

**SALEM CITY**

**WASTEWATER IMPACT FEE REPORT**

**FINAL**

**APRIL 2017**

BY:

**FORSGREN**  
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Forsgren Project No: 05-15-0157

# Certification

## Salem City Wastewater Impact Fee Facilities Plan and Analysis

I certify that the attached Impact Fee Facilities Plan and Impact Fee Analysis:

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



Jason T. Broome, P.E.  
Forsgren Associates, Inc.

4/1, 2017

## SECTION 1- INTRODUCTION

Salem City, located in the southern end of Utah County, is a residential community of approximately 7,500 residents, and founded in 1920. Salem is bordered by Spanish Fork, Payson, Elk Ridge and Woodland Hills, and lies at the base of the Wasatch Mountains. The City provides municipal services to its citizens and a growing number of businesses including culinary water, sewer collection and treatment, pressurized irrigation delivery, as well as streets, electrical service, police, cemetery, and parks and recreation services.

The population of Salem has, like much of the west, seen rapid growth during the last two decades. Between 2000 and 2010 the population grew from 4,372 people to 6,423. By 2036, the population is projected to number 16,433, and at ultimate buildout under current zoning, the city population is estimated to total 76,000 residents. This increase in population will lead to an increased demand on the municipal services provided by the city, including sewer collection and treatment.

The purpose of this study is to comply with Utah Code Ann. Title 11 Chapter 36a "Impact Fee Act." This study will discuss the population growth of Salem City (both existing and future), the existing and future sewer collection and treatment facilities, and the impact fee plan and analysis. This study will act as an update to the previous studies completed in 1997, 2006, and 2012. This study covers the 2017-2022 impact fee period.

The previous evaluation, conducted in April 2012 by Sunrise Engineering, Inc. recommended a wastewater impact fee for the city to be \$1,792.87.

## SECTION 2- POPULATION PROJECTIONS AND GROWTH PATTERNS

The Western U.S. has experienced tremendous growth throughout the last 4 decades. Growth in Salem City has followed this trend, particularly in the 1980's and 2000's which saw population increases of 106.6% and 91.4%, respectively. This growth is expected to continue due to children being born into the city, and new residents relocating to Utah for job and educational opportunities, and the generally excellent quality of life in the area.

Table 1 below summarizes expected population growth between 2016 and 2036 assuming a population growth rate of 4% per year, and is used as a basis for Impact Fee Analysis in future sections:

Table 1- Salem City Population Projections

Salem City Estimated Growth Rate			
Year	Population	Growth Rate	Annual Increase
2016	7,500	4%	300
2017	7,800	4%	312
2018	8,112	4%	324
2019	8,436	4%	337
2020	8,774	4%	351
2021	9,125	4%	365
2022	9,490	4%	380
2023	9,869	4%	395
2024	10,264	4%	411
2025	10,675	4%	427
2026	11,102	4%	444
2027	11,546	4%	462
2028	12,008	4%	480
2029	12,488	4%	500
2030	12,988	4%	520
2031	13,507	4%	540
2032	14,047	4%	562
2033	14,609	4%	584
2034	15,194	4%	608
2035	15,801	4%	632
2036	16,433	4%	657

As the population of Salem rises, so will the demand on the City's wastewater infrastructure. In 2015, the city had 2,383 Equivalent Residential Connections (ERU's). By 2040, it is expected there will be 6,174 ERU's, an increase of 3,791. In addition, it is anticipated a number of undeveloped areas will see development in the near future.



### SECTION 3-IMPACT FEE FACILITIES PLAN

This report has taken into account projected growth and anticipated projects needed in order to serve anticipated projects in Salem City during the next 6 years. In addition, projects identified in the previous study and deemed necessary to maintain the current level of service have been re-evaluated to determine the remaining cost to completion and impact fee attributable to growth.

Significant growth is expected in the northern and eastern areas of the city. To serve this new growth, installation of sewer collection infrastructure is necessary to convey new sanitary sewer flows to the wastewater treatment plant. The State Highway North and South segments, and Main St. and 1100 N. Interceptor Projects are anticipated to be constructed in the next six years.

Sanitary sewer flows produced in Salem City are currently collected and conveyed to a treatment pond facility, located in the northwest part of the city. As federal and state regulations for the treatment and removal of compounds such as ammonia and phosphorous have been enacted, the need for a new treatment plant has become evident. After an extensive study by Forsgren Associates, Inc. in conjunction with Salem City officials, it was determined a new wastewater treatment plant for Salem City would be constructed on ground near I-15. The new wastewater treatment plant, once constructed, will serve existing and future users in Salem City via the proposed East and West Trunkline Interceptor projects.

Refer to map labelled “Future Collection System Pipes & Demands” in Appendix A for locations of the existing and future sanitary sewer collection system piping, as well as the existing wastewater treatment plant pond facility and proposed wastewater treatment plant location.

## SECTION 4-IMPACT FEE ANALYSIS

Salem City strives to provide excellent wastewater collection and treatment service to its citizens. To meet this mission, the city has identified a number of key projects needed to meet the growing demand as the population grows and previously undeveloped areas become developed. In addition, Federal mandates requiring removal of contaminants including Ammonia, Phosphorus and Nitrogen have been, or are expected to be enacted within the decade, necessitating construction of the new Salem City Wastewater Treatment Plant in the western portion of the City.

Utah State Law stipulates impact fees may finance the construction of infrastructure needed to serve new growth in that community. Impact fees are assessed for all manner of city services, ranging from utilities, to public health and safety, however, these fees must be spent within a 6 year window. This study takes into account existing conditions and future needs to maintain expected levels of service and to meet new federal guidelines, but does not factor in maintenance costs or other expenditures related to the existing system. The 6 year window for this study runs from 2017 to 2022.

