



# Sewer Rate Study

City of St. Joseph, Missouri

Sewer Rate Study  
Project No. 156320



Final Report  
6/5/2023



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prepared for

**City of St. Joseph, Missouri  
Sewer Rate Study  
St. Joseph, Missouri**

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**Final Report  
6/5/2023**

prepared by

**Burns & McDonnell Engineering Company, Inc.**

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**LIST OF ABBREVIATIONS**

<b><u>Abbreviation</u></b>	<b><u>Term/Phrase/Name</u></b>
AWWA	American Water Works Association
BLS	Bureau of Labor Statistics
ccf	Hundred cubic feet
CIP	Capital improvement program
CMOM	Capacity, Management, Operation and Maintenance
CPI-U	Consumer Price Index for all Urban Consumers
FY	Fiscal year
NACWA	National Association of Clean Water Agencies
NPDES	National Pollutant Discharge Elimination System
O&M	Operation & maintenance expense
City	City of St. Joseph, Missouri
WEF	Water Environment Federation

## 1.0 EXECUTIVE SUMMARY

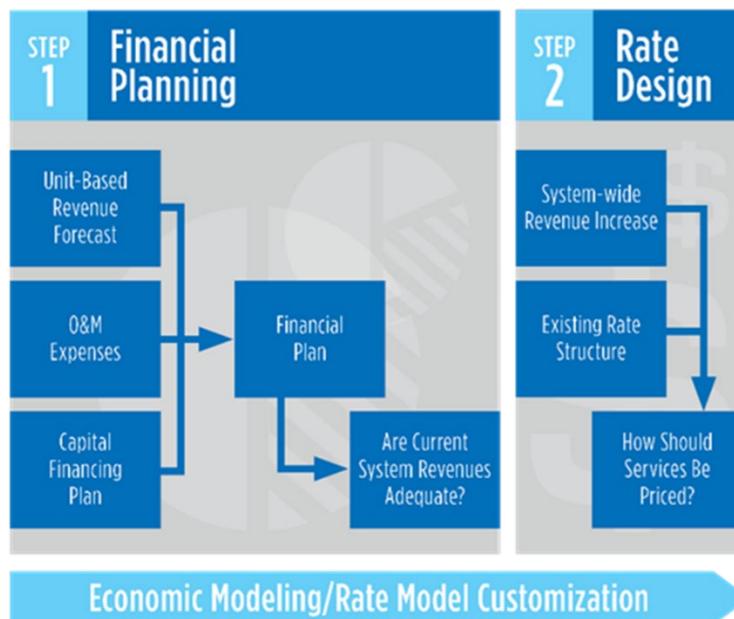
### 1.1 Project Background

Burns & McDonnell was engaged by the City of St. Joseph (City) to perform a wastewater rate study (Study) that (i) evaluates the financial planning implications of the funding requirements for the utility, and (ii) proposes rates to adequately recover these costs for the sewer utility.

### 1.2 Project Approach

Burns & McDonnell's approach to rate studies, depicted in Figure 1-1, is grounded in the principles established by the American Water Works Association (AWWA) *MI Rate Manual* and the Water Environment Federation (WEF) *Financing and Charges for Wastewater Systems*.

Figure 1-1: Study Methodology



**Step 1: Financial Planning** provides an indication of the adequacy of the revenue generated by current rates. The results of the financial forecast analysis answer the questions "Are the existing rates adequate?" and "If not, what level of overall revenue increase is needed?" The Financial Planning Analysis is presented in Section 2.0 of this report.

**Step 2: Rate Design** provides for the required revenue recovery. Once the overall level of revenue required is identified and customer class responsibility for that level of revenue is determined, schedules of rates for each rate class are developed that will generate revenues accordingly.

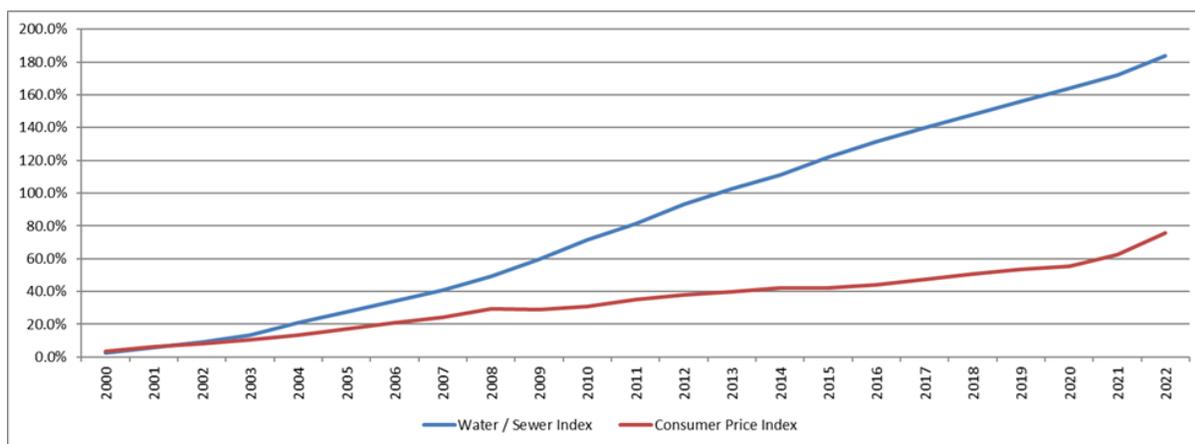
This Report details the financial planning used to evaluate the sufficiency of revenues under existing rates in meeting future revenue requirements.

### 1.3 Industry Trends in Sewer Rates

Replacement of aging infrastructure is one of several dynamics impacting sewer utility rates typical of all utilities – public and private. Other dynamics may include regulatory requirements, inflation on operating and capital costs, and a general trend in declining consumption most often associated with more efficient fixtures and appliances and greater awareness of water conservation. Effective industrial pre-treatment investments can also create the dual benefit of cost savings for the industry as well as reducing flow and/or load for treatment.

Each utility is different, and the relative importance of these dynamics will vary by utility. However, there is no doubt that sewer rate increases within the industry have substantially outpaced general inflation in the United States. The United States Bureau of Labor Statistics (BLS) tracks many facets of inflation. The most commonly referenced measure is the Consumer Price Index for all Urban Consumers (CPI-U) which measures inflation at the consumer level. The BLS also tracks a combined inflation index for consumer water and sewer costs. Figure 1-2 compares changes in the consumer price index to changes in the water and sewer cost index.

**Figure 1-2: Changes in General Inflation and National Water and Sewer Rates**



Cumulatively since 2000, the water and sewer index has risen roughly 4.7 percent per year, while CPI's annual rate of change is nearly 2.4 percent per year.

Other industry surveys reach similar conclusions regarding water and/or sewer rates. The National Association of Clean Water (NACWA) annually updates its *Cost of Clean Water Index*, which surveys sewer utilities across the nation regarding the cost of residential sewer service. From 1986 through 2021,

the annual increase in this index has been nearly 5 percent per year. American Water Works Association (AWWA) also conducts a broad annual water and sewer rate survey. From 1996 through 2018, sewer rates were indicated to increase approximately 5.6 percent annually.

Each utility will be influenced by specific circumstances that can lead to increases that are higher or lower than these industry trends. However, costs associated with renewal and replacement of existing infrastructure and the increasing cost of regulatory compliance are two of the primary dynamics contributing toward the increases in water and sewer rates, and both of these issues impact St. Joseph directly. Understanding the reality of increasing costs within the water and sewer industry provides helpful context in evaluating proposed financial plans.

## 1.4 Financial Planning

Financial planning conducted for the sewer utility indicates that revenues under existing rates are not sufficient to meet the projected cash obligations of the utility over the five-year study period. The need for revenue adjustments is influenced by the following factors:

- Inflationary impacts on operation and maintenance expenses and future capital improvements
- Implementation of the proposed capital plan
- Sustaining reserves and debt service coverage

Financial planning assumptions are described in Section 2 of this report. The proposed financial plans presented in this report were evaluated based on the following guiding principles:

1. Where possible, develop levelized plans for revenue increases and minimize the need for sudden and more substantial revenue adjustments.
2. Maintain operating cash reserves of 120 days.
3. Mitigate new debt issuance where possible.
4. Fund the necessary capital improvements.
5. Achieve minimum debt service coverage of 1.10x

The recommended financial plan detailed in this report forecasts through 2028 and proposes the revenue increases to be effective July 1 of each year indicated. The City's fiscal year ends on June 30, and the projected periods in the financial plan recognize the same fiscal year.

