



BEAR LAKE SPECIAL SERVICE DISTRICT

2023 WASTEWATER FACILITY PLAN

Bear Lake Special Service District

April 2023

DRAFT



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1.0 INTRODUCTION

1.1 BACKGROUND

The Bear Lake Special Service District (District) is located in northern Utah near the Idaho border along the western and southern shore of Bear Lake. The area has been growing at a moderate rate since the sewer collection system was installed in 1984. Sunrise Engineering, Inc. (Sunrise) has been retained by the District to update the wastewater facility plan. These updates will incorporate the existing infrastructure that has been installed since 2008.

1.2 STUDY AREA

The study area for this facility plan includes the District wastewater collection system service area. The study area is shown in Figure 1, Appendix D. Although the District also includes the south shore portion of the system, this area will not be analyzed as part of this study. If growth increases along the south shore, the system will need to be analyzed to determine impacts to the existing infrastructure. The District's boundary incorporated in this study is shown in Figure 2, Appendix D.

1.3 OBJECTIVE

The primary objective of this facility plan is to provide the District with the information needed to make informed decisions on wastewater collection system improvements over the 30-year planning period. Estimates of probable cost will be produced for the proposed improvements.

The accuracy of this report is, by nature, limited by the accuracy of the included assumptions and projections. The District should review and update this facility plan every five to ten years to verify how the District is growing with relationship to the assumptions included in this report.

1.4 SCOPE

The scope of the wastewater facility plan includes the following:

- Build a collection system model for existing conditions,
- Apply future flow projections to the collection system model,
- Identify and prioritize existing and future system deficiencies,
- Develop opinions of probable cost for proposed improvements, and
- Prepare a facility plan report.

2.0 EXISTING SYSTEM

2.1 EXISTING WASTEWATER SYSTEM AND SERVICE AREA

The existing wastewater collection and treatment system was constructed in 1984. Since that time, additional developments have been incorporated into the system with developers installing the necessary collection for their development. The collection system starts at the Utah-Idaho border and runs approximately 7.5 miles south to the Sweet Water Development.

The south shore portion of the system was constructed in 2003. Over the past 20 years, this section of the system has seen growth, but the system has not been overloaded. The concern the District has with the south shore is septic damage to the wetwell wall of the lift station near Rendezvous Beach. Options are being considered to line the wall with a coating to help protect the concrete from further damage.

Because of elevation requirements, the original system was constructed with seven large lift stations. These lift stations are located along US Highway 89 and State Highway 30. Wastewater flows into the lift stations from gravity lines (size varies from 8" to 18") from the north and south and then is pumped through various sizes of pressure lines (4" to 16") into the next gravity line and lift station.

There are a significant number of homes that lie between the highway and the lake. All of these homes are at elevations lower than wastewater lines installed in the highway and must be pumped into the transmission lines. The west and south sides of the lake have approximately 94 grinder pump stations that collect wastewater from gravity lines. Generally, 8 to 15 homes flow into these grinder pump stations, and the flows are then pumped into the larger gravity or transmission line located in Highway 89, State Highway 30, and Cisco Road.

The lift stations are equipped with generators to allow the system to continue to function in the event of a power outage. Also, the District owns and operates a vacuum truck which can be used for emergency situations. The collection system currently serves approximately 2,385 connections.

The existing treatment system is a total containment lagoon system. The lagoons are comprised of 5 cells. Cells 1, 2, and 3 act as a parallel primary treatment cell. Cells 1 and 2 are each 10 acres, and cell 3 is 7 acres. Cell 4 is a 10.7 acre secondary treatment cell constructed in 2003, and cell 5 is a tertiary 12 acre cell constructed in 2008. A map showing the existing lagoons can be found in Figure 3, Appendix D.

An update to the facility plan was done in 2002 that researched treatment methods and costs. The update outlines a plan for expansion of the existing wastewater treatment facility. The District is currently following the recommendation of the 2002 facility plan. There are currently no special permits required to operate the existing wastewater treatment system. This facility plan will analyze the existing capacity of the lagoons and provide recommendations for expansion of the total containment system. At the District's request, land application will also be analyzed.

2.2 FLOW DATA

Flow data, shown in Appendix A, indicates that peak flow months are the summer months. This is due to the nature of the Bear Lake area. Many people come to the lake for recreational activities during the summer, and the wastewater flows increase accordingly. Summer monthly flows are as much as 4 times winter monthly flows. The peak recorded monthly flow for the system was 18.40 million gallons or an average of 0.59 million gallons per day (MGD).

3.0 SYSTEM USER ANALYSIS

3.1 LENGTH OF PLANNING PERIOD

In development of this wastewater collection system facility plan, Sunrise used a 30-year planning period. The planning period begins in the year 2023 and runs through the year 2053. Throughout the 30-year plan implementation period, the District should further evaluate the system for potential infrastructure improvements or other needs.

3.2 PROJECTED GROWTH

The projection of a district's population is an integral part of a facility plan study. With an appropriately determined growth rate, it is possible to estimate the future population. Subsequently, wastewater flow rates may be estimated that need to be accommodated by the District's wastewater collection system.

Historic census data indicates from 2010 to 2020 Rich County experienced a 1.04% growth rate. Per the 2020 census, the average household size in Rich County was 3.76 people. Over the last four years, the District has experienced a growth rate of 5.25%. A growth rate of 2.50% was selected as this better matches the District's growth over the last 15 years.

3.3 EQUIVALENT RESIDENTIAL UNITS AND EQUIVALENT POPULATION

An Equivalent Residential Unit (ERU) is defined as the average daily wastewater output by a residential unit or single-family dwelling. This unit is commonly used as an index to compare the wastewater output of non-residential connections to that of residential connections. For the purposes of this wastewater facility plan, an ERU will be defined as the amount of wastewater discharged to the system by an average single-family residential connection.

Equivalent population is a metric that is determined by multiplying total ERU's by average household size to calculate a population that is representative of the flows being produced. It is significant to note that this equivalent population is generally higher than the actual population due to short term rentals, camp sites, and RV pads that translate into additional ERU's.

Existing connections in the District consist of residential and commercial units. The number of residential and commercial connections were provided to Sunrise by the District. A summary of the number of existing connections by type can be found in Table 1.

Table 1: Existing Connections

Residential Connections	Commercial Connections	Short Term Rental (STR) Connections	Total Connections
2,039	182	164	2,385

Prior to March 2023, the District defined a short term rental connection as a short term rental having an occupancy of 16 people or greater. In March 2023, the District updated the definition of a short term rental connection to include occupancy of 10 people or greater. This has led to an increase in the number of short term rental connections. The exact number of short term rental connections based on the new definition has not been included in this facility plan.

Garden City provided a list of short term rentals registered within the city's boundary to the District. The max occupancy for short term rentals within Garden City varies from 4 people to 85 people. The District provided a list of short term rentals within the District's boundaries, but outside of Garden City's boundaries. When the numbers from the District and Garden City are combined, the short term rental population is 8,388. For the purposes of this study, the short term rental population of 8,388 has been used.

Camp sites and rv pads also have an influence on the total number of ERU's as these sites contribute to wastewater flows in the system. Table 2 shows the total ERU's in the existing condition with the short term rental population, camp sites, and rv pads.

Table 2: Existing ERU's

Residential & Commercial ERU's Including Camp Sites & RV Pads	STR Population	STR ERU's	Total ERU's	Equivalent Population
2,643	8,388	2,231	4,874	18,326

Using the growth rate of 2.50%, future residential and commercial ERU totals for 2053 were calculated with exponential growth equations. Equivalent populations for the year were subsequently calculated using the projected ERU's and average household size. Short term rental population and number of camp sites and RV pads were calculated using engineering judgement, and subsequently, ERU's were calculated. These metrics for projected ERU's and equivalent population for 2053 are summarized in Table 3.

Table 3: 2053 ERU's and Population

Residential & Commercial ERU's Including Camp Sites & RV Pads	STR Population	STR ERU's	Total ERU's	Equivalent Population
5,005	14,855	3,951	8,956	33,676

3.4 WASTEWATER FLOW RATE

The State requirement for wastewater flow rate is 100 gallons per person per day. This requirement may be reduced if data backing the reduction is available. The current average daily flow for the peak month is 593,458 gallons per day. Currently, the District has 2,385 connections. This equates to 249 gallons per day per connection. Using the census data of 3.76 people per household, the number of gallons per person per connection per day is 66 gallons. Due to the short term rental fluctuation, future flows in this study will use a more conservative number of 75 gallons per person per connection per day. The flow rate for camp sites for this study is 30 gallons per camper per day, and the flow rate for RV pads for this study is 100 gallons per RV pad per day.

3.5 INFILTRATION AND INFLOW

Infiltration is extraneous water other than wastewater that enters the wastewater system from the ground through such means as defective pipe joints, leaky service connections, and leaky manhole joints. Infiltration is most prevalent in high groundwater conditions. Inflow is water other than wastewater that enters the sewer system through cross connections with storm drains, catch basins, manholes, roof drains, yard drains, etc. Inflow can also occur through manhole covers.

Currently, the District evaluates infiltration and inflow through on-site observations of the system. These observations occur during routine maintenance activities on the system. As infiltration and inflow are observed through the operation and maintenance activities, further evaluation is conducted, and repairs are made.

It is a requirement to demonstrate that the collection system and treatment works are not and will not be subject to infiltration and inflow. It is anticipated that no infiltration and inflow will be present when new piping is installed. However, the existing collection lines should be monitored for infiltration. The following steps will be taken to eliminate infiltration and inflow:

1. The collection system will feature PVC pipe, which incorporates watertight joints. Service connections will enter the main lines through sealed saddle fittings. Manholes will have gasketed watertight attachments to collection piping and watertight joints between rings.

2. Manhole covers will be set with surrounding grading so surface water runs away from each manhole.
3. The Sewer Use Ordinance addresses infiltration and inflow and requires removal of infiltration and inflow from service laterals. It also requires removal of all illegal connections such as storm drains and downspouts and outlaws cross connections to any other water sources except sanitary sewer.

4.0 COLLECTION SYSTEM

4.1 MODEL SELECTION

Sunrise developed the collection system model in Innovyze® Infosewer, a Geographic Information System (GIS) based software. This software models both simple and complex collection systems created in GIS geodatabases. Flow projections for 2053 were developed by using the projected ERU count growth and the current land use maps. The flow projections for the 2053 tributary population were developed first in an excel spreadsheet and subsequently imported into Infosewer to be run within the model.

4.2 SYSTEM MODEL

The District has supplied Sunrise with GIS information for the existing collection system. GIS data, wastewater maps, institutional knowledge from the District, and data on manhole depth were used to create the model. For purposes of wastewater capital improvements, Sunrise has simplified the layout by removing manholes and collection lines that branch off the main lines from the capital improvements consideration.

The zoning map was employed along with a house count using aerial imagery to break up the total wastewater flow over the modeled collection system. Zoning maps for Garden City and Rich County are found in Figure 4, Appendix D. The modeling criteria and values adopted for this study are summarized in Table 4.

Table 4: System Model Criteria

Criteria	Values or Assumptions
2023 Average Annual Unit Flows & People Per Household	75 gpcd & 3.76 pph; Commercial connections assumed to be the same as residential connections
Infiltration	Assumed to be minimal and part of the 75 gpcd
Planning Period	Study Period – (Existing = 2023 / Future = 2053)
Recommendations	Gravity and Pressure Sewer – Sized to 2053 conditions
Land Use & Population Projections	2023 District study area – Existing zoning map and 2020 Census with growth factor 2053 District study area – Land use according to future land use plan and population as estimated by growth factor and engineering judgement
Input Pipe Characteristics	PVC Roughness Coefficient – Gravity Sewer ($n=0.010$) Slope = As shown in GIS and as-builts Velocity = As hydraulically modeled

4.3 DEFICIENCY CRITERIA

The original infrastructure was installed in 1984. Due to the growth over the last 39 years, some of the pipes have insufficient capacity for the District's wastewater flow rates. The physical condition of the existing collection lines was not investigated as part of this facility plan. Routine inspection of the collection system, especially where velocities are minimal, should be considered a vital part of the District's inspection and maintenance program.

4.3.1 CAPACITY DEFICIENCY

Capacity deficiency is determined by dividing the recommended maximum flow depth by the pipe inner diameter (d/D). The criteria for evaluating the capacity deficiency of gravity wastewater piping are listed in Table 5.

Table 5: Capacity Deficiency Criteria

Criteria	Assessment Codes	Assumptions
Gravity Pipe Flow Depth	"Good Capacity" – $d/D < 0.50$	Non-Deficient
	"Fair Capacity" – $0.50 \leq d/D < 0.70$	Non-Deficient
	"Poor Capacity" – $d/D \geq 0.70$	Deficient

4.4 RECOMMENDATIONS

The existing system has deficiencies that will need to be addressed at different times. These deficiencies are separated into four categories: existing deficiencies, 2033 deficiencies, 2043 deficiencies, and 2053 deficiencies.

4.4.1 EXISTING DEFICIENCIES

The existing deficiencies are shown in Figure 5, Appendix D. Lines with low velocities should be priority areas for inspection and cleaning operations until flow rates increase to develop velocities over two feet per second. Capacity deficiencies are associated with collection systems for sewersheds 4, 5, 6, and 7.

For sewershed 4, Sunrise recommends the 8-inch pipe from the outfall of the pressure main from lift station 3 to lift station 4 be upsized. The existing 8-inch pipe should be replaced with 15-inch pipes to accommodate the 2053 loadings. Sewershed 4 is the lowest priority of the sewershed updates for the existing conditions.

For sewershed 5, Sunrise recommends the 12-inch pipe from Buttercup Lane to lift station 5 be upsized. The existing 12-inch pipe should be replaced with 18-inch pipes to accommodate the 2053 loadings. This project is the second lowest priority of the sewershed updates for the existing conditions.

Although the line in Buttercup Lane appears to have insufficient capacity, the line should not be scheduled to be replaced. There are a few factors that influence this decision. The exact slope of the pipe is not known within the model, and this line will also receive significantly less flows when the 300 West corridor is finished being built out. As such, the line should not be replaced at this time.

For sewershed 6, Sunrise recommends the 12-inch pipe from approximately 160 feet south of the western intersection of 250 East Loop and Bear Lake Boulevard to lift station 6 be upsized. The existing 12-inch pipe should be replaced with 18-inch pipes to accommodate the 2053 loadings. This project is the second highest priority of the sewershed updates for the existing conditions.

For sewershed 7, Sunrise recommends the 12-inch pipe from the outfall of the pressure main from lift station 6 to the existing 18-inch pipe into lift station 7 be upsized. The existing 12-inch pipe should be replaced with 18-inch pipes to accommodate the 2053 loadings. This project is the highest priority of the sewershed updates for the existing

conditions. Table 6 shows the priority for the recommended improvements in the existing condition.

Table 6: Priority of Improvements for Existing Conditions

Project	Priority	Year	Cost
Sewershed 7 Collection System	1	2024 & 2025	\$2,668,000
Sewershed 6 Collection System	2	2025	\$550,000
Sewershed 5 Collection System	3	2026	\$1,711,000
Sewershed 4 Collection System	4	2029	\$304,000

4.4.2 2033 DEFICIENCIES

The 2033 deficiencies are associated with force mains for sewersheds 5 and 6 and pumps for lift stations 2, 4, 5, 6, and 7. The deficiencies are shown in Figure 6, Appendix D. As part of the pump updates, the wetwell size may need to be adjusted. An analysis of the wetwell for each lift station should be completed when new pumps are installed. Sunrise recommends the following:

- Lift station 2 have 180 gallons per minute (gpm) pumps installed
- Lift station 4 have 600-gpm pumps installed
- Lift station 7 have 1,450-gpm pumps installed.

For sewershed 5, Sunrise recommends the force main from lift station 5 to sewershed 6 be upsized. The existing 8-inch force main should be replaced with a 12-inch force main to accommodate the 2053 loadings. This is the lower priority of the two force main projects for the 2033 system analysis. Sunrise recommends the pumps be upsized to 1,250-gpm in lift station 5 as part of the improvements to sewershed 5.

For sewershed 6, Sunrise recommends the force main from lift station 6 to sewershed 7 be upsized. The existing 8-inch force main should be replaced with a 12-inch force main to accommodate the 2053 loadings. This is the higher priority of the two force main projects for the 2033 system analysis. Sunrise recommends the pumps be upsized to 1,350-gpm in lift station 6 as part of the improvements to sewershed 6. Table 7 shows the priority for the recommended improvements for the 2033 system analysis.

Table 7: Priority of Improvements for 2033 Analysis

Project	Priority	Year	Cost
Sewershed 6 Force Main	1	2033	\$650,000
Sewershed 5 Force Main	2	2034	\$1,622,000

4.4.3 2043 DEFICIENCIES

The 2043 deficiencies are associated with collection systems for sewersheds 3 and 5 and pumps for lift station 4. The deficiencies are shown in Figure 7, Appendix D. Sunrise recommends the pumps for lift station 4 be replaced with 650-gpm pumps. As part of the pump updates, the wetwell size may need to be adjusted. An analysis of the wetwell for lift station 4 should be completed when the new pumps are installed.

