

PRESSURIZED IRRIGATION WATER IMPACT FEE FACILITY PLAN AND IMPACT FEE ANALYSIS

(HAL Project No.: 406.03.100)

March 2021

SALEM CITY

PRESSURIZED IRRIGATION WATER

IMPACT FEE ANALYSIS

(HAL Project No.: 406.03.100)



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Project Engineer



MARCH 2021

IMPACT FEE CERTIFICATION

The Utah Impact Fee Act requires certifications for the Impact Fee Facility Plan (IFFP) and Impact Fee Analysis (IFA). Hansen, Allen & Luce, Inc. provides these certifications with the understanding that the recommendations in the IFA are followed by City Staff and elected officials. If all or a portion of the IFA are modified or amended, or if assumptions presented in this analysis change substantially, this certification is no longer valid. All information provided to Hansen, Allen & Luce, Inc. is assumed to be correct, complete, and accurate.

IFFP Certification

Hansen, Allen & Luce, Inc. certifies that the Impact Fee Facilities Plan (IFFP) prepared for the pressurized irrigation water system:

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;
 - 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.

IFA Certification

Hansen, Allen & Luce, Inc. certifies that the Impact Fee Analysis (IFA) prepared for the pressurized irrigation water system:

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;
 - 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;
 - d. costs with grants or other alternate sources of payment; and
3. complies in each and every relevant respect with the Impact Fees Act.

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IMPACT FEE SUMMARY

The **purpose** of the Impact Fee Facility Plan (IFFP) and Impact Fee Analysis (IFA) is to comply with the requirements of the Utah Impact Fees Act by identifying demands placed on the existing pressurized irrigation water system by new development and by identifying the means by which the City will meet these new demands. The Salem City Pressurized Irrigation Water System Master Plan has been used in support of this analysis. There are several growth-related capital facilities anticipated to be needed in the next 10 years, so the calculated impact fee is based on anticipated capital facility projects as well as existing excess capacity and documented historic costs.

The impact fee **service area** is the pressurized irrigation water system service area, which includes the current city boundary and future areas anticipated to be annexed into the city.

The proposed **level of service** for the pressurized irrigation water system includes the following:

Level of Service

- Peak Day Source Capacity: 6.0 gallons per minute per irrigated acre (gpm/irr-ac)
- Source Volume: 3.2 acre-feet/irr-ac (Annual Demand)
- Storage Capacity: 6,480 gallons/irr-ac
- Transmission Capacity: 40 pounds per square inch (psi) minimum pressure during peak day demand conditions

The existing system served about 377 irrigated acres at the end of 2018. Projected **growth** adds 204 irrigated acres in the next 10 years, for a total of 581 irrigated acres.

The existing pressurized irrigation water system has no existing deficiencies. The costs calculated for the capacity required for growth in the next 10 years comes from the proportional historical buy-in costs of **excess capacity** and **new projects** required entirely to provide capacity for new development.

The **pressurized irrigation water impact fee** is calculated based on the estimated cost of projects needed to support anticipated growth. The fee is calculated to be \$13,544 per irrigated acre or \$2,505 per typical single-family connection. A typical single-family connection is assumed to have an area of 0.155 irrigated acres, plus 0.03 irrigated acres for parks and open space. While this cost is listed for reference, it is recommended that Salem City charge pressurized irrigation impact fees based on lot size (see Table 3-6 in the report).

**TOTAL PROPOSED IMPACT FEE PER IRRIGATED
ACRE AND TYPICAL SINGLE-FAMILY CONNECTION**

Component	Per Irrigated Acre	Per Typical Residential Connection
Storage	\$3,388.66	\$626.90
Transmission	\$5,703.74	\$1,055.19
Source	\$4,236.63	\$783.78
Planning	\$214.88	\$39.74
Total	\$13,544	\$2,505

SECTION 1

INTRODUCTION

1.1 Background

Salem City is located in southern Utah County, between I-15 and Loafer Mountain. Salem had an estimated population of 8,604 in 2018 (United States Census Bureau). The primary pressurized irrigation water source for Salem is the Strawberry High Line Canal. The drinking water system also provides supplementary source capacity.

1.2 Purpose

The City has recognized the need to plan for increased demands on its pressurized irrigation water system as a result of growth. To do so, an Impact Fee Facility Plan (IFFP) and Impact Fee Analysis (IFA) were completed to allow the City to charge an impact fee to help pay for capital projects necessary to support future growth.