## 1.5 Revenue Increase Drivers

As a condition of the City's debt service covenants, the utility must maintain a minimum debt service coverage level of 1.10x on its senior debt. In addition the utility strives to maintain a minimum level of operating reserves equal to 120 days (or about 33 percent) of budgeted operation and maintenance expense, including transfers but excluding routine capital.

Total debt service payments increase from about \$15 million per year to a peak of nearly \$18.9 million in 2027. However, at the tail end of the forecast period in 2028 payments decline to just over \$15 million as some of the existing debt service fully matures. The increasing payment on existing debt plus proposed future debt and the anticipated inflation on operation and maintenance expenses makes sustaining debt service coverage over 1.10x very difficult without implementing rate increases. Rate increases are also needed to provide minimum targeted cash reserves.

Burns & McDonnell typically recommends developing plans that provide some margin or buffer above minimum debt service coverage requirements. Such a buffer provides the utility the financial resiliency needed in the event revenues are lower or expenses are higher than planned. With a minimum required coverage level of 1.10x, Burns & McDonnell would generally recommend a target for planning purposes of 1.20x. The plan presented in this Report indicates debt service coverage will be greater than the minimum target and will reach a low point of 1.12x in 2026, assuming the proposed increases are implemented beginning in 2024.

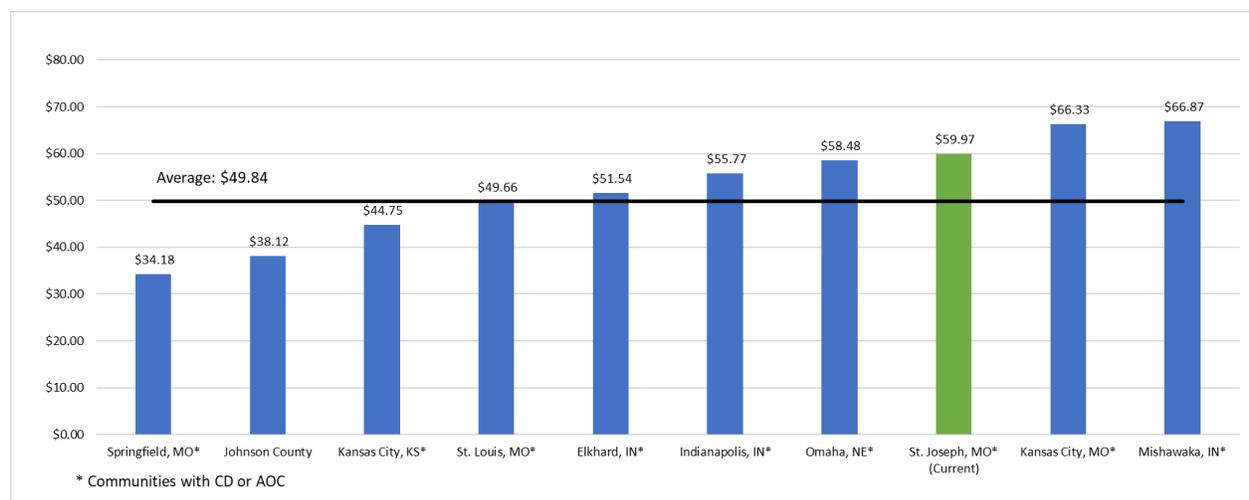
Additionally, more debt is required to fund in-process capital projects. The incremental debt service associated with this new debt will require increased revenues to maintain adequate debt service coverage.

Because the utility's peak debt payment occurs in 2027, it is anticipated that the utility will see relief on debt service coverage following 2027. The plan as currently designed increases rates each year from 2024 through 2028 to meet minimum debt service coverage requirements over the forecast period.

## 1.6 Regional Comparison

Figure 1-3 shows a comparison of monthly sewer bills assuming a use of 4 hundred cubic feet for rates effective in 2023. Given industry trends that indicate average annual rate increases to be about 5 percent, it is anticipated that the City's competitive position among the surveyed utilities is likely to hold constant or potentially improve over time.

**Figure 1-3: Regional Residential Rate Comparison (4 CCF/ Month)**



## 2.0 FINANCIAL PLANNING ANALYSIS

### 2.1 Project Approach

To meet the project objectives identified by the City, Burns & McDonnell conducted financial planning analysis grounded in the principles established by the American Water Works Association (AWWA) *MI Rate Manual* and the Water Environment Federation (WEF) *Financing and Charges for Wastewater Systems*.

### 2.2 Introduction to Financial Planning

The primary issue addressed in the Financial Planning Analysis is revenue sufficiency. The results of the Financial Planning Analysis answer the questions:

- "Are the existing rates sufficient to fund anticipated operating and capital costs?"
- "If not, what level of overall revenue increase is needed?"

To determine if the existing schedule of rates can be expected to generate sufficient revenues to meet the City's operating and capital costs, Burns & McDonnell prepared a five-year financial projection of revenues and expenditures for the sewer utility. A comparison of projected revenues and expenditures provides insight into the adequacy of overall revenue levels.

Our approach to Financial Planning involves the following basic steps:

1. Project revenues under existing rates.
2. Project sewer utility expenditures, including operating and capital costs.
3. Develop a five-year financial plan, including the budget year and a five-year forecast period.

The planning period includes the current fiscal year (FY) 2023 as a budget year and a five-year forecast period, FY 2024 through FY 2028. The projected periods in the financial plan recognize the City's fiscal year of July 1<sup>st</sup> through June 30<sup>th</sup>.

### 2.3 Sewer Utility Revenues under Existing Rates

The first step in the Financial Planning Analysis was to project revenues under the existing rates. To complete this effort required an analysis of sewer customers, volumes, and revenues.

### 2.3.1 Historical and Projected Customers

Table 2-1 presents the historical sewer customers served by the City for 2019 through 2022 and the projection of customers for the 2023 to 2028 planning period. Projected accounts assume a stable customer base from 2023 through 2028.

**Table 2-1: Historical and Projected Sewer Accounts and Volume**

Line No.		Historical				Projected					
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Accounts</b>											
1	Residential - Inside	23,332	23,151	23,437	23,422	23,422	23,422	23,422	23,422	23,422	23,422
2	Commercial A	2,069	2,311	2,320	2,339	2,339	2,339	2,339	2,339	2,339	2,339
3	Industrial/ Surcharge	15	16	15	15	15	15	15	15	15	15
4	Residential - Outside	170	156	163	157	157	157	157	157	157	157
5	Commercial/ Industrial - Outside	30	33	33	34	34	34	34	34	34	34
6	SSJISD	1	1	1	1	1	1	1	1	1	1
7	National Beef Leathers	1	1	1	1	1	1	1	1	1	1
8	Triumph Foods	1	1	1	1	1	1	1	1	1	1
9	Total Accounts	25,619	25,670	25,971	25,970	25,970	25,970	25,970	25,970	25,970	25,970
<b>Billed Volume (ccf)</b>											
10	Residential - Inside	1,187,385	1,109,830	1,132,267	1,131,344	1,131,300	1,131,300	1,131,300	1,131,300	1,131,300	1,131,300
11	Commercial A	1,134,201	1,041,122	1,066,484	991,877	991,800	991,800	991,800	991,800	991,800	991,800
12	Industrial/ Surcharge	443,153	443,778	461,549	472,777	472,800	472,800	472,800	472,800	472,800	472,800
13	Residential - Outside	9,919	8,169	8,169	8,159	8,200	8,200	8,200	8,200	8,200	8,200
14	Commercial/ Industrial - Outside	7,904	4,112	4,234	5,084	5,100	5,100	5,100	5,100	5,100	5,100
15	SSJISD	924,487	716,255	725,349	837,491	728,700	728,700	728,700	728,700	728,700	728,700
16	National Beef Leathers	435,663	377,428	349,886	366,320	366,600	366,600	366,600	366,600	366,600	366,600
17	Triumph Foods	1,035,414	1,040,362	1,086,169	1,117,497	1,013,900	1,117,500	1,117,500	1,117,500	1,117,500	1,117,500
18	Total Volume	5,178,126	4,741,056	4,834,108	4,930,548	4,718,400	4,822,000	4,822,000	4,822,000	4,822,000	4,822,000

### 2.3.2 Historical and Projected Volumes

Table 2-1 also presents historical sewer volumes for 2019 through 2022 and the projection of volumes for the 2023 to 2028 planning period. A review of historical use per account reveals a relatively stable usage pattern in 2019 with lower levels of user per account in 2020 through 2021 which has been impacted by COVID-19. Use per account has rebounded for most customer classes to pre-COVID-19 levels with the exception of residential customers, which remains low. The projected billed volume is done on a use per account basis. Use per account for all retail customer classes is assumed to remain near 2022 levels. Based on observed wholesale usage it is expected that year end 2023 volumes will be down from 2022 based on decreased usage in wholesale accounts. It is anticipated, based on collaboration with City staff, that wholesale customer usage will rebound in 2024 and remain at 2024 levels throughout the rest of the forecast. Total projected volume for the forecast can be seen on Line 18 of Table 2-1.