For sewershed 3, Sunrise recommends the 8-inch pipe into the wetwell upsized. The existing 8-inch pipe should be replaced with a 12-inch pipe to accommodate the 2053 loadings. This project is the lower priority of the two collection system projects for the 2043 system analysis.

For sewershed 5, Sunrise recommends the 10-inch pipe from the outfall of lift station 4 to 250 South replaced. A portion of the pipe in this section has fair capacity. Because either side is recommended to be replaced and the pipe will be approximately 60 years old, the full length should be replaced. The existing 10-inch pipe should be replaced with 15-inch pipe to accommodate the 2053 loadings. Sunrise recommends that from approximately 100 feet north of the entrance to Legacy Beach to Buttercup Lane be replaced. The existing 12-inch pipe should be replaced with 18-inch pipe to accommodate the 2053 loadings. This project is the higher priority of the two collection system projects for the 2043 system analysis. Table 8 shows the priority for the recommended improvements for the 2043 system analysis.

Table 8: Priority of Improvements for 2043 Analysis

Project	Priority	Year	Cost
Sewershed 5 Collection System	1	2042 & 2043	\$1,202,000
Sewershed 3 Collection System	2	2043	\$13,000

4.4.4 2053 DEFICIENCIES

The 2053 deficiencies are associated with collection systems for sewersheds 2, 3, 4A, 5, and 6 and pumps for lift stations 3, 4A, 5, 7, and 8. The deficiencies are shown in Figure 8, Appendix D. As part of the pump updates, the wetwell size may need to be adjusted. An analysis of the wetwell for each lift station should be completed when new pumps are installed. Sunrise recommends lift station 7 have 1,675-gpm pumps installed and lift station 8 have 800-gpm pumps installed.

For sewershed 2, Sunrise recommends the force main from lift station 2 to sewershed 3 be upsized. The existing 4-inch force main should be replaced with a 6-inch force main to accommodate future growth. Sunrise recommends the pumps be upsized to 250-gpm in lift station 2 as part of the improvements.

For sewershed 3, Sunrise recommends that approximately 3,200 feet of 8-inch pipe from Broad Hollow Road to the line into lift station 3 be upsized. The existing 8-inch pipe should be replaced with a 10-inch pipe for approximately 800 feet from Broad Hollow Road going south. From there, the remaining 2,400 feet should be replaced with a 12-inch pipe. Although the pipes have fair capacity, the lines will be approximately 80 years old and reaching the end of their useful life. Upsizing to 10-inch and 12-inch pipes will allow for good capacity as growth continues. Sunrise recommends lift station 3 have 400-gpm pumps installed as part of the improvements.

For sewershed 4A, Sunrise recommends that approximately 4,670 feet of 8-inch pipe from lift station 4A to the intersection of Bear Lake Boulevard and Logan Road be upsized. The existing 8-inch pipe should be replaced with 10-inch pipe from the intersection of Bear Lake Boulevard and Logan Road to approximately 170 feet south of the Spinnaker Point Development entrance. From the end of the proposed 10-inch line to lift station 4A should be replaced with 12-inch pipe. Sunrise recommends the pumps be upsized to 650-gpm in lift station 4A as part of the improvements. A large portion of the collection system for sewershed 4A has fair capacity, but the lines will be approximately 80 years old and reaching the end of their useful life.

For sewershed 5, Sunrise recommends the 12-inch pipe from 350 South to approximately 100 feet north of the entrance to Legacy Beach be upsized. The existing 12-inch pipe should be replaced with 15-inch pipe. Although most of the area to be replaced has good or fair capacity, the pipes will be approximately 80 years old and reaching the end of their useful life. This will also remove the downsize from 15-inch to 12-inch pipe that occurs

with the recommended replacement of the lines to the north of this section in 2043. As part of the improvements, Sunrise recommends the pumps for lift station 5 should be replaced with 1,350-gpm pumps.

For sewershed 6, Sunrise recommends the 12-inch pipe from the outfall of lift station 5 to approximately 160 feet south of the western intersection of 250 East Loop and Bear Lake Boulevard be upsized. The existing 12-inch pipe should be replaced with 15-inch pipe. Table 9 shows the priority for the recommended improvements for the 2053 system analysis.

Table 9: Priority of Improvements for 2053 Analysis

Project	Priority	Year	Cost
Sewershed 6 Collection System	1	2050	\$481,000
Sewershed 4A Collection System	2	2051	\$1,869,000
Sewershed 5 Collection System	3	2052	\$770,000
Sewershed 2 Force Main	4	2052	\$829,000
Sewershed 3 Collection System	5	2053	\$1,320,000

For reference, a figure showing the system pipe sizes following the 2053 upgrades is shown in Figure 10, Appendix D. Figure 9 shows the existing system for comparison purposes.

4.5 LIFT STATION ANALYSIS

The District has ten major lift stations with another in construction along with numerous grinder pumps. The lift stations are assumed to be in good condition as the District has not voiced concerns with them except the lift station near Rendezvous Beach. This lift station has damage to the wetwell due to the wastewater sitting and turning septic in the wetwell. The District is currently exploring options to coat the wetwell to prevent any further damage.

Lift station 7 was updated in the 2010's, and improvements for lift station 12 are currently being installed. With additional growth, some of the lift stations will need to have pumps replaced to accommodate larger flows. The existing and proposed pump flow rates for the lift stations that require changes are shown in Table 10.

Table 10: Pump Flow Rate

Lift Station	Existing Pump Flow Rate (gpm)	2033 Pump Flow Rate (gpm)	2043 Pump Flow Rate (gpm)	2053 Pump Flow Rate (gpm)
#2	100	180	180	180
#3	340	340	340	400
#4	300	600	650	650
#4A	500	500	500	650
#5	1000	1250	1250	1350
#6	1000	1350	1350	1350
#7	1000	1450	1450	1675
#8	-	-	600	800
#10	-	-	750	750
#12	-	1840	1840	1840

Based on the increased pump flow rates, some of the lift stations will require wetwell capacity changes to control the number of pump cycles. These wetwell changes will need to be evaluated as part of the design when a pump needs to be replaced.

5.0 TREATMENT SYSTEM

The District's wastewater treatment system is comprised of a series of lagoons. The lagoon layout is shown in Figure 3, Appendix D. As illustrated on the lagoon figure, the lagoon system includes five separate cells. The existing lagoon system is designed as a total containment system. As such, no discharge permit or treatment limits are currently required for the lagoons. A summary analysis of the existing lagoon system is found in Table 11. The existing lagoon system has a total surface area of approximately 49.7 acres.

Table 11: Lagoon System Analysis

	Total Surface Area (Acres)	Max Water Depth (ft)	High Water Elevation	Bottom Elevation
Cell 1	10	6.00	6008.50	6002.50
Cell 2	10	6.00	5993.00	5987.00
Cell 3	7	6.00	5991.00	5985.00
Cell 4	10.7	6.00	5981.00	5975.00
Cell 5	12	6.00	5971.30	5965.30
Total	49.7			

As part of the analysis, the District has requested that Sunrise look at the option of land application. Along with land application, the treatment system will be analyzed for current conditions and future growth of the total containment design.

5.1 HYDRAULIC BALANCE

The calculations of the required lagoon area (A) are based on the water balance calculation: Water In = Water Out. Water entering the lagoons comes through two means: inflow from the District and precipitation. The water leaving the lagoons does so by seepage and evaporation. The annual water balance equation is as follows:

$$\text{Annual Inflow} + \text{Precipitation (A)} = \text{Seepage (A)} + \text{Evaporation (A)}$$

Based on the current flows, the water balance was calculated to determine the necessary lagoon area for treatment. Flow data from the District's lift stations was used as the basis of the flow analysis. The maximum seepage of the lagoon bottom, as set by the Department of Water Quality, should not exceed 6,500 gal/acre/day, which equates to a seepage rate of 0.239 inches per day.

Annual precipitation data was based on the Laketown, Utah monthly climate summary, with a period of record between 1900-2016. Pan evaporation data was gathered from the Western Regional Climate Center for Lifton Pumping Station on the north end of Bear Lake, with a period of record between 1935-2005. A correction factor of 0.8 has been applied to the pan evaporation data to determine annual evaporation.

5.1.1 EXISTING HYDRAULIC BALANCE

The design parameters for the water balance equation are as follows:

Annual Precipitation (ft/yr) = 1.02

Annual Seepage (ft/yr) = 6.08

Annual Evaporation (ft/yr) = 2.82

Annual Inflow (gal/yr) = 108,770,000

Annual Inflow (ac-ft/yr) = 333.80

Using the water balance formula mentioned above, the required lagoon area (A) for the current system can be determined as follows:

$$\text{Annual Inflow} + \text{Precipitation (A)} = \text{Seepage (A)} + \text{Evaporation (A)}$$

$$\frac{333.80 \text{ ac} - \text{ft}}{\text{year}} + \frac{1.02 \text{ ft (A)}}{\text{year}} = \frac{6.08 \text{ ft (A)}}{\text{year}} + \frac{2.82 \text{ ft (A)}}{\text{year}}$$

$$\frac{333.80 \text{ ac} - \text{ft}}{\text{year}} = \frac{-1.02 \text{ ft (A)}}{\text{year}} + \frac{6.08 \text{ ft (A)}}{\text{year}} + \frac{2.82 \text{ ft (A)}}{\text{year}}$$

$$\frac{333.80 \text{ ac} - \text{ft}}{\text{year}} = \frac{7.88 \text{ ft (A)}}{\text{year}}$$

$$A = 42.36 \text{ acres}$$

Based on the current demands put on the existing system, the District requires lagoon surface area of at least 42.36 acres to achieve hydraulic mass balance. The existing treatment lagoon system with a total of 49.7 acres of surface area has an excess capacity for the District's current hydraulic requirements.

5.1.2 PROJECTED HYDRAULIC BALANCE

Wastewater flows are assumed to increase at a rate of 2.50% per year in accordance with the growth rate. As such, the existing lagoon system will be sufficient until the year 2029. The anticipated flow in 2029 is 126.14 million gallons, and the existing hydraulic capacity of the lagoon system is 127.67 million gallons.

The District has space to construct one additional lagoon cell adjacent to the existing cells. This cell is anticipated to be 14 acres. The additional hydraulic capacity of this new cell would be 35.96 million gallons. When combined with the existing hydraulic capacity, the total capacity will increase to 163.63 million gallons per year. Assuming a 2.50% increase in wastewater flow per year, the new cell will provide sufficient capacity until the year 2039 when flows are anticipated to be 161.47 million gallons.

5.1.3 SLOW RATE LAND APPLICATION HYDRAULIC BALANCE

In slow rate land application, treated wastewater is applied to crops at agronomic rates. The application of the wastewater is controlled by either the hydraulic loading rate or the constituent loading rate. For wastewater with high levels of nutrients (phosphorus and nitrogen) the constituent loading may control how much water can be applied to the crop. The crop cannot have more nutrients applied than what can be used by the crop for nutrient uptake. However, typically for municipal wastewater, the hydraulic loading rate controls the amount of water that can be applied. The water supplied must be able to be stored in the soil in the root zone and be used by the crop through evapotranspiration. If too much water is applied, deep percolation and/or surface runoff occurs. Hydraulic application rate is calculated as follows:

$$\begin{array}{ccccccc} \text{Hydraulic} & & \text{Available Water} & & & & \\ \text{Application} & = & \text{Holding Capacity} & + & \text{Evapotranspiration} & - & \text{Average} \\ \text{Rate} & & \text{of the Soil} & & \text{Rate of the Crop} & & \text{Precipitation} \end{array}$$

The available water holding capacity of the soil depends on the soil type and is measured in inches of water per inch of soil depth. Soil maps for the District indicate the available water capacity of soils near the treatment facility is about 0.2 inches/inch.

Evapotranspiration (ET) for a crop mainly depends on the development stage of the crop, temperature, and wind speed. The Pacific Northwest Cooperative Agricultural Weather Network maintains numerous weather stations in the Northwest and supplies daily ET data online via the Agrimet program (<http://www.usbr.gov/pn/agrimet/index.html>). The nearest AgriMet station to the District is located 26 miles northeast near Cokeville, Wyoming. The

Cokeville station is not used in this analysis though as data collection only started in 2015. The next nearest location is located 65 miles northeast near Afton, Wyoming. The AgriMet site shows that the average ET for the growing season for alfalfa in Afton is 27.27 inches based on data from 1995 through 2022.

By knowing the available water holding capacity of the soil, the ET, and the precipitation, an operator can control irrigation so that the optimum amount of water is supplied to the crop without losing water to runoff or deep percolation. The water accounting method known as the "checkbook" method can be used to balance water deposits (irrigation and precipitation) with water withdrawals (ET).

In order to calculate the acreage that will need to be irrigated to use all of the wastewater produced by the District, the average ET and average precipitation can be used. The water holding capacity of the soil is not needed because it is assumed that the soil is fully saturated at the beginning and end of the irrigation season.

The annual wastewater volume based on the 2053 flow rate is 228.15 million gallons. The losses in the lagoon system equate to 128 million gallons. The annual wastewater volume for land application is 100.15 million gallons. The average ET for the growing season based on the Afton AgriMet station is 27.27 inches and the average precipitation for the growing season is 5.99 inches from the Laketown, Utah weather station. Acreage is then calculated as follows:

$$\text{Irrigated Area} = \frac{100,150,000 \text{ gal}}{7.48 \text{ gal/ft}^3} * \frac{12 \text{ in/ft}}{(27.27 - 5.99) \text{ in}} * \frac{1 \text{ acre}}{43,560 \text{ ft}^2} = 174 \text{ acres}$$

5.1.3.1 LAND APPLICATION WITH EXISTING LAGOON SYSTEM

Center pivot sprinklers are about 90% efficient. This would reduce the acreage needed to 157 acres. The required storage is 100 million gallons. The existing lagoons have approximately 97 million gallons of storage. This would require an additional 3 million gallons of storage be built within the lagoons.

5.1.3.2 LAND APPLICATION WITH NEW LAGOON CELL

If the additional cell was constructed as previously discussed, the losses in the lagoon system would equate to 164 million gallons. This reduces the required irrigated area to 112 acres. With a 10% reduction for the center pivot efficiency, the required irrigated area is 101 acres. The lagoons with the additional cell would have a capacity of 125 million gallons and a required storage of 65 million gallons.

5.1.3.3 LAND APPLICATION CONSTRAINTS

Constraints for the land application include securing a lease to provide irrigation water and constructing a new lift station and transmission system. The required acreage is not insignificant given the surrounding topography. There is approximately 240 acres of farmland to the south, but this may eventually be developed.

5.2 BIOLOGICAL ANALYSIS

The State Rules require a maximum biologic loading of 35 pounds of biological oxygen demand (BOD) per day in the primary cell(s). The BOD loading is used to find the size a lagoon needs to be to keep the total BOD in the lagoons below the required 35 pounds per acre of lagoon per day (lb/acre-day).

It is important to note that the lagoon sizing requirements may differ between the Hydraulic Balance and the Biological Analysis. The District should plan on having a lagoon area that is at least the size of which ever analysis has the greater requirement.

5.2.1 EXISTING BIOLOGICAL LOADING

Historically, the District has taken “grab” samples to determine the BOD concentration within the lagoons. The highest historical reading is 153 mg/L of BOD. As such, the 153 mg/L of BOD will be used for the analysis of the existing biological loading. Based on the current flows, the biological loading requires a primary lagoon with a surface of at least 21.68 acres. These calculations are as follows:

$$\frac{153 \text{ mg}}{\text{L}} \times \frac{1 \text{ g}}{1000 \text{ mg}} \times \frac{1 \text{ lb}}{453.6 \text{ g}} \times \frac{3.79 \text{ L}}{\text{gal}} \times \frac{593548 \text{ gal}}{\text{day}} \times \frac{1 \text{ ac} - \text{day}}{35 \text{ lbs}} = 21.68 \text{ Acres}$$

The existing primary lagoon is Cells 1, 2, and 3 which has a surface area of 27 acres. This leaves 5.32 acres of excess primary cell capacity. As the District grows and a required treatment area greater than these cells is required, the inflow should be split, and Cells 1, 2, 3, and 4 should be used as primary treatment cells.

