



**WASTEWATER COLLECTION SYSTEM  
IMPACT FEE FACILITY PLAN  
AND IMPACT FEE ANALYSIS**

(HAL Project No.: 260.50.100)

August 2020

**CITY OF SPRINGVILLE**  
**WASTEWATER IMPACT FEE FACILITY PLAN**  
**AND IMPACT FEE ANALYSIS**

(HAL Project No.:260.50.100)



**Steven C. Jones, P.E.**

**Project Engineer**



**August 2020**

---

## **IMPACT FEE CERTIFICATION**

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IFA are modified or amended, or if assumptions presented in this analysis change substantially, this certification is no longer valid.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

### **HANSEN, ALLEN & LUCE, INC.**

### **IFA Certification**

Hansen, Allen & Luce, Inc. certifies that the Impact Fee Analysis (IFA) prepared for the sewer 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. offsets costs with grants or other alternate sources of payment; and
3. complies in each and every relevant respect with the Impact Fees Act.

### **HANSEN, ALLEN & LUCE, INC.**

## TABLE OF CONTENTS

	<u>Page No</u>
<b>IMPACT FEE SUMMARY</b> .....	ii
<b>CHAPTER 1 – INTRODUCTION</b>	
1.1 Background.....	1-1
1.2 Purpose.....	1-1
1.3 Impact Fee Collection.....	1-1
1.4 Incorporation by Reference of the Wastewater Collection System Master Plan.....	1-1
<b>CHAPTER 2 – EXISTING WASTEWATER COLLECTION SYSTEM</b>	
2.1 General .....	2-1
2.2 Existing Equivalent Residential Units.....	2-1
2.3 Level of Service.....	2-1
2.4 Methodology Used to Determine Existing System Capacity .....	2-2
2.5 Collections.....	2-2
2.6 Treatment.....	2-3
2.7 Collection System.....	2-3
2.8 Capital Facilities to Meet System Deficiencies .....	2-3
<b>CHAPTER 3 – IMPACT FEE CALCULATION</b>	
3.1 General .....	3-1
3.2 Growth Projections .....	3-1
3.3 Cost of Existing and Future Facilities.....	3-2
3.4 Impact Fee Unit Calculation .....	3-3
3.5 Revenue Options .....	3-7
<b>LIST OF TABLES</b>	
Table 2-1: Collection System Capacity .....	2-3
Table 2-2: Existing WWTP Summary.....	2-3
Table 3-1: Growth Projections .....	3-1
Table 3-2: Impact Fee-Eligible Cost of Existing Facilities.....	3-2
Table 3-3: Estimated Cost of Growth-Related Facilities .....	3-3
Table 3-4: Collections Facility Costs by Time Period .....	3-4
Table 3-5: WWTP Costs Summary .....	3-4
Table 3-6: Treatment Facility Costs by Time Period.....	3-5
Table 3-7: Planning Component of Impact Fee.....	3-5
Table 3-8: Facility Cost by Time Period .....	3-6
Table 3-9: Proposed Wastewater Impact Fee per ERU .....	3-7
Table 3-10: Proposed Wastewater Impact Fee based on Meter Size.....	3-7

## **IMPACT FEE SUMMARY**

The purpose of the Impact Fee Facility Plan (IFFP) and Impact Fee Analysis (IFA) is to provide a technical and financial basis for impact fees and to document compliance with the Utah Impact Fee Act. The IFFP and IFA identify loadings placed on the existing wastewater collection system by new development and identify the means by which the City will meet the new demands. This study replaces the Wastewater Collection System Master Plan & Capital Facilities Plan Including Impact Fee Facilities Plan (IFFP) adopted in 2014. This study addresses changes in conditions and assumptions that result in a change in the wastewater impact fee. The Wastewater Collection System Master Plan and capital facility plan have also been updated to support this analysis.

### **SERVICE AREA**

The impact fee service area is the current Springville City municipal boundary and areas that are expected to be annexed into the City.