### 2.3.3 Existing Sewer Rates

The current sewer rate schedule is shown in Table 2-2. The current rate structure includes a monthly service charge and volumetric charge for retail customers. Surcharge customers are subject to the same service and volume charges plus additional high strength charges and limit fees. Additionally, the City has three Wholesale customers that are subject to specific service, volume, and high strength charges and limit fees.

**Table 2-2: Existing Sewer Rates**

Line No.	<u>RETAIL</u>	<u>Inside City</u>		<u>Outside City</u>		<u>Limit Fees</u>
1	Service Charge	37.69	\$/month	88.45	\$/month	
2	Volume Charge	5.57	\$/ccf	12.73	\$/ccf	
3	Limit Fees	1.96	\$/ccf	4.48	\$/ccf	
<b>Overage Charges</b>						
4	BOD in excess of 300 mg/l	0.254	\$/lb	0.377	\$/lb	0.381 \$/lb
5	Suspended solids in excess of 350 mg/l	0.196	\$/lb	0.465	\$/lb	0.239 \$/lb
6	Ammonia	0.105	\$/lb	0.249	\$/lb	0.158 \$/lb
7	Fats, Oils, & Grease in Excess of 100 mg	0.286	\$/lb	0.657	\$/lb	
8	Septage	79.00	\$/kgal	79.00	\$/kgal	
<b>WHOLESALE</b>						
		<b>Monthly Charge</b>		<b>Flow Charge</b>		<b>Limit Fees</b>
9	SSJISD	40,490	\$/month	0.279	\$/ccf	0.419 \$/ccf
10	National Beef Leathers	13,410	\$/month	0.207	\$/ccf	0.310 \$/ccf
11	Triumph Foods	26,680	\$/month	0.210	\$/ccf	0.315 \$/ccf
12	Pump Station			0.393	\$/ccf	
13	BOD			0.275	\$/lb	0.413 \$/lb
14	SS			0.114	\$/lb	0.171 \$/lb
15	Ammonia			0.105	\$/lb	0.158 \$/lb
16	FOG			0.286	\$/lb	

**2.3.4 User Charge Revenues under Existing Rates**

Table 2-3 presents historical user charge revenues for 2019 through 2022 and a projection of user charge revenues under existing rates for the 2023 to 2028 planning period. The projection of user charge revenues was calculated based on the forecasted accounts, volumes, and current rates.

As shown in Table 2-3, historical sewer user charge revenues ranged from \$31.7 million in 2019 to \$30.3 million in 2022. Historical revenues are provided by the City based on billed quantities and rates in existence for each historical year.

**Table 2-3: Historical and Projected Sewer User Revenues**

Line No.	Historical				Projected					
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
<b>User Charge Revenues under Existing Rates</b>										
1	Residential - Inside	17,166,484	16,652,485	16,906,702	16,894,924	16,894,600	16,894,600	16,894,600	16,894,600	16,894,600
2	Commercial A	7,253,303	6,844,455	6,989,682	6,582,711	6,582,200	6,582,200	6,582,200	6,582,200	6,582,200
3	Industrial/ Surcharge	3,026,203	3,001,743	2,913,750	2,701,381	2,701,800	2,701,800	2,701,800	2,701,800	2,701,800
4	Residential - Outside	306,707	269,576	279,702	270,154	271,000	271,000	271,000	271,000	271,000
5	Commercial/ Industrial - Outside	132,637	87,373	88,832	100,628	101,000	101,000	101,000	101,000	101,000
6	SSJISD	1,980,971	1,714,450	1,784,985	1,961,557	1,847,200	1,847,200	1,847,200	1,847,200	1,847,200
7	National Beef Leathers	399,625	388,094	385,380	330,979	291,100	291,100	291,100	291,100	291,100
8	Triumph Foods	1,229,263	921,802	977,675	1,238,906	955,700	1,182,800	1,182,800	1,182,800	1,182,800
9	Septage Revenue	161,131	175,549	184,326	173,840	184,326	184,326	184,326	184,326	184,326
10	Total User Charge Revenue	31,656,323	30,055,528	30,511,033	30,255,081	29,828,926	30,056,026	30,056,026	30,056,026	30,056,026

Total user charge revenues dipped in 2020 due to market conditions brought on by COVID-19. However, revenues have rebounded slightly in recent years. It is assumed that 2023 revenues will fall lower than 2022 revenues based on the projected reduction in billable flow as seen in Table 2-1.

## 2.4 Other Revenue

Historical and projected other revenues are shown in Table 2-4. Other revenues include Sewer Service Penalties, Sewer System Development Fees, and sale of fertilizer which is embedded in Line 5, Other Revenue. Starting in 2022 the BUILD credit revenue has sunset with the maturity of 2003 sewer bonds. Total other revenues are projected to remain constant at the budgeted 2023 amount throughout the forecast period.

**Table 2-4: Historical and Projected Other Revenues**

Line No.		Historical				Budgeted	Projected				
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1	Sewer Service Penalties	586,000	671,200	590,700	620,000	590,700	590,700	590,700	590,700	590,700	590,700
2	Sewer System Development Fees	26,000	40,500	39,200	30,000	39,200	39,200	39,200	39,200	39,200	39,200
3	Refund Prior Year Expenditures	-	1,600	-	7,600	-	-	-	-	-	-
4	BUILD Credit Revenue	372,900	371,200	371,200	-	-	-	-	-	-	-
5	Other Revenue	1,598,400	836,500	583,500	3,520,600	436,500	436,500	436,500	436,500	436,500	436,500
6	Total Other Revenues	2,583,300	1,921,000	1,584,600	4,178,200	1,066,400	1,066,400	1,066,400	1,066,400	1,066,400	1,066,400

## 2.5 Sewer Utility Expenditures

Typically, a municipal sewer utility's primary cash expenditures include the following direct operating and capital costs:

- Operation and Maintenance (O&M) Expenses
- Capital Improvement Program Expenditures
- Debt Service Principal and Interest Payments

### 2.5.1 O&M Expenses

Table 2-5 presents the recent sewer O&M expense history and the projection of sewer system O&M expenses through the 2028 planning period.

Total sewer O&M expenses decreased from approximately \$17.6 million in 2019 to \$13.6 million in 2022. Anticipated 2023 and 2024 O&M costs are based on the City's approved budget. Beginning in 2025, projected O&M expenses are anticipated to increase from budgeted 2024 amounts at approximately three percent annually, increasing from \$15.3 million in 2023 to \$17.7 million in 2028.

Starting in 2025 the Utility is expecting operational savings in the form of lower electric costs enabled by operational efficiency from the Bio-Gas project. The operational efficiency from the Bio-Gas project is

expected to create roughly \$191,700 in annual electric operating cost savings. These savings can be seen on line 39 in Table 2-5.

