

SALEM CITY

**WASTEWATER IMPACT FEE REPORT
UPDATE**

APRIL 2021

BY:

FORSGREN
Associates Inc.

370 East 500 South, Suite 200
Salt Lake City UT 84111

Forsgren Project No: 05-16-0157

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.

APRIL 22

, 2021

SECTION 1- INTRODUCTION

Salem City, located in the southern end of Utah County, is a residential community of approximately 7,500 residents, and was founded in 1920. Salem is bordered by Spanish Fork, Payson, Elk Ridge and Woodland Hills, and lies at the base of the Wasatch Mountains. Salem 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. The *Wastewater Facilities Planning Study* (February 2018) included a conservative population projection of 20,064 by 2040. The study also calculated an ultimate buildout population of 76,000 based on anticipated zoning regulations. The population for 2018 was estimated at 8,469 as presented on the Mountainlands Association of Governments (MAG) website. This increase in population will lead to an increased demand on the municipal services provided by Salem, 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 (both existing and future), the existing and future sewer collection and treatment facilities, and the impact fee plan and analysis. Impact fee studies were previously completed in 1997, 2006, 2012, and 2017. This study serves as an update to the 2017 impact fee study, and covers the 2021-2026 impact fee period. This revision of the impact fee report updates the following items:

- Wastewater Reclamation Facility projects costs based on actual project costs.
- Several piping projects costs based on actual project costs.
- Changes in expected projects to be constructed in the next five years.

The previous evaluation (2017) recommended a wastewater impact fee of \$3,532.71.

SECTION 2- POPULATION PROJECTIONS AND GROWTH PATTERNS

The Western U.S. has experienced tremendous growth throughout the last 4 decades. Growth in Salem 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, new residents relocating to Utah for job and educational opportunities, and the generally excellent quality of life in the area.

Table 1 below summarizes the projected future population, and is used as a basis for Impact Fee Analysis in future sections. Note that the MAG population projection is included for reference; these population values are based on a more aggressive population growth than the growth rate selected by Salem City for wastewater planning needs.

Table 1
Salem City Population Projections

Year	Growth Rate	Estimated/ Projected Population per 2018 WWFPS	Annual Increase	Census Estimates	MAG Projections
2014		7,237		7,200	
2015	4%	7,526	289		
2016	4%	7,828	301	7,777	
2017	4%	8,141	313		
2018	4%	8,466	326	8,469	
2019	4%	8,805	339		
2020	4%	9,157	352		11,337
2021	4%	9,523	366		
2022	4%	9,904	381		
2023	4%	10,301	396		
2024	4%	10,713	412		
2025	4%	11,141	429		
2026	4%	11,587	446		
2027	4%	12,050	463		
2028	4%	12,532	482		
2029	4%	13,033	501		
2030	4%	13,555	521		21,426
2031	4%	14,097	542		
2032	4%	14,661	564		
2033	4%	15,247	586		
2034	4%	15,857	610		
2035	4%	16,491	634		
2036	4%	17,151	660		
2037	4%	17,837	686		
2038	4%	18,551	713		
2039	4%	19,293	742		
2040	4%	20,064	772		36,057

As the population of Salem rises, so will the demand on the wastewater infrastructure. In 2015, the city had 2,383 Equivalent Residential Units (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 during the next 5 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.

Sanitary sewer flows produced in Salem were historically 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 WRF has become evident. The WWFPS determined a new WRF would be constructed on ground near I-15. The new WRF began operation in February 2020, and construction is expected to be completed in April 2021. The new WRF serves existing and future users in Salem via the new East and West Trunkline Interceptor projects.

Refer to map labelled “Future Collection System Pipes” 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 strives to provide excellent wastewater collection and treatment service to its citizens. To meet this mission, Salem 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 WRF 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 2020 to 2025.

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

Item 1 – Project 1: Arrowhead Trail and 460 West Lift Station (CW Management)

Construction for this project was completed in 2009, and is 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 \$274,955 (as of December 31, 2020). The updated impact fee amount is \$395.88/ERU, based on the 20 year ERU growth of 2,691 ERU's.

Item 2 – Project 2A: 400 N Expansion from 460 W to Main (Nebo School District)

Construction for this project was completed in 2011, and is carried over from the 2012 Impact Fee Analysis. The total project value was \$358,128.00, and the balance remaining to be paid is \$120,027 (as of December 31, 2020). The updated impact fee amount is \$133.08/ERU, based on the 20 year ERU growth of 2,691 ERU's.

Item 3 – Project E4: State Highway South

This is a future project that is expected to be completed within the 6-year window.

