could acquire in the future. The City currently has a total of 15,831 acre-feet of water rights available for use in the drinking water system. Table 2-2 below is from the 2020 Drinking Water Master Plan and summarizes the drinking water rights currently owned by the City (Hansen, Allen & Luce, Inc. 2020). It should be noted that some of these water rights are used in the pressurized irrigation system as it uses a small amount of water from Jurd Spring and the Industrial Park Well.

Table 2-2: Culinary Water Rights

Water Right(s)	Flow (gpm)	Volume (Acre-feet)	Source
51-111 (a26443) Includes 51-6666, 51-6990, 51-7242	198	103	City Wells
51-1455 (a28365) Includes 51-1486, 51-1493	4,937	7,964*	City Wells
51-2530 (a29656) Includes 51-3679	2,703	144	City Wells
51-2780 (a28366)	1,346	439	City Wells
51-5450 (a40919)	1,333	14	City Wells
51-6970 (a28367) Includes 51-1024, 51-1025, 51-1088	1,472	1,746	City Wells
51-8641	35	33	City Wells
51-8793 (a43986)	9	14	City Wells
51-5329	1,300	2,069**	Burt Springs
51-5330	180	290*	Konold Springs
51-5520	662	1,068#	Bartholomew Springs
51-6027	1,200	1,947##	Spring Creek Canyon Springs
Total	15,375	15,831	

Source: 2020 Drinking Water Master Plan

* Potential volume if sources are able to produce designated flow rate year-round. Actual volume may be limited by either source capacity (i.e., a spring may not be able to produce the designated flow rate year-round) or by demand.

** W.U.C. indicates that 8 cfs is diverted 24 hours for 5 days out of each 8-1/3 days from April 1 to October 31. This would equal 128.45 days with an estimated volume of 2,038.24 ac-ft.

Springville Irrigation Company water right used by Springville City based on City ownership of 267 shares. Each share equals 4 ac-ft resulting in an annual volume of 1,068 ac-ft.

10-year average yield of the spring from 1999 – 2009

Springville City, in conjunction with Springville Irrigation Company, own water rights for use in the pressurized irrigation system. There is a total of 3,097 acre-feet of water rights available for use in the pressurized irrigation system according to the 2020 Pressurized Irrigation Water Master Plan. Table 2-3 is taken from the 2020 Pressurized Irrigation Water Master Plan and shows a

summary of the water rights used in the pressurized irrigation system (Hansen, Allen & Luce Inc., 2020).

Table 2-3: PI Water Rights

Water Right	Flow (gpm)	Volume (Acre-feet)	Source
Strawberry Water Shares (Springville Irrigation Company)	3,000	1,970	Springville/Mapleton Strawberry Pipeline
Springville Irrigation Company Shares (Non-Strawberry Water)	645	513	Springville Irrigation Ditch #1
51-6025	627	499	Hobble Creek/ Highline Ditch
51-6219	145	115	Hobble Creek/ Highline Ditch
Total	4,417	3,097	

Source: 2020 Pressurized Irrigation Water Master Plan

* Flow and volume for each water right is estimated based on the Division of Water Rights database and City records.

RELIABLE WATER SUPPLY

The City's annual reliable water supply is comprised of the combined volume of the drinking water and pressurized irrigation system water rights. In addition to the current water supply, additional water will become available to the City when the Utah Lake Drainage Basin Water Delivery System of the Bonneville Unit of the Central Utah Project (ULS) is complete. This additional water will be used in the pressurized irrigation system.

ULS Pipeline

Through a petition agreement between the Central Utah Water Conservancy District (CUWCD) and the South Utah Valley Municipal Water Association (SUVMWVA), the City is obligated to purchase 4,945 acre-feet of ULS water. The pipeline to Springville is complete, with pipelines to the remaining SUVMWVA cities finishing as early as 2025. When the remaining SUVMWVA pipelines are completed, the City will be obligated to start purchasing water from the ULS pipeline. The 2020 Pressurized Irrigation Master Plan has more details regarding use of the ULS pipeline water (Hansen, Allen & Luce, 2020). Table 2-4 shows the reliable water supply for the City with the additional ULS water.

Table 2-4: Reliable Water Supply

System	Annual Capacity (Acre-feet)
Drinking Water System	15,831
Pressurized Irrigation System	3,097
Total	18,928
ULS Water	4,945
Total with ULS Water	23,873

HISTORICAL SUPPLY

The City uses seven wells and four springs to supply drinking water to the drinking water system. Over time, the production of well water has increased while the production of spring water has decreased. Prior to 2015, a majority of the water supplied to drinking water system was through springs. Currently, the majority of the water supplied to the drinking water system is from wells. Table 2-5 summarizes the historical water supply for the drinking water system.