**Table 2-5: Historical and Projected Operation and Maintenance Expenses**

Line No.		Historical				Budgeted		Projected			
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1	Base Salaries/Wages	3,160,357	3,174,663	3,216,613	3,348,200	3,877,700	4,187,900	4,271,600	4,357,000	4,444,200	4,532,900
2	Salary Increases	-	-	-	-	-	-	-	-	-	-
3	Overtime	384,367	261,015	187,194	193,600	210,500	212,000	214,200	216,400	218,600	220,800
4	Temp.-Part Time Wages	40,625	22,412	27,798	13,400	10,000	-	-	-	-	-
5	Out-of-Title Pay	86,537	155,090	126,024	109,700	60,100	75,000	75,800	76,600	77,400	78,200
6	Sick Leave Buy Back	-	-	-	-	-	-	-	-	-	-
7	Pensions	397,741	398,767	417,399	447,200	521,400	521,700	532,200	542,700	553,600	564,600
8	FICA	228,360	224,581	220,533	227,500	257,800	273,400	278,800	284,400	290,200	296,100
9	FICA-Medicare	53,407	52,523	51,576	53,200	60,300	63,900	65,200	66,500	67,800	69,100
10	457 Plan Match	19,737	18,626	16,002	16,500	19,500	32,500	33,200	33,800	34,400	35,000
11	Health Insurance	604,211	664,243	686,356	717,800	823,000	896,000	914,000	932,400	951,100	970,200
12	Dental Insurance	22,464	25,693	25,342	22,100	27,000	25,900	26,400	26,900	27,500	28,100
13	Life Insurance	10,522	10,526	10,631	10,200	13,000	13,700	14,100	14,300	14,500	14,700
14	Unemployment Insurance	4,640	12,457	3,050	2,600	-	-	-	-	-	-
15	Long Term Disability	8,059	8,151	8,258	7,200	10,400	11,000	11,200	11,400	11,600	11,800
16	Workers Compensation	158,734	364,287	299,918	244,100	338,800	347,300	358,000	375,700	394,400	414,200
17	Confer/Train/Travel	73,855	32,709	13,743	33,600	47,200	47,200	47,700	48,200	48,700	49,200
18	Office Supplies	14,907	11,234	9,112	10,500	16,600	13,500	13,600	13,700	13,800	13,900
19	Janitorial Supplies	8,706	8,593	12,800	17,100	14,000	12,900	13,000	13,100	13,200	13,300
20	Safety Equip/Clothing	63,738	59,497	93,955	66,000	84,500	82,200	83,100	83,900	84,700	85,500
21	Chem/Drugs/Med Supplies	-	-	-	-	-	-	-	-	-	-
22	Wastewater Treatment Chem	315,504	241,662	195,770	245,700	277,000	267,200	275,200	283,500	292,000	300,800
23	Motor Fuel and Lubricants	190,235	157,832	148,335	159,900	164,800	190,300	196,000	201,800	207,800	214,100
24	Street Maint Supplies	1,583	91,013	23,445	17,100	100,000	75,000	77,300	79,600	82,000	84,500
25	Other Mats/Supplies	8,685	8,851	7,567	10,200	11,800	9,000	9,200	9,400	9,600	9,800
26	Legal Services	10,420	-	25,500	37,000	25,500	30,000	30,300	30,600	30,900	31,200
27	Professional Services	2,299,117	584,235	505,628	283,500	462,800	359,700	364,800	369,900	375,100	380,500
28	Banking / Transaction Fees	-	328,806	204,103	32,600	35,000	35,000	36,100	37,200	38,300	39,400
29	Other Professional Seives	-	-	-	-	-	-	-	-	-	-
30	Memberships	19,022	19,421	20,342	20,600	22,100	18,900	19,100	19,300	19,500	19,700
31	Periodicals & Books	146	315	220	900	2,200	300	300	300	300	300
32	Communication Services	39,236	35,786	34,565	33,800	31,500	39,100	39,400	39,700	40,000	40,300
33	Postage	129,810	135,469	138,503	137,300	141,800	141,400	142,800	144,200	145,600	147,000
34	Freight	3,606	2,712	992	1,200	6,000	2,100	2,100	2,200	2,300	2,400
35	Advertising	3,688	5,010	6,880	2,200	5,000	3,200	3,200	3,200	3,200	3,200
36	Permits/Recording Fees	1,492	518	7,085	4,400	2,300	2,300	2,300	2,300	2,300	2,300
37	Printing and Binding	21,821	20,290	29,669	500	22,600	23,800	24,500	25,200	25,900	26,700
38	Gas Service	131,314	101,016	82,446	327,700	127,500	350,700	361,200	372,100	383,300	394,800
39	Electric Service	1,508,593	1,747,274	1,579,328	1,692,100	1,560,000	1,793,600	1,601,900	1,650,000	1,699,500	1,750,500
40	Water Service	110,673	122,881	117,240	126,600	111,000	152,000	156,500	161,100	165,900	170,800
41	Vehicle/Equipment Rental	308,413	407,338	68,027	35,500	47,000	47,900	48,500	49,000	49,500	50,000
42	Lease	-	-	5,211	-	4,000	4,000	4,000	4,000	4,000	4,000
43	Towing Services	125	1,098	883	800	2,500	2,500	2,500	2,500	2,500	2,500
44	Laundry Services	17,542	18,914	26,964	55,900	27,000	33,000	34,000	35,000	36,000	37,100
45	Sewer Connection Discount Fees	105,818	88,966	92,454	128,300	125,000	125,000	128,800	132,700	136,700	140,800
46	Solid Waste Disposal Service	2,213	1,963	2,443	4,000	4,700	4,100	4,200	4,300	4,400	4,500
47	MO DNR Fees	346,343	530,566	495,483	516,200	275,700	193,900	199,700	205,700	211,900	218,200
48	Other Services	31,688	7,724	4,124	5,300	2,800	4,600	4,700	4,800	4,900	5,000
49	Bad Debt Expense	535,480	623,797	591,344	253,000	500,000	624,500	651,100	678,800	693,600	707,400
50	Loss on Sale/Disposal	-	-	-	-	-	-	-	-	-	-
51	Insurance	167,811	193,571	236,963	274,600	297,800	324,200	395,500	482,500	593,500	730,000
52	Judgement and Claims	1,959	25,108	7,815	5,300	51,000	10,000	10,400	10,800	11,200	11,600
53	Subtotal Direct O&M	11,653,304	11,007,203	10,085,630	9,952,700	10,838,200	11,683,400	11,777,700	12,138,700	12,517,400	12,927,000
54	Minor Equipment	261,945	285,932	270,625	232,600	238,500	250,400	252,800	255,200	257,800	260,400
55	M&R Office Equipment	56,316	99,298	217,132	174,100	243,900	234,100	239,000	244,200	249,500	254,900
56	M&R Building/Facilities	1,521,767	1,576,127	1,321,691	1,248,900	1,183,600	1,123,100	1,134,300	1,145,600	1,157,000	1,168,600
57	M&R Machinery/Equipment	52,242	528,388	76,366	44,300	50,000	50,000	51,500	53,000	54,600	56,200
58	M&R Motor Vehicles	126,980	202,429	193,273	183,100	200,000	212,000	218,400	225,000	231,700	238,600
59	M&R Communications Equip	32,961	23,172	46,865	16,000	68,200	51,200	52,700	54,300	56,000	57,700
60	Major Repairs & Replacements	915,470	267,727	843,340	200,300	867,600	792,600	816,300	840,800	866,000	892,000
61	Motor Vehicles	-	52	22,288	-	-	-	-	-	-	-
62	Machinery & Equipment	-	89,393	-	39,279	48,000	-	-	-	-	-
63	Imprv Other than Buildings	54,289	54,289	-	-	-	-	-	-	-	-
64	Subtotal Routine Capital	3,021,970	3,126,806	2,991,580	2,138,579	2,899,800	2,713,400	2,765,000	2,818,100	2,872,600	2,928,400
65	Trf. to General Fund	2,044,217	1,883,848	1,519,527	1,480,500	1,544,100	1,497,400	1,561,100	1,627,400	1,659,900	1,693,100
66	Trf. to CIP Fund	234,712	6,664	6,664	6,700	6,700	6,700	6,900	7,100	7,300	7,500
67	Trf. to Aviation	48,290	48,290	-	-	-	-	-	-	-	-
68	Trf. to Capital Projects	624,939	-	-	-	-	-	-	-	-	-
69	Trf. to Computer Network	-	-	57,399	57,400	57,400	99,500	100,500	101,500	102,600	103,600
70	Subtotal Transfers	2,952,158	1,938,802	1,583,590	1,544,600	1,608,200	1,603,600	1,668,500	1,736,900	1,769,800	1,804,200
71	Total O&M	17,627,432	16,072,811	14,660,800	13,635,879	15,346,200	16,000,400	16,211,200	16,692,800	17,159,800	17,659,600

## 2.5.2 Projected Capital Improvement Expenditures

Table 2-6 shows the projected capital improvement plan (CIP) expenditures for the 2023 to 2028 planning period. The City's CIP has four different major sources of funds for the CIP, which are existing bond proceeds from the 2018 and 2020 debt issues, future debt issuance proceeds, grant money and cash. The projects are identified with their potential funding source in Table 2-6. The sewer CIP total is shown on Line 57.

Projects are aggregated into several categories in Table 2-6, including CSO Long Term Control, system expansion, facilities and equipment, and Capacity, Management, Operation and Maintenance (CMOM).

Of the planned improvements, nearly 90 percent of the CIP is related to CMOM, which represents an array of projects including collection system rehabilitation and repair, infiltration/inflow reduction, pipe lining, equipment purchases and other investments such as the new Bio-Gas project. These investments are required for compliance with the City's National Pollutant Discharge Elimination System (NPDES) permit to mitigate the risk of system overflows through systemic improvements in the collection system.

Projects that are anticipated to be funded by the use of future debt issuance also include 10 percent contingency based on City staff recommendations.