This report identifies those items that the Utah Impact Fees Act specifically requires, including demands placed upon existing facilities by new development, and the proposed means by which the municipality will meet those demands. A Pressurized Irrigation Water Master Plan was prepared to support this analysis. The master plan identified several growth-related projects needed within the 10-year planning window. Therefore, the calculated impact fee is based on excess capacity and documented historic costs, as well as future capital projects.

1.3 Impact Fee Collection

Impact fees enable local governments to finance public facility improvements necessary for growth, without burdening existing customers with costs that are exclusively attributable to growth.

An impact fee is a one-time charge on new development to pay for that portion of a public facility that is required to support that new development.

In order to determine the appropriate impact fee, the cost of the facilities associated with future development must be proportionately distributed. As a guideline in determining the “proportionate share”, the fee must be found to be roughly proportionate and reasonably related to the impact caused by the new development.

1.4 Master Planning

A Pressurized Irrigation Water System Master Plan was prepared in conjunction with this analysis. The master plan for the City’s pressurized irrigation water system is more

comprehensive than the IFFP and IFA. It provides the basis for the IFFP and IFA and identifies all Capital Facilities required for the Pressurized irrigation Water System inside the 20-year planning range, including maintenance, repair, replacement, and growth-related projects. The recommendations made within the master plan are in compliance with current City policies and standard engineering practices.

A hydraulic model of the Pressurized Irrigation Water System was used to complete the Pressurized irrigation Water System Master Plan. The model was used to assess existing performance, level of service, to establish a proposed level of service and to confirm the effectiveness of the proposed capital facility projects to maintain the proposed level of service over the next 10 years.

SECTION 2 SYSTEM DEMAND AND CAPACITY

2.1 General

The purpose of this section is to identify the current level of service, characterize the facilities of the existing system, and determine the remaining capacity of these facilities.

The existing pressurized irrigation water system is comprised of a pipe network, water sources, and a water storage pond. Figure 2-1 illustrates the existing water system and its service area.

2.2 Existing Irrigated Acreage

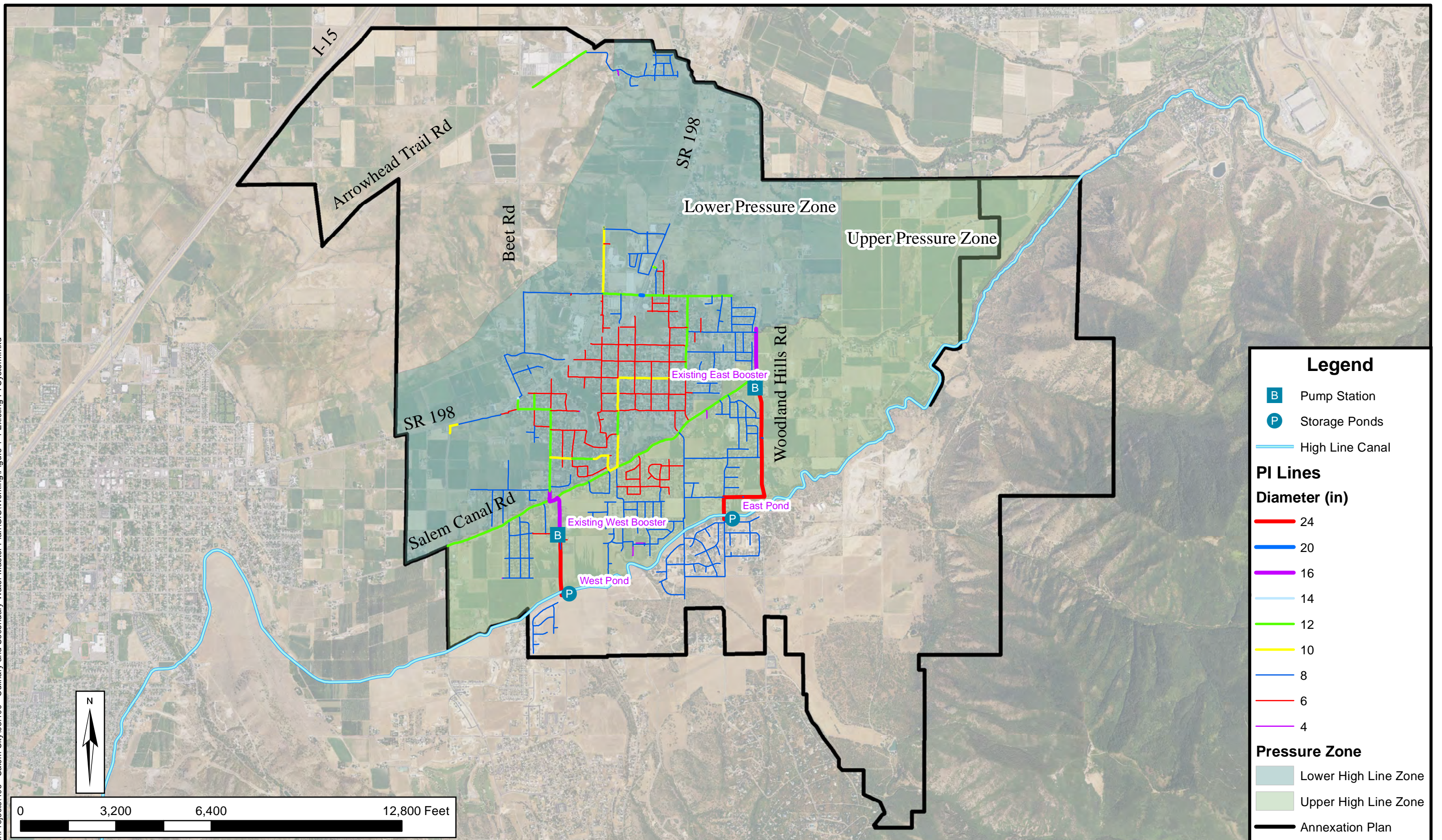
Water demands for all users have been determined in terms of irrigated acreage. The use of irrigated acreage is a common engineering practice to describe the entire system's usage based upon a common unit of measurement. Using irrigated acres for analysis is a way to allocate existing and future demands over both residential and non-residential land uses.

