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CITY OF LINCOLN

FINAL REPORT

Wastewater Rate Study

November 2020

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SECTION 1. PURPOSE AND OVERVIEW OF THE STUDY

A. Purpose

The City of Lincoln ("City") retained NBS to conduct a comprehensive wastewater rate study for a number of reasons, including meeting revenue requirements, providing greater financial stability for the wastewater enterprise, and complying with certain legal requirements (such as California Constitution article XIII D, section 6, which is commonly referred to as Proposition 218 [Prop 218]).

As a part of this study, the City also decided to more closely evaluate costs associated with services to Placer County customers through the Sanitation Maintenance District 1 (SMD-1), including capital replacements and treatment-related costs. This resulted in the creation of a capital replacement surcharge that applies to both City and County sewer customers as well as separate fixed charges on a per-equivalent-dwelling unit for both sets of customers. NBS worked cooperatively with City staff in projecting expenses and revenues, evaluating appropriate rate alternatives, and developing the recommended wastewater rates, which are summarized in this report.

The wastewater charges resulting from this study were developed in a manner that is consistent with industry standard cost of service principles, and this report is intended to assist the City in its efforts to maintain transparent communications with its residents, businesses and County customers. Further documentation is provided in the Technical Appendix.

B. Overview of the Study

This report presents an overview of the methodology, assumptions, and data used in developing the financial plan, allocating costs, and calculating the proposed wastewater rates. Comprehensive rate studies such as this one typically includes the three components outlined in **Figure 1**.

Figure 1. Primary Components of a Rate Study

Compares current sources and uses of funds and determines the net revenue needed from rates and projected rate adjustments.

Proportionally allocates the net revenue requirements to the customer classes in a manner that is consistent with industry standards and State Law.

Considers what rate structure will best meet the City's need to collect rate revenue from each customer class.

These three steps are intended to follow basic industry standards and reflect the fundamental principles of cost-of-service rate making embodied in the American Water Works Association (AWWA) Principles of Water Rates, Fees, and Charges[1], also referred to as the M1 Manual. They also address requirements

[1] *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.*

under Proposition 218 that rates not exceed the cost of providing service, and that they be proportionate to the cost of providing service for all customers.

In terms of the chronology of the study, these three steps represent the order they were performed and are described in Section 2 of this report. Additional tables and figures documenting the development of the proposed rates are provided in the Appendix.

FINANCIAL PLAN

As a part of this rate study, NBS projected revenues and expenditures on a cash basis for the next ten years. The amount of rate revenue required to fund utility expenses and maintain reserves at reasonable levels is known as the *net revenue requirement*. Because projected rate revenue falls short of the net revenue requirement, rate adjustments -- or more accurately, increases in the total revenue collected from rates -- are recommended. The first rate increase would be implemented March 1, 2021, with annual adjustments effective each July 1, starting July 1, 2021.

COST OF SERVICE ANALYSIS

The cost of service analysis plays a key role in ensuring that proposed rates meet the Prop 218 requirement that rates be fair and equitable to all customers by allocating costs to customer classes in proportion to the costs the utility incurs in providing them with sanitary sewer service. This process involves classifying costs into functional categories, calculating unit costs for those categories, and then allocating those unit costs to customer classes based on the number of units each customer class uses. These steps are conducted in a manner that treats all customers equally and ensures that one customer class does not unfairly subsidize another customer class. Special attention was given to how costs were allocated between City vs. County customers, and the results relied on extensive accounting review of treatment-related costs over the past three years.

WASTEWATER RATE DESIGN ANALYSIS

Rate design analyses are used to develop and evaluate rate design alternatives that meet the City's objectives. NBS and City staff worked cooperatively to review several alternatives that explore how fixed and variable costs should be collected from each customer class (i.e., residential, commercial, County, etc.). The broader criteria typically considered in setting rates and developing sound rate structures rely on the fundamentals that have been documented in various rate-setting manuals, such as the American Water Works Association (AWWA) Manual M1[2]. The following is a simplified list of the basic rate structure attributes typically considered:

- Rates should be easy to understand from the customer's perspective.
- Rates should be easy to administer from the utility's perspective.
- Rates should promote the efficient allocation of the resource.
- Rates should be equitable and non-discriminating (that is, cost based).
- There should be continuity in the ratemaking philosophy over time.
- Rates should provide month-to-month and year-to-year revenue stability.