### **IMPACT FEE UNIT**

The impact fee unit for sewer use is based on the Equivalent Residential Unit (ERU). An ERU is equal to the average loading of one residential connection. The method of using ERUs for analysis is a way for allocating existing and future demands of non-residential land uses.

### **LEVEL OF SERVICE**

The level of service for indoor drinking water supply is 250 gpd per ERU.

### **EXISTING AND FUTURE ERU COUNTS**

The existing system served about 18,250 ERUs at the end of 2018. Projected growth is anticipated to add 3,645 ERUs in the next 10 years for a total of 21,895 ERUs by 2029.

### **IMPACT FEE ELIGIBLE COSTS**

Impact fee eligible costs include costs of projects due to new development and the proportionate share of existing infrastructure costs that may be assigned to new development. The wastewater collection system has existing deficiencies. These deficiencies are listed in Table 6-3 of the Wastewater Collection System Master Plan (HAL 2019). The cost of providing capacity for existing deficiencies is not included in the impact fee. However, excess capacity can be built into projects intended to solve existing deficiencies, and this excess capacity can be included in the impact fee. Likewise, available capacity in existing facilities and capacity that is created through new projects is included in the impact fee. In addition to the proportional share costs of existing facilities, the impact fee is based on infrastructure that will be constructed within the next 10 years. The following table is a summary growth costs in the next 10 years.

### WASTEWATER IMPACT FEE COSTS

COMPONENT	COST
COLLECTION	\$2,179,284
TREATMENT	\$3,878,231
PLANNING	\$200,000
<b>TOTAL COST</b>	<b>\$6,257,515</b>

The impact fee is calculated based on the cost of the system divided by the capacity. This accounts for existing capacity used and results in a unit cost for future development. The recommended fee is **\$1,716 per ERU**.

### PROPOSED WASTEWATER IMPACT FEE PER ERU

Component	Cost per ERU
COLLECTION	\$597.88
TREATMENT	\$1063.99
PLANNING	\$54.87
<b>TOTAL</b>	<b>\$1,716</b>

Given that wastewater collection is not metered, and given that wastewater loading is created by water passing through the drinking water meter, the wastewater impact fee is based on drinking water use. The impact fee above has been calculated based on 1 ERU which would correspond to a standard 1" drinking water meter. Larger drinking water meters are assumed to serve more than 1 ERU and will have a higher corresponding drinking and wastewater impact fees. The table below indicates the impact fee rate schedule based on water meter size. The ERU factor is calculated based on American Water Works Association (AWWA) rated capacity for each meter size. This represents an equitable distribution of potential to use the City's sewer system. ERU capacity for users requiring larger meters will be assessed individually by the City.

**PROPOSED WASTEWATER IMPACT FEE BASED ON METER SIZE**

<b>Drinking Water Meter Size</b>	<b>ERU</b>	<b>Impact Fee</b>
1"	1	\$1,677
1 ½"	3.33	\$5,714
2"	5.33	\$9,146

# **CHAPTER 1 INTRODUCTION**

## **BACKGROUND**

The City of Springville is experiencing rapid growth, which is expected to continue into the future. As this growth continues, additional wastewater collection and treatment facilities will be required to provide adequate wastewater collection capacity.

The City has recognized the importance of planning for increased demands on its wastewater collection system from new development as a result of the rapid growth. A new Wastewater Collection System Impact Fee Facilities Plan (IFFP) and Impact Fee Analysis (IFA) is required to address changes in conditions and assumptions that have occurred since the previous master plan. The Wastewater Collection System Master Plan and Capital Facility Plan provide an updated analysis.

## **PURPOSE**

The purpose of the IFFP and IFA is to provide a technical and financial basis for impact fees and to document the basis compliance with the Utah Impact Fee Act. Previously, Springville City prepared a wastewater collection system master plan and capital facilities plan (2014). These analyses and studies were used to prepare and IFFP and IFA. Since that time, new growth patterns and growth locations have begun to emerge. As a result of these changes, Springville City decided to prepare new plans and analyses based on the new data.