Table 2-5: Historical Drinking Water Supply

Year	Water Supplied (Acre-feet)		Total
	Springs	Wells	
2005	8,142.93	2,136.61	10,279.54
2006	14,714.38	1,500.62	16,215.00
2007	6,719.66	5,895.96	12,615.62
2008	5,054.43	4,696.21	9,750.64
2009	4,786.38	1,899.80	6,686.18
2010	3,448.20	3,193.15	6,641.35
2011	5,269.03	1,905.68	7,174.71
2012	4,823.95	5,080.97	9,904.92
2013	4,344.91	5,746.27	10,091.18
2014	5,251.69	3,755.31	9,007.00
2015	3,484.88	4,818.24	8,303.12
2016	3,219.00	5,207.47	8,426.47
2017	3,338.00	3,906.00	7,244.00
2018	2,801.00	4,818.63	7,619.63
2019	3,278.86	3,218.00	6,496.86
2020	2,868.64	6,195.78	9,064.42
2021	2,578.00	6,020.73	8,598.73

Source: Utah Division of Water Rights

The majority of the water supplied to the pressurized irrigation system comes from Hobble Creek, Burt Springs, and Strawberry Reservoir, with some additional supply from Jurd Spring and the Industrial Park Well. Since the pressurized irrigation system is new, historical data for the system is limited to 2016. The water for the pressurized irrigation system is stored in the Bartholomew Pond which has a capacity of 32 acre-feet. Table 2-6 shows the historical water supply for the pressurized irrigation system.

Table 2-6: Historical PI Water Supply

Year	Water Supplied (Acre-feet)			Total
	Surface Water	Industrial Park Well*	Jurd Spring	
2016	1,120.94	0.00	0.00	1,120.94
2017	1,634.88	0.00	0.00	1,634.88
2018	1,902.87	0.00	0.00	1,902.87

Year	Water Supplied (Acre-feet)			Total
	Surface Water	Industrial Park Well*	Jurd Spring	
2019	1,647.38	0.00	0.00	1,647.38
2020	2,327.11	8.04	112.89	2,448.04
2021	2,328.31	8.04	82.75	2,419.10

Source: Utah Division of Water Rights

* The Utah Division of Water Rights refers to this well as the Treatment Plant Well

DRAFT

CHAPTER 3 – WATER USE

PER CAPITA WATER USE

A useful way of measuring water usage is in gallons per capita per day (gpcd). This expression is calculated by dividing annual water use by the service area population. Expressing water use in this manner gives an estimate for the average amount of water used by an individual on a daily basis. Since the City operates both a drinking water system and a pressurized irrigation system, the per-capita usage was calculated for both systems. The Division of Water Rights stores annual use data on their database. Per-capita usage rates were calculated for both systems from 2005 to 2021 (data for the pressurized irrigation system is only available from 2019 since service started that year). The combined per-capita usage rates from 2005 to 2021, along with the regional conservation goals are shown in Figure 3-1.



Figure 3-1: Historical Per-Capita Water Use

FUTURE WATER NEEDS

The City, much like the rest of Utah County, is expected to grow substantially over the next several years. The population in 2021 was 36,565 (Utah Division of Water Rights, 2022). The Drinking Water Master Plan projected that the population would reach approximately 45,000 by 2030 and 62,000 by 2060 (Hansen, Allen & Luce, 2020).

The 5-year average water use for 2016 to 2021 is 233.14 gallons per capita per day. This value was used to project the water demand for the City by multiplying it with the population projections from the Drinking Water Master Plan. Figure 3-2 compares the annual and projected water use from 2005 to 2060 with the reliable water supply (discussed in Chapter 2) and the efficient water use for the Provo River region. The efficient water use was calculated with the reduction goals included in Utah’s Regional M&I Water Conservation Goals. This report establishes the Provo

River regional goals of 179 gpcd water use by 2030 and 162 gpcd by 2040 (HAL & BCA, 2019). These goals are discussed further in Chapter 5.