5.2.2 FUTURE BIOLOGICAL LOADING

Based on wastewater flows increasing at a rate of 2.50% per year, the biological loading will require an additional primary cell in 8 years. July 2031's monthly flow rate is anticipated to be 22.42 million gallons which equates to a daily flow rate of 0.723 million gallons. The biological loading will require a lagoon with a surface area of at least 26.41 acres. The calculations for 2031 are as follows:

$$\frac{153 \text{ mg}}{\text{L}} \times \frac{1 \text{ g}}{1000 \text{ mg}} \times \frac{1 \text{ lb}}{453.6 \text{ g}} \times \frac{3.79 \text{ L}}{\text{gal}} \times \frac{723000 \text{ gal}}{\text{day}} \times \frac{1 \text{ ac} - \text{day}}{35 \text{ lbs}} = 26.41 \text{ Acres}$$

Cell 4 will need to be converted into a primary cell at this point. By increasing the primary lagoon cells by 10.7 acres, the system will handle an additional 374.5 pounds of BOD per day. July 2044's monthly flow rate is anticipated to be 30.90 million gallons which equates to a daily flow rate of 0.997 million gallons. With flow rate of 0.997 million gallons per day, the required surface area is 36.42 acres. The 4 cell primary treatment system will have a surface area of 37.7 acres. This will use up the additional capacity of cell 4 without going over the limit of 35 lbs of BOD per day per acre.

5.3 TREATMENT SYSTEM RECOMMENDATIONS

Based on the District's request, there are two options for treatment: total containment lagoons and land application. After reviewing the sizing requirements for treatment lagoon needs, the existing lagoon system is adequately sized for the next 6 years. Sunrise recommends the following schedule for construction of a new cell:

- Prior to 2029, Sunrise recommends the District construct a new 14-acre cell to provide additional hydraulic capacity. This cell will provide sufficient hydraulic capacity until the year 2039.
- Prior to 2031, Sunrise recommends cell 4 be converted into a primary cell to allow for additional BOD treatment. Cell 4 will provide sufficient BOD treatment until the year 2044.

Prior to the year 2039, Sunrise recommends moving to a land application system. With the lagoon system expanded to 6 cells, 101 acres will be required for land application using the 2053 flows. The District will require 65 million gallons of storage and have capacity for 125 million gallons.

To start land application, a lease will need to be procured to use the wastewater as irrigation water. A lift station and transmission system will need to be constructed to send the wastewater to the leased area. Additional treatment measures may be required to meet the effluent discharge requirements for BOD, turbidity, E. coli, and other contaminants.

6.0 CAPITAL IMPROVEMENTS

In the sections that follow, capital improvement projects and their associated cost estimates will be discussed. The primary objective for each project is to alleviate existing and future system deficiencies in the District's wastewater system as shown in Figures 5 – 8, Appendix D.

Preliminary evaluations were carried out to determine the viability of the capital improvement alternatives that would address identified deficiencies. These evaluations were performed for the collection system.

Three alternatives were considered to address system deficiencies. These alternatives group the needed capital improvements together based on system layout options. The following alternatives were considered.

- Alternative 1: Do Nothing
- Alternative 2: Upsize Existing System
- Alternative 3: Upsize Existing System & Install 300 West Corridor

Estimated project costs for alternatives 2 and 3 are provided. To the extent possible, flow projections for 2053 were modeled to ensure that recommended capital improvements will not require premature replacement due to capacity deficiencies before the life of that improvement is over. Thus, new pipelines were sized to account for future flows.

6.1 ALTERNATIVE 1: DO NOTHING

The first alternative evaluated was the "do nothing" alternative. Wastewater would continue to flow to the existing infrastructure and be discharged to the lagoons. Several existing lines within sewersheds 4, 5, 6, and 7 are already exceeding capacity. Without any improvements, these conditions will worsen and could cause pressurized pipes. Additional lines along Bear Lake Boulevard would have increased flows that would reduce capacity from fair to poor. Since this alternative does not accommodate current and future flow rates, it was not considered viable.

6.2 ALTERNATIVE 2: UPSIZE EXISTING SYSTEM

In this alternative, the existing system would be upsized to fix existing capacity issues and accommodate future growth. Based on the 2053 loadings, sewershed 1 would be the only sewershed without any changes to the collection system. Sewershed 2 would require a new force main. Sewersheds 3 through 7 would either have pipes with fair capacity or have pipes that would need to be replaced due to poor capacity.

The wetwell sizing for this alternative is expected to increase significantly due to the amount of flow in the system especially near the south end. Pipes will also need to be larger than alternative 3 to accommodate future growth.

Sunrise has completed a Preliminary Engineer's Opinion of Probable Costs (EOPC) entitled Existing System Improvements that can be found in Appendix B. The estimated total cost for upsizing the existing system is \$22,402,000.

6.3 ALTERNATIVE 3: UPSIZE EXISTING SYSTEM & INSTALL 300 WEST CORRIDOR

In this alternative, the existing system would be upsized to fix existing capacity issues and accommodate future growth. A parallel system would be installed in the 300 West Corridor to accommodate future growth and reduce the flow going to the original system. Garden City has a corridor master planned that the District will be able to utilize for the parallel system.

Sunrise has completed a preliminary EOPC for alternative 3 that can be found in Appendix B. The estimated total cost of alternative 3 is \$19,821,000. Due to some of the infrastructure already being constructed for the 300 West corridor, larger pipe sizes, and larger wetwell and pump requirements for alternative 2, alternative 3 is the preferred option. The improvements needed to upsize the existing system and finish the 300 West corridor are discussed in Section 6.3.1 and 6.3.2.

6.3.1 300 WEST CAPITAL IMPROVEMENT PROJECTS

Sunrise has completed a preliminary EOPC entitled 300 West Corridor that can be found in Appendix B. The cost for the improvements is shown by sewershed. Total cost for the 300 West Corridor is estimated at \$4,926,000.

Sewershed #8

The project consists of installing 8-inch and 15-inch gravity sewer pipes from Buttercup Lane to approximately 1099 South. A lift station will also be constructed as part of the improvements. The lift station will require a 10-inch pressure sewer main.

Sewershed #10

The project consists of installing 8-inch, 12-inch, and 15-inch gravity sewer pipes from approximately 1099 South to Persimmon Drive. A lift station will also be constructed as part of the improvements. The lift station will require a 10-inch pressure sewer main.

Sewershed #12 Collection System

The project consists of installing 12-inch, 15-inch, and 18-inch gravity sewer pipe from Persimmon Drive to the existing 18-inch gravity sewer pipe located between Kimball Lane and Sweetwater Parkway. This line will discharge to lift station #12 that is currently being constructed.

6.3.2 EXISTING SYSTEM CAPITAL IMPROVEMENT PROJECTS

Sunrise has completed several preliminary EOPC entitled 2023 Replacement, 2033 Replacement, 2043 Replacement, and 2053 Replacement that can be found in Appendix B. Total cost for the existing system improvements is estimated at \$14,896,000. The costs do not include any updates to the lift station except for pumps and controls. Wetwell sizing will need further analysis as part of the capital improvement projects.

Sewershed #2

The project consists of replacing the existing force main with a 6-inch force main. New pumps and controls will be required for lift station 2 to meet future demand.

Sewershed #3

The project consists of replacing existing gravity sewer pipes with 10-inch and 12-inch sewer pipe. The pumps and controls will also need to be replaced for lift station 3.

Sewershed #4

The project consists of replacing some of the existing gravity sewer pipe with 15-inch sewer pipe. The pumps and controls will also need to be replaced for lift station 4.

Sewershed #4A

The project consists of replacing existing gravity sewer pipes with 10-inch and 12-inch sewer pipe. The pumps and controls will also need to be replaced for lift station 4A.

Sewershed #5

The project consists of replacing existing gravity sewer pipes with 15-inch and 18-inch sewer pipe. The existing force main will need to be replaced with a 12-inch force main. The pumps and controls will also need to be replaced for lift station 5.

Sewershed #6

The project consists of replacing existing gravity sewer pipes with 15-inch and 18-inch sewer pipe. The existing force main will need to be replaced with a 12-inch force main. Pumps and controls will need to be replaced for lift station 6.

Sewershed #7

The project consists of replacing existing gravity sewer pipe with 18-inch sewer pipe. The pumps and controls will also need to be replaced for lift station 7.

A summary of the required projects, time frame, and cost is found in Table 12. The table does not include pump replacements. Pumps will either need to be replaced based on the year provided or as flows become significant enough to overwhelm the existing pump.

Table 12: Priority of Improvements

Project	Priority	Year	Cost
Sewershed 7 Collection System	1	2024 & 2025	\$2,668,000
Sewershed 6 Collection System	2	2025	\$550,000
Sewershed 5 Collection System	3	2026	\$1,711,000
Lagoon Cell 6 Construction	4	2027 & 2028	\$2,118,000
Sewershed 4 Collection System	5	2029	\$304,000
Lagoon Cell 4 Conversion	6	2030	\$382,000
Sewershed 6 Force Main	7	2033	\$650,000
Sewershed 5 Force Main	8	2034	\$1,622,000
Sewershed 12 Collection System	9	2035 - 2037	\$2,506,000
Sewershed 10 Collection System & Lift Station	10	2038 & 2039	\$978,000
Sewershed 8 Collection System & Lift Station	11	2040 - 2042	\$1,442,000
Sewershed 5 Collection System	12	2042 & 2043	\$1,202,000

Sewershed 3 Collection System	13	2043	\$13,000
Sewershed 6 Collection System	14	2050	\$481,000
Sewershed 4A Collection System	15	2051	\$1,869,000
Sewershed 5 Collection System	16	2052	\$770,000
Sewershed 2 Force Main	17	2052	\$829,000
Sewershed 3 Collection System	18	2053	\$1,320,000

Pumps are not listed in Table 12. Pumps will either need to be replaced based on the year provided or as flows become significant enough to overwhelm the existing pump.

7.0 USER RATE ANALYSIS & PROJECT FUNDING OPTIONS

The current sewer rate is based off the type and location of connection. A summary of the sewer rates is found in Table 13. Since the District bills by type of connection, the number of each type of connection will be used for the main system and the south shore. For short term rentals, the average rate will be used since the rate is based on max occupancy with a different rate for each occupant between 10 and 101 occupants. A copy of the District's short term rental pricing is found in Appendix C.

Table 13: User Rates

Connection	Sewer Rate
Main System	\$30
South Shore	\$50
Short Term Rental	Varies (Average of \$44.07)
Impact Fee	\$3,200

The approved budget for 2022 indicates that the actual operating expenses for 2022 were \$3,288,533. The operating expenses for 2022 are larger than a typical year for the District. These expenses included approximately \$2.3M in capital system improvements and project engineering. For 2022, the actual revenue was \$1,626,699.

The 2023 budget will be \$3,605,100. This includes \$2.56M for capital system improvements, project engineering, and capital vehicle. The average user rate would need to be \$125.93 to cover this expense with user fees. When removing the capital system improvements, project engineering, and capital vehicle, the average user rate would need to be \$36.52 to cover this expense with user fees. Because the District will need to make system upgrades due to growth, the user rate and impact fees will need to be evaluated to ensure sufficient system capacity.

The existing funding scenario and three possible funding scenarios are provided in Appendix C to demonstrate the possible range of required sewer rates to support the proposed improvements described in Section 4. All scenarios assume that the District pays for everything with cash funds.

The first possible scenario assumes only an increase in user rates. The resulting required sewer rates are shown in Table 14.

Table 14: Increased User Rates Scenario

Connection	Sewer Rate
Main System	\$69.75
South Shore	\$89.75
Short Term Rental	Varies (Average of \$83.82)
Impact Fee	\$3,200

The second possible scenario assumes that the District increases the impact fee and the user rates. The results required sewer rates are shown in Table 15.

Table 15: Increased Impact Fee & User Rates Scenario

Connection	Sewer Rate
Main System	\$50
South Shore	\$70
Short Term Rental	Varies (Average of \$64.07)
Impact Fee	\$14,350

The third possible scenario assumes that the District increases only the impact fee. The results required sewer rates are shown in Table 16.

Table 16: Increased Impact Fee & User Rates Scenario

Connection	Sewer Rate
Main System	\$30
South Shore	\$50

Short Term Rental	Varies (Average of \$44.07)
Impact Fee	\$25,600

In any of the three scenarios, the south shore rate will be consistently higher than the main system for several years. This rate will be reduced to match the main system after the loan is paid in full in 2030 for the south shore improvements.

8.0 CONCLUSIONS AND RECOMMENDATION

8.1 CONCLUSION

After several months of analysis, Sunrise has the following conclusions with regards to the District's wastewater collection system:

- The majority of the main collection system will need to be upsized within the next 30 years.
- Sewersheds 4, 5, 6, and 7 have existing capacity deficiencies. These lines are:
 - For sewershed 4, from the outfall of lift station 3 to lift station 4
 - For sewershed 5, from Buttercup Lane to lift station 5
 - For sewershed 6, from the manhole south of the western intersection of 250 East Loop and Bear Lake Boulevard to lift station 6
 - For sewershed 7, from the outfall of lift station 6 to existing 18-inch pipe into lift station 7
- Additional capacity deficiencies will develop as the District continues to grow.
- Capital improvement alternatives included:
 - Do nothing
 - Upsize existing system
 - Upsize existing system and install 300 West Corridor

The District's wastewater infrastructure as completed for improvements through 2053 is shown in Figure 10, Appendix D.

8.2 RECOMMENDATIONS

Based on the findings from this study and the results of the cash flow analysis, Sunrise recommends that the District adopt the following recommendations.

- Proceed with Alternative 3
 - Continue to build the 300 West Corridor Improvements
 - Upsize the existing system lines with capacity deficiencies

8.2.1 CAPITAL IMPROVEMENT PROJECTS

The recommended improvement projects and their associated costs are as follows:

- 300 West Corridor – \$4,925,000
- Existing System Upgrades – \$14,896,000

Sunrise has completed a preliminary EOPC for each improvement project. These cost estimate overviews can be found in Appendix B. The unit costs used for all gravity main improvement project cost estimates were compiled from 2022 RSMeans costs and compared to recent bid projects. All costs associated with the estimates are in 2023 dollars. To account for inflation as time goes on, the District should adjust all cost estimates according to the cost of living and Heavy Construction Cost Index factors.

APPENDIX A – FLOW DATA

Date	#1 start	#1 hrs	#2 start	#2 hrs	Flow (gal)	Flow (gpd)
7/1/2020	14859	7544.4	14827	7362.6		
7/2/2020	14866	7550.7	14834	7370.9	744,600	744,600
7/3/2020	14871	7555.4	14839	7380.5	729,300	729,300
7/4/2020	14876	7563.1	14844	7401.1	1,443,300	1,443,300
7/8/2020	14908	7579.5	14877	7424.4	2,024,700	506,175
7/9/2020	14922	7588.0	14889	7431.3	785,400	785,400
7/17/2020	14999	7623.4	14966	7474.5	4,008,600	501,075
7/20/2020	15031	7640.1	14999	7494.0	1,846,200	615,400
7/27/2020	15099	7676.9	15067	7535.4	3,988,200	569,743
8/4/2020	14179	7717.6	15146	7580.0	4,350,300	543,788
8/5/2020	15190	7722.3	15157	7585.5	520,200	520,200
8/6/2020	15202	7728.2	15169	7591.8	622,200	622,200
8/7/2020	15212	7733.0	15181	7598.0	561,000	561,000
8/14/2020	15284	7766.3	15253	7637.6	3,717,900	531,129
8/21/2020	15354	7797.0	15322	7672.0	3,320,100	474,300
8/28/2020	15427	7826.1	15400	7703.5	3,090,600	441,514
8/31/2020	15454	7838.0	15427	7717.0	1,295,400	431,800
9/4/2020	15489	7850.0	15462	7730.0	1,275,000	318,750
9/16/2020	15596	7894.0	15571	7781.0	4,845,000	403,750
9/25/2020	15689	7925.8	15684	7823.0	3,763,800	418,200
9/29/2020	15696	7928.4	15693	7826.9	331,500	82,875
10/15/2020	15813	7965.5	15812	7872.0	4,192,200	262,013
10/23/2020	15869	7985.0	15867	7892.0	2,014,500	251,813
11/6/2020	15946	8008.4	15945	7920.1	2,626,500	187,607
11/9/2020	15963	8013.5	15961	7925.6	540,600	180,200
11/13/2020	15978	8018.4	15976	7930.8	515,100	128,775
11/19/2020	16004	8026.0	16002	7940.0	856,800	142,800
12/2/2020	16064	8044.5	16062	7960.5	1,989,000	153,000
12/10/2020	16084	8053.6	16082	7970.4	969,000	121,125
1/6/2021	16231	8096.0	16232	8018.0	4,590,000	170,000
1/11/2021	16256	8104.0	16256	8026.4	836,400	167,280
1/12/2021	16261	8105.7	16261	8028.2	178,500	178,500
1/15/2021	16274	8109.7	16274	8032.6	428,400	142,800
1/22/2021	16308	8120.7	16309	8045.3	1,206,150	172,307
1/25/2021	16323	8125.4	16325	8050.6	512,550	170,850
2/5/2021	16372	8140.1	16372	8066.9	1,581,000	143,727
2/11/2021	16395	8147.4	16396	8075.0	785,400	130,900
2/23/2021	16448	8164.2	16450	8094.3	1,841,100	153,425
2/25/2021	16456	8166.6	16458	8097.2	270,300	135,150
3/12/2021	16518	8185.9	16520	8118.8	2,085,900	139,060
3/19/2021	16549	8196.0	16551	8130.0	1,086,300	155,186
3/22/2021	16562	8200.0	16585	8135.0	459,000	153,000
4/9/2021	16649	8230.0	16651	8168.0	3,213,000	178,500
4/15/2021	16675	8239.0	16676	8178.0	969,000	161,500