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[2] *American Water Works Association, Principles of Water Rates, Fees, and Charges – Manual of Water Supply Practices (M1), Seventh Edition, 2017.*

- Rates should consider other utility policies (for example, services for City vs. County customers).

The following are the basic rate design criteria considered in this study:

Current Rate Structure – While many wastewater rates use a fixed or minimum monthly charge in combination with a volumetric charge, the City's residential customers are currently charged just a fixed monthly charge per equivalent dwelling unit (EDU). The non-residential customers are charged both a fixed monthly charge per EDU plus a variable charge based on monthly water use.

Fixed Charges – Fixed charges are intended to reflect the costs that do not change with the level of effluent that customers generate, and typically include infrastructure (capital) costs, debt service, and administrative and general costs. Fixed charges go by a variety of terms, such as base charges or minimum monthly charges, and are often based on the number of EDUs. The City's current residential rates combine both fixed and variable costs into one fixed charge, while non-residential customers have both fixed and volumetric charges. The proposed fixed charge updates the overall fixed charge and creates a new capital replacement charge based on the five-year average of the City's direct capital costs, including debt service and rate-funded capital project costs.

Volumetric (Consumption-Based) Charges – In contrast to fixed charges, variable costs are intended to reflect the costs that change with the estimated volume of sanitary sewer effluent that customers generate, such as the cost of electricity used for moving effluent through the collection and treatment systems, the cost of chemicals for treatment of sanitary sewer flows, and related "flow-based costs". For a wastewater utility, variable charges are typically tied to water consumption and based on a dollar-per-unit cost (for example, dollars per 1,000 gallons).

Rate Structure Modifications – In an effort to make wastewater rates more transparent and representative of the costs that drive rates, the City has decided to modify the current rate structure to include the separate fixed charges for collection operations, WWTP operations, direct County/SMD-1 operations, and capital replacement costs. The WWTP operations charge applies to both City and County customers, while the collection operations charge only applies to City customers and SMD-1 charges only apply to County customers. The capital replacement charge, while it applies to both City and County customers, reflects different allocations of those costs, based on their relative share of capital costs. The volumetric charge for non-residential customers was eliminated by combining it with the WWTP operations charge for City customers. The proposed rate structure is summarized as follows:

Wastewater Rates - City Customers	
1. Operational Charge - Collection System 2. Operational Charge - WWTP 3. Capital Replacement Charge	Separate Fixed Charges ($/EDU)

Wastewater Rates - County (SMD-1) Customers	
1. Operational Charge - SMD-1 Direct Costs 2. Operational Charge - WWTP 3. Capital Replacement Charge	Separate Fixed Charges ($/EDU)

WWTP = Wastewater Treatment Plant

The next section discusses the analysis involved in the three components of the rate study previously shown in Figure 1.

SECTION 2. WASTEWATER RATE ANALYSIS

A. Key Wastewater Rate Study Issues

The City's wastewater rate analysis was undertaken with a few specific objectives, including:

- Providing revenue stability for at least the next five years
- Complying with Prop 218 and industry standard requirements
- Adjusting the rate structure as needed with updated cost of service results
- Adequately funding projected capital improvement costs, including supporting the issuance of debt
- Maintaining adequate reserve levels to ensure the financial health of the utility and maintain continuity in operations
- Improving the current rate design by creating a separate capital-related fixed charge
- More closely examining how costs should be allocated between City vs. County/SMD-1 customers

NBS considered whether various other rate design alternatives might offer improvements and better meet these specific objectives. The primary alternative considered was a residential rate that creates a volumetric rate based on average winter water use. However, the City determined that this was not feasible because the City does not have adequate consumption data on residential sewer customers. Therefore, this alternative was eliminated. Also, the City determined that volumetric charges for non-residential City customers should be eliminated because of the mixture of sewer-related and irrigation-related water meters. Also, NBS and City staff worked closely to evaluate separate rates for County/SMD-1 customers.

B. Financial Plan

It is important for municipal utilities to fund annual operating costs, maintain working capital, meet bond coverage requirements, maintain adequate reserves, and generally follow sound financial management practices. With regard to these objectives, the current state of the wastewater utility is as follows:

- **Meeting Net Revenue Requirements:** For FY 2020/21 through FY 2024/25, the projected net revenue requirement (that is, total annual costs less non-rate revenues) for the wastewater utility varies year-to-year from $13.7 million to $14.7 million. If no rate adjustments are implemented, the wastewater utility is projected to see annual deficits that grow from $3.5 million in FY 2021/22 to $4.6 million by FY 2024/25. This deficit is almost entirely related to capital improvements that the City has been postponing and now includes a five-year average of those costs.