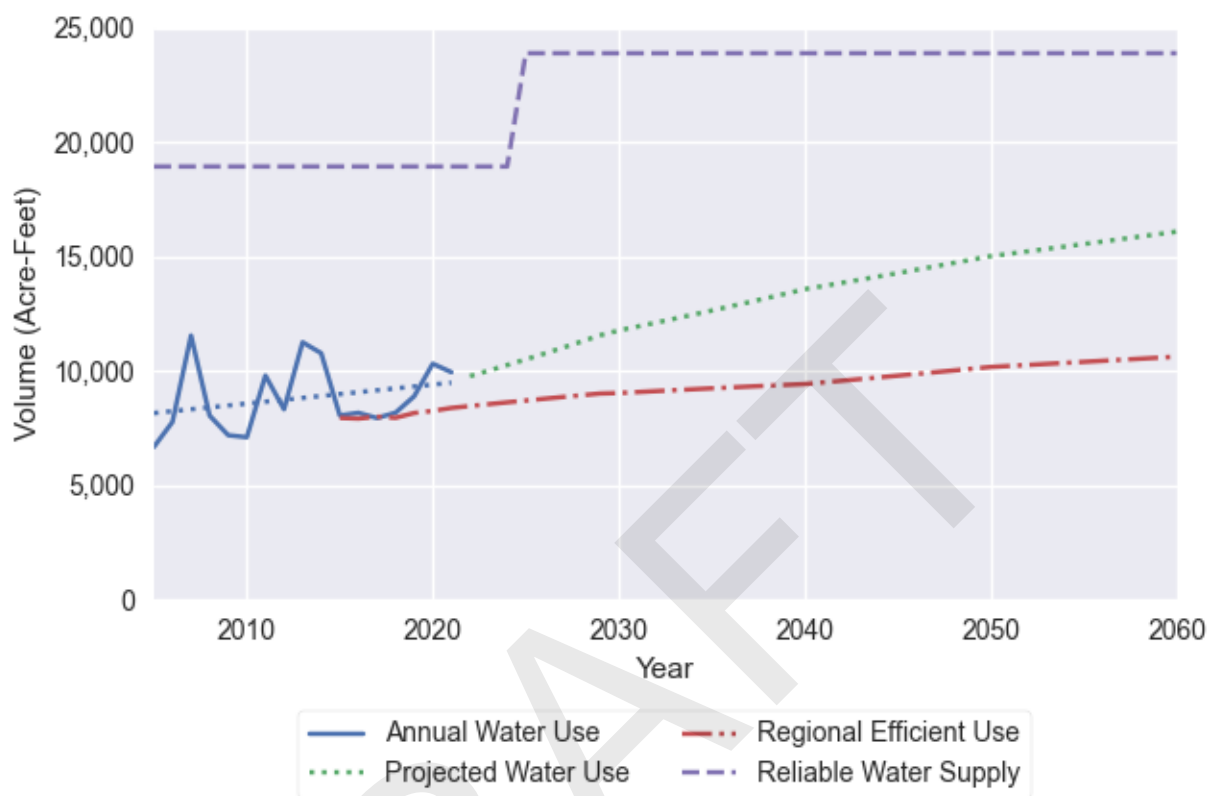


Figure 3-2: Water Use Projections

The regional efficient use as shown in Figure 3-2 was calculated by applying the Provo River regional conservation goals to the population projection for the City. The Provo River regional goals for 2015, 2030, and 2040 are 222, 179, and 162 gpcd, respectively. The raw data for the calculations shown in Figure 3-2 is included in Appendix A.

Although the per-capita water use rate for the City is trending downward, as shown in Figure 3-1, the annual water use volume has been steadily increasing since 2005. This is expected as the population of Springville has been growing rapidly. Figure 3-2 shows a diverging trend for the projected water use and regional efficient water use projection. The City should aim to have these curves converge so that future water use can meet the regional efficient water use goals.

Figure 3-2 also shows that the projected water use is not expected to exceed the City’s reliable water supply. In the off-chance that demand does exceed water supply, the City has identified ways to acquire additional water rights in both the 2020 Drinking Water Master Plan and the Pressurized Irrigation Master Plan.

CHAPTER 4 – WATER & REVENUE LOSS CONTROL

WATER LOSS

Every water system experiences some type of water loss. Water is often lost through pipe leaks or breaks, hydrant flushing, construction water, waste pumping, and unmetered connections. According to a study done by the EPA, public water systems lose an average of 16%, and some Utah systems are known to lose 30% or more of their water (EPA, 2017). Water loss is not only a loss of a valuable resource, it also may lead to revenue and energy loss. Preventing and mitigating water loss should be a high priority for public water systems.

The Division of Water Rights reports estimated water loss on their database for public water suppliers. The reported data for the City’s drinking water system shows that the estimated water loss has reduced since 2005. The City has made considerable efforts to reduce water loss by upgrading infrastructure and installing water meters on unmetered connections. Unfortunately, since the pressurized irrigation system is new, estimated water loss records are not available at this time. These records will become available as the City installs more water meters for the pressurized irrigation system. Table 4-1 and Figure 4-1 show the comparison of drinking water used with the amount produced from 2005 to 2021.