**Table 2-6: Capital Improvement Program**

Line No.	Job #	Funding Type	Description	Projected						Totals
				2023	2024	2025	2026	2027	2028	
				\$	\$	\$	\$	\$	\$	
<b>CSO Long Term Control WP (421)</b>										
1	2324200	Cash - Capitalized	Water Quality Education FY23	25,000	-	-	-	-	-	25,000
2	2424200	Cash - Capitalized	Water Quality Education FY24	-	25,000	-	-	-	-	25,000
3	2524200	Cash - Capitalized	Water Quality Education FY25	-	-	25,000	-	-	-	25,000
4	2624200	Cash - Capitalized	Water Quality Education FY26	-	-	-	25,000	-	-	25,000
5	2724200	Cash - Capitalized	Water Quality Education FY27	-	-	-	-	25,000	-	25,000
6		Cash - Capitalized	Water Quality Education FY28	-	-	-	-	-	25,000	25,000
7	249100	Bond - 2020	FY24 Verification/Evaluation	750,000	-	-	-	-	-	750,000
8			Total Long Term Control	775,000	25,000	25,000	25,000	25,000	25,000	900,000
<b>System Expansion Projects WP (422)</b>										
9	2330100	Cash - Capitalized	System Expansion Projects FY23	150,000	-	-	-	-	-	150,000
10	2430100	Cash - Capitalized	System Expansion Projects FY24	-	150,000	-	-	-	-	150,000
11	2530100	Cash - Capitalized	System Expansion Projects FY 25	-	-	150,000	-	-	-	150,000
12	2630100	Cash - Capitalized	System Expansion Projects FY 26	-	-	-	150,000	-	-	150,000
13		Cash - Capitalized	System Expansion Projects FY 27	-	-	-	-	150,000	-	150,000
14	2730100	Cash - Capitalized	System Expansion Projects FY 28	-	-	-	-	-	150,000	150,000
15			Total System Expansion Projects	150,000	150,000	150,000	150,000	150,000	150,000	900,000
<b>Facility &amp; Equipment - WP (424)</b>										
16	2351500	Cash - Capitalized	Future Sluice Gate FY23	200,000	-	-	-	-	-	200,000
17	2451500	Cash - Capitalized	Future Sluice Gate FY24	-	200,000	-	-	-	-	200,000
18	2545500	Cash - Capitalized	Pump Motor Replace-High Effic	-	-	443,000	-	-	-	443,000
19	2565500	Cash - Capitalized	Lab Equipment - WP FY 25	-	-	150,000	-	-	-	150,000
20			Total Facility and Equipment	200,000	200,000	593,000	-	-	-	993,000
<b>CMOM Projects (425)</b>										
21	2605100	Cash - Non-Capitalized	Rolling Stock - pickups 26	-	-	-	70,000	-	-	70,000
22	2705100	Cash - Non-Capitalized	Rolling Stock - pickups 27	-	-	-	-	70,000	-	70,000
23		Cash - Non-Capitalized	Rolling Stock - pickups 28	-	-	-	-	-	70,000	70,000
24	228888	ARPA	Large Diameter Repair	2,900,000	-	-	-	-	-	2,900,000
25	2310100	Bond - 2020	CMOM Consolidated FY23 Repairs	2,000,000	-	-	-	-	-	2,000,000
26	2319100	Cash - Non-Capitalized	GPS Equipment CMOM FY23	25,000	-	-	-	-	-	25,000
27		Cash - Non-Capitalized	Aerial Photography CMOM FY25	-	-	20,000	-	-	-	20,000
28	2405100	Cash - Non-Capitalized	Vactor -Sewer Maint Eq FY 24	-	515,000	-	-	-	-	515,000
29	2410100	Bond - 2020	CMOM Consolidated FY24	-	2,000,000	-	-	-	-	2,000,000
30	2419100	Cash - Non-Capitalized	GPS Equip CMOM FY 24	-	25,000	-	-	-	-	25,000
31	2420100	Cash - Non-Capitalized	Update Aerial Photos CMOM FY24	-	24,500	-	-	-	-	24,500
32	2505100	Cash - Non-Capitalized	Vactor - Sewer Maint FY 24 Eq	-	-	-	540,000	-	-	540,000
33	2605100	Cash - Non-Capitalized	Rolling Stock - Sewer Maint FY 26	-	-	-	500,000	-	-	500,000
34	2705100	Cash - Non-Capitalized	Jetrod TV van - Sewer Maint FY 27	-	-	-	-	725,000	-	725,000
35	2705100	Cash - Non-Capitalized	Vactor - Sewer Maint FY 26	-	-	-	-	-	540,000	540,000
36	2510100	Bond - Future	CMOM Consolidated FY25 Repairs	-	-	2,500,000	-	-	-	2,500,000
37		Bio-Gas Energy Project (SRF)	Plant Energy Project	9,115,509	-	-	-	-	-	9,115,509
38		Bio-Gas Energy Project	Plant Energy Project	4,300,000	-	-	-	-	-	4,300,000
39	2610100	Bond - Future	CMOM Consolidated FY26 Repairs	-	-	-	2,500,000	-	-	2,500,000
40	2710100	Bond - Future	CMOM Consolidated FY27 Repairs	-	-	-	-	2,500,000	-	2,500,000
41		Bond - Future	CMOM Consolidated FY28 Repairs	-	-	-	-	-	3,000,000	3,000,000
42	2519100	Cash - Non-Capitalized	GPS Equipment FY 25 CMOM	-	-	25,000	-	-	-	25,000
43	2619100	Cash - Non-Capitalized	GPS Equipment FY 26 CMOM	-	-	-	25,000	-	-	25,000
44	2719100	Cash - Non-Capitalized	GPS Equipment FY 27 CMOM	-	-	-	-	25,000	-	25,000
45		Cash - Non-Capitalized	GPS Equipment FY 27 CMOM	-	-	-	-	-	25,000	25,000
46		Bond - Future	Aerial Photography FY27	-	-	-	-	25,000	-	25,000
47		Bond - Future	Wet Weather Treatment Start	-	-	-	-	-	1,500,000	1,500,000
48			Total CMOM	18,340,509	2,564,500	2,545,000	3,635,000	3,345,000	5,135,000	35,565,009
<b>Total CIP</b>										
49			Bond - 2018 & Prior	-	-	-	-	-	-	-
50			Bond - Future [1]	-	-	2,750,000	2,750,000	2,777,500	4,950,000	13,227,500
51			Bond - 2020 [1]	2,750,000	2,000,000	-	-	-	-	4,750,000
52			ARPA	2,900,000	-	-	-	-	-	2,900,000
53			Cash - Capitalized	375,000	375,000	768,000	175,000	175,000	175,000	2,043,000
54			Cash - Non-Capitalized	25,000	564,500	45,000	1,135,000	820,000	635,000	3,224,500
55			Bio-Gas Energy Project (SRF)	9,115,509	-	-	-	-	-	9,115,509
56			Bio-Gas Energy Project [2]	4,300,000	-	-	-	-	-	4,300,000
57			Total CIP	19,465,509	2,939,500	3,563,000	4,060,000	3,772,500	5,760,000	39,560,509

[1] Project costs include 10% additional contingency

[2] Bio-Gas Energy Project funding source consists of SRF, existing bond proceeds, and grants

### 2.5.3 Existing Debt Service Requirements and Proposed Debt

Table 2-7 presents the existing and proposed debt service requirements for the sewer utility. The sewer utility currently has approximately \$14.4 million of annual debt service payment obligations in 2023 and increases to a high of approximately \$17.8 million in 2027.

Based on projected available funds which will be detailed later in this Section of the Report, it is anticipated the City will need to issue additional debt to fund a portion of the CIP shown previously in Table 2-6. It is assumed that roughly \$9.1 million in SRF debt will be borrowed in 2023 for the Bio-Gas project assuming a 20-year term and a 1.2 percent interest rate with interest only payments in the first two years with full principal and interest starting upon the projects substantial completion in 2026. Additionally, \$4.0million in debt is anticipated in 2026, assuming a 20-year term, 4.0 percent interest rate and a 1.0 percent cost of issuance, with equal annual payments starting in 2027. Table 2-7 summarizes the forecasted debt service payments associated with the proposed plan.