At the end of 2018, the City was estimated to have 377 irrigated acres served by the pressurized irrigation water system. Irrigated areas served by the drinking water system were not considered in this analysis.

2.3 Level of Service

The City has established a level of service for the Pressurized Irrigation Water System. It establishes the sizing criteria for the City's distribution (pipelines), source, storage facilities, and water rights. The proposed level of service standards are shown in Table 2-1. The existing standards reflect current water use, and are used for this analysis. The conservation standards reflect assumed future water use, after customer meters are installed and a conservation-oriented tiered rate schedule is implemented.

Date: 12/27/2019
Document Path: H:\Projects\406 - Salem City\03.100 - Culinary and Secondary Water Master Plan\GIS\Working\Figure 1-1 Existing PI System.mxd



Legend

- B Pump Station
- P Storage Ponds
- High Line Canal

PI Lines

Diameter (in)

- 24
- 20
- 16
- 14
- 12
- 10
- 8
- 6
- 4

Pressure Zone

- Lower High Line Zone
- Upper High Line Zone
- Annexation Plan



**SALEM CITY PRESSURIZED IRRIGATION
IMPACT FEE FACILITY PLAN**

EXISTING PRESSURIZED IRRIGATION WATER SYSTEM

**FIGURE
2-1**

**TABLE 2-1
LEVEL OF SERVICE REQUIREMENTS**

Requirement (per Irrigated Acre)	Existing	Conservation
Peak Day Source (gpm)	8.8	6.0
Annual Source Volume (ac-ft/yr)	4.0	3.2
Storage Capacity (gal)	9,504	6,480

The level of service for transmission capacity is that it must provide a minimum peak day service pressure of 40 psi.

Calculations for this impact fee analysis have been done according to the conservation level of service, because Salem is actively working to install meters on the pressurized irrigation system.

2.4 Methodology Used to Determine Existing System Capacity

Each component of the Pressurized irrigation Water System was assessed a capacity in terms of irrigated acres. Irrigated acreage was calculated based on lot areas and defined irrigation factors for each land use type, which were determined by analyzing aerial imagery for each land use type across Salem City.

System components include: Source (surface water facilities and pump stations), storage (ponds), transmission (pipes), planning, and water rights. The remaining capacity of a facility is defined as the difference between its capacity and the demand imposed on it (both expressed in terms of irrigated acreage). A hydraulic model was developed for the purpose of assessing system operation and transmission capacity.

2.5 Water Source & Remaining Capacity

Salem City's sources of pressurized irrigation water come from the Strawberry High Line Canal and the drinking water system. Table 2-2 summarizes the physical capacity of each source and all sources total.