Table 4-1: Historical Drinking Water Loss

Year	Total Retail Use (Acre-feet)	Total From Sources (Acre-feet)	Estimated Water Loss
2005	6,682.35	12,274.54	45.56%
2006	7,774.74	18,162.25	57.19%
2007	11,545.60	14,455.42	20.13%
2008	8,052.75	11,317.17	28.84%
2009	7,196.46	8,802.04	18.24%
2010	7,107.06	8,403.86	15.43%
2011	9,800.03	9,829.24	0.3%
2012	8,330.18	11,896.04	29.98%
2013	11,253.91	11,285.67	0.28%
2014	10,776.99	10,563.13	-2.02%
2015	8,059.70	9,798.88	17.75%
2016	8,172.75	10,075.47	18.88%
2017	7,946.76	9,438.00	15.8%
2018	8,179.66	9,576.63	14.59%
2019	8,052.00	8,873.86	8.92%
2020	9,167.81	11,150.42	17.5%
2021	8,189.53	9,368.00	12.33%

Source: Utah Division of Water Rights

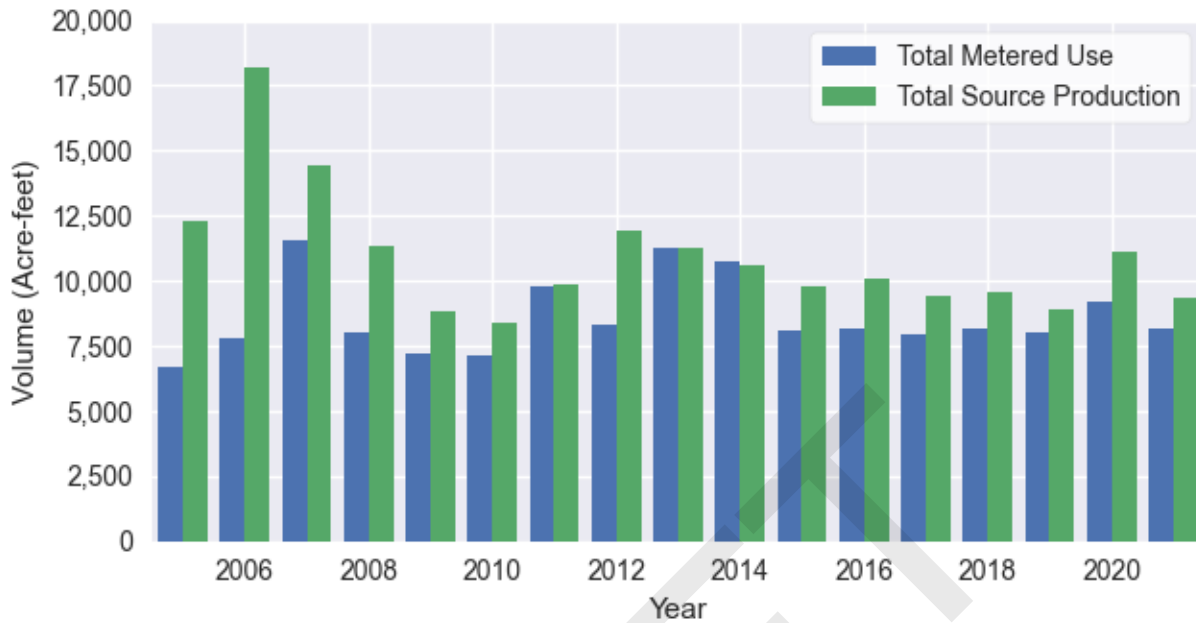


Figure 4-1: Historical Drinking Water Production & Use

BILLING RATES

To promote water conservation, the City has enforced tiered water rates for customers for both the drinking water system and the pressurized irrigation system. The City encourages customers to utilize the pressurized irrigation system, if they are able to, by slightly increasing drinking water rates and offering lower irrigation water rates for those customers. Tables 4-2 and 4-3 show the City’s current water rates. Residential water meters are read in the months of March through October. All other months are billed at the minimum fee of \$16.32 per month, with an additional fee of \$1.21 for each 1,000 gallons used above 5,000 gallons.

Table 4-2: Drinking Water Rates

Fee		Description
If PI is Not Used	If PI is Used	
\$16.32	\$16.32	Minimum monthly fee.
\$1.00	\$1.13	For each 1,000 gallons or portion thereof between 5,001 and 12,000 gallons.
\$1.32	\$1.49	For each 1,000 gallons or portion thereof between 12,001 and 20,000 gallons.
\$1.64	\$1.85	For each 1,000 gallons or portion thereof between 20,001 and 40,000 gallons.
\$1.95	\$2.20	For each 1,000 gallons or portion thereof between 40,001 and 60,000 gallons.
\$2.22	\$2.50	For each 1,000 gallons or portion thereof between 60,001 and 100,000 gallons.
\$3.01	\$3.39	For each 1,000 gallons or portion thereof between 100,001 and 150,000 gallons

Fee		Description
If PI is Not Used	If PI is Used	
\$3.43	\$3.87	For each 1,000 gallons or portion thereof between 150,001 and 200,000 gallons
\$4.22	\$4.76	For each 1,000 gallons or portion above 200,000 gallons.