- **Meeting Coverage Requirements:** The existing debt for 2016 revenue bonds is subject to minimum coverage requirements of 1.2 times annual debt service payments.

- **Maintaining Reserve Funds:** Reserve funds provide a utility with the ability to cope with fiscal emergencies such as revenue shortfalls, asset failure, natural disasters, etc. Reserve policies provide guidelines for sound financial management, with an overall long-range perspective of

maintaining financial solvency and mitigating financial risks. The City's current reserve funds consist of the following:

- **The Operating Reserve** (Fund 720) should have at least 90 days of operating expenses (averaging approximately $2.6 to $2.9 million for FY 2020/21 to FY 2024/25). An Operating Reserve is intended to promote financial viability in the event of short-term fluctuations in revenues and/or expenditures that can result from the normal inflow and outflow of cash during billing cycles.
- **The Capital Rehabilitation and Replacement Reserve** (Fund 721) is intended to address longer-term as well as routine capital system replacement and rehabilitation needs. The reserve level should reflect the age, condition, and normal life-cycle replacement needs of the utility's infrastructure. In light of the current replacement plans and treatment plant expansion costs (which are not included in this rate study[3]), the target reserve level was set at a nominal amount of $4.0 million[4] (plus annual inflation-related adjustments).

- **Funding Capital Improvement Projects:** The City must also be able to fund capital improvements necessary to maintain current service levels. City staff has identified over $17 million in expected capital expenditures for FY 2020/21 through 2024/25. These costs are over 90-percent WWTP-related projects, with the rest being collection-system projects.
- **Inflation and Growth Projections –** In projecting future revenues and expenses for the study period, veracious assumptions regarding cost inflation were made. The following inflation factors were used in the analysis:
  - Customer growth is expected to be 300 new connections annually [5].
  - General cost inflation is expected to be three percent (3%) annually.
  - Salary cost inflation is expected to be four percent (4%) annually.
  - Benefits cost inflation is expected to range between five to six percent (5-6%) annually.
  - Energy cost inflation is expected to be five percent (5%) annually.
  - Fuel cost inflation is expected to be three percent (3%) annually.
- **Annual Rate Adjustment Date:** The financial plan assumes that first rate adjustment occurs on March 1, but annual adjustments would be each July 1, including a July 1, 2021 adjustment. The rate revenue from annual increases from FY 2020/21 through FY 2024/25 will be needed to fully fund the operating expenses and planned capital projects.

Figure 2 summarizes the sources and uses of funds, net revenue requirements and the recommended annual percent increases in total rate revenue recommended for the next five years. **Figure 3** summarizes the funding for the Capital Improvement Plan, providing the expected cost and timing of capital projects during the five-year rate period and the expected funding sources.

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[3] *Expansion-related capital costs are separately funded through capacity fee revenue.*
[4] *This amount was jointly determined by NBS and City staff.*
[5] *However, the financial plan assumes no new customers in the system through FY'24/25.*