**TABLE 2-2
PHYSICAL CAPACITY OF EXISTING WATER SOURCES**

Source	Physical Capacity (gpm)	Capacity (irr-ac)	Existing Demand (irr-ac)	Remaining Capacity (irr-ac)
East Filter Station	4,000	333.3	-	-
West Filter Station	4,000	333.3	-	-
TOTAL	4,000	667	377	290

2.6 Storage Facilities & Remaining Capacity

Salem City operates two equalization storage ponds with a total capacity of 20.0 ac-ft. See Table 2-3.

**TABLE 2-3
EXISTING WATER STORAGE**

Pond	Capacity (ac-ft)	Capacity (irr-ac)	Existing Storage Demand (irr-ac)	Remaining Capacity (irr-ac)
East Pond	10.0	503	-	-
West Pond	10.0	503	-	-
TOTAL	10.0	1,006	377	629

2.7 Water Rights & Remaining Capacity

The City ensures an adequate supply of water rights by requiring a transfer of water rights and/or water shares to the City as a condition of development. They are not included in the impact fee.

2.8 Distribution System and Remaining Capacity

The distribution mains leading from the ponds to the service area are 24 inches in diameter, and will reach capacity at the same time as the ponds do (because they cannot serve more irrigated acreage than the ponds do). They have a capacity of 1,006 irrigated acres, of which 377 are committed.

Pipe diameters range from 6 inch to 24 inches in diameter. The larger pipes in the system were provided as transmission lines to provide conveyance from the ponds the service area. Figure 2-1 illustrates the existing distribution pipelines. The current area served by distribution pipes is limited, so more pipes will be needed to support future growth.

2.9 Capital Facilities to Meet System Deficiencies

The City's 2019 pressurized irrigation system master plan revealed no existing deficiencies in the distribution system. Projects are needed in order to support future growth.

SECTION 3

IMPACT FEE FACILITY PLAN AND ANALYSIS

3.1 General

Data presented in the previous section was used to calculate a proposed impact fee based on an appropriate buy-in cost of existing excess capacity and the cost of projects required to support growth. This section documents expenses previously incurred and estimated costs of future projects, and discusses possible revenue sources for the City to consider.

3.2 Growth Projections

The development of impact fees requires growth projections over the next ten years. Growth projections for Salem were made by applying irrigation factors to areas identified by City personnel as most likely to develop during the next ten years. Total growth projections for the City through 2029 are summarized in Table 3-1.

TABLE 3-1
GROWTH PROJECTIONS
OVER NEXT TEN YEARS

Year	Irrigated Acres
2018	377
2019	394
2020	411
2021	429
2022	448
2023	468
2024	489
2025	510
2026	533
2027	556
2028	581

The existing system served about 377 irrigated acres at the end of 2018. Projected growth adds 204 irrigated acres in the next 10 years for a total of 581 irrigated acres.

3.3 Cost of Existing Pressurized Irrigation Water Facilities

In 2008, the City bonded to fund the construction of the PI system. The cost of the project at construction was \$8,888,266.90. Table 3-2 shows the cost of each facility and the proportion of the cost attributable to existing users.