- Estimated Cost: \$280,000
- ERUs Served: 2,000
- Portion Serving New Development: 100%
- Cost per ERU: \$140.00

Item 4 – Project F1: Main St Interceptor (750 N to 1100 N)

This is a future project that is expected to be completed within the 6-year window.

- Estimated Cost: \$224,000
- ERUs Served: 5,400
- Portion Serving New Development: 98%
- Cost per ERU: \$74.88

Item 5 – Project F2: 1100 N Interceptor East Segment

This project is currently under construction, and is expected to be completed in 2021.

- Estimated Final Cost: \$339,000
- ERUs Served: 2,500
- Portion Serving New Development: 100%
- Cost per ERU: \$135.60

Item 6 – Project F3: 1100 N Interceptor West Segment

This project is currently under construction, and is expected to be completed in 2021.

- Estimated Final Cost: \$689,000
- ERUs Served: 8,900
- Portion Serving New Development: 99%
- Cost per ERU: \$76.55

Item 7 – Project H2: Arrowhead Trail Interceptor East Segment

This is a future project that is expected to be completed within the 6-year window.

- Estimated Final Cost: \$306,000
- ERUs Served: 900
- Portion Serving New Development: 89%
- Cost per ERU: \$302.22

Item 8 – Project H3: Arrowhead Trail Interceptor West Segment

This is a future project that is expected to be completed within the 6-year window.

- Estimated Final Cost: \$549,000
- ERUs Served: 2,100
- Portion Serving New Development: 95%
- Cost per ERU: \$248.98

Item 9 – Project J1: WWTP Trunk Interceptor East Segment

Construction for this project was completed in 2019.

- Cost: \$576,854 (based on final construction costs)
- ERUs Served: 8,800
- Portion Serving New Development: 74%
- Cost per ERU: \$48.42

Item 10 – Project J2: WWTP Trunk Interceptor West Segment

Construction for this project was completed in 2019.

- Cost: \$865,281 (based on final construction costs)
- ERUs Served: 9,100
- Portion Serving New Development: 75%
- Cost per ERU: \$71.05

Item 10 – New Wastewater Treatment Plant

This project is currently under construction, and is expected to be completed in 2021.

- Cost: \$21,000,000
- Net Project Cost after grants, previous planning costs, etc.: \$19,390,865
- ERUs Served: 6,174
- Portion Serving New Development: 61%
- Value of project serving new connections: \$11,906,506
- Cost per ERU: \$3,140.73

Item 11 – New Wastewater Treatment Plant Loan Interest

This project is currently under construction, and is expected to be completed in 2021.

- Total interest for loan: \$3,761,638
- ERUs Served: 6,174
- Portion Serving New Development: 61%
- Value of interest serving new connections: \$2,309,746
- Cost per ERU: \$609.27

The projects identified above when totaled produce an allowable impact fee of \$5,376.67. Table 3 below summarizes the impact fees for each of the projects listed above.