Figure 2. Summary of Wastewater Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	Projected Rate Adoption Period				
	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Sources of Wastewater Funds						
Wastewater Charges - City Customers	$ 7,800,000	$ 8,225,991	$ 10,264,281	$ 11,085,423	$ 11,972,257	$ 12,930,038
Wastewater Charges - County Customers	$ 2,400,000	$ 2,559,609	$ 3,048,231	$ 3,292,090	$ 3,555,457	$ 3,839,893
Non-Rate Revenues	305,889	275,889	275,889	275,889	275,889	275,889
Interest Earnings	-	76,957	54,579	50,121	52,337	60,634
Total Sources of Funds	**$ 10,505,889**	**$ 11,138,446**	**$ 13,642,980**	**$ 14,703,523**	**$ 15,855,940**	**$ 17,106,454**
Uses of Wastewater Funds						
Salaries & Benefits	$ 1,236,330	$ 1,291,710	$ 1,349,679	$ 1,410,361	$ 1,473,889	$ 1,540,405
Pension & OPEB Costs	206,839	219,249	232,404	246,349	261,129	276,797
Utilities	1,710,783	1,579,607	1,402,916	1,394,833	1,423,716	1,453,594
Other Operating Costs	7,198,202	7,360,812	7,581,685	7,809,185	8,043,513	8,284,873
Existing Debt Service	192,145	192,145	192,145	68,831	68,831	68,831
Rate-Funded Capital Repl. (Collection 5-Yr. Avg.)	319,400	3,240,563	3,240,563	3,240,563	3,240,563	3,240,563
Rate-Funded Capital Repl. (WWTP 5-Yr. Avg.)	110,000	238,000	238,000	238,000	238,000	238,000
Net Transfers to Reserves[1]	192,144	-	-	-	-	-
Total Use of Funds	**$ 11,165,843**	**$ 14,122,086**	**$ 14,237,391**	**$ 14,408,122**	**$ 14,749,642**	**$ 15,103,063**
Surplus (Deficiency) before Rate Increase	**$ (659,954)**	**$ (2,983,640)**	**$ (594,410)**	**$ 295,402**	**$ 1,106,298**	**$ 2,003,391**
Additional Revenue from Rate Increases [2]	-	684,800	3,040,512	4,105,513	5,255,714	6,497,931
Surplus (Deficiency) after Rate Increase	**$ (659,954)**	**$ (2,298,840)**	**$ 2,446,102**	**$ 4,400,915**	**$ 6,362,012**	**$ 8,501,323**
Projected Annual Rate Revenue Increase	***0.00%***	***20.00%***	***8.00%***	***8.00%***	***8.00%***	***8.00%***
Cumulative Increases	*0.00%*	*20.00%*	*29.60%*	*39.97%*	*51.17%*	*63.26%*
Net Revenue Requirement [3]	**$ 10,859,954**	**$ 13,769,240**	**$ 13,906,922**	**$ 14,082,111**	**$ 14,421,416**	**$ 14,766,540**
Debt Coverage [4]	*N/A*	*N/A*	*0.68*	*1.21*	*1.76*	*2.38*

1. Net transfers to Operating and Capacity Fee Reserves (Funds 720 and 725).
2. Assumes new rates are implemented August 1, 2020
3. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from rates.
4. Coverage Ratio = [Total Sources of Funds (which includes Capacity Fee Revenue) - Capacity Fee Revenue - Subtotal Operating Expenses] / New Debt Service

Figure 3. Summary of Capital Improvement Plan

CAPITAL FUNDING FORECAST	Budget	Projected Rate Adoption Period				
Funding Sources:	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Use of Fund 721 - Capital R&R Reserve	-	-	-	-	-	-
Use of Rate Revenue for WWTP CIP	319,400	3,240,563	3,240,563	3,240,563	3,240,563	3,240,563
Use of Rate Revenue for Collection CIP	110,000	238,000	238,000	238,000	238,000	238,000
Total Sources of Capital Funds	**$ 429,400**	**$ 3,478,563**	**$ 3,478,563**	**$ 3,478,563**	**$ 3,478,563**	**$ 3,478,563**
5-Year Average of Funding Sources		**$3,478,563**				
Uses of Capital Funds:						
Collection System Costs [3]	319,400	120,000	2,510,000	4,237,814	3,880,000	5,455,000
Treatment System Costs [3]	110,000	80,000	180,000	860,000	-	70,000
Total Capital Project Costs	$ 429,400	$ 200,000	$ 2,690,000	$ 5,097,814	$ 3,880,000	$ 5,525,000
Capital Funding Surplus (Deficiency)	***$ -***	***$ 3,278,563***	***$ 788,563***	***$ (1,619,251)***	***$ (401,437)***	***$ (2,046,437)***
5-Year Average of Capital Expenditures		**$3,478,563**				

1. Collection and WWTP improvements are City estimates as of 11-4-20.

Figure 4 summarizes the projected reserve fund balances and minimum reserve targets for the wastewater utility's unrestricted reserves and assumes recommended rate increases are adopted. The capital rehabilitation and replacement reserve is projected to increase over the five-year period and the operating reserve is projected to be maintained at the target ending balance. However, the City still has more capital projects planned that are not included in these tables. More detailed financial plan and reserve tables are included in the Appendix.