**TABLE 3-2
IMPACT FEE ELIGIBLE COST OF EXISTING FACILITIES**

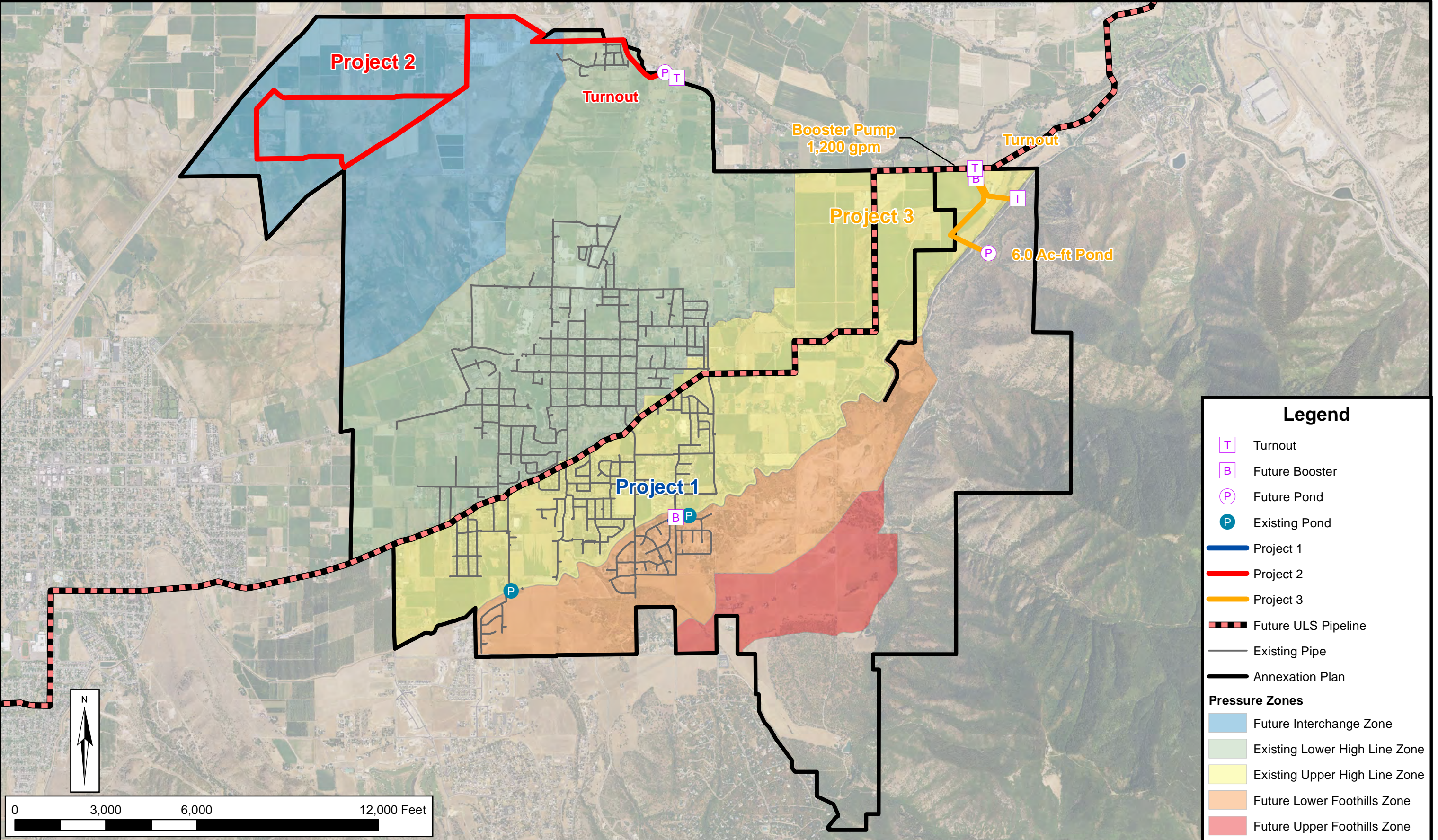
Facility	Financed Cost	Capacity (irr-ac)	Irr-ac served	Cost Attributable to Existing Users¹
Ponds	\$2,108,222.18	1,006	377	\$790,284.89
Distribution pipes	\$5,563,272.95	1,006	377	\$2,085,439.86
Pump/filter stations	\$1,216,771.76	667	377	\$688,084.43
Total	\$8,888,266.90	-	377	\$3,563,809.19

1. Calculated as (irr-ac served) / (Capacity) * Financed Cost

3.4 Cost of Future Pressurized Irrigation Water Facilities

A hydraulic model was prepared for future scenarios to determine the facilities necessary to serve growth through the 10-year planning period. These facilities are shown in Table 3-3 and on Figure 3-1. Estimated costs include only the upside portion of cost anticipated to be paid by the City.

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Legend

T

Turnout

B

Future Booster

P

Future Pond

P

Existing Pond

—

Project 1

—

Project 2

—

Project 3

—

Future ULS Pipeline

—

Existing Pipe

—

Annexation Plan

Pressure Zones

—

Future Interchange Zone

—

Existing Lower High Line Zone

—

Existing Upper High Line Zone

—

Future Lower Foothills Zone

—

Future Upper Foothills Zone

**TABLE 3-3
ESTIMATED COST OF FUTURE FACILITIES**

Project	Map ID*	Source	Transmission	Storage	Planning	Total
Booster station at East Pond (conveyance for Lower Foothills zone)	1	\$720,000	\$0	\$0	\$0	\$720,000
Interchange Zone PI System	2	\$270,000	\$2,050,000	\$1,680,000	\$0	\$4,000,000
Northeast Salem PI system	3	\$720,000	\$476,000	\$1,764,000	\$0	\$2,960,000
Planning	N/A	\$0	\$0	\$0	\$120,000	\$120,000
SUBTOTAL BY CATEGORY		\$1,710,000	\$2,526,000	\$3,444,000	\$120,000	\$7,800,000
TOTAL COST						\$7,800,000

3.5 Impact Fee Unit Calculation

Impact fee calculations are based on irrigated acreage. It is recommended that the City base single-family residential impact fees on lot size. For multi-family or nonresidential developments, it is recommended that the City document irrigated acreage of developments and charge impact fees accordingly.