## **IMPACT FEE COLLECTION**

Impact fees enable local governments to finance public facility improvements necessary to service new developments without burdening existing development with capital facilities construction costs that are attributable to growth.

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.

## **INCORPORATION BY REFERENCE OF THE WASTEWATER COLLECTION SYSTEM MASTER PLAN**

This IFFP and IFA document is based on the analysis performed as part of the Springville City – Wastewater Collection System Master Plan (HAL 2019). It predicts all wastewater collection system capital facilities required for each of the planning periods, as well as growth related projects.



A hydraulic model of the wastewater collection system was prepared so that existing and future infrastructure needs could be identified. The model was used to assess existing system capacity and to confirm the effectiveness of the proposed capital facility projects.

## **CHAPTER 2 EXISTING WASTEWATER COLLECTION SYSTEM**

### **GENERAL**

The purpose of this chapter is to provide information regarding the existing wastewater collection system, identify the current and proposed levels of service, and analyze the remaining capacity of the existing system's facilities.

Springville's existing wastewater collection system is comprised of gravity pipes including laterals, collectors, interceptors and outfall. The system also includes lift stations, force mains and the wastewater treatment plant (WWTP). Figure 2-1 of the wastewater collection system master plan illustrates the existing wastewater system.

### **EXISTING EQUIVALENT RESIDENTIAL UNITS**

In order to compare the relative quantities of wastewater loading between different types of land use, it is helpful to use a common unit of measure. The unit of measure that is used with this analysis is the Equivalent Residential Unit (ERU). The use of ERUs is a typical approach to describe the wastewater collection system's usage. An ERU is equal to the average loading of residential connections. Once the ERU is established, non-residential uses can be quantified in terms of ERU multiples. An ERU is the ratio of non-residential wastewater loadings in comparison to an equivalent residential level of service. For this analysis all residential connections, including townhouses and apartments were equated to one ERU for indoor water demands.

For drinking water, Springville City has selected a 1 inch diameter water meter as the connection for a residential service. Non-residential developments are assigned a number of ERUs based on their meter size. Given that wastewater collection is not metered, and given that wastewater loading is created by water passing through the drinking water meter, the wastewater impact fee is also based on drinking water meter size. The number of wastewater ERUs designated for each property is the same the number of ERCs designated for the water according to the meter size.

### **LEVEL OF SERVICE**

The level of service designated for the wastewater collection system has been established by the City to provide adequate wastewater collection and treatment capacity.

### **ERU Loading**

- Existing: The existing level of service is 230 gpd per ERU.
- Proposed: The proposed level of service is 250 gpd per ERU.

## **Sewer Capacity**

- Existing: Peak daily flow in the pipe must not exceed 75 percent (75%) of the pipe's full flow capacity. The remaining 25 percent of the pipe's capacity is reserved for unexpected flows, peaking, or flow restrictions. Per State of Utah standards, no collection pipe may be less than 8-inches in diameter.
- Proposed: Peak daily flow in the pipe must not exceed a depth/diameter ratio of 0.75. The remaining capacity is reserved for unexpected flows, peaking, or flow restrictions. Per State of Utah standards, no collection pipe may be less than 8-inches in diameter.

## **METHODOLOGY USED TO DETERMINE EXISTING SYSTEM CAPACITY**

The method for determining the remaining capacity in the wastewater collection system was based on the defined level of service in terms of ERUs. Both Collection (pipes and lift stations) and Treatment components of the wastewater collection system were assessed a capacity in terms of ERUs. The treatment plant was not evaluated by HAL, but the predicted loadings were compared to the plant capacity as reported by Springville City. The difference between the ERUs capacity and ERUs existing demand for each component is the remaining capacity. For example, to calculate the remaining capacity for treatment in ERUs, the required treatment for existing users in ERUs is subtracted from the capacity of the treatment plant in ERUs.