**Table 2-7: Existing and Proposed Debt Service**

Line No.	Projected									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	\$	\$	\$	\$	\$	\$				
<b>Existing Debt Issues</b>										
1	2003 Sewer Revenue Bonds	63,100	-	-	-	-	-	-	-	-
2	2012C Refunding Rev Bonds	837,000	837,300	838,400	-	-	-	-	-	-
3	2015B IDA Bonds	2,095,500	2,156,000	2,154,800	3,049,500	4,835,300	-	-	-	-
4	2014B Sewer Revenue Bonds	392,400	401,400	404,400	406,400	413,200	408,000	406,200	404,000	406,400
5	2013 SRF Loan	892,200	897,000	899,400	903,500	907,300	910,800	914,900	919,700	924,100
6	2015A IDA Bonds	721,300	719,300	722,900	721,200	720,900	720,000	723,000	719,700	720,800
7	2014 SRF Loan	3,467,400	3,482,300	3,496,800	3,512,700	3,528,100	3,545,000	3,561,200	3,577,800	3,595,700
8	2014A SRF Loan	1,729,700	1,738,400	1,748,400	1,758,800	1,769,500	1,779,400	1,790,700	1,802,200	1,813,900
9	2017 SRF Loan	2,855,800	2,858,200	2,860,100	2,863,300	2,866,000	2,868,100	2,870,600	2,873,400	2,876,600
10	2018 Sewer Revenue Bonds	1,116,100	1,119,400	1,115,900	1,115,900	1,116,500	1,118,500	1,119,800	1,115,400	1,120,300
11	2020 Special Obligation Bond	694,700	694,700	1,439,700	1,889,900	1,890,900	2,889,900	2,886,900	2,884,400	2,891,500
12	Total Existing Debt	14,865,200	14,904,000	15,680,800	16,221,200	18,047,700	14,239,700	14,273,300	14,296,600	14,349,300
13	Less Admin Fees	(490,900)	(309,900)	(299,900)	(289,600)	(279,200)	(268,600)	(257,900)	(246,900)	(235,700)
14	Total Existing Debt less Admin Fees	14,374,300	14,594,100	15,380,900	15,931,600	17,768,500	13,971,100	14,015,400	14,049,700	14,113,600
<b>Proposed Debt</b>										
15	Revenue Bonds	-	-	-	-	294,300	294,300	294,300	294,300	294,300
16	MO SRF	-	28,500	85,500	517,900	517,900	517,900	517,900	517,900	517,900
17	Total Proposed Debt	-	28,500	85,500	517,900	812,200	812,200	812,200	812,200	812,200
18	Total Debt Service	14,865,200	14,932,500	15,766,300	16,739,100	18,859,900	15,051,900	\$ 15,085,500	\$ 15,108,800	\$ 15,161,500

### 2.6 Sewer Utility Financial Plan

A financial plan for sewer has been assembled based on the revenue and expenditure projections previously described. The financial plan aggregates the forecasted revenues and expenses to assess the adequacy of revenue under existing rates to meet future operating and capital requirements. The cash flow analysis identifies the overall increase in revenues needed to meet the revenue requirements as well as reserve targets and debt service coverage covenants.

### 2.6.1 Sewer Utility Flow of Funds

Table 2-8 presents the sewer utility cash flow. Line 1 of Table 2-8 shows user revenues under existing rates, identified previously in Table 2-3 plus septage revenue not shown in Table 2-3. Lines 2 through 7 present proposed revenue increases, which reflect no increase in rates in 2023, followed by 4.25 percent per year increases in 2024, 2025, and 2026 and 2.0 percent increases in 2027 and 2028.

Lines 10 and 11 present other sewer fund revenue and interest income. Interest income is projected to yield an average annual interest rate of 1.0 percent for the forecast period. Total sewer revenue is shown on Line 12, increasing from approximately \$30.9 million in 2023 to \$36.6 million in 2028. Lines 13 through 19 show the revenue requirements of the City, which include O&M expenses, routine capital outlay, external transfers and debt service. Debt service payments are reflected in Table 2-8 one year in advance of their due date, in 2023 to \$32.7 million in 2028.

Line 21 shows the annual operating balance forecasted over the study period. Assuming implementation of the proposed rate increases in 2024 through 2028, annual operating balance is positive in each year of the forecast.

Lines 22 through 27 project future operating reserves for the sewer utility. For 2023, a beginning balance of approximately \$14.6 million was available for the utility. The annual operating balance is added to this amount to reflect cash produced by ongoing operations. The utility targets a minimum operating balance of 120 days of O&M. Transfers to capital shown on Line 25 assumes balances in excess of the operating minimum are available to fund capital projects.

The sewer capital flow of funds is shown in Table 2-8 on Lines 28 through 39. Sources of funds for the capital plan include the beginning capital fund balance, transfer of available cash from operations, grants and the issuance of debt in the forms of revenue bonds and SRF. In 2023, the beginning capital balance is approximately \$9.1 million which is derived primarily from proceeds related to the 2018 and 2020 bonds. As noted previously, additional revenue bond and SRF debt issue is anticipated in the forecast and can be seen on Lines 31 and 32. Sewer capital improvement projects shown on Lines 34 through 36 are consistent with the CIP shown previously in Table 2-6. The forecast shows funding sources are sufficient for the capital plan in each year with a combined use of cash and debt issuance, leaving a positive capital balance on Line 39.

Table 2-8: Sewer Utility Financial Plan

Line No.	Projected					
	2023	2024	2025	2026	2027	2028
	\$	\$	\$	\$	\$	\$
<b>Wastewater Utility Operating Flow of Funds</b>						
1	Revenue Under Existing Rates	29,828,900	30,056,000	30,056,000	30,056,000	30,056,000
<u>Proposed Revenue Adjustments</u>						
	<u>Year</u>	<u>Month</u>	<u>Increase</u>			
2	2023	2	0.00%	-	-	-
3	2024	2	4.25%	1,170,900	1,277,400	1,277,400
4	2025	2	4.25%	1,220,700	1,331,700	1,331,700
5	2026	2	4.25%	1,272,600	1,388,300	1,388,300
6	2027	2	2.00%		624,300	681,100
7	2028	2	2.00%			636,800
8	Total Proposed Additional Revenue	-	1,170,900	2,498,100	3,881,700	4,621,700
9	Total Wastewater User Charge Revenue	29,828,900	31,226,900	32,554,100	33,937,700	34,677,700
10	Other Revenue	1,066,400	1,066,400	1,066,400	1,066,400	1,066,400
11	Interest Income - Operating & Capital Fund	25,000	141,600	132,500	109,300	113,700
12	<b>Grand Total Sewer Revenue</b>	<b>30,920,300</b>	<b>32,434,900</b>	<b>33,753,000</b>	<b>35,113,400</b>	<b>36,557,800</b>
<u>Revenue Requirements</u>						
13	Operation and Maintenance Expense	12,829,200	13,610,700	13,733,300	14,123,100	14,531,300
14	Routine Capital Outlay	915,600	792,600	816,300	840,800	866,000
15	External Transfers	1,608,100	1,597,000	1,661,600	1,728,900	1,796,700
<u>Debt Service</u>						
16	Existing Debt	14,904,000	15,680,700	16,221,200	18,047,600	14,239,700
17	Proposed Debt	28,500	85,500	517,900	812,200	812,200
18	Debt Service Reserve Release	-	-	-	(1,795,800)	-
19	Total Debt Service	14,932,500	15,766,200	16,739,100	17,064,000	15,051,900
20	<b>Total Revenue Requirements</b>	<b>30,285,400</b>	<b>31,766,500</b>	<b>32,950,300</b>	<b>33,756,800</b>	<b>32,211,700</b>
21	<b>Annual Operating Balance</b>	634,900	668,400	802,700	1,356,600	3,646,100
22	Beginning Balance Operating Funds	14,621,100	4,746,500	4,999,800	5,061,300	5,211,600
23	Annual Operating Balance	634,900	668,400	802,700	1,356,600	3,646,100
24	ARPA	-	-	-	-	-
25	Transfers to Capital	(10,509,500)	(415,100)	(741,200)	(1,206,300)	(3,500,800)
26	Ending Operating Balance	4,746,500	4,999,800	5,061,300	5,211,600	5,356,900
27	Target Annual Operating Balance [1]	4,746,500	4,999,800	5,061,300	5,211,600	5,356,900
<b>Wastewater Utility Capital Flow of Funds</b>						
<u>Sources</u>						
28	Beginning Capital Balance	9,112,900	9,181,200	6,656,800	3,835,000	4,941,300
29	Grants	-	-	-	-	-
30	Transfer from Operating Fund	10,509,500	415,100	741,200	1,206,300	3,500,800
31	Revenue Bond Debt Issuance	-	-	-	4,000,000	-
32	SRF Loan	9,115,500	-	-	-	-
33	<b>Total Capital Sources</b>	<b>28,737,900</b>	<b>9,596,300</b>	<b>7,398,000</b>	<b>9,041,300</b>	<b>8,442,100</b>
<u>Uses</u>						
34	Cash & Grant Funded CIP	3,300,000	939,500	813,000	1,310,000	995,000
35	Bond Funded CIP	2,750,000	2,000,000	2,750,000	2,750,000	2,777,500
36	Energy Project	13,415,500	-	-	-	-
37	Bond Issuance Expense	91,200	-	-	40,000	-
38	<b>Total Capital Uses</b>	<b>19,556,700</b>	<b>2,939,500</b>	<b>3,563,000</b>	<b>4,100,000</b>	<b>3,772,500</b>
39	<b>Ending Capital Balance</b>	<b>9,181,200</b>	<b>6,656,800</b>	<b>3,835,000</b>	<b>4,941,300</b>	<b>2,566,600</b>

[1] Operating balance maintains 120 days of operating expenses

## 2.6.2 Rate Covenant

The financial plan presented in Table 2-8 assumes new debt issuance in 2023 and 2026. In accordance with existing debt covenants, the City has committed to a minimum annual debt service coverage ratio of 1.1, or 110 percent of the annual principal and interest payments.