Storage

The portion of the transmission impact fee attributable to growth within 10 years was calculated using a hydraulic model which incorporated existing users and anticipated demands through the 10-year planning period. The model was used to identify the percent of the capacity of the storage pond being utilized for existing conditions and at the end of the 10-year planning period (as compared to the buildout condition).

Considering both existing storage and projects necessary to support growth, the total impact fee-eligible cost attributable to storage is **\$691,286.28** (see Appendix A). These costs are necessary to serve the anticipated 204 irrigated acres coming during the next 10 years. Storage impact then becomes

$$\text{\$691,286.28} / 204 \text{ irr-ac} = \text{\$3,388.66/irr-ac (storage)}$$

Transmission

The portion of the transmission impact fee attributable to growth within 10 years was calculated using a hydraulic model which incorporated existing users and anticipated demands through the 10-year planning period. The model was used to identify the peak flow in each Impact Fee Facility Plan pipe at the end of the 10-year planning period (as compared to the buildout condition).

Considering both existing transmission pipes and pipes necessary to support growth, the total impact fee-eligible cost attributable to transmission is **\$1,163,562.47** (see Appendix A). These costs are necessary to serve the anticipated 204 irrigated acres coming during the next 10 years. Transmission impact then becomes

$$\text{\$1,163,562.47} / 204 \text{ irr-ac} = \text{\$5,703.74/irr-ac (transmission)}$$

Source

The portion of the source impact fee attributable to growth within 10 years was calculated using a hydraulic model which incorporated existing users and anticipated demands through the 10-year planning period. The model was used to identify the peak flow through each filter station or pump station in the Impact Fee Facility Plan at the end of the 10-year planning period. This peak flow at 10 years was compared to the modeled peak flow of the facility at buildout.

Considering both existing and future projects, the total impact fee-eligible cost attributable to source is **\$864,273.15** (see Appendix A). These costs are necessary to serve the anticipated 204 irrigated acres coming during the next 10 years. Source impact then becomes

$$\$864,273.15 / 204 \text{ irr-ac} = \mathbf{\$4,236.63/\text{irr-ac (source)}}$$

Planning

The planning portion of the impact fee was calculated as shown in Table 3-4. Portions of the City's 2019 master plan study that are attributable to growth (approximately 40% of total expenditures) are impact fee eligible. 100% of costs associated with the Impact Fee Facility Plan and Impact Fee Analysis are impact fee eligible.

**TABLE 3-4
PLANNING COMPONENT OF IMPACT FEE**

Planning Document	Cost	% of Plan Associated with Growth	Cost Associated with Growth	Irr-ac Served	Cost per Irr-ac
2019 PI Master Plan	\$83,801	40%	\$33,520	204	\$164.31
2019 IFFP and IFA	\$10,316	100%	\$10,316	204	\$50.57
Total	\$94,117	-	\$43,836	204	\$214.88

3.6 Total Impact Fee Calculation for a Typical Single-Family Residence

A typical single-family residence in Salem is located on a lot of about 15,000 square feet, and has an average of 0.185 irrigated acres (including 0.03 irr-ac for parks and open space). Accordingly, the proposed Pressurized irrigation Water System impact fee for one typical residential connection is **\$2,505** (see Table 3-5).

**TABLE 3-5
TOTAL PROPOSED IMPACT FEE**

Component	Per Irrigated Acre	Per Typical Residential Connection
Storage	\$3,388.66	\$626.90
Transmission	\$5,703.74	\$1,055.19
Source	\$4,236.63	\$783.78
Planning	\$214.88	\$39.74
Total	\$13,544	\$2,505

It is recommended that the City charge impact fees on a per-irrigated acre basis for all nonresidential and multi-family residential developments. For single-family residential developments, the impact fee should be charged as shown in Table 3-6. This will ensure each connection pays a proportionate share.