A hydraulic model was developed for the purpose of assessing system operation and capacity. For pipelines, the model was used to calculate a capacity in terms of ERUs for each pipeline and to assign sewer capacity. The capacity for each pipeline in ERUs is estimated by the depth over pipe diameter (d/D) ratio of 0.75 and dividing that flow rate by the level of service of 250 gpd/ERU. Capacity, demand and remaining capacity is presented in the following paragraphs for each component of the Sewer System.

## **COLLECTIONS**

The existing Springville City wastewater collection system consists of nearly 135 miles of pipeline and over 2,700 manholes. The pipes range in size from 4-inch diameter to 36-inch diameter. The system also has force main piping ranging from 2-inch diameter to 12-inch diameter. Lift stations are used to pump wastewater where gravity flow sewers are not possible.

The City operates twelve lift stations. These pump stations lift the sewage to the wastewater treatment plant and must therefore meet the level of service of 250 gpd/ERU. The lift stations that will serve future growth are 1500 West and West Fields. The pipelines within the service areas of these lift stations were sized based on the capacity of these lift station. As such, capacity of the collection pipes is directly related to the capacity of the lift stations.

**TABLE 2-1  
COLLECTION SYSTEM CAPACITY**

<b>Lift Station</b>	<b>Capacity (MGD)</b>	<b>Capacity (ERU)</b>	<b>Existing Users (ERU)</b>	<b>Remaining Capacity (ERU)</b>
1500 W	2.016	8,064	5,184	2,880
West Fields	2.592	10,368	4,262	6,106
<b>Total</b>	<b>4.608</b>	<b>18,432</b>	<b>9,446</b>	<b>8,986</b>

**TREATMENT**

Springville operates one wastewater treatment plant. It was originally constructed at a capacity of 5.5 MGD. Later, an expansion was made adding 1.96 MGD capacity. Table 2-2 shows the costs and capacities of each phase of the wastewater treatment plant.

**TABLE 2-2  
EXISTING WWTP SUMMARY**

<b>Phase</b>	<b>Capacity (MGD)</b>	<b>Capacity (ERU)</b>	<b>Existing Users (ERU)</b>	<b>Remaining Capacity (ERU)</b>
Initial	5.5	22,000	18,250	3,750
Expansion	1.96	7,840	0	7,840
<b>Total</b>	<b>7.46</b>	<b>29,840</b>	<b>18,250</b>	<b>11,590</b>

**CAPITAL FACILITIES TO MEET SYSTEM DEFICIENCIES**

The existing wastewater collection system is generally adequate to convey the anticipated wastewater to the wastewater treatment plant. However, there are a few areas with inadequate capacity. These are described in Table 6-3 in the Wastewater Collection System Master Plan.

## CHAPTER 3 IMPACT FEE CALCULATION

### GENERAL

This chapter relies on the data presented in the previous chapters to calculate a proposed impact fee based on the appropriate proportion of cost of projects planned in the next 10 years to increase capacity for new growth and an appropriate buy-in cost of available existing excess capacity previously purchased by the City.

The Sewer System facility projects planned in the next 10 years to increase capacity for new growth included within the impact fee are presented. Also included in this chapter are the possible revenue sources that the City may consider to fund the recommended projects. The Sewer System impact fee units include both collection and treatment components.

### GROWTH PROJECTIONS

The development of impact fees requires growth projections over the next ten years. Growth projections for Springville were made using future population estimates by decade from the 2012 Baseline Projections - Utah Governor's Office of Management and Budget. The existing system serves about 18,250 ERUs. Projected growth adds 3,645 ERUs in the next 10 years for a total of 21,895 ERUs. Total growth projections are summarized in Table 3-1. Further information on growth projections can be found in the Wastewater Collection System Master Plan.