Figure 4. Summary of Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	Projected Rate Adoption Period				
	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Operating Reserve (Fund 720)						
Ending Balance	$ 4,465,173	$ 2,612,845	$ 2,641,671	$ 2,715,182	$ 2,800,562	$ 2,888,917
Target Ending Balance (90-days of O&M)	*2,636,075*	*2,612,845*	*2,641,671*	*2,715,182*	*2,800,562*	*2,888,917*
Capital Rehabilitation & Replacement Reserve (Fund 721)						
Ending Balance	$ 5,795,699	$ 4,664,387	$ 4,041,151	$ 4,263,041	$ 5,283,959	$ 7,198,995
Target Ending Balance (2% of Net Assets)	*4,000,000*	*4,120,000*	*4,244,000*	*4,371,000*	*4,502,000*	*4,637,000*
Total Ending Balance	**$ 10,260,872**	**$ 7,277,232**	**$ 6,682,821**	**$ 6,978,223**	**$ 8,084,521**	**$ 10,087,912**
Total Recommended Minimum Target	***$ 6,636,075***	***$ 6,732,845***	***$ 6,885,671***	***$ 7,086,182***	***$ 7,302,562***	***$ 7,525,917***

C. Cost of Service Analysis

Once the net revenue requirements are determined, the cost of service analysis proportionately distributes the revenue requirements to the customer classes. The two major components of the cost service analysis consist of: (1) the functional classification of expenses, and (2) the allocation of those expenses to customer classes. As the City has decided to eliminate the volumetric-based charges to non-residential customers, all costs in the City's budget are allocated to fixed charges in proportion to the level of service required by each customer class.

DEFINING CUSTOMER CLASSES

Customer classes are determined by combining customers with similar demand characteristics and types of use into categories (classes) that reflect the different costs to serve each type of customer. The City's rate structure splits its customers into two classes: (1) residential customers, which includes single- and multi-family residential, and (2) non-residential customers. Placer County (SMD-1) customers make up a third, non-City customer class, and costs are allocated to them based on cost-of-service principles.

CLASSIFICATION OF COSTS

Most costs are typically allocated to some combination of fixed and variable cost categories based on their functional purpose in the wastewater system. Costs were classified using the commodity-demand method found in the AWWA M1 Manual[6]. In the City's case, budgeted costs are "classified" into three functional categories based on the three types of charges and the three customer classes:

- **Collection system related costs** are associated with collection and transmission of City customer wastewater effluent to the treatment plant and excludes County customers. These costs are allocated based on customer water consumption, which is used to approximate their sanitary sewer flows.
- **Treatment related costs** are associated with treatment of the wastewater and the percent of the wastewater treatment plant capacity each customer class uses. These costs are jointly share by City and County customers based on their total EDUs, which are intended to incorporate their respective effluent strengths.

[6] *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017, p. 83.*

- **Capital replacement costs** are those covering normal WWTP and collection system infrastructure repair and replacement costs that the City would like separately identified to simplify the allocations to City vs. County customers. In this case, these costs are the average rate-funded capital costs over the five-year rate adoption period.

Customer service costs are administrative and overhead costs, such as management, customer billing, and related administrative duties. Although these costs are sometimes included as a separate fixed cost based on the number of accounts in each customer class, in this case they are allocated to collection, treatment, and capital replacement costs based on City staff estimates.

ALLOCATION OF COSTS

Both NBS and City personnel reviewed the City's budgeted costs and how they should be allocated to the cost-causation components; this provided the basis for establishing the new wastewater rates and how fixed costs are allocated to City and County customers. The two components of the cost-allocation process include the capital surcharge and the fixed charge cost allocations, which are described below. Tables in the Appendix document the functional allocation of expenses in more detail.

Capital Surcharge Cost Allocations

Figures 5 and 6 summarize the allocation of the capital replacement costs to City and County customers. Collection system costs are allocated 100 percent to City customers while WWTP costs are shared between City and County customers based on EDUs. The resulting fixed charges represent their respective cost-based share of capital replacement costs.

Figure 5. EDU Basis for Allocation of Capital Replacement Costs

Allocation %'s for Capital-Related Costs Based on EDUs	EDUs	WWTP-Related (Shared City & County Cost)	Collection-Related (City only Cost)
City Customers	20,906	71.98%	100.00%
County Customers	8,139	28.02%	0.00%
Total	29,045	100.00%	0.00%