Date	#1 start	#1 hrs	#2 start	#2 hrs	Flow (gal)	Flow (gpd)
5/28/2021	16882	8306.7	16880	8255.5	7,405,200	172,214
6/18/2021	17038	8371.2	17036	8331.7	7,175,700	341,700
6/25/2021	17109	8403.3	17107	8369.3	3,554,700	507,814
6/29/2021	17144	8420.3	17141	8390.4	1,943,100	485,775
7/4/2021	17195	8442.9	17191	8423.0	2,980,800	596,160
7/6/2021	17210	8452.1	17207	8434.3	1,107,000	553,500
7/8/2021	1229	8460.2	17228	8444.2	969,300	484,650
7/24/2021	17389	8535.4	17387	8534.0	9,407,850	587,991
7/30/2021	17450	8566.2	17448	8571.5	3,893,100	648,850
8/6/2021	17521	8599.0	17519	8611.2	4,132,500	590,357
8/9/2021	17551	8615.5	17549	8629.1	1,960,800	653,600
9/2/2021	17771	8705.0	17770	8723.0	10,453,800	435,575
9/23/2021	17947	8772.6	17945	8794.2	7,911,600	376,743
10/1/2021	18012	8794.8	18009	8817.1	2,570,700	321,337
10/8/2021	18060	8813.0	18057	8836.3	1,907,400	272,486
10/26/2021	18177	8856.9	18175	8882.8	4,610,400	256,133
11/2/2021	18214	8870.3	18211	8896.1	1,361,700	194,529
11/12/2021	18257	8885.1	18255	8912.1	1,478,400	147,840
12/7/2021	18368	8925.3	18365	8952.6	3,873,600	154,944
12/17/2021	18405	8938.4	18402	8966.1	1,276,800	127,680
12/23/2021	18429	8947.3	18426	8975.1	859,200	143,200
1/3/2022	18491	8971.3	18489	9000.4	2,366,400	215,127
1/10/2022	18517	8981.5	18515	9010.3	964,800	137,829
2/3/2022	18619	9017.2	18616	9046.7	3,460,800	144,200
2/15/2022	18677	9043.8	18673	9072.5	2,515,200	209,600
3/7/2022	18769	9085.2	18764	9114.2	3,988,800	199,440
3/10/2022	18781	9090.7	18777	9120.3	556,800	185,600
3/21/2022	18832	9114.6	18828	9143.7	2,270,400	206,400
3/25/2022	18860	9126.9	18842	9148.4	816,000	204,000
3/28/2022	18887	9135.2	18859	9156.5	787,200	262,400
3/31/2022	18893	9143.5	18876	9164.7	792,000	264,000
4/8/2022	18946	9173.8	18930	9193.4	2,832,000	354,000
5/20/2022	19174	9292.5	19156	9312.4	11,409,600	271,657
6/13/2022	19343	9389.1	19296	9401.1	8,894,400	370,600
7/8/2022	19558	9494.6	19513	9507.0	10,781,400	431,256

APPENDIX B – ENGINEER'S OPINION OF PROBABLE COSTS

SUNRISE ENGINEERING, INC.
CONSULTING ENGINEERS AND SURVEYORS



Opinion of Probable Cost

Project: Alternative 2 - Ex System Improvements

Project No.: S08472

Date: 2/27/2023

Owner: Bear Lake Special Service District

Sheet: 1 of 1

By: ATO

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Sewershed #2					
1	Mobilization	1	L.S.	\$ 28,425.00	\$ 28,425
2	6" Force Main	2,357	L.F.	\$ 60.00	\$ 141,420
3	Pump & Controls Upgrade	1	L.S.	\$ 70,000.00	\$ 70,000
4	Traffic Control	1	L.S.	\$ 8,820.00	\$ 8,820
5	Flowable Fill	2,357	L.F.	\$ 120.00	\$ 282,840
6	Asphalt Removal & Replacement	2,357	L.F.	\$ 35.00	\$ 82,495
	SUBTOTAL				\$ 614,000
Sewershed #3					
7	Mobilization	1	L.S.	\$ 74,400.00	\$ 74,400
8	10" Sewer Pipe	2,220	L.F.	\$ 95.00	\$ 210,900
9	12" Sewer Pipe	3,260	L.F.	\$ 110.00	\$ 358,600
10	Pump & Controls Upgrade	1	L.S.	\$ 70,000.00	\$ 70,000
11	Traffic Control	1	L.S.	\$ 24,900.00	\$ 24,900
12	Flowable Fill	5,440	L.F.	\$ 120.00	\$ 652,800
13	Asphalt Removal & Replacement	5,440	L.F.	\$ 35.00	\$ 190,400
	SUBTOTAL				\$ 1,582,000
Sewershed #4					
14	Mobilization	1	L.S.	\$ 87,720.00	\$ 87,720
15	15" Sewer Pipe	500	L.F.	\$ 125.00	\$ 62,500
16	12" Force Main	5,646	L.F.	\$ 105.00	\$ 592,830
17	Pumps & Controls Upgrade	1	L.S.	\$ 140,000.00	\$ 140,000
18	Traffic Control	1	L.S.	\$ 30,320.00	\$ 30,320
19	Flowable Fill	6,146	L.F.	\$ 120.00	\$ 737,520
20	Asphalt Removal & Replacement	6,146	L.F.	\$ 35.00	\$ 215,110
	SUBTOTAL				\$ 1,866,000
Sewershed #4A					
21	Mobilization	1	L.S.	\$ 117,320.00	\$ 117,320
22	10" Sewer Pipe	2,000	L.F.	\$ 95.00	\$ 190,000
23	12" Sewer Pipe	2,680	L.F.	\$ 110.00	\$ 294,800
24	10" Force Main	4,200	L.F.	\$ 85.00	\$ 357,000
25	Pumps & Controls Upgrade	1	L.S.	\$ 130,000.00	\$ 130,000
26	Traffic Control	1	L.S.	\$ 38,480.00	\$ 38,480
27	Flowable Fill	8,880	L.F.	\$ 120.00	\$ 1,065,600
28	Asphalt Removal & Replacement	8,880	L.F.	\$ 35.00	\$ 310,800
	SUBTOTAL				\$ 2,504,000

	Sewershed #5				
29	Mobilization	1	L.S.	\$ 198,286.00	\$ 198,286
30	15" Sewer Pipe	4,080	L.F.	\$ 125.00	\$ 510,000
31	18" Sewer Pipe	860	L.F.	\$ 160.00	\$ 137,600
32	21" Sewer Pipe	3,380	L.F.	\$ 173.00	\$ 584,740
33	18" Force Main	3,771	L.F.	\$ 189.00	\$ 712,719
34	Pumps & Controls Upgrade	1	L.S.	\$ 150,000.00	\$ 150,000
35	Traffic Control	1	L.S.	\$ 75,550.00	\$ 75,550
36	Flowable Fill	12,091	L.F.	\$ 120.00	\$ 1,450,920
37	Asphalt Removal & Replacement	12,091	L.F.	\$ 35.00	\$ 423,185
	SUBTOTAL				\$ 4,243,000
	Sewershed #6				
38	Mobilization	1	L.S.	\$ 61,524.00	\$ 61,524
39	18" Sewer Pipe	1,200	L.F.	\$ 160.00	\$ 192,000
40	24" Sewer Pipe	780	L.F.	\$ 229.00	\$ 178,620
41	18" Force Main	1,184	L.F.	\$ 189.00	\$ 223,776
42	Pumps & Controls Upgrade	1	L.S.	\$ 150,000.00	\$ 150,000
43	Traffic Control	1	L.S.	\$ 25,660.00	\$ 25,660
44	Flowable Fill	3,164	L.F.	\$ 120.00	\$ 379,680
45	Asphalt Removal & Replacement	3,164	L.F.	\$ 35.00	\$ 110,740
	SUBTOTAL				\$ 1,322,000
	Sewershed #7				
46	Mobilization	1	L.S.	\$ 209,875.00	\$ 209,875
47	21" Sewer Pipe	5,460	L.F.	\$ 170.00	\$ 928,200
48	20" Force Main	9,333	L.F.	\$ 190.00	\$ 1,773,270
49	Pumps & Controls Upgrade	1	L.S.	\$ 170,000.00	\$ 170,000
50	Traffic Control	1	L.S.	\$ 95,150.00	\$ 95,150
51	Flowable Fill	8,571	L.F.	\$ 120.00	\$ 1,028,520
52	Asphalt Removal & Replacement	8,571	L.F.	\$ 35.00	\$ 299,985
	SUBTOTAL				\$ 4,505,000
53	Construction Contingency	1	L.S.	\$ 2,496,000	\$ 2,496,000
	CONSTRUCTION TOTAL				\$ 19,132,000
54	Preliminary Engineering/Survey Costs	1	L.S.	\$ 15,000	\$ 15,000
55	Engineering Design	1	L.S.	\$ 1,914,000	\$ 1,914,000
56	Construction Inspection	1	L.S.	\$ 957,000	\$ 957,000
57	Property Acquisition	1	L.S.	\$ 192,000	\$ 192,000
58	Legal & Fiscal	1	L.S.	\$ 192,000	\$ 192,000
	TOTAL COST				\$ 22,402,000

SUNRISE ENGINEERING, INC.
CONSULTING ENGINEERS AND SURVEYORS



Opinion of Probable Cost

Project: Alternative 3 - 2023 Replacement

Project No.: S08472

Date: 2/21/2023

Owner: Bear Lake Special Service District

Sheet: 1 of 1

By: ATO

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Sewershed #4					
1	Mobilization	1	L.S.	\$ 10,500.00	\$ 10,500
2	15" Sewer Pipe	500	L.F.	\$ 125.00	\$ 62,500
3	Pumps & Controls	1	L.S.	\$ 70,000.00	\$ 70,000
4	Traffic Control	1	L.S.	\$ 4,500.00	\$ 4,500
5	Flowable Fill	500	L.F.	\$ 120.00	\$ 60,000
6	Asphalt Removal & Replacement	500	L.F.	\$ 35.00	\$ 17,500
	SUBTOTAL				\$ 225,000
Sewershed #5					
7	Mobilization	1	L.S.	\$ 58,900.00	\$ 58,900
8	18" Sewer Pipe	3,380	L.F.	\$ 160.00	\$ 540,800
9	Pumps & Controls	1	L.S.	\$ 120,000.00	\$ 120,000
10	Traffic Control	1	L.S.	\$ 23,400.00	\$ 23,400
11	Flowable Fill	3,380	L.F.	\$ 120.00	\$ 405,600
12	Asphalt Removal & Replacement	3,380	L.F.	\$ 35.00	\$ 118,300
	SUBTOTAL				\$ 1,267,000
Sewershed #6					
13	Mobilization	1	L.S.	\$ 18,900.00	\$ 18,900
14	18" Sewer Pipe	760	L.F.	\$ 160.00	\$ 121,600
15	Pumps & Controls	1	L.S.	\$ 140,000.00	\$ 140,000
16	Traffic Control	1	L.S.	\$ 8,700.00	\$ 8,700
17	Flowable Fill	760	L.F.	\$ 120.00	\$ 91,200
18	Asphalt Removal & Replacement	760	L.F.	\$ 35.00	\$ 26,600
	SUBTOTAL				\$ 407,000
Sewershed #7					
19	Mobilization	1	L.S.	\$ 92,700.00	\$ 92,700
20	18" Sewer Pipe	5,420	L.F.	\$ 160.00	\$ 867,200
21	Pumps & Controls	1	L.S.	\$ 140,000.00	\$ 140,000
22	Traffic Control	1	L.S.	\$ 36,000.00	\$ 36,000
23	Flowable Fill	5,420	L.F.	\$ 120.00	\$ 650,400
24	Asphalt Removal & Replacement	5,420	L.F.	\$ 35.00	\$ 189,700
	SUBTOTAL				\$ 1,976,000
25	Construction Contingency	1	L.S.	\$ 582,000	\$ 582,000
	CONSTRUCTION TOTAL				\$ 4,457,000
26	Preliminary Engineering/Survey Costs	1	L.S.	\$ 15,000	\$ 15,000
27	Engineering Design	1	L.S.	\$ 446,000	\$ 446,000
28	Construction Inspection	1	L.S.	\$ 223,000	\$ 223,000
29	Property Acquisition	1	L.S.	\$ 45,000	\$ 45,000
30	Legal & Fiscal	1	L.S.	\$ 45,000	\$ 45,000
	TOTAL COST				\$ 5,231,000

SUNRISE ENGINEERING, INC.
CONSULTING ENGINEERS AND SURVEYORS



Opinion of Probable Cost

Project: Alternative 3 - 2033 Replacement

Project No.: S08472

Date: 2/21/2023

Owner: Bear Lake Special Service District

Sheet: 1 of 1

By: ATO

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Sewershed #2					
1	Mobilization	1	L.S.	\$ 4,000.00	\$ 4,000
2	Pump & Controls	1	L.S.	\$ 70,000.00	\$ 70,000
	SUBTOTAL				\$ 74,000
Sewershed #4					
3	Mobilization	1	L.S.	\$ 5,000.00	\$ 5,000
4	Pumps & Controls	1	L.S.	\$ 90,000.00	\$ 90,000
	SUBTOTAL				\$ 95,000
Sewershed #5					
5	Mobilization	1	L.S.	\$ 56,500.00	\$ 56,500
6	12" Force Main	3,771	L.F.	\$ 105.00	\$ 395,955
7	Pumps & Controls	1	L.S.	\$ 140,000.00	\$ 140,000
8	Traffic Control	1	L.S.	\$ 20,040.00	\$ 20,040
9	Flowable Fill	3,771	L.F.	\$ 120.00	\$ 452,520
10	Asphalt Removal & Replacement	3,771	L.F.	\$ 35.00	\$ 131,985
	SUBTOTAL				\$ 1,197,000
Sewershed #6					
11	Mobilization	1	L.S.	\$ 21,980.00	\$ 21,980
12	12" Force Main	1,184	L.F.	\$ 105.00	\$ 124,320
13	Pumps & Controls	1	L.S.	\$ 140,000.00	\$ 140,000
14	Traffic Control	1	L.S.	\$ 9,180.00	\$ 9,180
15	Flowable Fill	1,184	L.F.	\$ 120.00	\$ 142,080
16	Asphalt Removal & Replacement	1,184	L.F.	\$ 35.00	\$ 41,440
	SUBTOTAL				\$ 479,000
Sewershed #7					
17	Mobilization	1	L.S.	\$ 8,000.00	\$ 8,000
18	Pumps & Controls	1	L.S.	\$ 150,000.00	\$ 150,000
	SUBTOTAL				\$ 158,000
19	Construction Contingency	1	L.S.	\$ 301,000	\$ 301,000
	CONSTRUCTION TOTAL				\$ 2,304,000
20	Preliminary Engineering/Survey Costs	1	L.S.	\$ 15,000	\$ 15,000
21	Engineering Design	1	L.S.	\$ 231,000	\$ 231,000
22	Construction Inspection	1	L.S.	\$ 116,000	\$ 116,000
23	Property Acquisition	1	L.S.	\$ 24,000	\$ 24,000
24	Legal & Fiscal	1	L.S.	\$ 24,000	\$ 24,000
	TOTAL COST				\$ 2,714,000

SUNRISE ENGINEERING, INC.
CONSULTING ENGINEERS AND SURVEYORS



Opinion of Probable Cost

Project: Alternative 3 - 2043 Replacement

Project No.: S08472

Owner: Bear Lake Special Service District

Date: 2/21/2023

Sheet: 1 of 1

By: ATO

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Sewershed #3					
1	Mobilization	1	L.S.	\$ 2,150.00	\$ 2,150
2	12" Sewer Pipe	30	L.F.	\$ 110.00	\$ 3,300
3	Traffic Control	1	L.S.	\$ 2,000.00	\$ 2,000
4	Flowable Fill	10	L.F.	\$ 120.00	\$ 1,200
5	Asphalt Removal & Replacement	10	L.F.	\$ 35.00	\$ 350
	SUBTOTAL				\$ 9,000
Sewershed #4					
6	Mobilization	1	L.S.	\$ 5,000.00	\$ 5,000
7	Pumps & Controls	1	L.S.	\$ 90,000.00	\$ 90,000
	SUBTOTAL				\$ 95,000
Sewershed #5					
8	Mobilization	1	L.S.	\$ 41,230.00	\$ 41,230
9	15" Sewer Pipe	2,160	L.F.	\$ 125.00	\$ 270,000
10	18" Sewer Pipe	700	L.F.	\$ 160.00	\$ 112,000
11	Traffic Control	1	L.S.	\$ 14,470.00	\$ 14,470
12	Flowable Fill	2,860	L.F.	\$ 120.00	\$ 343,200
13	Asphalt Removal & Replacement	2,860	L.F.	\$ 35.00	\$ 100,100
	SUBTOTAL				\$ 881,000
14	Construction Contingency	1	L.S.	\$ 148,000	\$ 148,000
	CONSTRUCTION TOTAL				\$ 1,133,000
15	Preliminary Engineering/Survey Costs	1	L.S.	\$ 15,000	\$ 15,000
16	Engineering Design	1	L.S.	\$ 114,000	\$ 114,000
17	Construction Inspection	1	L.S.	\$ 57,000	\$ 57,000
18	Property Acquisition	1	L.S.	\$ 12,000	\$ 12,000
19	Legal & Fiscal	1	L.S.	\$ 12,000	\$ 12,000
	TOTAL COST				\$ 1,343,000