**TABLE 3-1  
GROWTH PROJECTIONS**

Year	Total ERUs	Annual Growth
2018	18,250	-
2019	18,593	1.90%
2020	18,944	1.90%
2021	19,247	1.60%
2022	19,556	1.60%
2023	19,871	1.60%
2024	20,192	1.60%
2025	20,520	1.60%
2026	20,854	1.60%
2027	21,194	1.60%
2028	21,541	1.60%
2029	21,895	1.60%
<b>Change</b>	<b>+3,645</b>	-

## COST OF EXISTING AND FUTURE FACILITIES

The facilities and costs presented in Table 3-2 are existing facilities with remaining buy-in capacity. The historical costs for the existing facilities come from Springville City records. Costs and figures depicting these projects are included in the Wastewater Collection System Master Plan.

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

<b>PROJECT</b>	<b>COLLECTION</b>	<b>TREATMENT</b>	<b>TOTAL</b>
Main St. (400 S to 500 S)	\$271,775	\$0	\$271,775
1500 W (1000 N to Center)	\$1,599,340	\$0	\$1,599,340
1500 W (Center to 900 S)	\$615,885	\$0	\$615,885
550 N (950 W to 1500 W)	\$299,915	\$0	\$299,915
West Fields Lift Station	\$296,077	\$0	\$296,077
1500 West Lift Station	\$1,622,190	\$0	\$1,622,190
Original Treatment Plant	\$0	\$9,546,786	\$9,546,786
Treatment Plant Expansion	\$0	\$10,704,310	\$10,704,310
<b>TOTAL</b>	<b>\$4,705,182</b>	<b>\$20,251,096</b>	<b>\$24,956,278</b>

The facilities and costs presented in Table 3-3 are proposed projects essential to maintain the current level of service while accommodating future growth within the next 10 years. The facility sizing for the future proposed projects was based on using the proposed level of service with growth projections provided by the City and hydraulic modeling. All future projects have a design life greater than 10 years, as required by the Impact Fee Act, and all of the projects are 100% growth-related. Detailed cost estimates and further details are included in the wastewater collection system master plan.

**TABLE 3-3  
ESTIMATED COST OF GROWTH-RELATED FACILITIES**

<b>MAP ID*</b>	<b>PROJECT</b>	<b>COST</b>	<b>PERCENT IMPACT FEE-ELIGIBLE</b>	<b>IMPACT FEE-ELIGIBLE COST</b>
F-1	500 N to 1000 N along 2000 W	\$2,365,000	100%	\$2,365,000
F-2	500 N near 2000 W	\$200,000	90%	\$180,000
F-3	75 S to 25 N along 1750 W	\$190,000	37%	\$70,000
F-4	Anderson Development to Spring Point Lift Station	\$2,085,000	100%	\$2,085,000
F-5	East side of the 2400 W drain toward Spring Point Lift Station	\$555,000	100%	\$555,000
F-6	Spring Point Lift Station	\$1,060,000	100%	\$1,060,000
<b>TOTAL</b>		<b>\$6,455,000</b>	<b>-</b>	<b>\$6,315,000</b>

\* See Figure 6-3 of the wastewater collection system master plan

## **IMPACT FEE UNIT CALCULATION**

### **Wastewater Impact Fee Unit**

It is recommended that the City continue to use the ERU method to calculate a wastewater Impact Fee Unit. The number of ERUs is determined by the size of the water meter. One impact fee unit is equal to 1 ERU, which corresponds to a ¾" or 1" drinking water meter. Larger meters correspond to a higher ERU count.

### **Impact Fee Calculation**

The Wastewater impact fee per unit is has been calculated based on the on value of the excess capacity in the system and the cost of predicted future projects over the next 10 years.

### **Collections**

The collections portion of the impact fee unit is calculated as shown in Table 3-4. Because pipes are all sized in direct relation to the ultimate capacity of their respective lift station, the fee was calculated by dividing the impact fee-eligible cost of existing and planned 10-year projects by the capacity of the lift stations which will serve growth.