The wastewater conveyance and treatment projects eligible for impact fees and projected for construction in the next six year impact fee period are summarized as follows:

### Item 1 – Project 1: Arrowhead Trail and 460 West Lift Station

This is a project carried over from the 2012 Impact Fee Analysis. The total project value was \$1,065,325.80, and the balance remaining to be paid is \$702,736.15 (as of April 5, 2017). The updated impact fee amount for the remaining balance is \$395.88/ERU, based on the 20 year ERU growth of 2,691 ERU's.

### Item 2 – Project 2A: 400 N Expansion (460 W to Main)

This is a project carried over from the 2012 Impact Fee Analysis. The total project value was \$358,128.00, and the balance remaining to be paid is \$258,011.76 (as of April 5, 2017). The updated impact fee amount for the remaining balance is \$133.08/ERU, based on the 20 year ERU growth of 2,691 ERU's.

### Item 3 – Sewer System Model and Capital Facilities Plan

This project was included in the 2012 Impact Fee Analysis. The total project value was \$125,000.00, and the remaining balance due to growth and eligible for impact fee collections is \$67,298.11. The updated impact fee amount for the remaining balance is \$25.01/ERU, based on the 20 year ERU growth of 2,691 ERU's.

### Item 4 – Project E4: State Highway South

This is a new project with the following information:

- Cost: \$230,000
- ERUs Served: 1,645
- Portion Serving New Development: 100%
- Cost per ERU: \$139.82

Item 5 – Project E5: State Highway North

This is a new project with the following information:

- Cost: \$134,000
- ERUs Served: 400
- Portion Serving New Development: 100%
- Cost per ERU: \$335.00

Item 6 – Project F1: Main St Interceptor (750 N to 1100 N)

This is a new project with the following information:

- Cost: \$224,000
- ERUs Served: 8,205
- Portion Serving New Development: 100%
- Cost per ERU: \$27.30

Item 7 – Project F3: 1100 N Interceptor West Segment

This is a new project with the following information:

- Cost: \$448,000
- ERUs Served: 9,205
- Portion Serving New Development: 100%
- Cost per ERU: \$48.67

Item 8 – Project J1: WWTP Trunk Interceptor East Segment

This is a new project with the following information:

- Cost: \$557,000
- ERUs Served: 7,153
- Portion Serving New Development: 68%
- Cost per ERU: \$53.02

Item 9 – Project J2: WWTP Trunk Interceptor West Segment

This is a new project with the following information:

- Cost: \$370,000
- ERUs Served: 8,453
- Portion Serving New Development: 73%
- Cost per ERU: \$31.95



**Item 10 – New Wastewater Treatment Plant**

This is a new project with the following information:

- Cost: \$14,000,000
- Net Project Cost after grants, previous planning costs, etc.: \$12,839,000
- ERUs Served: 3,791
- Portion Serving New Development: 61%
- Value of project serving new connections: \$7,883,487
- Cost per ERU: \$2,079.53

Table 2- Wastewater Treatment Plant Cost Breakdown

Item	Value
Total project cost	\$14,000,000
Remove planning costs paid for under previous impact fee	-\$125,000
Remove regional planning grant	-\$25,000
Remove new sewer interconnect pipeline	-\$927,000
Remove cost difference of 8" to 12" water line	-\$84,000
Net project cost	\$12,839,000
Current ERUs (2015 Master Plan)	2,383
ERUs at Design Flow (2040)	6,174
New ERUs	3,791
Portion of Project Serving New Connections	61%
Value of Project Serving New Connections	\$7,883,487
<b>Treatment Impact Fee/ERU</b>	<b>\$2,079.53</b>

**Item 11 – New Wastewater Treatment Plant Loan Interest**

This is a new project with the following information:

- ERUs Served: 3,791
- Portion Serving New Development: 61%
- Value of project serving new connections:
- Cost per ERU: \$263.45

The projects identified above when totaled produce an allowable impact fee of \$3,532.71. Table 3 below summarizes the impact fees for each of the projects listed above.



Table 3- Breakdown of Impact Fees

Item	Project Number	Status	Item	2017 Fee
1	1	Existing	Arrowhead Trail & 460 West Lift Station	\$395.88
2	2A	Existing	400 N Expansion (460 W to Main)	\$133.08
3		Existing	Sewer System Model and Capital Facilities Plan	\$25.01
4	E4	New	State Highway South	\$139.82
5	E5	New	State Highway North	\$335.00
6	F1	New	Main St Interceptor (750 N to 1100 N)	\$27.30
7	F3	New	1100 N Interceptor West Segment	\$48.67
8	J1	New	WWTP Trunk Interceptor East Segment	\$53.02
9	J2	New	WWTP Trunk Interceptor West Segment	\$31.95
10		New	New WWTP	\$2,079.53
11		New	New WWTP Loan Interest	\$263.45
			<b>Total Impact Fee/ERU</b>	<b>\$3,532.71</b>

In order to continue to provide excellent sewer collection and treatment services to the City of Salem and to meet the anticipated growth and development it is recommended that a Wastewater Impact Fee of \$3,532.71 be adopted for all new residential units and non-residential equivalents, and all new non-residential growth.

In addition to adopting the Wastewater Impact Fee for the above projects, it is recommended the city conduct a yearly review to account for increased construction costs due to inflation, and adjust the impact fee accordingly.

## APPENDIX A-COLLECTION SYSTEM MAP