SUNRISE ENGINEERING, INC.
CONSULTING ENGINEERS AND SURVEYORS



Opinion of Probable Cost

Project: Alternative 3 - 2053 Replacement

Project No.: S08472

Date: 2/21/2023

Owner: Bear Lake Special Service District

Sheet: 1 of 1

By: ATO

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Sewershed #2					
1	Mobilization	1	L.S.	\$ 28,425.00	\$ 28,425
2	6" Force Main	2,357	L.F.	\$ 60.00	\$ 141,420
3	Pumps & Controls	1	L.S.	\$ 70,000.00	\$ 70,000
4	Traffic Control	1	L.S.	\$ 8,820.00	\$ 8,820
5	Flowable Fill	2,357	L.F.	\$ 120.00	\$ 282,840
6	Asphalt Removal & Replacement	2,357	L.F.	\$ 35.00	\$ 82,495
	SUBTOTAL				\$ 614,000
Sewershed #3					
7	Mobilization	1	L.S.	\$ 45,560.00	\$ 45,560
8	10" Sewer Pipe	800	L.F.	\$ 95.00	\$ 76,000
9	12" Sewer Pipe	2,440	L.F.	\$ 110.00	\$ 268,400
10	Pump & Controls	1	L.S.	\$ 70,000.00	\$ 70,000
11	Traffic Control	1	L.S.	\$ 15,840.00	\$ 15,840
12	Flowable Fill	3,240	L.F.	\$ 120.00	\$ 388,800
13	Asphalt Removal & Replacement	3,240	L.F.	\$ 35.00	\$ 113,400
	SUBTOTAL				\$ 978,000
Sewershed #4A					
14	Mobilization	1	L.S.	\$ 65,330.00	\$ 65,330
15	10" Sewer Pipe	2,000	L.F.	\$ 95.00	\$ 190,000
16	12" Sewer Pipe	2,670	L.F.	\$ 110.00	\$ 293,700
17	Pumps & Controls	1	L.S.	\$ 90,000.00	\$ 90,000
18	Traffic Control	1	L.S.	\$ 22,120.00	\$ 22,120
19	Flowable Fill	4,670	L.F.	\$ 120.00	\$ 560,400
20	Asphalt Removal & Replacement	4,670	L.F.	\$ 35.00	\$ 163,450
	SUBTOTAL				\$ 1,385,000
Sewershed #5					
21	Mobilization	1	L.S.	\$ 27,080.00	\$ 27,080
22	15" Sewer Pipe	1,400	L.F.	\$ 125.00	\$ 175,000
23	Pumps & Controls	1	L.S.	\$ 140,000.00	\$ 140,000
24	Traffic Control	1	L.S.	\$ 10,920.00	\$ 10,920
25	Flowable Fill	1,400	L.F.	\$ 120.00	\$ 168,000
26	Asphalt Removal & Replacement	1,400	L.F.	\$ 35.00	\$ 49,000
	SUBTOTAL				\$ 570,000

	Sewershed #6				
27	Mobilization	1	L.S.	\$ 17,080.00	\$ 17,080
28	15" Sewer Pipe	1,190	L.F.	\$ 125.00	\$ 148,750
29	Traffic Control	1	L.S.	\$ 5,720.00	\$ 5,720
30	Flowable Fill	1,190	L.F.	\$ 120.00	\$ 142,800
31	Asphalt Removal & Replacement	1,190	L.F.	\$ 35.00	\$ 41,650
	SUBTOTAL				\$ 356,000
	Sewershed #7				
32	Mobilization	1	L.S.	\$ 8,000.00	\$ 8,000
33	Pumps & Controls	1	L.S.	\$ 150,000.00	\$ 150,000
	SUBTOTAL				\$ 158,000
	Sewershed #8				
34	Mobilization	1	L.S.	\$ 5,000.00	\$ 5,000
35	Pumps & Controls	1	L.S.	\$ 90,000.00	\$ 90,000
	SUBTOTAL				\$ 95,000
36	Construction Contingency	1	L.S.	\$ 624,000	\$ 624,000
	CONSTRUCTION TOTAL				\$ 4,780,000
37	Preliminary Engineering/Survey Costs	1	L.S.	\$ 15,000	\$ 15,000
38	Engineering Design	1	L.S.	\$ 478,000	\$ 478,000
39	Construction Inspection	1	L.S.	\$ 239,000	\$ 239,000
40	Property Acquisition	1	L.S.	\$ 48,000	\$ 48,000
41	Legal & Fiscal	1	L.S.	\$ 48,000	\$ 48,000
	TOTAL COST				\$ 5,608,000

SUNRISE ENGINEERING, INC.
CONSULTING ENGINEERS AND SURVEYORS



Opinion of Probable Cost

Project: Alternative 3 - 300 West Corridor

Project No.: S08472

Date: 2/21/2023

Owner: Bear Lake Special Service District

Sheet: 1 of 1

By: ATO

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Sewershed #8					
1	Mobilization	1	L.S.	\$ 51,275.00	\$ 51,275
2	8" Sewer Pipe	2,800	L.F.	\$ 75.00	\$ 210,000
3	15" Sewer Pipe	980	L.F.	\$ 125.00	\$ 122,500
4	10" Force Main	2,885	L.F.	\$ 85.00	\$ 245,225
5	48" Manhole	13	Each	\$ 3,000.00	\$ 39,000
6	New Lift Station/Generator	1	L.S.	\$ 400,000.00	\$ 400,000
SUBTOTAL					\$ 1,068,000
Sewershed #10					
7	Mobilization	1	L.S.	\$ 34,775.00	\$ 34,775
8	8" Sewer Pipe	940	L.F.	\$ 75.00	\$ 70,500
9	12" Sewer Pipe	980	L.F.	\$ 110.00	\$ 107,800
10	18" Sewer Pipe	20	L.F.	\$ 160.00	\$ 3,200
11	10" Force Main	985	L.F.	\$ 85.00	\$ 83,725
12	48" Manhole	8	Each	\$ 3,000.00	\$ 24,000
13	New Lift Station/Generator	1	L.S.	\$ 400,000.00	\$ 400,000
SUBTOTAL					\$ 724,000
Sewershed #12					
14	Mobilization	1	L.S.	\$ 88,780.00	\$ 88,780
15	Connect to Existing	1	Each	\$ 26,320.00	\$ 26,320
16	12" Sewer Pipe	3,380	L.F.	\$ 110.00	\$ 371,800
17	15" Sewer Pipe	1,700	L.F.	\$ 125.00	\$ 212,500
18	18" Sewer Pipe	6,460	L.F.	\$ 160.00	\$ 1,033,600
19	48" Manhole	41	Each	\$ 3,000.00	\$ 123,000
SUBTOTAL					\$ 1,856,000
20	Construction Contingency	1	L.S.	\$ 548,000	\$ 548,000
CONSTRUCTION TOTAL					\$ 4,196,000
21	Preliminary Engineering/Survey Costs	1	L.S.	\$ 15,000	\$ 15,000
22	Engineering Design	1	L.S.	\$ 420,000	\$ 420,000
23	Construction Inspection	1	L.S.	\$ 210,000	\$ 210,000
24	Property Acquisition	1	L.S.	\$ 42,000	\$ 42,000
25	Legal & Fiscal	1	L.S.	\$ 42,000	\$ 42,000
TOTAL COST					\$ 4,925,000

SUNRISE ENGINEERING, INC.
CONSULTING ENGINEERS AND SURVEYORS



Opinion of Probable Cost

Project: New Lagoon Cell

Project No.: S08472

Date: 3/22/2023

Owner: Bear Lake Special Service District

Sheet: 1 of 1

By: ATO

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	Cell Construction				
1	Mobilization	1	L.S.	\$ 74,400.00	\$ 74,400
2	Clearing and Grubbing	1	L.S.	\$ 10,000.00	\$ 10,000
3	Earthwork Excavation	65,000	C.Y.	\$ 10.00	\$ 650,000
4	Earthwork Dike Construction	25,000	C.Y.	\$ 6.00	\$ 150,000
5	Import and Place Clay Liner	23,000	C.Y.	\$ 20.00	\$ 460,000
6	Import and Place Rip Rap	1,150	C.Y.	\$ 40.00	\$ 46,000
7	Transfer Structure	1	Each	\$ 20,000.00	\$ 20,000
8	Slide Gate	2	Each	\$ 4,500.00	\$ 9,000
9	10" Sewer Pipe	200	L.F.	\$ 95.00	\$ 19,000
10	Splash Pad	1	Each	\$ 1,600.00	\$ 1,600
11	Inlet Control Structure	1	Each	\$ 30,000.00	\$ 30,000
12	Reseeding	1	Acre	\$ 500.00	\$ 500
13	Import Road Base	700	C.Y.	\$ 30.00	\$ 21,000
14	Remove Chain Link Fence	1,600	L.F.	\$ 5.00	\$ 8,000
15	Chain Link Fence	1,750	L.F.	\$ 30.00	\$ 52,500
16	Materials Testing	1	L.S.	\$ 10,000.00	\$ 10,000
	SUBTOTAL				\$ 1,562,000
17	Construction Contingency	1	L.S.	\$ 235,000	\$ 235,000
	CONSTRUCTION TOTAL				\$ 1,797,000
18	Preliminary Engineering/Survey Costs	1	L.S.	\$ 15,000	\$ 15,000
19	Engineering Design	1	L.S.	\$ 180,000	\$ 180,000
20	Construction Inspection	1	L.S.	\$ 90,000	\$ 90,000
21	Property Acquisition	1	L.S.	\$ 18,000	\$ 18,000
22	Legal & Fiscal	1	L.S.	\$ 18,000	\$ 18,000
	TOTAL COST				\$ 2,118,000

SUNRISE ENGINEERING, INC.
CONSULTING ENGINEERS AND SURVEYORS



Opinion of Probable Cost

Project: Lagoon Cell 4 Conversion

Project No.: S08472

Date: 3/22/2023

Owner: Bear Lake Special Service District

Sheet: 1 of 1

By: ATO

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	Cell Construction				
1	Mobilization	1	L.S.	\$ 12,650.00	\$ 12,650
2	48" Manhole	5	Each	\$ 3,000.00	\$ 15,000
3	Transfer Structure	1	Each	\$ 20,000.00	\$ 20,000
4	Slide Gate	2	Each	\$ 4,500.00	\$ 9,000
5	8" Sewer Pipe	950	L.F.	\$ 75.00	\$ 71,250
6	10" Sewer Pipe	1,000	L.F.	\$ 95.00	\$ 95,000
7	Splash Pad	1	Each	\$ 1,600.00	\$ 1,600
8	Inlet Control Structure	1	Each	\$ 30,000.00	\$ 30,000
9	Reseeding	1	Acre	\$ 500.00	\$ 500
10	Import Road Base	500	C.Y.	\$ 30.00	\$ 15,000
	SUBTOTAL				\$ 270,000
11	Construction Contingency	1	L.S.	\$ 41,000	\$ 41,000
	CONSTRUCTION TOTAL				\$ 311,000
12	Preliminary Engineering/Survey Costs	1	L.S.	\$ 15,000	\$ 15,000
13	Engineering Design	1	L.S.	\$ 32,000	\$ 32,000
14	Construction Inspection	1	L.S.	\$ 16,000	\$ 16,000
15	Property Acquisition	1	L.S.	\$ 4,000	\$ 4,000
16	Legal & Fiscal	1	L.S.	\$ 4,000	\$ 4,000
	TOTAL COST				\$ 382,000