**TABLE 3-4  
COLLECTIONS FACILITY COSTS BY TIME PERIOD**

<b>Time Period</b>	<b>ERUs</b>	<b>Proportion of Total Capacity</b>	<b>Proportionate Cost</b>
Existing	9,446 <sup>A</sup>	51%	\$5,647,604.12
10-year	3,645 <sup>B</sup>	20%	\$2,179,284.04
Beyond 10-year	5,341	29%	\$3,193,293.84
<b>TOTAL</b>	<b>18,432<sup>C</sup></b>	<b>100%</b>	<b>\$11,020,182.00<sup>D</sup></b>

A. Based on existing usage. See Table 2-1.

B. Based on Master Plan Growth projections. See Table 3-1.

C. Based on the capacity of the 1500 W and West Fields lift stations. See Table 2-1.

D. Calculated as the sum of the impact fee-eligible cost of existing collections projects (\$4,705,182; see Table 3-2) and future projects (\$6,315,000; see Table 3-3).

**Treatment**

Springville operates one wastewater treatment plant. It was originally constructed at a cost of \$9,546,786 and at a capacity of 5.5 MGD. Later, an expansion was made adding 1.96 MGD capacity, at a cost of \$10,704,310.

The treatment portion of the impact fee was calculated based on the proportionate cost of capacity remaining in the existing wastewater treatment plant. Costs for all existing users was attributed to the cost of the construction of the initial treatment plant. Costs for existing and future users was split proportionally between the remaining costs associated with the construction of the initial treatment plant and the cost of the treatment plant expansion.

Costs of the various components of the wastewater treatment plant are shown in Table 3-5.

**TABLE 3-5  
WWTP COSTS SUMMARY**

<b>Phase</b>	<b>Cost</b>	<b>Capacity (ERU)</b>	<b>Existing Users (ERU)</b>	<b>Proportion of Total Capacity</b>	<b>Proportionate Cost</b>	<b>Proportionate Cost Remaining</b>
Initial	\$9,546,786	22,000	18,250	83%	\$7,919,492.93	\$1,631,633
Expansion	\$10,704,310	7,840	0	0%	\$0	\$10,704,310
<b>Total</b>	<b>\$20,251,096</b>	<b>29,840</b>	<b>18,250</b>	<b>-</b>	<b>\$7,919,492.93</b>	<b>\$12,335,943</b>



The cost of the treatment facilities is shown by time period in Table 3-6.

**TABLE 3-6  
TREATMENT FACILITY COSTS BY TIME PERIOD**

<b>Time Period</b>	<b>ERUs</b>	<b>Proportion of Remaining Capacity</b>	<b>Proportionate Cost</b>
Existing	18,250 <sup>A</sup>	-	\$7,919,492.93 <sup>D</sup>
10-year	3,645 <sup>B</sup>	31%	\$3,878,230.65 <sup>E</sup>
Beyond 10-year	7,945	69%	\$8,453,372.42 <sup>E</sup>
<b>TOTAL</b>	<b>29,840<sup>C</sup></b>	<b>100%</b>	<b>\$20,251,096.00</b>

A. Based on existing usage. See Table 3-1.

B. Based on Master Plan Growth projections. See Table 3-1.

C. Based on the capacity of the treatment plant. See Table 2-2.

D. As Calculated in Table 3-5.

E. Calculated as (proportion of remaining capacity) \* (\$12,335,943). See Table 3-5. \$12,335,943 is the cost attributable to excess capacity in the treatment plant.

## Planning

Within the 10-year planning period, it is assumed that Springville will commission two planning studies of approximately \$100,000 each. These studies will help the City to serve an estimated 3,645 ERUs coming within the next 10 years.

## Facility Cost by Time Period

Costs attributed to growth over the next 10 years are included in the impact fee. Table 3-7 is a summary of the existing and future facility costs by time period. Existing costs are those costs attributed to capacity currently being used by existing connections. Costs attributed to the next 10 years are costs for the existing capacity or new capacity for the assumed growth. These costs are included in the impact fee.