The City must also comply with debt covenants to issue additional debt. A summary of the additional bonds test is as follows:

1. The City shall not be in default in the payment of principal of or interest on any Bonds or the Parity bonds or in making any payment at the time required to be made into the respective funds and accounts created by and referred to in this Ordinance or any Parity Ordinance; and
2. The City shall obtain a certificate showing either of the following:
  - a. The average annual Net Revenues Available for Debt Service as set forth in the last available annual audits for the two Fiscal Years immediately preceding the issuance of additional bonds, are at least 110 percent of the average annual debt service on the System Revenue Bonds, including the additional bonds proposed to be issued, to be paid out of the Net Revenues Available for Debt Service in succeeding Fiscal Years. Interest to be paid on any SRF Program Bonds may be reduced by the SRF Subsidy, if any. If the City has made any increase in rates for the use and services of the System and the increase has not been in effect during all of the two Fiscal Years for which annual audits are available, the City may add the additional Net Revenues Available for Debt Service which would have resulted if the rate increase been in effect for the entire period to the audited Net Revenues Available for Debt Service; or
  - b. The estimated average annual Net Revenues Available for Debt Service for the two Fiscal Years immediately following the Fiscal Year in which the improvements to the System being financed by the additional bonds are to be in commercial operation, as certified by the Consultant, is at least 110 percent of the average annual debt service on the System Revenue Bonds, including the additional bonds to be issued, to be paid out of the Net Revenues Available for Debt Service in succeeding Fiscal Years following the commencement of commercial operation of the improvements. Interest to be paid on any SRF Program Bonds may be reduced by the SRF Subsidy, if any. In determining the amount of estimated Net Revenues Available for Debt Service for the purpose of this subsection, the Consultant may adjust the estimated net income and revenues by adding the estimated increase in Net Revenues Available for Debt Service resulting from any increase in rates for the use and services of the System approved by the City.

For the purposes of this Study, the additional bonds to be issued in 2026 are assumed to be on parity with existing Bonds.

Debt service coverage for existing and proposed bonds is shown in Table 2-9. Both the annual and future bond coverage test must meet or exceed 1.1 times or 110 percent. As shown on Line 20, annual debt service coverage ranges from a low of 1.12 to a high of 1.35 during the Study period. Coverage is projected to end at 1.35 in 2028, assuming all proposed increases are adopted during the plan. While this coverage level meets the minimum requirement, the City should evaluate debt service coverage projections annually as part of its budget process to confirm revenues are sufficient to sustain required debt coverage levels in the future. Should revenues or expenses trend unfavorably over time, future rate increases may need to be adjusted beyond what has been proposed in this study to comply with bond covenants.

The future additional bonds test, shown on lines 21-23, has been calculated for 2025 and 2026 for the proposed SRF and revenue bond debt issues. These ranges were selected assuming a 1- to 2-year duration to reach commercial operations. For this test, projected rate increases are not included in the forecast of net revenues available. Average debt service is calculated to include all years from 2026 through 2048 (all succeeding years following commercial operation). The minimum coverage of 110 percent is anticipated to be met.

### **2.6.3 Revenue Increase Drivers**

As a condition of the City's debt service covenants, the utility must maintain a minimum debt service coverage level of 1.10x on its senior debt. In addition, the utility strives to maintain a minimum level of operating reserves equal to 120 days (or about 33 percent) of budgeted operation and maintenance expense, including transfers but excluding routine capital.

Existing debt service payments increase from about \$14.9 million per year to a peak of \$18.9 million of existing and proposed debt in 2027, as shown previously on Line 18 or Table 2-7. Beginning in 2028, payments on existing and proposed debt decline to \$15.1 million. This increasing debt payment, plus anticipated inflation on operation and maintenance expenses, makes sustaining debt service coverage over 1.10x through 2026 not feasible without implementing rate increases. Rate increases are also needed to provide minimum targeted cash reserves.

Burns & McDonnell typically recommends developing plans that provide some margin or buffer above minimum debt service coverage requirements. Such a buffer provides the utility the financial resiliency needed in the event revenues are lower or expenses are higher than planned. With a minimum required

coverage level of 1.10x, Burns & McDonnell would generally recommend a target for planning purposes of 1.20x. The plan presented in this Report indicates debt service coverage will bottom out at 1.12x in 2026 and climb to 1.35x in 2028, assuming the proposed revenue increase are implemented beginning in 2024.

**Table 2-9: Sewer Utility Debt Service Coverage**

Line No.	Projected						
	2023	2024	2025	2026	2027	2028	
<b>Wastewater Utility Debt Service Coverage Calculations</b>							
1	Revenue Under Existing Rates	29,828,900	30,056,000	30,056,000	30,056,000	30,056,000	30,056,000
<u>Proposed Revenue Adjustments</u>							
	<u>Year</u>	<u>Month</u>	<u>Increase</u>				
2	2023	2	0.00%	-	-	-	-
3	2024	2	4.25%	1,170,900	1,277,400	1,277,400	1,277,400
4	2025	2	4.25%	1,220,700	1,331,700	1,331,700	1,331,700
5	2026	2	4.25%		1,272,600	1,388,300	1,388,300
6	2027	2	2.00%			624,300	681,100
7	2028	2	2.00%				636,800
8	Total Proposed Additional Revenue	-	1,170,900	2,498,100	3,881,700	4,621,700	5,315,300
9	Total Wastewater User Charge Revenue	29,828,900	31,226,900	32,554,100	33,937,700	34,677,700	35,371,300
10	Other Revenue	1,066,400	1,066,400	1,066,400	1,066,400	1,066,400	1,066,400
11	<b>Total Operating Fund Revenues Available</b>	<b>30,895,300</b>	<b>32,293,300</b>	<b>33,620,500</b>	<b>35,004,100</b>	<b>35,744,100</b>	<b>36,437,700</b>
<u>Revenue Requirements</u>							
12	Operation and Maintenance Expense	12,829,200	13,610,700	13,733,300	14,123,100	14,531,300	14,970,900
13	External Transfers	1,608,100	1,597,000	1,661,600	1,728,900	1,762,500	1,796,700
14	Cash CMOM	25,000	564,500	45,000	1,135,000	820,000	635,000
15	Annual Appropriation Debt Service	4,348,500	4,407,300	5,155,800	5,660,600	7,447,100	3,609,900
16	Debt Service Reserve Release	-	-	-	-	(1,795,833)	-
17	<b>Total Revenue Requirements</b>	<b>18,810,800</b>	<b>20,179,500</b>	<b>20,595,700</b>	<b>22,647,600</b>	<b>22,765,067</b>	<b>21,012,500</b>
18	Adjusted Net Revenues	12,084,500	12,113,800	13,024,800	12,356,500	12,979,033	15,425,200
19	Parity Debt Service	10,516,800	10,525,200	10,610,400	11,078,500	11,412,700	11,442,000
20	<b>Annual Debt Service Coverage = Line 18 / Line 19</b>	<b>1.15</b>	<b>1.15</b>	<b>1.23</b>	<b>1.12</b>	<b>1.14</b>	<b>1.35</b>
<b>Additional Bonds Test - Future</b>							
21	Average Net Revenues Available for Debt Service [1]				9,693,466		
22	Average Annual Debt Service [2]				6,731,048		
23	<b>Future Coverage = Line 18 / Line 19</b>				<b>1.44</b>		

[1] Includes only the proposed increase for FY 2024

[2] Defined as the average of parity debt service for 'succeeding Fiscal Years following the commencement of commercial operation of the Improvements' reflecting payments through 2048.

### 3.0 SEWER RATES

#### 3.1 Introduction to Rate Design

The primary focus of Step 2, Rate Design, is the examination of revenue recovery. Generally, the objective is to design rates for each utility to progress toward the following goals:

- Generate adequate revenues to meet the projected operating and capital costs, while maintaining sound financial performance.
- Provide revenue stability.