Source: Springville 2022-2023 Comprehensive Fee Schedule

Table 4-3: Pressurized Irrigation Rates

Fee	Description
No Charge	For the first 5,000 gallons
\$0.91	For each 1,000 gallons or portion thereof between 5,001 and 20,000 gallons.
\$1.43	For each 1,000 gallons or portion thereof between 20,001 and 60,000 gallons.
\$1.90	For each 1,000 gallons or portion thereof between 60,001 and 100,000 gallons.
\$2.38	For each 1,000 gallons or portion thereof between 100,001 and 150,000 gallons.
\$2.85	For each 1,000 gallons or portion thereof between 150,001 and 200,000 gallons.
\$3.80	For each 1,000 gallons or portion above 200,000 gallons.

Source: Springville 2022-2023 Comprehensive Fee Schedule

CHAPTER 5 – CONSERVATION GOALS & PRACTICES

The City is aware of the need for water conservation and is committed to improve water conservation efforts. City staff are aware of the water conservation goals and work to together to achieve them. The Public Works Director is responsible for overseeing water conservation efforts.

Brad Stapley
Public Works Director
801-489-2711

IDENTIFIED PROBLEMS

The following issues were identified in the 2016 Water Conservation Plan. These issues are still priorities for the City.

- “The City is seeing a change in demographics as their agricultural areas turn into residential subdivisions. This change emphasizes the need to inform all residents, but especially new residents, about indoor conservation practices. Residents lack information and understanding of landscaping water requirements and efficient water-use habits and practices.
- Along with indoor use, residential outdoor use is also a large concern. It is well documented that water used to irrigate turf grass drives summer water use to its peak during the summer months. Much of the City’s clean culinary water is [not used efficiently] through over watering. Most residents’ irrigation practices are based on convenience rather than plant needs.
- Springville City has many aging water lines that are contributing to the water losses seen in the City” (Springville City, 2016).

WATER CONSERVATION GOALS

Provo River Regional Goals

Utah’s Regional M&I Water Conservation Goals establishes water conservation goals for the major river basins, referred to as regions, in the state. Since the Provo River Region is highly populated, it has some of the strongest conservation goals compared to the other regions. By 2030 the water conservation goal for the Provo River Region is 179 gpcd, which is a 20% reduction from the 2015 goal of 222 gpcd (HAL & BCA, 2019). Table 5-1 summarizes the regional conservation goals and the percentage reduction from the 2015 goal.

Table 5-1: Provo River Region Conservation Goals

Year	Conservation Goal (gpcd)	Reduction from 2015 Baseline
2015	222 (Baseline)	N/A
2030	179	20%
2040	162	27%
2065	152	32%

Source: *Utah’s Regional M&I Water Conservation Goals*

Springville City Water Conservation Goals

The City has set a goal to continue current water conservation trends until 2030. Following the linear trendline shown in Figure 3-1, the forecasted water use rate in 2030 is 214 gpcd which is a 4.89% reduction from the 2015 rate of 225 gpcd. This forecast is based on data provided by the Division of Water Rights. The City should periodically monitor water use rates to ensure that this water conservation goal is met. The City plans to reevaluate the 2030 and future goals in subsequent updates to this water conservation plan.

Table 5-2: Springville City Conservation Goals

Year	Conservation Goal (gpcd)	Reduction from 2015 Baseline
2015	225 (Baseline)	N/A
2030	214	4.89%

In addition to the water conservation goals listed in Table 5-2, the City has continued the following conservation goals from the 2016 Water Conservation Plan:

- “Continue to support the current conservation measures that have brought the City success in reducing the water used...”
- Inform residents of water conservation practices for indoor and outdoor use.
- Conserve culinary water by using secondary water for irrigation per the City’s master plans.
- Continue the City’s existing aging water meter replacement program” (Springville City, 2016).

BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are the practices adopted by public water suppliers and water conservation districts to conserve water use within their respective service areas.

Existing Best Management Practices

In previous water conservation plans, the City has implemented aggressive water conservation measures that have proven to be successful. The following BMPs have already been implemented by the City in previous water conservation plans:

- “Promoting the ‘Slow the Flow Program’ sponsored by the State, which includes educational brochures, free water audits and checks, and free water wise landscaping seminars...”
- Requiring low flow indoor fixtures as required in the plumbing code on all new construction.
- Using, evaluating, and periodically refining the water rates structure that charges users using a tiered rate structure which both promotes water conservation and continues to keep the water system viable.
- Replacing galvanized steel water service lines with copper and polyethylene pipe.
- Performing leak-detection testing for all water lines prior to new overlays of asphalt.