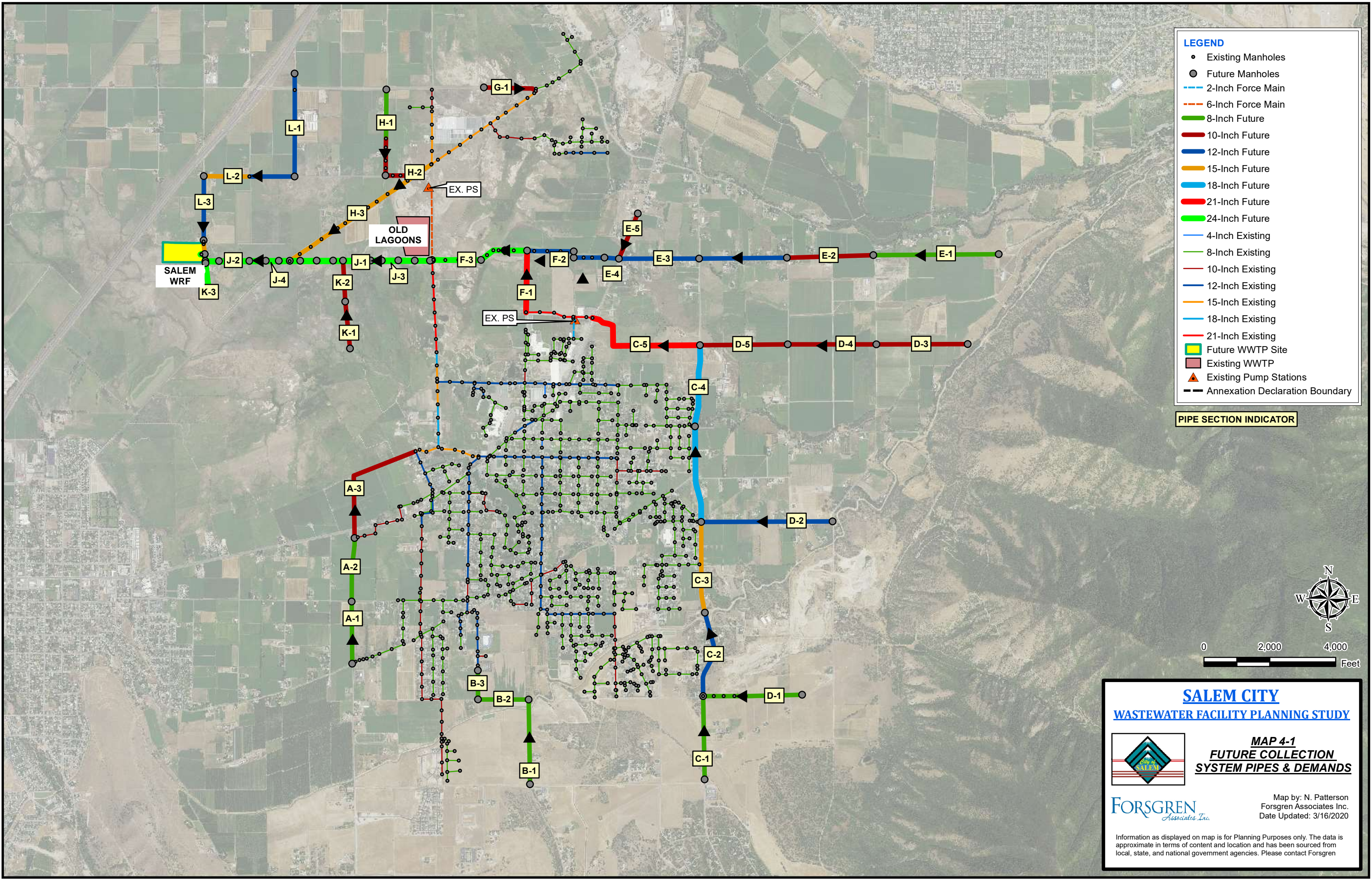
Table 2
Summary of Impact Fee Projects

Item	Project Number	Status	Item	2021 Fee Update
1	1	Complete	Arrowhead Trail & 460 West Lift Station	\$395.88
2	2A	Complete	400 N Expansion (460 W to Main)	\$133.08
3	E4	Future	State Highway South	\$140.00
4	F1	Future	Main St Interceptor (750 N to 1100 N)	\$74.88
5	F2	Complete	1100 N Interceptor East Segment	\$135.60
6	F3	Complete	1100 N Interceptor West Segment	\$76.55
7	H2	Future	Arrowhead Trail Interceptor East Segment	\$302.22
8	H3	Future	Arrowhead Trail Interceptor West Segment	\$248.98
9	J1	Complete	WWTP Trunk Interceptor East Segment	\$48.42
10	J2	Complete	WWTP Trunk Interceptor West Segment	\$71.05
11	WRF	Complete	New WRF	\$3,140.73
12	WRF	Complete	New WRF Loan Interest	\$609.27
			Total Impact Fee/ERU	\$5,376.67

In order to continue to provide excellent sewer collection and treatment services to the city and to meet the anticipated growth and development, it is recommended that a Wastewater Impact Fee of **\$5,376.67** be adopted for each new residential unit and non-residential Equivalent Residential Unit.

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


APPENDIX A-COLLECTION SYSTEM MAP



- LEGEND**
- Existing Manholes
 - Future Manholes
 - 2-Inch Force Main
 - 6-Inch Force Main
 - 8-Inch Future
 - 10-Inch Future
 - 12-Inch Future
 - 15-Inch Future
 - 18-Inch Future
 - 21-Inch Future
 - 24-Inch Future
 - 4-Inch Existing
 - 8-Inch Existing
 - 10-Inch Existing
 - 12-Inch Existing
 - 15-Inch Existing
 - 18-Inch Existing
 - 21-Inch Existing
 - Future WWTP Site
 - Existing WWTP
 - Existing Pump Stations
 - Annexation Declaration Boundary

PIPE SECTION INDICATOR

SALEM CITY
WASTEWATER FACILITY PLANNING STUDY



MAP 4-1
FUTURE COLLECTION
SYSTEM PIPES & DEMANDS

Map by: N. Patterson
Forsgren Associates Inc.
Date Updated: 3/16/2020

Information as displayed on map is for Planning Purposes only. The data is approximate in terms of content and location and has been sourced from local, state, and national government agencies. Please contact Forsgren