#### 3.2 Existing and Proposed Sewer Rates

The existing sewer rate schedule is shown in Table 3-1. The current rate structure includes a monthly service charge and volumetric charge for retail customers. Surcharge customers are subject to the same service and volume charges plus additional high strength charges and limit fees. Additionally, the City has three Wholesale customers that are subject to their own service, volume, and high strength charges and limit fees. Limit fees are set to be 1.5 times the inside city overage charge for retail customers and 1.5 times the flow charge for wholesale customers.

Outside City rates are established on a multiplier of approximately 2.3 times Inside City rates.

**Table 3-1: Existing Sewer Rates**

<u>Line No.</u>	<u>RETAIL</u>	<u>Inside City</u>	<u>Outside City</u>	<u>Limit Fees</u>
1	Service Charge	37.69 \$/month	88.45 \$/month	
2	Volume Charge	5.57 \$/ccf	12.73 \$/ccf	
3	Limit Fees	1.96 \$/ccf	4.48 \$/ccf	
Overage Charges				
4	BOD in excess of 300 mg/l	0.254 \$/lb	0.377 \$/lb	0.381 \$/lb
5	Suspended solids in excess of 350 mg/l	0.196 \$/lb	0.465 \$/lb	0.239 \$/lb
6	Ammonia	0.105 \$/lb	0.249 \$/lb	0.158 \$/lb
7	Fats, Oils, & Grease in Excess of 100 mg/l	0.286 \$/lb	0.657 \$/lb	
8	Sulfides	0.335 \$/lb	0.750 \$/lb	
9	Septage	0.079 \$/gal	0.079 \$/gal	
	<u>WHOLESALE</u>	<u>Monthly Charge</u>	<u>Flow Charge</u>	<u>Limit Fees</u>
10	SSJISD	40,490 \$/month	0.279 \$/ccf	0.419 \$/ccf
11	National Beef Leathers	13,410 \$/month	0.207 \$/ccf	0.310 \$/ccf
12	Triumph Foods	26,680 \$/month	0.210 \$/ccf	0.315 \$/ccf
13	Pump Station		0.393 \$/ccf	
14	BOD		0.275 \$/lb	0.413 \$/lb
15	SS		0.114 \$/lb	0.171 \$/lb
16	Ammonia		0.105 \$/lb	0.158 \$/lb
17	FOG		0.286 \$/lb	

The proposed sewer rates are shown on Table 3-2 and maintain the same rate structure as the existing rates. The proposed rates apply the system wide revenue increase of 4.25 percent to each rate component, across the board, and maintain similar multipliers for outside city customers and limit fees. The only rates that remain unchanged are the Wholesale monthly charges. These charges are associated with the fixed debt payment costs from the ammonia removal project and are not subject to change.

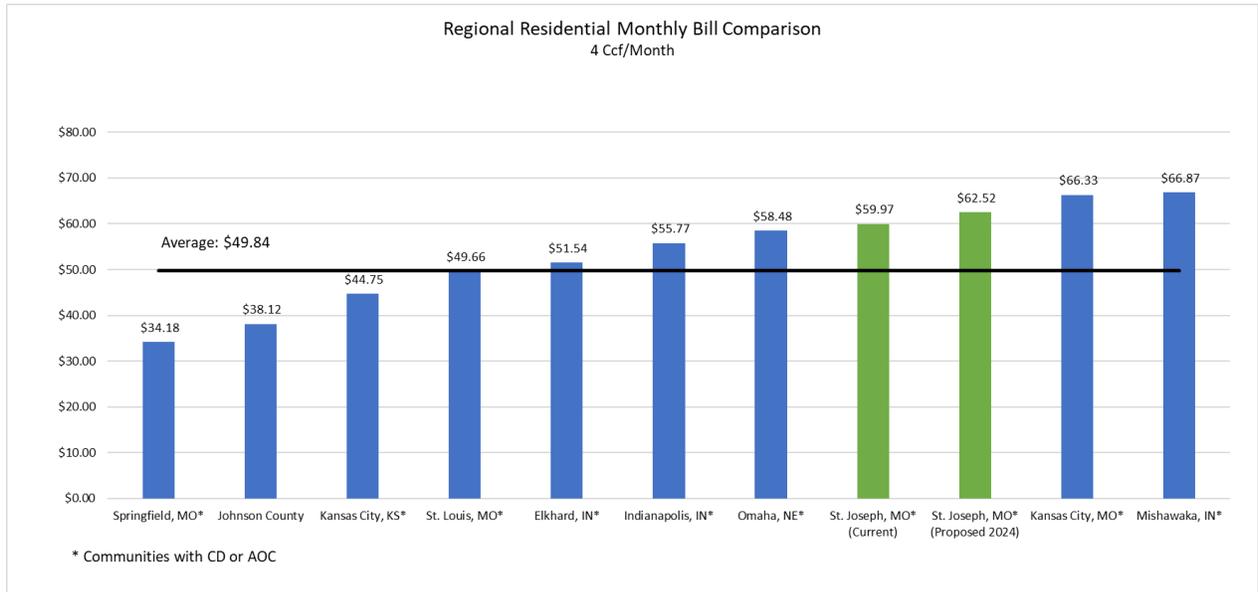
**Table 3-2: Proposed Sewer Rates**

<b>Line No.</b>	<b>RETAIL</b>	<b>Inside City</b>	<b>Outside City</b>	<b>Limit Fees</b>
1	Service Charge	39.29 \$/month	92.21 \$/month	
2	Volume Charge	5.81 \$/ccf	13.27 \$/ccf	
3	Limit Fees	2.04 \$/ccf	4.67 \$/ccf	
<b>Overage Charges</b>				
4	BOD in excess of 300 mg/l	0.265 \$/lb	0.393 \$/lb	0.398 \$/lb
5	Suspended solids in excess of 350 mg/l	0.204 \$/lb	0.485 \$/lb	0.306 \$/lb
6	Ammonia	0.109 \$/lb	0.260 \$/lb	0.164 \$/lb
7	Fats, Oils, & Grease in Excess of 100 mg/l	0.298 \$/lb	0.685 \$/lb	
8	Sulphides in excess of 15 mg/l	0.349 \$/lb	0.782 \$/lb	
9	Septage (hauled wastewater)	0.082 \$/gal	0.082 \$/gal	
<b>WHOLESALE</b>				
		<b>Monthly Charge</b>	<b>Flow Charge</b>	<b>Limit Fees</b>
10	SSJISD	40,490 \$/month	0.291 \$/ccf	0.437 \$/ccf
11	National Beef Leathers	13,410 \$/month	0.216 \$/ccf	0.324 \$/ccf
12	Triumph Foods	26,680 \$/month	0.219 \$/ccf	0.329 \$/ccf
13	Pump Station		0.410 \$/ccf	
14	BOD		0.287 \$/lb	0.431 \$/lb
15	SS		0.119 \$/lb	0.179 \$/lb
16	Ammonia		0.109 \$/lb	0.164 \$/lb
17	FOG		0.298 \$/lb	

### 3.3 Regional Comparison

Figure 3-2 shows a comparison of monthly sewer bills assuming a use of 4 hundred cubic feet for rates effective in 2023. Given industry trends that indicate average annual rate increases to be about 5 percent, it is anticipated that the City's competitive position among the surveyed utilities is likely to hold constant or potentially improve over time.

**Figure 3-1: Regional Residential Rate Comparison (4 CCF/ Month)**



## STATEMENT OF LIMITATIONS

In preparation of the Sewer Financial Planning and Rate Study (the Study), Burns & McDonnell has relied upon information provided by the City of St. Joseph, Missouri (City) and the Public Works Department (Department). The information included various analyses, computer-generated information and reports, billing system records, fixed asset reports, audited financial reports, and other financial and statistical information, as well as other documents such as operating budgets and current retail sewer rate schedules. In addition, input to key assumptions regarding expected future levels of revenue, sales, and expenditures was provided by City and Department staff to Burns & McDonnell. While Burns & McDonnell has no reason to believe that the information provided, and upon which Burns & McDonnell has relied, is inaccurate or incomplete in any material respect, Burns & McDonnell has not independently verified such information and cannot guarantee its accuracy or completeness.

Estimates and projections prepared by Burns & McDonnell relating to performance and costs are based on Burns & McDonnell's experience, qualifications, and judgment as a professional consultant. Since Burns & McDonnell has no control over weather, cost and availability of labor, material and equipment, labor productivity, contractors' procedures and methods, unavoidable delays, economic conditions, government regulations and laws (including interpretation thereof), competitive bidding, and market conditions or other factors affecting such estimates or projections, Burns & McDonnell does not guarantee the accuracy of its estimates or predictions.



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