Figure 6. Allocation of Capital Replacement Costs

Calculation of City vs. County Customer Capital/R&R Surcharges	Total Revenue Reqts (FY'20/21)	Share of Capital Surcharge Costs		Costs Allocated to Capital Surcharges	
		City	County	City Customers	County/SMD-1 Customers
1. Allocated WWTP-Related Capital Costs[1]	$238,000	71.98%	28.02%	$171,308	$66,692
2. Allocated Collection-Related Capital Costs[2]	$3,240,563	100.00%	0.00%	$3,240,563	$0
Total Capital Surcharge Costs	$3,478,563			$3,411,871	$66,692
3. Non-Capital Related Rev. Req'ts.. *(Excluded)* [3]	$8,847,837			N.A.	N.A.
4. Total Revenue Requirements (FY'20/21)	$12,326,400			$3,411,871	$66,692
5. EDU's Used in Calculation				20,906	8,139
Capital Surcharge ($/EDU/mo.)[4] *(Line 4 ÷ Line 5)*				**$13.60**	**$0.68**

1. WWTP-related capital share of the current revenue requirement
2. Collection System-related capital share of the current revenue requirement
3. Excluded from capital surcharge calculations; show here only for informational purposes.
4. Total Capital-related revenue requirements divided by EDUs.

Fixed Charge Cost Allocations

The costs recovered from fixed charges are the net revenue requirements less the revenue collected from the capital replacement charges. Figures 7, 8 and 9 summarize the costs allocated to the three cost categories of collection, direct-County costs, and WWTP costs. Collection-related costs are City-only costs and collection costs related to capital replacements have been deducted. The fixed charge is in dollars per month per EDU.

Figure 7. Calculation of the Collection-Related Fixed Charge

Summary of Costs Allocated 100% to City (Collection) Customers & Monthly Charges	Collection-Related Costs	Number of EDUs (City)	Mo. Charge ($/Mo./EDU)[3]
City Only (Collection System)			
Total Collection Costs[1]	*$ 5,584,622*		
less Collection-Related Capital Surcharge Costs[2]	*$ (3,240,563)*		
Net Revenue Req'ts. for Collection System Costs	*$ 2,344,059*	20,906	**$9.34**

1. Results of Functionalization/Classification analysis. See Table 22.
2. These costs are separately collected through the capital surcharge. See Tables 28 and 29.
3. Allocated Costs divided by EDUs divided by 12 months.

Figure 8 summarizes the fixed charge for County customers for costs directly allocated to County customers. The fixed charge for treatment (WWTP) costs are shared by both City and County customers and include WWTP costs less WWTP capital replacement costs. The calculation of this fixed charge is shown in **Figure 9**.

Figure 8. Calculation of the Direct-County Fixed Charge

Summary of Costs Allocated 100% to County Customers & Monthly Charges	Allocated Costs[1]	Number of EDUs (SMD-1)	Mo. Charge ($/Mo./EDU)[2]
County/SMD-1 *(Direct Costs)*			
Total County/SMD-1 Costs	$ 1,296,608	8,139	**$13.28**

1. Results of Functionalization/Classification analysis. See Table 22.
2. Allocated Costs divided by EDUs divided by 12 months.

Figure 9. Calculation of the WWTP-Related Fixed Charge

Treatment-Related Costs Shared by City and County Customers & Monthly Charges	Allocated Costs[1]	City and County EDUs Number	%	Mo. Charge ($/Mo./EDU)[3]
City Customers				
City Customer Share of WWTP Costs[1]	$ 3,919,342			
less WWTP-Related Capital Surcharge Costs[2]	$ (171,308)			
Net Rev. Req'ts. for WWTP Costs	$ 3,748,034	20,906	72.0%	**$14.94**
County Customers				
County Customer Share of WWTP Costs[1]	$ 1,525,828			
less WWTP-Related Capital Surcharge Costs[2]	$ (66,692)			
Net Rev. Req'ts. for WWTP Costs	$ 1,459,137	8,139	28.0%	**$14.94**

1. Results of Functionalization/Classification. These are shared treatment-related WWTP costs from Table 22.
2. These costs are separately collected through the capital surcharge. See Tables 28 and 29.
3. Allocated Costs divided by EDUs divided by 12 months.

D. Rate Design Analysis

Ideally, utilities would recover all of their fixed costs from fixed charges and all of their variable costs from volumetric charges. However, other factors are usually considered when designing wastewater rates, such as revenue stability, equity among customer classes, continuity of rate design, ease of understanding, and ease of administration. Since the City has decided to eliminate the volumetric-based charges for non-residential customers, the rate design is simply the fixed charges for each of the three customer classes, and reflect the allocations to each class based on their respective number of EDUs. However, significant effort went into reviewing how costs are allocated between City and County customers and resulted in the fixed charges summarized in **Figure 10**.