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

<b>ITEM</b>	<b>EXISTING</b>	<b>NEXT 10 YEARS</b>	<b>BEYOND 10 YEARS</b>	<b>TOTAL</b>
COLLECTION	\$5,647,604	\$2,179,284	\$3,193,294	\$11,020,182
TREATMENT	\$7,919,493	\$3,878,231	\$8,453,372	\$20,251,096
PLANNING	\$0	\$55,202	\$0	\$55,202
<b>TOTAL</b>	<b>\$13,567,097</b>	<b>\$6,112,717</b>	<b>\$11,646,666</b>	<b>\$31,326,480</b>

Table 3-8 is a summary of the cost included in the impact fee calculation by component. It shows the unit cost per ERU, which was calculated by dividing the cost of the collection system by the total ERUs served and by dividing the remaining treatment plant cost by the remaining treatment plant capacity. This method allows for development to pay their fair share of the sewer system costs.

**TABLE 3-8  
PROPOSED WASTEWATER IMPACT FEE PER ERU**

<b>Component</b>	<b>Impact Fee-Eligible Cost</b>	<b>ERUs Served</b>	<b>Cost per ERU</b>
Collection	\$2,179,284	3,645	\$597.88
Treatment	\$3,878,231	3,645	\$1063.99
Planning	\$200,000	3,645	\$54.87
<b>TOTAL</b>			<b>\$1,716.74</b>

- A. See Table 3-8
- B. See Table 3-1

## Total Impact Fee Calculation for Various Meter Sizes

Table 3-9 shows the recommended impact fee by meter size. Users requiring larger meters will individually be assessed an ERU capacity based on projected water use. The total proposed impact fee for a typical single-family residential connection requiring a 1-inch drinking water connection would have an impact fee of **\$1,716** (see Table 3-4). For larger meter sizes, the fee scales proportionately according to the ERU capacity of the meter. The ERU count for each meter size is calculated based on American Water Works Association (AWWA) rated capacity for each meter size. This represents an equitable distribution of potential to use the City's sewer system.

**TABLE 3-9  
PROPOSED WASTEWATER IMPACT FEE BASED ON METER SIZE**

<b>Drinking Water Meter Size</b>	<b>ERUs</b>	<b>Impact Fee</b>
1"	1.0	\$1,716
1 ½"	3.33	\$5,714
2"	5.33	\$9,146

## REVENUE OPTIONS

Funding options for the recommended projects could include the following: Existing City funds, general obligation bonds, revenue bonds, State/Federal grants and loans, inter-fund loans and impact fees. The City may need to consider a combination of these funding options. The following discussion describes each of these options.

### Existing City Funds

Existing City funds, such as a wastewater fund or the general fund, at times may be funding options for existing deficiency projects or infrastructure growth projects. The wastewater fund is often used to resolve existing deficiencies and to provide funding for operations and maintenance.

### General Obligation Bonds

This form of debt enables the City to issue general obligation bonds for capital improvements and replacement. General Obligation (GO) 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. GO bonds are often the lowest-cost form of debt financing available to local governments and can be combined with other revenue sources 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.

## **Revenue Bonds**

This form of debt financing is also available to the City for utility related capital improvements. 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 GO 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 GO bonds. 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.

## **State/Federal Grants and Loans**

Historically, local 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. State and federal grants and loans may be investigated as possible funding sources for needed water system improvements.

## **Impact Fees**

Impact fees can be applied to water related facilities according to the Utah Impact Fees Act (Act). The Act is intended to provide a framework for establishing new development assessments. The fundamental objective for the impact fee structure is the imposition on new development of costs associated with providing or expanding water infrastructure to meet the capacity needs created by new development. Impact fees cannot be applied retroactively.

## **Interfund Loans**

Loans between City funds can be considered as a method of financing capital improvement projects.

## **Summary of Available Funding Options**

Each of the above options have been considered for funding infrastructure project. Of the above options, impact fees are the most appropriate funding method for growth related projects. At this time, Springville City will implement impact fees to fund growth improvements.