- Performing annual leakage surveys to identify unsurfacing leaks on main pipelines and services, especially in older areas of the water system.
- Replacing water meters with new, more efficient meters.
- Implementing a pressurized irrigation (secondary water) system with metered services in the developing western portion of the community” (Springville City, 2016).
- Meter replacement program for aging water meters.

Since the 2016 Water Conservation Plan, the City has also implemented the following BMPs:

- Continue and expand leak detection efforts by hiring a leak detection company.
- Offer opportunities for residents to submit complaints about water waste.
- Receive a weekly water waste report from the Utah Division of Water Resources.
- Continue installing water meters for the pressurized irrigation system

Proposed Best Management Practice

The BMPs implemented in previous water conservation plans have helped the City achieve previous water conservation goals. The City will need to implement additional BMPs to meet the water conservation goal discussed previously. The following BMPs are proposed for the City to adopt, any combination of these BMPs can be adopted as the City sees fit. Additional BMPs which the City may also consider are included in Appendix B.

- Enact a time-of-day watering ordinance
- Enact a water-efficient landscape ordinance for new commercial developments

The City encourages residents to limit outdoor watering between 10 am and 6 pm; however, city ordinances do not currently restrict water use. Enacting a city ordinance that prohibits outdoor irrigation times during summer months would further enable the City to enforce water conservation for residents and commercial developments.

In addition to a time-of-day watering ordinance, the City may enact an ordinance which requires water-efficient landscaping for new commercial developments. While it is true that most of the water use is residential, reducing water use in all categories is critical for meeting water conservation goals. By requiring commercial developments to use water-efficient landscaping, the City may be able to reduce water use for commercial connections.

Table 5-2 shows a summary of all BMPs that the City has and can implement to reach their water conservation goals.

Table 5-2: Best Management Practices

Best Management Practice	Description
Existing BMPs	
Promote the “Slow the Flow Program”	Promote the “Slow the Flow Program” sponsored by the state to residents. Encourage them to take advantage of the opportunities the program provides.
Require Low Flow Indoor Fixtures	Require low flow indoor fixtures on all new construction in city code.

Best Management Practice	Description
Tiered Water Rate Structure	Continue to use and periodically refine the tiered water rates for both water systems.
Replace Galvanized Steel Lines	Continue replacing galvanized steel water service lines with copper and polyethylene pipe, as necessary.
Leak Testing	Continue to test for leaks in all water lines before overlaying asphalt.
Annual Leak Surveys	Perform annual leak surveys to test for unsurfacing leaks, especially in older parts of the water system.
Meter & Pipe Replacement Program	Continue to replace aging meters and pipelines throughout the drinking water system. Install more efficient water meters when replacing old meters which do not meet American Water Works Association Standards.
Pressurized Irrigation System	Continue to expand the pressurized irrigation system according to city master plans.
Professional Leak Detection	Continue to hire a leak detection company to expand leak detection efforts.
Water Waste Complaints	Encourage residents to notify the City of water waste. Respond to the complaints when possible.
Weekly Water Waste Report	Receive the weekly water waste report from the Division of Water Resources. Act on any recommendations or issues raised in the reports.
Pressurized Irrigation Meters	Continue installing efficient water meters in the pressurized irrigation system as the system expands.
Proposed BMPs	
Enact a Time-of-Day Watering Ordinance	Enact a city ordinance which restricts outdoor irrigation from 10 am to 6 pm during summer months.
Enact a Water-Efficient Landscape Ordinance	Enact a city ordinance which requires new commercial developments to use water-efficient landscaping.
Additional Water Conservation Measures	Consider implementing other conservation measures included in Appendix B.

CHAPTER 6 – IMPLEMENTATION PLAN

This Water Conservation Plan renews the existing water conservation measures for at least the next five years. Existing and proposed water conservation measures will be implemented according to Table 6-1. Additional conservation measures the city may choose to adopt are included in Appendix B.