Figure 10. Summary of Fixed Charges

Summary of Fixed Charges and Capital Surcharges - City and County Customers					
Customers	**Capital Surcharge**	**City Only** *(Collection)*	**County Only** *(Direct Costs)*	**City & County Customers**	**Total Mo. Charges ($/EDU/Mo.)**
City Customers	$13.60	$9.34		$14.94	**$37.88**
County Customers	$0.68		$13.28	$14.94	**$28.90**

E. Current and Proposed Wastewater Rates

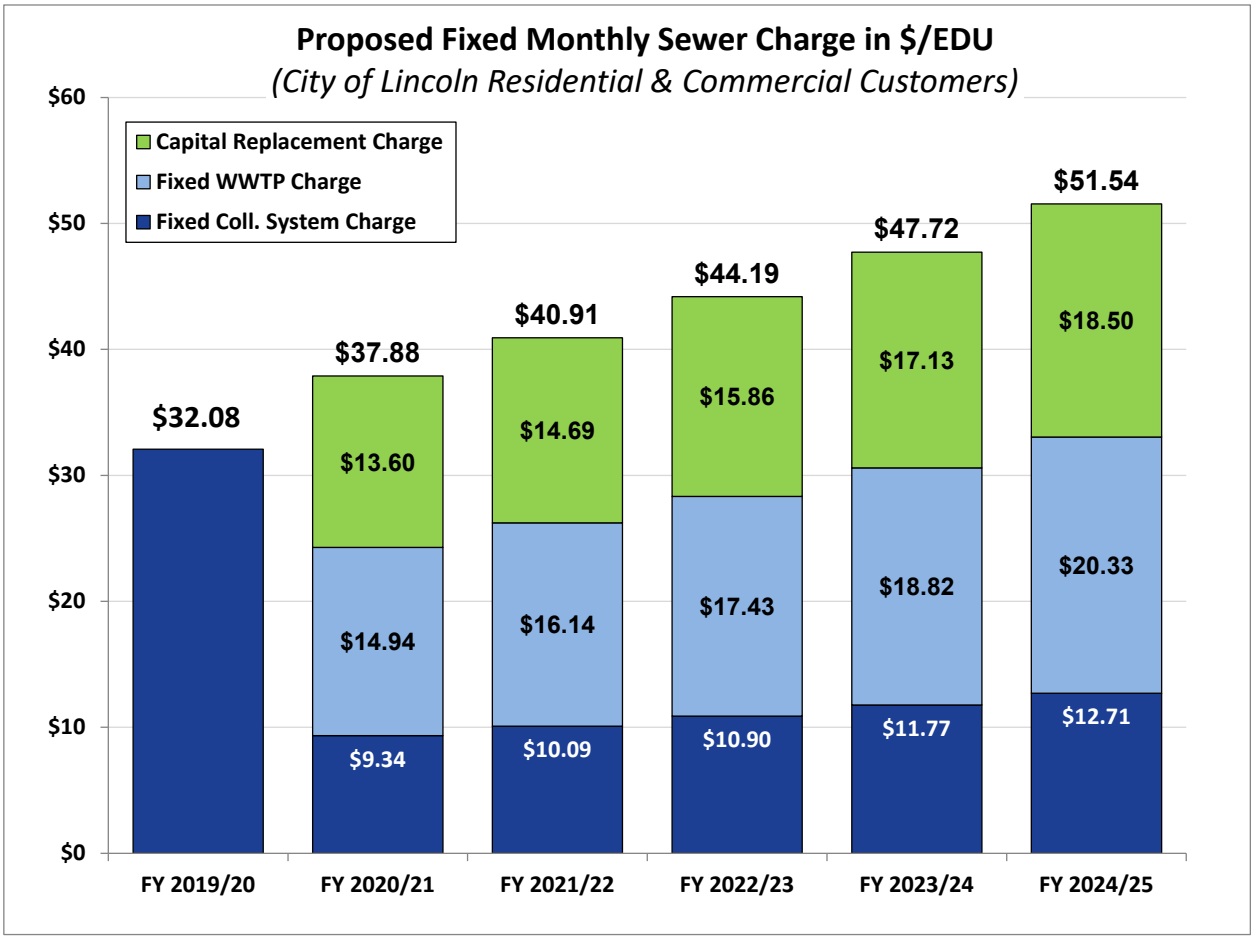
Figure 11 compares the current and proposed sewer rates through FY 2024/25. This table will serve as the rate schedule for the City's Prop 218 protest ballot.