APPENDIX C – CASH FLOW ANALYSIS

SUNRISE
ENGINEERING

DATE: March 2023

Sunrise Engineering, Inc.		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
8	Annual Engineering Rate =																							
9	South Shore Growth I	2.5%																						
10	RATE STRUCTURE:																							
11	Base Rate Main System																							
12	Base Rate South Shore																							
13	Average Rate STR																							
14	Connection Fee																							
15	Impact Fee																							
16	USAGE AND CONNECTIONS																							
17	No. of Main System	1,996.00	2,007.00	1,821.00	1,867.00	1,914.00	1,962.00	2,011.00	2,061.00	2,113.00	2,166.00	2,220.00	2,276.00	2,333.00	2,391.00	2,451.00	2,512.00	2,575.00	2,639.00	2,705.00	2,773.00	2,842.00		
18	No. of South Shore	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	
19	No. of STR	164	350	350	359	359	368	377	386	396	406	416	426	437	448	459	471	482	495	507	520	533		
20	No. of New Connections	11	-	-	46	56	57	59	60	62	63	65	67	68	69	72	73	75	77	79	81	82		
21	REVENUES:																							
22	Connection Fee	132,236	127,500	34,500	42,000	42,750	44,250	45,000	46,500	47,250	48,750	50,250	51,000	51,750	54,000	54,750	56,250	57,750	59,250	60,750	61,500			
23	Impact Fee	560,950	544,000	147,200	179,200	182,400	188,800	192,000	198,400	201,600	208,000	214,400	217,600	220,800	230,400	233,600	240,000	243,200	252,800	259,200	265,600			
24	Interest 0221	27,602	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500			
25	Interest 0672	1,944	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000			
26	Interest 2401	3,467	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000			
27	Main System Sewer Fee	811,200	865,000	857,214	878,761	900,784	923,286	946,269	970,087	994,412	1,019,219	1,044,879	1,071,037	1,097,606	1,125,219	1,153,251	1,182,154	1,211,573	1,241,871	1,273,053	1,304,762			
28	South Shore Sewer Fee	89,200	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400			
29	Total Calculated Revenues	-	-	-	1,672,400	1,174,814	1,235,861	1,261,834	1,292,236	1,319,169	1,350,897	1,379,162	1,380,509	1,394,069	1,424,177	1,454,786	1,484,159	1,526,141	1,562,944	1,600,263	1,638,461	1,677,543	1,713,202	
30	Actual Revenues	-	-	-	1,526,001																			
31	EXPENSES:																							
32	BUDGETED O&M EXPENSE:																							
33	Engineers	-	-	-	3,00%	Annual Inflation																		
34	Hookon Construction	82,206	127,500	34,500	42,000	42,750	44,250	45,000	46,500	47,250	48,750	50,250	51,000	51,750	54,000	54,750	56,250	57,750	59,250	60,750	61,500			
35	Audit	6,000	7,700	7,811	8,169	8,414	8,666	8,926	9,194	9,470	9,754	10,047	10,348	10,659	10,978	11,308	11,647	11,996	12,356	12,727	13,109			
36	Legal Services	505	3,000	3,090	3,183	3,278	3,377	3,478	3,582	3,690	3,800	3,914	4,032	4,153	4,277	4,406	4,538	4,674	4,814	4,959	5,107			
37	Travel Gas & Oil	22,417	30,000	30,000	31,827	32,782	33,765	34,778	35,822	36,906	38,033	39,143	40,317	41,527	42,773	44,056	45,378	46,739	48,141	49,585	51,073			
38	Conference / Meeting	3,121	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	6,334	6,524	6,720	6,921	7,129	7,343	7,563	7,790	8,024	8,264	8,512			
39	Equipment & Contingency	29,624	90,000	50,000	51,500	53,045	54,636	56,275	57,964	59,703	61,494	63,339	65,239	67,196	69,212	71,288	73,427	75,629	77,898	80,235	82,642			
40	Board Reimbursements	5,280	8,500	8,795	9,018	9,288	9,587	9,854	10,149	10,454	10,768	11,091	11,423	11,766	12,119	12,483	12,857	13,243	13,640	14,049	14,471			
41	Postage	3,000	4,500	4,635	4,774	4,917	5,065	5,217	5,373	5,534	5,700	5,871	6,048	6,229	6,416	6,608	6,807	7,011	7,221	7,438	7,661			
42	Miscellaneous	-	3,000	3,090	3,183	3,278	3,377	3,478	3,582	3,690	3,800	3,914	4,032	4,153	4,277	4,406	4,538	4,674	4,814	4,959	5,107			
43	Bank Charges/Credit Card	6,376	6,000	9,270	9,548	9,835	10,130	10,433	10,746	11,069	11,401	11,743	12,095	12,456	12,827	13,217	13,613	14,022	14,442	14,876	15,322			
44	UT Assoc of Special Districts	1,802	1,800	1,854	1,910	1,967	2,026	2,087	2,149	2,214	2,280	2,349	2,419	2,492	2,566	2,643	2,723	2,804	2,888	2,975	3,064			
45	Supplies & Repairs	10,380	35,000	36,050	37,132	38,245	39,393	40,575	41,792	43,046	44,337	45,667	47,037	48,448	49,902	51,399	52,941	54,529	56,165	57,850	59,585			
46	Office Supplies & GIS/GPS	15,203	25,000	25,750	26,523	27,318	28,138	28,982	29,851	30,747	31,669	32,619	33,598	34,606	35,644	36,713	37,815	38,949	40,118	41,321	42,561			
47	Fuel & Building Maintenance	2,538	3,500	3,605	3,713	3,825	3,939	4,057	4,179	4,305	4,434	4,567	4,704	4,845	4,990	5,140	5,294	5,453	5,616	5,785	5,959			
48	Centracom	848	1,500	1,545	1,591	1,639	1,688	1,739	1,791	1,845	1,900	1,957	2,016	2,076	2,138	2,203	2,269	2,337	2,407	2,479	2,554			
49	AT&T	3,950	3,200	3,296	3,395	3,497	3,602	3,710	3,821	3,936	4,054	4,175	4,301	4,430	4,562	4,699	4,840	4,985	5,135	5,289	5,448			
50	Utah Power	53,946	75,000	77,250	79,568	81,955	84,413	86,946	89,554	92,241	95,008	97,856	100,794	103,818	106,932	110,140	113,444	116,848	120,353	123,964	127,682			
51	Insurance	26,581	28,000	28,840	29,705	30,596	31,514	32,460	33,433	34,436	35,470	36,534	37,630	38,759	39,921	41,119	42,353	43,623	44,932	46,280	47,668			
52	Total Payroll	291,684	375,000	386,250	397,838	409,773	422,066	434,728	447,770	461,203	475,039	489,280	503,969	519,088	534,660	550,700	567,221	584,238	601,765	619,818	638,412			
53	Payroll Tax	21,771	28,700	29,561	30,448	31,361	32,302	33,271	34,269	35,297	36,356	37,447	38,570	39,728	40,919	42,147	43,411	44,714	46,055	47,437	48,860			
54	UT ST Retirement - Non contributory	46,766	67,500	69,525	71,611	73,759	75,972	78,251	80,599	83,016	85,507	88,072	90,714	93,436	96,239	99,126	102,100	105,163	108,318	111,567	114,914			
55	Workmens Compensation	1,383	3,500	3,605	3,713	3,825	3,939	4,057	4,179	4,305	4,434	4,567	4,704	4,845	4,990	5,140	5,294	5,453	5,616	5,785	5,959			
56	Capital Project Engineering	232,939																						
57	Capital System Improvement	2,097,123																						
58	Capital Project Reimbursement																							
59	Capital Vehicle	234,192	500,000		50,000	51,500	53,045	54,636	56,275	57,964	59,703	61,494	63,339	65,239	67,196	69,212	71,288	73,427	75,629	77,898	80,235	82,642		
60	Depreciation																							
61	Total O&M Expense	-	-	-	3,199,333	3,515,900	889,452	922,601	949,769	978,479	1,007,256	1,037,624	1,068,107	1,152,233	1,179,278	1,186,618	1,200,734	1,237,454	1,273,707	1,311,776	1,350,842	1,391,237	1,432,697	1,474,605
62	EXISTING DEBT SERVICE:																							
63	South Shore Loan Payment	-	-	-	89,200	89,200	89,200	89,200	89,200	89,200	89,200	89,200	89,200											
64	NEW DEBT SERVICE/NEW PROJECTS:																							
65	2023 Sewershed 4	\$304,000																						
66	2023 Sewershed 5	\$1,711,000						1,711,000																
67	2023 Sewershed 6	\$550,000						550,000																
68	2023 Sewershed 7 Pumps	\$2,668,000						1,334,000	1,334,000															
69	Lagoon Cell 6	\$2,118,000								1,059,000	1,059,000													
70	Lagoon Cell 4 Conversion	\$382,000																						

Bear Lake Special Service District - Existing Cash Flow

DATE: March 2023

	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
Sunrise Engineering, Inc.												
8												
9 Annual Growth Rate +		2.5%										
10 South Shore Growth I		0										
11 RATE STRUCTURE:												
12 Base Rate Main System	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
13 Base Rate South Shore	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
14 Average Rate STR	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07
15 Connection Fee	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00
16 Impact Fee	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00
17												
18 USAGE AND CONNECTIONS												
19 No. of Main System	2,913.00	2,986.00	3,061.00	3,138.00	3,216.00	3,296.00	3,378.00	3,462.00	3,549.00	3,638.00	3,729.00	3,822.00
20 No. of South Shore	214	214	214	214	214	214	214	214	214	214	214	214
21 No. of STR	546	560	574	588	603	618	633	649	665	682	699	716
22 No. of New Connections	85	87	89	92	93	96	98	100	104	106	109	111
23 REVENUES:												
24												
25 Connection Fee	63,750	65,250	66,750	68,000	69,750	72,000	73,500	75,000	78,000	79,500	81,750	83,250
26 Impact Fee	272,000	278,400	284,800	294,400	297,600	307,200	313,600	320,000	332,800	339,200	348,800	355,200
27 Interest 0221	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
28 Interest 0672	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
29 Interest 2401	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
30 Main System Sewer Fee	1,337,363	1,370,861	1,405,258	1,440,561	1,476,413	1,513,179	1,550,964	1,589,474	1,629,373	1,670,206	1,711,979	1,754,698
31 South Shore Sewer Fee	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040
32 Total Calculated Revenues	1,757,653	1,799,051	1,841,348	1,888,501	1,928,303	1,976,919	2,022,504	2,069,014	2,124,713	2,173,446	2,227,069	2,277,688
33 Actual Revenues												
34												
35 EXPENSES:												
36 BUDGETED O&M EXPENSE:												
37 Engineers	25,536	26,303	27,092	27,904	28,742	29,604	30,492	31,407	32,349	33,319	34,319	35,348
38 Hookon Construction	63,750	65,250	66,750	68,000	69,750	72,000	73,500	75,000	78,000	79,500	81,750	83,250
39 Audit	13,502	13,907	14,324	14,754	15,197	15,653	16,122	16,606	17,104	17,617	18,146	18,690
40 Legal Services	5,261	5,418	5,581	5,748	5,921	6,098	6,281	6,470	6,664	6,864	7,070	7,282
41 Travel Gas & Oil	52,605	54,183	55,809	57,483	59,208	60,984	62,813	64,688	66,639	68,638	70,697	72,818
42 Conference / Meeting	8,768	9,031	9,301	9,581	9,868	10,164	10,468	10,783	11,106	11,440	11,783	12,136
43 Equipment & Contingency	85,122	87,675	90,306	93,015	95,805	98,679	101,640	104,689	107,830	111,064	114,396	117,828
44 Postage Reimbursements	14,905	15,352	15,813	16,287	16,775	17,279	17,797	18,331	18,881	19,447	20,031	20,632
45 Board	7,891	8,128	8,371	8,622	8,881	9,148	9,422	9,705	9,996	10,296	10,605	10,923
46 Miscellaneous	5,261	5,418	5,581	5,748	5,921	6,098	6,281	6,470	6,664	6,864	7,070	7,282
47 Bank Charges/Credit Card	15,782	16,255	16,743	17,245	17,762	18,295	18,844	19,409	19,992	20,591	21,209	21,845
48 UT Assoc. of Special Districts	3,156	3,251	3,349	3,449	3,552	3,659	3,769	3,882	3,998	4,118	4,242	4,369
49 Supplies & Repairs	61,373	63,214	65,110	67,064	69,078	71,148	73,282	75,481	77,745	80,077	82,480	84,954
50 Office Supplies & OIS/GPS	49,838	51,153	52,507	53,903	55,340	56,820	58,344	59,915	61,532	63,196	64,908	66,668
51 Fuel & Building Maintenance	6,137	6,321	6,511	6,706	6,908	7,115	7,328	7,548	7,775	8,008	8,248	8,495
52 Centracom	2,830	2,709	2,790	2,874	2,960	3,049	3,141	3,235	3,332	3,432	3,535	3,641
53 AT&T	5,611	5,780	5,953	6,132	6,315	6,505	6,700	6,901	7,108	7,321	7,541	7,767
54 Utah Power	131,513	135,458	139,522	143,708	148,019	152,460	157,033	161,744	166,597	171,595	176,742	182,045
55 Insurance	49,098	50,571	52,088	53,651	55,260	56,918	58,626	60,385	62,196	64,062	65,984	67,963
56 Total Payroll	657,565	677,292	697,610	718,539	740,095	762,298	785,167	808,722	832,983	857,973	883,712	910,223
57 Payroll Tax	50,326	51,635	53,090	54,602	56,172	57,804	59,499	61,254	63,071	64,950	66,891	68,895
58 UT ST Retirement - Non contributory	118,362	121,913	125,570	129,337	133,217	137,214	141,330	145,570	149,937	154,435	159,069	163,840
59 Workmens Compensation	6,137	6,321	6,511	6,706	6,908	7,115	7,328	7,548	7,775	8,008	8,248	8,495
60 Capital Project Engineering												
61 Capital System Improvement												
62 Capital Project Reimbursement												
63 Capital Vehicle	85,122	87,675	90,306	93,015	95,805	98,679	101,640	104,689	107,830	111,064	114,396	117,828
64 Depreciation												
65 Total O&M Expense	1,519,249	1,564,414	1,610,898	1,659,463	1,707,926	1,758,322	1,811,441	1,865,080	1,921,782	1,979,595	2,037,918	2,098,000
66												
67 EXISTING DEBT SERVICE:												
68 South Shore Loan Payment												
69												
70 NEW DEBT SERVICE/NEW PROJECTS:												
71 2023 Sewershed 4												
72 2023 Sewershed 5												
73 2023 Sewershed 6												
74 2023 Sewershed 7												
75 Lagoon Cell 6												
76 Lagoon Cell 4 Conversion												
77 2033 LIT Station 2 Pumps												
78 2033 LIT Station 4 Pumps												
79 2033 Sewershed 5/LIT Station 5 Pumps												
80 2033 Sewershed 6/LIT Station 6 Pumps												
81 2033 LIT Station 7 Pumps												
82 2043 Sewershed 3/LIT Station 3 Pumps		13,000										
83 2043 LIT Station 4 Pumps		130,000										
84 2043 Sewershed 5	601,000											
85 2043 Sewershed 8	480,667											
86 2043 Sewershed 10												
87 2043 Sewershed 12												
88 2053 Sewershed 3												1,320,000
89 2053 Sewershed 4A										1,869,000		
90 2053 Sewershed 5											770,000	
91 2053 Sewershed 6									481,000			
92 2053 LIT Station 7 Pumps												214,000
93 2053 LIT Station 8 Pumps												129,000
94 2053 Sewershed 2											829,000	
95 Total												
96 Total Debt Service	1,081,667	744,000	-	-	-	-	-	-	481,000	1,869,000	1,598,000	1,683,000
97												
98 TOTAL EXPENSES	2,600,915	2,308,414	1,610,898	1,659,463	1,707,926	1,758,322	1,811,441	1,865,080	2,402,782	3,847,595	3,636,918	3,761,000
99												
100 CASH ON HAND:												
101 Sewer Reserve Total (accumulated line 64)	98,000	98,000	98,000	98,000	98,000	98,000	98,000	98,000	98,000	98,000	98,000	98,000
102 Impact Fee Cumulative Reserve Line 26 Total	5,251,550	5,529,950	5,814,750	6,109,150	6,406,750	6,713,950	7,027,550	7,347,550	7,680,350	8,019,550	8,368,350	8,723,550
103 Net Earnings Less Impact Fees (Annual/line 32-98-26)	(1,115,262)	(787,763)	(54,340)	(65,362)	(77,224)	(89,803)	(102,537)	(116,066)	(130,869)	(146,349)	(162,549)	(179,513)
104 Cash in Combined Cash Fund (accumulated line 104 prior+103)	(16,051,135)	(16,636,896)	(16,893,236)	(16,958,600)	(17,035,824)	(17,125,427)	(17,227,964)	(17,344,029)	(17,465,899)	(17,592,248)	(17,723,797)	(17,859,910)
105 TOTAL Cumulative Depreciation + Impact Fees + Annual Earnings	(10,701,585)	(11,210,948)	(10,980,488)	(10,751,450)	(10,531,074)	(10,313,477)	(10,102,414)	(9,898,479)	(9,698,549)	(9,502,896)	(9,312,447)	(9,127,360)

SUNRISE
ENGINEERING

Sunrise Engineering, Inc.

[illegible]