Table 6-1: Implementation Plan

Conservation Measure	Implementation Plan
Existing Conservation Measures	
Promote the “Slow the Flow Program”	Continue promoting the “Slow the Flow Program” to city residents. <ul style="list-style-type: none"> • Print and deliver fliers during periods of high use. • Advertise classes and events on social media, city websites, and by email.
Require Low Flow Indoor Fixtures	Require low flow indoor fixtures in the plumbing code on all new construction and developments. Require the following fixtures be fitted with low flow variants: <ul style="list-style-type: none"> • Shower heads • Sink faucets • Toilets
Tiered Water Rate Structure	Continue using and updating the tiered water rate structure for both the drinking water and pressurized irrigation systems. <ul style="list-style-type: none"> • Consider water conservation goals during annual review of water rates.
Leak Testing	Continue testing for leaks in all water lines before overlaying asphalt. <ul style="list-style-type: none"> • Perform annual leak surveys. • Continue hiring a professional leak detection company.
Meter & Pipe Replacement Program	Continue replacing galvanized steel lines with copper and polyethylene pipe. <ul style="list-style-type: none"> • Continue replacing aging meters and pipelines throughout the drinking water system. • Install efficient water meters when replacing old meters which do not meet City standards.
Pressurized Irrigation System	Expand the pressurized irrigation system by implementing master plan projects.
Water Waste Complaints	Continue providing means for residents to submit complaints about wasted water throughout the City. <ul style="list-style-type: none"> • Follow up with complaints to ensure that responsible parties are held accountable. • Consider imposing fines for repeated counts of wasted water.
Weekly Water Waste Report	Continue to review weekly water waste reports from the Division of Water Resources.

Conservation Measure	Implementation Plan
Pressurized Irrigation Meters	Continue to install efficient water meters throughout the pressurized irrigation system as it expands. <ul style="list-style-type: none"> • Replace existing meters on an as-needed basis.
Proposed Conservation Measures	
Time-of-Day Watering Ordinance	<ul style="list-style-type: none"> • Enact a city ordinance which restricts outdoor watering from 10 am to 6 pm during summer months. • Consider imposing fines for repeat violators.
Water-Efficient Landscape Ordinance	Enact a city ordinance which requires new commercial developments to use water-efficient landscaping. Examples include: <ul style="list-style-type: none"> • Providing a Pressurized Irrigation connection for eligible developments • Using native, low-water plants • Using drip irrigation • Xeriscaping when appropriate
Additional Water Conservation Measures	Consider implementing other conservation measures included in Appendix B.

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APPENDIX A
WATER USE PROJECTIONS

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Year	Population	(Acre-feet) DW Use	(Acre-feet) PI Use	(Acre-feet) Total Use	(GPCD) Per-Capita	(GPCD) 5-Year Avg.	(Acre-feet, using 2021 5- year average) Projected Use	(GPCD) Regional Goal	(Acre-feet) Efficient Use	(Acre-feet) Water Supply
2005	24,500	6,682.35		6,682.35	243.49					18,928
2006	26,000	7,774.74		7,774.74	266.96					18,928
2007	28,000	11,545.60		11,545.60	368.12					18,928
2008	30,000	8,052.75		8,052.75	239.63					18,928
2009	29,930	7,196.46		7,196.46	214.65	266.57				18,928
2010	29,930	7,107.06		7,107.06	211.99	260.27				18,928
2011	30,000	9,800.03		9,800.03	291.63	265.20				18,928
2012	30,000	8,330.18		8,330.18	247.89	241.16				18,928
2013	30,000	11,253.91		11,253.91	334.89	260.21				18,928
2014	30,000	10,776.99		10,776.99	320.70	281.42				18,928
2015	31,982	8,059.70		8,059.70	224.98	284.02		222	7,952	18,928
2016	32,286	8,172.75		8,172.75	225.99	270.89		219	7,924	18,928
2017	33,044	7,946.76		7,946.76	214.70	264.25		216	8,004	18,928
2018	33,294	8,179.66		8,179.66	219.33	241.14		213	7,957	18,928
2019	34,632	8,052.00	845.54	8,897.54	229.36	222.87		211	8,166	18,928
2020	35,504	9,167.81	1,150.09	10,317.90	259.44	229.76		208	8,258	18,928
2021	36,565	8,189.53	1,757.85	9,947.38	242.87	233.14		205	8,387	18,928
2022	37,448						9,778.17	202	8,469	18,928
2023	38,353						10,014.43	199	8,551	18,928
2024	39,280						10,256.40	196	8,631	18,928
2025	40,229						10,504.22	193	8,711	23,873
2026	41,201						10,758.02	190	8,789	23,873
2027	42,197						11,017.96	188	8,866	23,873
2028	43,216						11,284.18	185	8,941	23,873
2029	44,260						11,556.83	182	9,015	23,873
2030	45,078						11,770.31	179	9,037	23,873
2031	45,724						11,938.99	177	9,079	23,873
2032	46,379						12,110.08	176	9,121	23,873
2033	47,044						12,283.63	174	9,162	23,873
2034	47,718						12,459.67	172	9,203	23,873
2035	48,402						12,638.23	171	9,243	23,873
2036	49,096						12,819.34	169	9,282	23,873
2037	49,799						13,003.05	167	9,320	23,873
2038	50,513						13,189.40	165	9,357	23,873
2039	51,237						13,378.41	164	9,394	23,873
2040	51,971						13,570.14	162	9,429	23,873
2041	52,499						13,708.03	162	9,502	23,873
2042	53,033						13,847.32	161	9,574	23,873
2043	53,571						13,988.02	161	9,648	23,873
2044	54,116						14,130.16	160	9,722	23,873
2045	54,666						14,273.74	160	9,796	23,873
2046	55,221						14,418.78	160	9,871	23,873
2047	55,782						14,565.29	159	9,946	23,873
2048	56,349						14,713.29	159	10,022	23,873
2049	56,922						14,862.79	158	10,098	23,873
2050	57,500						15,013.82	158	10,175	23,873
2051	57,897						15,117.58	158	10,219	23,873
2052	58,298						15,222.07	157	10,264	23,873
2053	58,700						15,327.27	157	10,309	23,873
2054	59,106						15,433.21	156	10,353	23,873
2055	59,515						15,539.87	156	10,398	23,873
2056	59,926						15,647.28	156	10,443	23,873
2057	60,340						15,755.42	155	10,488	23,873
2058	60,757						15,864.32	155	10,534	23,873
2059	61,177						15,973.96	154	10,579	23,873
2060	61,600						16,084.37	154	10,625	23,873