TABLE 3-6
TOTAL PROPOSED IMPACT FEE BY LOT SIZE

Lot size (sq. ft.)	% Irrigated	Irrigated Acreage ¹	Impact Fee
5500	25%	0.059	\$834
6000	30%	0.071	\$966
7000	35%	0.086	\$1,168
8000	40%	0.103	\$1,401
9000	45%	0.123	\$1,666
10000	45%	0.133	\$1,805
11000	45%	0.144	\$1,945
12000	45%	0.154	\$2,085
13000	45%	0.164	\$2,225
14000	45%	0.175	\$2,365
15000	45%	0.185	\$2,505
16000	50%	0.214	\$2,894
17000	50%	0.225	\$3,049
18000	50%	0.237	\$3,205
19000	50%	0.248	\$3,360
20000	55%	0.283	\$3,826
21000	55%	0.295	\$3,998
22000	60%	0.333	\$4,511
23000	60%	0.347	\$4,697
24000	60%	0.361	\$4,884
25000	60%	0.374	\$5,070
26000	60%	0.388	\$5,257
27000	60%	0.402	\$5,443
28000	60%	0.416	\$5,630
29000	60%	0.429	\$5,816
30000	60%	0.443	\$6,003
31000	60%	0.457	\$6,190
32000	60%	0.471	\$6,376
33000	65%	0.522	\$7,076
34000	65%	0.537	\$7,278
35000	65%	0.552	\$7,480
36000	65%	0.567	\$7,682
37000	65%	0.582	\$7,884
38000	65%	0.597	\$8,086
39000	65%	0.612	\$8,288
40000	65%	0.627	\$8,490
41000	65%	0.642	\$8,692
42000	65%	0.657	\$8,895
43000	65%	0.672	\$9,097

1. Includes 0.03 irrigated acres per ERC for parks and open space

3.7 Facility Costs by Time Period

Only those costs attributed to the new growth in the next 10 years can be included in the impact fee. Table 3-7 is a summary of the existing and future facility costs by Pressurized Irrigation Water System component and by time period. Existing costs are those costs attributed to capacity currently being used by existing connections (see Section 3.3). Costs over the next 10 years are costs for the existing capacity or new capacity for the assumed growth in the next 10 years (see Section 3.5). Costs attributed to beyond 10 years are costs which will be incurred within 10 years, but provide capacity for growth beyond 10 years.

**TABLE 3-7
FACILITY COST BY TIME PERIOD**

	Existing ¹	Next 10 Years ²	Beyond 10 Years	Total ³
Source	\$688,084	\$864,390	\$1,374,414	\$2,926,888
Transmission	\$2,085,440	\$1,163,562	\$4,840,271	\$8,089,273
Storage	\$790,285	\$691,286	\$4,070,651	\$5,552,222
Planning	\$0	\$43,836	\$0	\$43,836
Total Cost	\$3,563,809	\$2,763,074	\$10,285,336	\$16,612,103

1. See Table 3-2.

2. See Appendix A.

3. Financed cost of existing projects (see Table 3-2) plus estimated cost of future projects (see Table 3-3).

3.8 Revenue Options

Revenue options for the recommended projects include: general obligation bonds, revenue bonds, State/Federal grants and loans, user fees, and impact fees. Although this analysis focuses on impact fees, the City may need to consider a combination of these funding options. The following discussion describes each of these options.

General Obligation Bonds through Property Taxes

This form of debt enables the City to issue general obligation bonds for capital improvements and replacement. General Obligation (G.O.) Bonds would be used for items not typically financed through the Water Revenue Bonds (for example, the purchase of water source to ensure a sufficient water supply for the City in the future). G.O. bonds are debt instruments backed by the full faith and credit of the City which would be secured by an unconditional pledge

of the City to levy assessments, charges or ad valorem taxes necessary to retire the bonds. G.O. bonds are the lowest-cost form of debt financing available to local governments and can be combined with other revenue sources such as specific fees, or special assessment charges to form a dual security through the City's revenue generating authority. These bonds are supported by the City as a whole, so the amount of debt issued for the water system is limited to a fixed percentage of the real market value for taxable property within the City. For growth related projects this type of revenue places an unfair burden on existing residents as they had previously paid for their level of service.

Revenue Bonds

This form of debt financing is also available to the City for utility related capital improvements. Unlike G.O. bonds, revenue bonds are not backed by the City as a whole, but constitute a lien against the water service charge revenues of a Water Utility. Revenue bonds present a greater risk to the investor than do G.O. bonds, since repayment of debt depends on an adequate revenue stream, legally defensible rate structure/and sound fiscal management by the issuing jurisdiction. Due to this increased risk, revenue bonds generally require a higher interest rate than G.O. bonds, although currently interest rates are at historic lows. This type of debt also has very specific coverage requirements in the form of a reserve fund specifying an amount, usually expressed in terms of average or maximum debt service due in any future year. This debt service is required to be held as a cash reserve for annual debt service payment to the benefit of bondholders. Typically, voter approval is not required when issuing revenue bonds. For growth related projects this type of revenue places an unfair burden on existing residents as they had previously paid for their level of service.