Bear Lake Special Service District - Cash Flow 1

DATE: March 2023

	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
Sunrise Engineering, Inc.												
8												
9 Annual Growth Rate +												
10 South Shore Growth I												
11 RATE STRUCTURE:												
12 Base Rate Main System	69.75	69.75	69.75	69.75	69.75	69.75	69.75	69.75	69.75	69.75	69.75	69.75
13 Base Rate South Shore	69.75	69.75	69.75	69.75	69.75	69.75	69.75	69.75	69.75	69.75	69.75	69.75
14 Average Rate STR	83.82	83.82	83.82	83.82	83.82	83.82	83.82	83.82	83.82	83.82	83.82	83.82
15 Connection Fee	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00
16 Impact Fee	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00	3,200.00
17												
18 USAGE AND CONNECTIONS												
19 No. of Main System	2,913.00	2,966.00	3,061.00	3,138.00	3,216.00	3,296.00	3,378.00	3,462.00	3,549.00	3,638.00	3,728.00	3,822.00
20 No. of South Shore	214	214	214	214	214	214	214	214	214	214	214	214
21 No. of STR	546	560	574	588	603	618	633	648	665	682	699	716
22 No. of New Connections	85	87	89	92	93	96	98	100	104	106	109	111
23 REVENUES:												
24												
25 Connection Fee	63,750	65,250	66,750	68,000	69,750	72,000	73,500	75,000	78,000	79,500	81,750	83,250
26 Impact Fee	272,000	278,400	284,800	294,400	297,600	307,200	313,600	320,000	332,800	339,200	348,800	355,200
27 Interest 0221	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
28 Interest 0672	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
29 Interest 2401	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
30 Main System Sewer Fee	2,967,249	3,062,077	3,138,922	3,217,793	3,297,861	3,378,973	3,464,137	3,550,304	3,639,500	3,730,717	3,824,027	3,919,439
31 South Shore Sewer Fee	179,118	179,118	179,118	179,118	179,118	179,118	179,118	179,118	179,118	179,118	179,118	179,118
32 Total Calculated Revenues	3,509,817	3,592,345	3,677,090	3,767,811	3,851,929	3,945,791	4,037,855	4,131,882	4,238,918	4,336,035	4,441,195	4,544,507
33 Actual Revenues												
34												
35 EXPENSES:												
36 BUDGETED O&M EXPENSE:												
37 Engineers	25,536	26,303	27,062	27,904	28,742	29,604	30,492	31,407	32,349	33,319	34,319	35,348
38 Hookon Construction	63,750	65,250	66,750	68,000	69,750	72,000	73,500	75,000	78,000	79,500	81,750	83,250
39 Audit	13,502	13,907	14,324	14,754	15,197	15,653	16,122	16,606	17,104	17,617	18,146	18,690
40 Legal Services	5,261	5,418	5,581	5,748	5,921	6,098	6,281	6,470	6,664	6,864	7,070	7,282
41 Travel Gas & Oil	52,605	54,183	55,809	57,483	59,208	60,984	62,813	64,698	66,639	68,638	70,697	72,818
42 Conference / Meeting	8,768	9,031	9,301	9,581	9,868	10,164	10,469	10,783	11,106	11,440	11,783	12,136
43 Equipment & Contingency	85,122	87,675	90,306	93,015	95,806	98,679	101,634	104,689	107,830	111,064	114,396	117,828
44 Board Reimbursements	14,905	15,352	15,813	16,287	16,775	17,279	17,797	18,331	18,881	19,447	20,031	20,632
45 Postage	7,891	8,128	8,371	8,622	8,881	9,148	9,422	9,705	9,996	10,296	10,605	10,923
46 Miscellaneous	5,261	5,418	5,581	5,748	5,921	6,098	6,281	6,470	6,664	6,864	7,070	7,282
47 Bank Charges/Credit Card	15,782	16,255	16,743	17,245	17,762	18,295	18,844	19,409	19,992	20,591	21,209	21,845
48 UT Assoc of Special Districts	3,156	3,251	3,349	3,449	3,552	3,659	3,769	3,882	3,998	4,118	4,242	4,369
49 Supplies & Repairs	61,373	63,214	65,110	67,064	69,076	71,148	73,282	75,481	77,745	80,077	82,480	84,954
50 Office Supplies & GIS/GPS	43,838	45,183	46,507	47,903	49,340	50,820	52,344	53,915	55,532	57,198	58,914	60,682
51 Fuel & Building Maintenance	6,137	6,321	6,511	6,706	6,908	7,115	7,328	7,548	7,775	8,008	8,248	8,495
52 Centracom	2,630	2,709	2,790	2,874	2,960	3,049	3,141	3,235	3,332	3,432	3,535	3,641
53 AT&T	5,611	5,780	5,953	6,132	6,315	6,505	6,700	6,901	7,108	7,321	7,541	7,767
54 Utah Power	131,513	135,458	139,522	143,708	148,019	152,460	157,033	161,744	166,597	171,595	176,742	182,045
55 Insurance	49,098	50,571	52,088	53,651	55,260	56,918	58,626	60,385	62,196	64,062	65,984	67,963
56 Total Payroll	657,565	677,292	697,610	718,539	740,095	762,298	785,167	808,722	832,983	857,973	883,712	910,223
57 Payroll Tax	30,326	31,835	33,390	34,992	36,642	38,341	40,091	41,894	43,751	45,664	47,633	49,662
58 UT ST Retirement - Non contributory	118,362	121,913	125,570	129,337	133,217	137,214	141,330	145,570	149,937	154,435	159,069	163,840
59 Workmen Compensation	6,137	6,321	6,511	6,706	6,908	7,115	7,328	7,548	7,775	8,008	8,248	8,495
60 Capital Project Engineering												
61 Capital System Improvement												
62 Capital Project Reimbursement												
63 Capital Vehicle	85,122	87,675	90,306	93,015	95,806	98,679	101,640	104,689	107,830	111,064	114,396	117,828
64 Depreciation	636,500	1,055,500	1,781,000	1,813,500	1,846,000	1,879,000	1,912,500	1,946,500	1,981,000	1,989,000	455,500	428,000
65 Total O&M Expense	2,155,749	2,569,914	3,381,888	3,472,963	3,553,926	3,638,322	3,723,941	3,811,580	3,902,782	4,000,000	4,092,318	4,189,000
66												
67 EXISTING DEBT SERVICE:												
68 South Shore Loan Payment												
69												
70 NEW DEBT SERVICE/NEW PROJECTS:												
71 2023 Sewershed 4												
72 2023 Sewershed 5												
73 2023 Sewershed 6												
74 2023 Sewershed 7												
75 Lagoon Cell 6												
76 Lagoon Cell 4 Conversion												
77 2033 Lift Station 2 Pumps												
78 2033 Lift Station 4 Pumps												
79 2033 Sewershed 5/Lift Station 5 Pumps												
80 2033 Sewershed 6/Lift Station 6 Pumps												
81 2033 Lift Station 7 Pumps												
82 2043 Sewershed 3/Lift Station 3 Pumps		13,000										
83 2043 Lift Station 4 Pumps		130,000										
84 2043 Sewershed 5	601,000	601,000										
85 2043 Sewershed 8	480,667											
86 2043 Sewershed 10												
87 2043 Sewershed 12												
88 2053 Sewershed 3												1,320,000
89 2053 Sewershed 4A									1,868,000			
90 2053 Sewershed 5										770,000		
91 2053 Sewershed 6									481,000			
92 2053 Lift Station 7 Pumps												214,000
93 2053 Lift Station 8 Pumps												129,000
94 2053 Sewershed 2											829,000	
95 Total												
96 Total Debt Service	1,081,667	744,000	-	-	-	-	-	-	481,000	1,869,000	1,599,000	1,663,000
97												
98 TOTAL EXPENSES	3,237,415	3,313,914	3,381,888	3,472,963	3,553,926	3,638,322	3,723,941	3,811,580	3,902,782	3,996,595	4,092,318	4,189,000
99												
100 CASH ON HAND:												
101 Sewer Reserve Total (accumulated line 64)	13,059,000	14,064,500	15,845,500	17,658,000	19,505,000	21,384,000	23,296,500	25,243,000	26,744,000	28,893,000	27,348,500	27,776,500
102 Impact Fee Cumulative Reserve Line 26 Total	5,251,500	5,529,950	5,814,750	6,109,150	6,406,750	6,719,950	7,027,550	7,347,550	7,680,350	8,016,550	8,368,350	8,722,550
103 Net Earnings Less Impact Fees (Annual)(line 32-96-26)	202	32	402	448	502	569	614	662	714	770	830	897
104 Cash in Combined Cash Fund (accumulated line 104 prior+103)	(1,741,519)	(1,741,487)	(1,741,085)	(1,740,637)	(1,740,335)	(1,740,066)	(1,739,752)	(1,739,350)	(1,739,014)	(1,738,774)	(1,738,698)	(1,738,391)
105 TOTAL Cumulative Depreciation + Impact Fees + Annual Earnings	16,569,031	17,852,963	19,919,165	22,027,513	24,171,415	26,357,884	28,584,298	30,851,200	32,685,336	33,173,776	33,978,152	34,761,659

SUNRISE
ENGINEERING

[illegible]

Bear Lake Special Service District - Cash Flow 2

DATE: March 2023

	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
Sunrise Engineering, Inc												
8												
9 Annual Growth Rate +												
10 South Shore Growth I												
11 RATE STRUCTURE:												
12 Base Rate Main System	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
13 Base Rate South Shore	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
14 Average Rate STR	64.07	64.07	64.07	64.07	64.07	64.07	64.07	64.07	64.07	64.07	64.07	64.07
15 Connection Fee	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00
16 Impact Fee	14,350.00	14,350.00	14,350.00	14,350.00	14,350.00	14,350.00	14,350.00	14,350.00	14,350.00	14,350.00	14,350.00	14,350.00
17												
18 USAGE AND CONNECTIONS												
19 No. of Main System	2,913.00	2,986.00	3,061.00	3,138.00	3,216.00	3,296.00	3,378.00	3,462.00	3,549.00	3,638.00	3,729.00	3,822.00
20 No. of South Shore	214	214	214	214	214	214	214	214	214	214	214	214
21 No. of STR	546	560	574	588	603	618	633	649	665	682	699	716
22 No. of New Connections	85	87	89	92	93	96	98	100	104	106	109	111
23 REVENUES:												
24												
25 Connection Fee	63,750	65,250	66,750	68,000	69,750	72,000	73,500	75,000	78,000	79,500	81,750	83,250
26 Impact Fee	1,219,750	1,248,450	1,277,150	1,302,200	1,334,550	1,377,600	1,406,300	1,435,000	1,492,400	1,521,100	1,564,150	1,592,650
27 Interest 0221	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
28 Interest 0672	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
29 Interest 2401	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
30 Main System Sewer Fee	2,167,495	2,221,787	2,277,542	2,334,765	2,392,865	2,452,446	2,513,517	2,576,085	2,640,757	2,706,941	2,774,645	2,843,876
31 South Shore Sewer Fee	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400
32												
33												
34												
35 EXPENSES:												
36 BUDGETED O&M EXPENSE:												
37 Engineers	25,536	26,303	27,092	27,904	28,742	29,604	30,492	31,407	32,349	33,319	34,319	35,348
38 Hookup Construction	63,750	65,250	66,750	68,000	69,750	72,000	73,500	75,000	78,000	79,500	81,750	83,250
39 Audit	13,502	13,907	14,324	14,754	15,197	15,653	16,122	16,606	17,104	17,617	18,146	18,690
40 Legal Services	5,261	5,418	5,581	5,748	5,921	6,098	6,281	6,470	6,664	6,864	7,070	7,282
41 Travel Gas & Oil	52,605	54,183	55,809	57,483	59,208	60,984	62,813	64,688	66,630	68,638	70,697	72,818
42 Conference / Meeting	8,768	9,031	9,301	9,581	9,868	10,164	10,469	10,783	11,106	11,440	11,783	12,136
43 Equipment & Contingency	85,122	87,675	90,306	93,015	95,805	98,679	101,640	104,689	107,830	111,064	114,396	117,828
44 Board Reimbursements	14,905	15,362	15,813	16,287	16,775	17,279	17,797	18,331	18,881	19,447	20,031	20,632
45 Postage	7,891	8,128	8,371	8,622	8,881	9,148	9,422	9,705	9,996	10,296	10,605	10,923
46 Miscellaneous	5,261	5,418	5,581	5,748	5,921	6,098	6,281	6,470	6,664	6,864	7,070	7,282
47 Bank Charges/Credit Card	15,782	16,255	16,743	17,245	17,762	18,295	18,844	19,409	19,992	20,591	21,209	21,845
48 UT Assoc of Special Districts	3,156	3,251	3,349	3,449	3,552	3,659	3,769	3,882	3,998	4,116	4,242	4,369
49 Supplies & Repairs	61,373	63,214	65,110	67,054	69,076	71,148	73,262	75,461	77,745	80,077	82,460	84,954
50 Office Supplies & GIS/GPS	43,838	45,153	46,507	47,903	49,340	50,820	52,344	53,915	55,532	57,198	58,914	60,682
51 Fuel & Building Maintenance	6,137	6,321	6,511	6,706	6,908	7,115	7,328	7,548	7,775	8,008	8,248	8,495
52 Centracom	2,630	2,709	2,790	2,874	2,960	3,049	3,141	3,235	3,332	3,432	3,535	3,641
53 AT&T	5,611	5,780	5,953	6,132	6,315	6,505	6,700	6,901	7,108	7,321	7,541	7,767
54 Utah Power	131,513	135,458	139,522	143,708	148,019	152,460	157,033	161,744	166,597	171,595	176,742	182,045
55 Insurance	49,098	50,571	52,088	53,651	55,260	56,918	58,626	60,385	62,196	64,062	65,984	67,963
56 Total Payroll	657,565	677,292	697,610	718,539	740,095	762,298	785,167	808,722	832,983	857,973	883,712	910,223
57 Payroll Tax	50,326	51,835	53,390	54,992	56,642	58,341	60,091	61,894	63,751	65,664	67,633	69,662
58 UT ST Retirement - Non contributory	118,362	121,913	125,570	129,337	133,217	137,214	141,330	145,570	149,937	154,435	159,068	163,840
59 Workmens Compensation	6,137	6,321	6,511	6,706	6,908	7,115	7,328	7,548	7,775	8,008	8,248	8,495
60 Capital Project Engineering												
61 Capital System Improvement												
62 Capital Project Reimbursement												
63 Capital Vehicle	85,122	87,675	90,306	93,015	95,805	98,679	101,640	104,689	107,830	111,064	114,396	117,828
64 Depreciation	114,500	869,300	869,300	869,300	869,300	869,300	869,300	869,300	869,300	869,300	869,300	869,300
65												
66												
67 EXISTING DEBT SERVICE:												
68 South Shore Loan Payment												
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70 NEW DEBT SERVICE/NEW PROJECTS:												
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100 CASH ON HAND:												
101 Sewer Reserve Total (accumulated line 64)	3,511,000	3,625,500	4,484,800	5,374,800	6,265,300	7,166,300	8,077,300	8,968,800	9,450,300	9,450,300	9,450,300	9,450,300
102 Impact Fee Cumulative Reserve Line 26 Total	19,701,920	20,950,430	22,227,550	23,547,750	24,882,300	26,259,900	27,666,200	29,101,200	30,593,600	32,114,700	33,678,850	35,271,700
103 Net Earnings Less Impact Fees (Annual)(line 32-99-26)	(233,770)	24	3	203	88	24	476	406	375	(925,254)	(644,524)	(697,974)
104 Cash in Combined Cash Fund (accumulated line 104 prior+103)	(5,743,070)	(5,743,046)	(5,743,043)	(5,742,840)	(5,742,752)	(5,742,728)	(5,742,252)	(5,741,846)	(5,741,471)	(6,666,725)	(7,311,248)	(8,009,223)
105 TOTAL Cumulative Depreciation + Impact Fees + Annual Earnings	17,469,880	18,832,854	20,979,307	23,179,710	25,404,848	27,683,472	30,001,248	32,358,154	34,302,429	34,868,275	35,817,902	36,712,777

Bear Lake Special Service District - Cash Flow 3

DATE: March 2023



Sunrise Engineering, Inc.	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
8																						
9 Annual Growth Rate +	2.5%																					
10 South Shore Growth I	0																					
11 RATE STRUCTURE:																						
12 Base Rate Main System	28.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
13 Base Rate South Shore	48.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
14 Average Rate STR	28.00	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07
15 Connection Fee	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00
16 Impact Fee	3,200.00	3,200.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00
17																						
18 USAGE AND CONNECTIONS																						
19 No. of Main System	1,996.00	2,007.00	1,821.00	1,867.00	1,914.00	1,962.00	2,011.00	2,061.00	2,113.00	2,166.00	2,220.00	2,276.00	2,333.00	2,391.00	2,451.00	2,512.00	2,575.00	2,638.00	2,705.00	2,773.00		
20 No. of South Shore	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	
21 No. of STR		164	350	350	359	368	377	386	396	406	416	426	437	447	458	469	480	491	502	513	524	
22 No. of New Connections	11	-	-	-	56	57	59	60	62	63	65	67	68	69	72	73	75	77	79	81		
23 REVENUES:																						
24																						
25 Connection Fee	132,238	127,500	34,500	42,000	42,750	44,250	45,000	46,500	47,250	48,750	50,250	51,000	51,750	54,000	54,750	56,250	57,750	59,250	60,750	62,250	63,750	
26 Impact Fee	560,350	544,000	1,177,600	1,433,600	1,459,200	1,510,400	1,536,000	1,587,200	1,612,800	1,664,000	1,715,200	1,740,800	1,766,400	1,817,600	1,843,200	1,894,400	1,920,000	1,971,200	2,022,400	2,073,600	2,124,800	
27 Interest 0221	27,802	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	
28 Interest 0672	1,944	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	
29 Interest 2401	3,467	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	
30 Main System Sewer Fee	811,200	865,000	857,214	878,761	900,734	923,296	946,269	970,097	994,412	1,019,219	1,044,879	1,071,037	1,097,696	1,125,219	1,153,251	1,181,283	1,210,315	1,239,347	1,268,379	1,297,411	1,326,443	
31 South Shore Sewer Fee	89,200	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	128,400	
32 Total Calculated Revenues	-	-	-	1,626,001	1,672,400	2,205,214	2,490,261	2,538,634	2,613,836	2,663,169	2,739,697	2,790,362	2,816,509	2,894,869	2,947,377	3,000,386	3,106,959	3,161,341	3,242,944	3,325,063	3,408,061	3,491,943
33 Actual Revenues	-	-	-	1,626,001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34																						
35 EXPENSES:																						
36 BUDGETED O&M EXPENSE:																						
37 Engineers	-	20,000	15,000	15,450	15,914	16,391	16,883	17,389	17,911	18,448	19,002	19,572	20,159	20,764	21,386	22,028	22,689	23,370	24,071	24,792	25,533	
38 Hookon Construction	82,206	127,500	34,500	42,000	42,750	44,250	45,000	46,500	47,250	48,750	50,250	51,000	51,750	54,000	54,750	56,250	57,750	59,250	60,750	62,250	63,750	
39 Audit	6,900	7,700	7,931	8,169	8,414	8,666	8,926	9,194	9,470	9,754	10,047	10,348	10,659	10,978	11,308	11,647	11,996	12,356	12,727	13,108	13,499	
40 Legal Services	505	3,000	3,000	3,183	3,278	3,377	3,478	3,582	3,690	3,800	3,914	4,032	4,153	4,277	4,406	4,538	4,674	4,814	4,959	5,108	5,261	
41 Travel Gas & Oil	22,417	30,000	30,000	31,827	32,782	33,765	34,778	35,822	36,896	38,003	39,143	40,317	41,527	42,773	44,056	45,378	46,739	48,141	49,585	51,071	52,600	
42 Conference / Meeting	3,121	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	6,334	6,524	6,720	6,921	7,129	7,343	7,563	7,790	8,024	8,264	8,509	8,759	
43 Equipment & Contingency	29,624	90,000	50,000	51,500	53,045	54,636	56,275	57,964	59,703	61,494	63,339	65,239	67,196	69,212	71,288	73,427	75,629	77,896	80,230	82,641	85,130	
44 Board Reimbursements	5,280	8,500	8,750	9,018	9,298	9,589	9,894	10,214	10,549	10,898	11,261	11,638	12,029	12,434	12,854	13,289	13,739	14,194	14,664	15,140	15,621	
45 Postage	3,000	4,500	4,635	4,774	4,917	5,065	5,217	5,373	5,534	5,700	5,871	6,046	6,225	6,408	6,595	6,786	6,981	7,180	7,383	7,590	7,801	
46 Miscellaneous	-	3,000	3,000	3,183	3,278	3,377	3,478	3,582	3,690	3,800	3,914	4,032	4,153	4,277	4,406	4,538	4,674	4,814	4,959	5,108	5,261	
47 Bank Charges/Credit Card	6,376	9,000	9,270	9,548	9,835	10,130	10,433	10,746	11,069	11,401	11,743	12,096	12,458	12,830	13,212	13,604	14,006	14,418	14,840	15,272	15,714	
48 UT Assoc. of Special Districts	1,602	1,800	1,854	1,910	1,967	2,026	2,087	2,149	2,214	2,280	2,349	2,419	2,492	2,568	2,646	2,727	2,810	2,896	2,985	3,076	3,170	
49 Supplies & Repairs	10,360	35,000	36,000	37,132	38,245	39,393	40,575	41,792	43,046	44,337	45,667	47,037	48,448	49,902	51,401	52,946	54,537	56,174	57,857	59,586	61,361	
50 Office Supplies & GIS/GPS	15,303	25,000	25,750	26,523	27,318	28,136	28,982	29,851	30,747	31,669	32,619	33,598	34,606	35,644	36,713	37,815	38,949	40,118	41,321	42,560	43,834	
51 Fuel & Building Maintenance	2,538	3,500	3,605	3,713	3,825	3,939	4,057	4,179	4,305	4,434	4,567	4,704	4,845	4,990	5,140	5,294	5,453	5,616	5,785	5,958	6,135	
52 Centracom	846	1,500	1,545	1,591	1,639	1,688	1,739	1,791	1,845	1,900	1,957	2,016	2,078	2,139	2,203	2,269	2,337	2,407	2,479	2,553	2,629	
53 AT&T	3,050	3,200	3,296	3,395	3,497	3,602	3,710	3,821	3,936	4,054	4,175	4,301	4,430	4,562	4,699	4,840	4,985	5,135	5,289	5,444	5,601	
54 Utah Power	53,846	75,000	77,250	79,568	81,955	84,413	86,946	89,554	92,241	95,008	97,856	100,794	103,818	106,932	110,140	113,444	116,848	120,353	123,960	127,670	131,384	
55 Insurance	26,581	28,000	28,840	29,705	30,596	31,514	32,460	33,433	34,436	35,470	36,534	37,630	38,759	39,921	41,119	42,353	43,623	44,930	46,275	47,658	49,079	
56 Total Payroll	291,884	375,000	388,250	397,838	408,773	420,065	431,728	443,770	456,203	469,039	482,290	495,969	510,088	524,660	539,699	555,212	571,216	587,722	604,740	622,271	640,326	
57 Payroll Tax	21,771	28,700	29,561	30,448	31,361	32,302	33,271	34,269	35,297	36,356	37,447	38,570	39,728	40,919	42,143	43,411	44,714	46,055	47,437	48,860	50,324	
58 UT ST Retirement - Non contributory	46,766	67,500	69,525	71,611	73,759	75,972	78,251	80,599	83,018	85,507	88,072	90,714	93,436	96,239	99,126	102,100	105,163	108,316	111,569	114,922	118,375	
59 Workmen Compensation	1,383	3,500	3,605	3,713	3,825	3,939	4,057	4,179	4,305	4,434	4,567	4,704	4,845	4,990	5,140	5,294	5,453	5,616	5,785	5,958	6,135	
60 Capital Project Engineering	232,939	80,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
61 Capital System Improvement	2,097,123	2,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
62 Capital Project Reimbursement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
63 Capital Vehicle	234,192	500,000	50,000	51,500	53,045	54,636	56,275	57,964	59,703	61,494	63,339	65,239	67,196	69,212	71,288	73,427	75,629	77,896	80,230	82,641	85,130	
64 Depreciation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
65 Total O&M Expense	-	-	-	3,199,333	3,515,960	889,452	922,601	949,769	978,479	1,007,256												