APPENDIX B
ADDITIONAL WATER CONSERVATION MEASURES

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Conservation Best Management Practices (BMP's)

Water Conservation Coordinator, Committee or Team

Hire or designate a Water Conservation Coordinator.

Create a committee/team/board with a chair that includes a combination of the following participants; Water Conservation Coordinator, Public Works Director, City Council Member, and/or applicable local advocacy group member to help research, coordinate, create and implement public information campaign(s), water conservation programs and incentives.

Water Conservation Plan (WCP)

Develop a WCP. More information at www.conservewater.utah.gov/wcp.html.

Provide contact information, system profile, water use history and detail specific ongoing and new conservation programs.

Public Awareness & Public Outreach

Develop or utilize existing messaging from Slow The Flow, Water Resources, CWEL and WaterSense.

Display educational materials & resources on agency website(s), social media & bills.

Offer agency materials and resources to community partners for distribution.

Hold or collaborate events, programs and/or presentations.

Education & Training

Provide adult efficient water use education and training. Or, direct them to available local training(s) such as [Localscapes](#).

Provide or support youth education programs for elementary school students.

Provide or recommend a waterwise demonstration garden.

Educate customers about new water-saving technology. Example: weather based smart controllers.

Provide new homeowner water-efficient landscape information.

Participate and promote large efficient landscape training and programs:

<https://www.qwelutah.com/training/>

Create and/or distribute "how to videos". Example: switching to drip.

Rebates | Incentives | Rewards

Offer or collaborate on rebates for high efficiency appliances, fixtures, irrigation smart controllers, drip irrigation, nozzles, shut off hose valves, and landscape conversions.

Promote [rebates](#) offered in your service area



Conservation Best Management Practices (BMP's)

Public Involvement
Offer or collaborate on residential water audit programs.
Offer or collaborate on landscape consultation programs.
Offer residential water budgeting programs.
Offer indoor and outdoor retrofit kits.
Perform outdoor high water use inquiries and resolution techniques.
Address water waste complaints
Identify structures built before 1992 and organize low efficiency fixture replacements.
Ordinances & Standards
Adopt a time-of-day watering ordinance. Example: no watering between 10-6pm and alternating watering days
Adopt an ordinance requiring a water-efficient landscaping in all new residential developments.
Review existing plumbing codes and revise them as necessary to ensure water-conserving measures in all new construction.
Adopt an ordinance requiring water-efficient landscaping in all new commercial development.
Change business license requirements to require water reuse and recycling in new facilities.
Mandate retrofit upon resale.
Water Pricing
Utah SB28 requires water rates to rise for higher tiers of consumption
Charge for secondary water based on individual use.
High water use notification.
Physical System
Install & maintain efficient irrigation, utilize water-wise landscaping & smart controller technology at agency facilities.
Perform agency water system audit and implement a leak detection program
Meter all connections (UT SCR 1), repair and replacement program, read meters on a regular basis.
Consider water reuse.

APPENDIX C
SPRINGVILLE CITY COUNCIL ADOPTION
OF CONSERVATION PLAN

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Certification of Adoption

We hereby certify that the attached Water Conservation Plan has been established and adopted by our Board of Directors/Stockholders/Shareholders on _____, 2022

President/Chairman/Board Member

Vice-President/Vice-Chairman/Board Member

Secretary/Treasurer

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