State/Federal Grants and Loans

Historically, both local and county governments have experienced significant infrastructure funding support from state and federal government agencies in the form of block grants, direct grants in aid, interagency loans, and general revenue sharing. Federal expenditure pressures and virtual elimination of federal revenue sharing dollars are clear indicators that local government may be left to its own devices regarding infrastructure finance in general. However, state/federal grants and loans should be further investigated as a possible funding source for needed water system improvements.

It is also important to assess likely trends regarding federal / state assistance in infrastructure financing. Future trends indicate that grants will be replaced by loans through a public works revolving fund. Local governments can expect to access these revolving funds or public works trust funds by demonstrating both the need for and the ability to repay the borrowed monies, with interest. As with the revenue bonds discussed earlier, the ability of infrastructure programs to wisely manage their own finances will be a key element in evaluating whether many secondary funding sources, such as federal/state loans, will be available to the City.

Not charging impact fees or significantly lowering them could be viewed negatively from the perspective of State/Federal funding agencies. Charging a proper impact fee signals to these

agencies that the community is using all possible means to finance the projects required to provide vital services to their residents.

User Fees

Similar to property taxes on existing residents, user fees to pay for improvements related to new growth-related projects places an unfair burden on existing residents as they had previously paid for their level of service.

Impact Fees

As discussed in Section 1, an impact fee is a one-time charge to a new development for the purpose of raising funds for the construction of improvements required by the new growth and to maintain the current level of service. Impact fees in Utah are regulated by the Impact Fee Statute and substantial case law. Impact fees are a form of a development exaction that requires a fee to offset the burdens created by the development on existing municipal services. Funding the future improvements required by growth through impact fees does not place the burden on existing residents to provide funding of these new improvements.

Appendix A: Data and Calculations

Transmission Capacity

Project Number ¹	Peak Flow at Capacity (gpm)	Modeled Peak Flow at 10 years (gpm)	Modeled Existing Flow (gpm)	Utilization at 10 Years ²	Existing Utilization ²	Estimated Cost	Impact Fee Eligible Cost ³
Existing	12,072	6,144	4,524	51%	37%	\$5,563,272.95	\$746,562.47
2	2,780	473	0	17%	0%	\$2,050,000	\$349,000
3	2,500	358	0	14%	0%	\$476,000	\$68,000
Totals						\$8,089,272.95	\$1,163,562.47

1. See Figure 3-1
2. Calculated as (modeled peak flow) / (peak flow at buildout)
3. Calculated as (Estimated Cost) * (Utilization at 10 years – Existing Utilization)

Source Capacity

Project Number ¹	Peak Flow at Capacity (gpm)	Modeled Peak Flow at 10 years (gpm)	Modeled Existing Flow (gpm)	Utilization at 10 Years ²	Existing Utilization ²	Estimated Cost	Impact Fee Eligible Cost ³
Existing	8,000	6,144	4,524	77%	57%	\$1,216,771.76	\$246,273.15
1	1,300	1278	0	98%	0%	\$720,000	\$469,000
2	2,780	473	0	17%	0%	\$270,000	\$46,000
3	2,500	358	0	14%	0%	\$720,000	\$103,000
Totals						\$2,926,771.76	\$864,273.15

1. See Figure 3-1
2. Calculated as (modeled peak flow at 10 years) / (peak flow at buildout)
3. Calculated as (Estimated Cost) * (Utilization at 10 years) * (Percent to New Growth)

Storage Capacity

Project Number¹	Capacity (irr-ac)	Existing Utilization²	Utilization at 10 Years²	Estimated Cost	Impact Fee Eligible Cost³
Existing	1,006	37.5%	50.9%	\$2,108,222.18	\$282,499.30
2	282	0%	14.0%	\$1,680,000	\$234,723.40
3	302	0%	9.9%	\$1,764,000	\$174,063.58
Totals				\$5,552,222.18	\$691,286.28

1. See Figure 3-1

2. Model output, Calculated as (storage fluctuation) / (storage fluctuation at buildout)

3. Calculated as (Estimated Cost) * (Utilization at 10 years – Existing Utilization)