Bear Lake Special Service District - Cash Flow 3

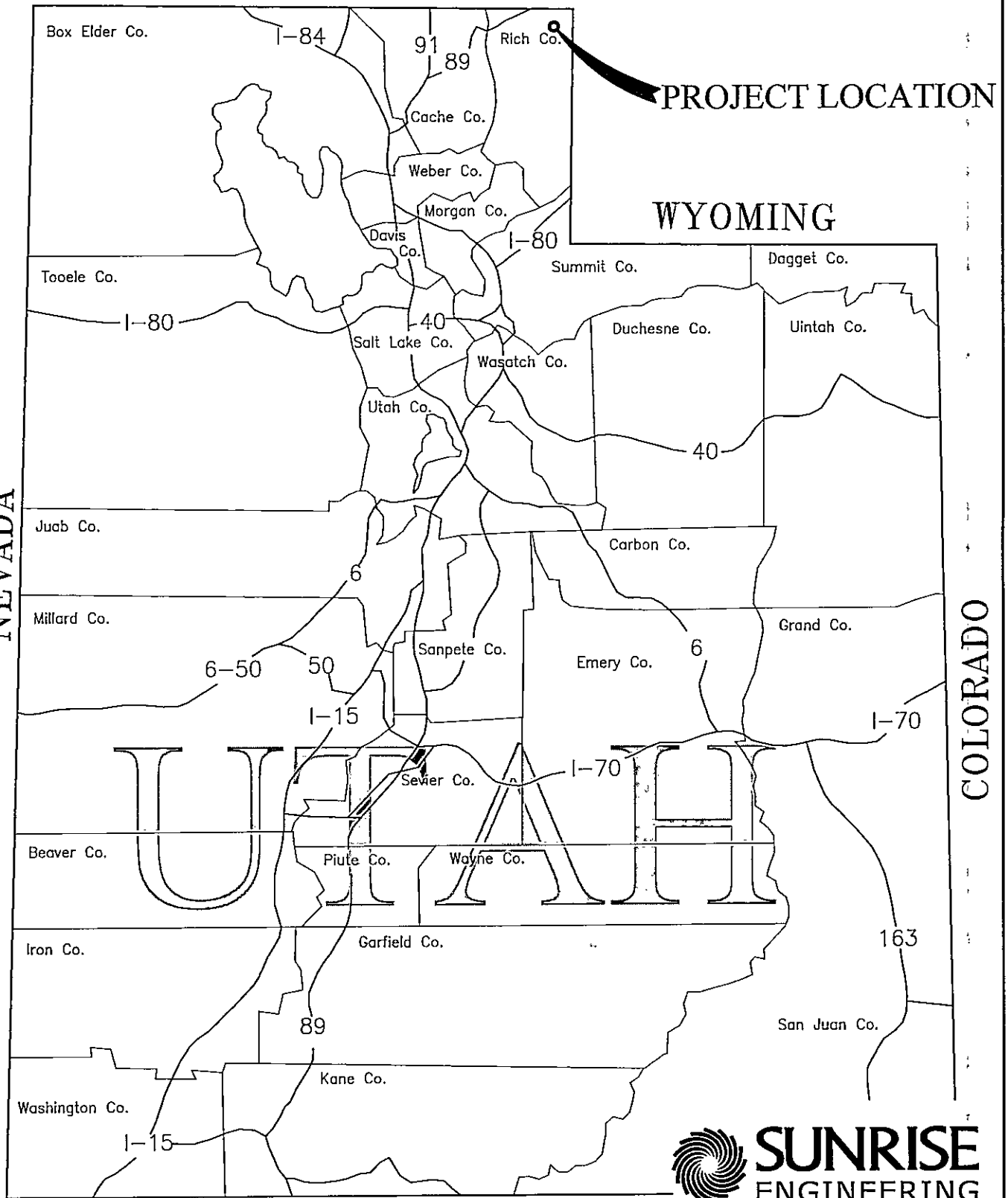
DATE: March 2023

	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
Sunrise Engineering, Inc.													
8													
9 Annual Growth Rate +													
10 South Shore Growth I													
11 RATE STRUCTURE:													
12 Base Rate Main System	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
13 Base Rate South Shore	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
14 Average Rate STR	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07
15 Connection Fee	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00
16 Impact Fee	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00	25,600.00
17													
18 USAGE AND CONNECTIONS													
19 No. of Main System	2,842.00	2,913.00	2,988.00	3,061.00	3,138.00	3,216.00	3,296.00	3,378.00	3,462.00	3,548.00	3,638.00	3,728.00	3,822.00
20 No. of South Shore	214	214	214	214	214	214	214	214	214	214	214	214	214
21 No. of STR	533	546	560	574	588	603	618	633	649	665	682	699	716
22 No. of New Connections	82	85	87	89	92	93	96	98	100	104	108	109	111
23 REVENUES:													
24													
25 Connection Fee	61,500	63,750	65,250	66,750	68,000	69,750	72,000	73,500	75,000	76,000	79,500	81,750	83,250
26 Impact Fee	2,099,200	2,176,000	2,227,200	2,278,400	2,355,200	2,380,800	2,457,600	2,508,800	2,560,000	2,662,400	2,713,600	2,790,400	2,841,600
27 Interest 0221	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
28 Interest 0672	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
29 Interest 2401	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
30 Main System Sewer Fee	1,304,782	1,337,363	1,370,861	1,405,258	1,440,561	1,476,413	1,513,179	1,550,854	1,599,474	1,629,373	1,670,206	1,711,979	1,754,696
31 South Shore Sewer Fee	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040
32 Total Calculated Revenues	3,550,002	3,661,653	3,747,851	3,834,948	3,949,301	4,011,503	4,127,319	4,217,704	4,309,014	4,454,313	4,547,846	4,688,669	4,764,088
33 Actual Revenues													
34													
35 EXPENSES:													
36 BUDGETED O&M EXPENSE:													
37 Engineers	24,793	25,536	26,303	27,092	27,904	28,742	29,604	30,492	31,407	32,349	33,319	34,319	35,348
38 Hookon Construction	61,500	63,750	65,250	66,750	68,000	69,750	72,000	73,500	75,000	76,000	79,500	81,750	83,250
39 Audit	13,109	13,502	13,907	14,324	14,754	15,197	15,653	16,122	16,606	17,104	17,617	18,146	18,690
40 Legal Services	5,107	5,261	5,418	5,581	5,748	5,921	6,098	6,281	6,470	6,664	6,864	7,070	7,282
41 Travel Gas & Oil	51,073	52,605	54,183	55,809	57,483	59,206	60,984	62,813	64,688	66,639	68,638	70,687	72,818
42 Conference / Meeting	8,512	8,768	9,031	9,301	9,581	9,868	10,164	10,469	10,783	11,106	11,440	11,783	12,136
43 Equipment & Contingency	82,642	85,122	87,675	90,306	93,015	95,805	98,679	101,640	104,689	107,830	111,064	114,396	117,828
44 Board Reimbursements	14,471	14,906	15,352	15,811	16,287	16,775	17,279	17,797	18,331	18,881	19,447	20,031	20,632
45 Postage	7,661	7,861	8,128	8,371	8,622	8,881	9,148	9,422	9,705	9,966	10,296	10,605	10,923
46 Miscellaneous	5,107	5,261	5,418	5,581	5,748	5,921	6,098	6,281	6,470	6,664	6,864	7,070	7,282
47 Bank Charges/Credit Card	15,322	15,782	16,255	16,743	17,245	17,762	18,295	18,844	19,409	19,992	20,591	21,209	21,845
48 UT Assoc of Special Districts	3,064	3,156	3,251	3,349	3,449	3,552	3,659	3,769	3,882	3,998	4,118	4,242	4,369
49 Supplies & Repairs	59,565	61,373	63,214	65,110	67,064	69,076	71,148	73,282	75,481	77,745	80,077	82,480	84,954
50 Office Supplies & GIS/GPS	42,861	43,838	44,835	45,857	46,907	48,000	49,140	50,324	51,551	52,821	54,134	55,490	56,889
51 Fuel & Building Maintenance	5,959	6,137	6,321	6,511	6,706	6,908	7,115	7,328	7,548	7,775	8,008	8,248	8,495
52 Centracom	2,554	2,630	2,709	2,790	2,874	2,960	3,048	3,141	3,235	3,332	3,432	3,535	3,641
53 AT&T	5,448	5,611	5,780	5,953	6,132	6,315	6,505	6,700	6,901	7,108	7,321	7,541	7,767
54 Utah Power	127,682	131,513	135,458	139,522	143,708	148,019	152,460	157,033	161,744	166,597	171,595	176,742	182,045
55 Insurance	47,668	49,068	50,571	52,088	53,651	55,260	56,918	58,626	60,385	62,196	64,062	65,984	67,963
56 Total Payroll	638,412	657,565	677,262	697,610	718,539	740,095	762,298	785,167	808,722	832,983	857,973	883,712	910,223
57 Payroll Tax	48,860	50,326	51,835	53,390	54,992	56,642	58,341	60,091	61,894	63,751	65,664	67,633	69,662
58 UT ST Retirement - Non contributory	114,914	118,362	121,913	125,570	129,337	133,217	137,214	141,330	145,570	149,937	154,435	159,068	163,840
59 Workmens Compensation	5,959	6,137	6,321	6,511	6,706	6,908	7,115	7,328	7,548	7,775	8,008	8,248	8,495
60 Capital Project Engineering													
61 Capital System Improvement													
62 Capital Project Reimbursement													
63 Capital Vehicle	82,642	85,122	87,675	90,306	93,015	95,805	98,679	101,640	104,689	107,830	111,064	114,396	117,828
64 Depreciation													
65													
66 Total O&M Expense	1,474,605	1,519,249	1,564,414	1,610,888	1,659,463	1,707,926	1,759,322	1,811,441	1,865,080	1,921,762	1,978,595	2,037,818	2,098,000
67													
68 EXISTING DEBT SERVICE:													
69 South Shore Loan Payment													
70													
71 NEW DEBT SERVICE/NEW PROJECTS:													
72 2023 Sewershed 4													
73 2023 Sewershed 5													
74 2023 Sewershed 6													
75 2023 Sewershed 7													
76 Lagoon Cell 6													
77 Lagoon Cell 4 Conversion													
78 2033 Lift Station 2 Pumps													
79 2033 Lift Station 4 Pumps													
80 2033 Sewershed 5/LR Station 5 Pumps													
81 2033 Sewershed 6/LR Station 6 Pumps													
82 2033 Lift Station 7 Pumps													
83 2043 Sewershed 3/LR Station 3 Pumps				13,000									
84 2043 Lift Station 4 Pumps				130,000									
85 2043 Sewershed 5		601,000	601,000										
86 2043 Sewershed 8	480,667	480,667											
87 2043 Sewershed 10													
88 2043 Sewershed 12													
89 2053 Sewershed 3													1,320,000
90 2053 Sewershed 4A											1,869,000		
91 2053 Sewershed 5												770,000	
92 2053 Lift Station 7 Pumps													214,000
93 2053 Lift Station 8 Pumps													129,000
94 2053 Sewershed 2												829,000	
95 Total													
96 Total Debt Service	480,667	1,081,667	744,000	-	-	-	-	-	-	481,000	1,869,000	1,599,000	1,663,000
97													
98 TOTAL EXPENSES	1,955,272	2,600,915	2,308,414	1,610,888	1,659,463	1,707,926	1,759,322	1,811,441	1,865,080	2,402,782	3,847,595	3,636,818	3,761,000
99													
100 CASH ON HAND:													
101 Sewer Reserve Total (accumulated line 64)	98,000	98,000	98,000	98,000	98,000	98,000	98,000	98,000	98,000	98,000	98,000	98,000	98,000
102 Impact Fee Cumulative Reserve Line 26 Total	32,120	34,251,960	36,509,150	38,793,340	41,142,750	43,523,550	45,981,150	48,489,950	51,049,950	53,712,350	56,425,950	59,216,350	62,067,950
103 Net Earnings Less Impact Fees (Annual)(line 32-98-26)	(504,470)	(1,115,262)	(787,763)	(54,340)	(65,362)	(77,224)	(89,803)	(102,537)	(116,066)	(130,869)	(146,889)	(164,139)	(182,613)
104 Cash in Combined Cash Fund (accumulated line 104 prior+103)	(14,935,873)	(16,051,135)	(16,830,098)	(16,893,238)	(16,956,000)	(17,035,824)	(17,125,427)	(17,227,964)	(17,344,029)	(17,465,899)	(17,594,248)	(17,728,797)	(17,869,310)
105 TOTAL Cumulative Depreciation + Impact Fees + Annual Earnings	17,268,077	18,328,815	19,768,252	21,992,312	24,282,150	26,585,726	28,963,723	31,359,686	33,803,921	35,855,451	38,555,702	41,587,553	45,580,640

APPENDIX D – FIGURES

FIGURE 1
AREA MAP

IDAHO



ARIZONA



SUNRISE ENGINEERING

47 EAST 4TH AVENUE
AFTON, WYOMING 83110
TEL 307.885.8500 • FAX 307.885.8501
www.sunrise-eng.com

FIGURE 4