Figure 11. Current and Proposed Wastewater Rates

Wastewater Rate Schedule	Current Rates	Proposed Wastewater Rates				
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Fixed Charges ($/EDU/month) - City Residential & Non-Residential						
Fixed City Collection Oper. Charge (Per EDU)	$32.08	$9.34	$10.09	$10.90	$11.77	$12.71
Fixed WWTP Charge	*N.A.*	$14.94	$16.14	$17.43	$18.82	$20.33
Fixed Capital Replacement Charge	*N.A.*	$13.60	$14.69	$15.86	$17.13	$18.50
Total Monthly Rate Per EDU	$32.08	$37.88	$40.91	$44.19	$47.72	$51.54
Non-Residential, excluding Industrial Customers:						
Volumetric Charge per Tgal - Avg. Strength	$4.92	*N.A.*	*N.A.*	*N.A.*	*N.A.*	*N.A.*
Volumetric Charge per Tgal - High Strength	$8.07	*N.A.*	*N.A.*	*N.A.*	*N.A.*	*N.A.*
Fixed Charges ($/EDU/month) - County/SMD-1						
Fixed Operations Charge SMD1 (Per EDU)	*N.A.*	$13.28	$14.34	$15.49	$16.72	$18.06
Fixed WWTP Charge	*N.A.*	$14.94	$16.14	$17.43	$18.82	$20.33
Fixed Capital Replacement Charge	*N.A.*	$0.68	$0.74	$0.80	$0.86	$0.93
Total Monthly Rate Per EDU	*N.A.*	$28.90	$31.21	$33.71	$36.40	$39.32

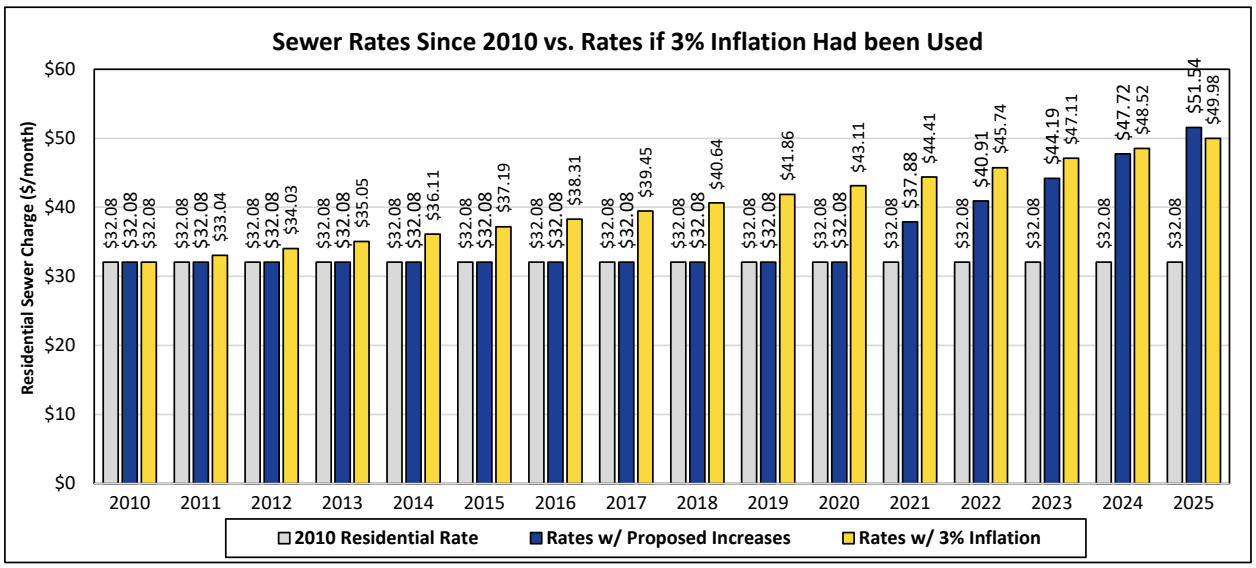
Figure 12 compares monthly wastewater bills for the current and proposed wastewater rates with the proposed rate adjustments. These monthly bills show the proposed fixed charges for single-family residential as well as non-residential customers, which are now the same.

Figure 12. Current and Proposed Residential Monthly Fixed Charges



In light of the absence of rate adjustments since 2009, **Figure 13** provides a comparison of the residential fixed charges with the proposed adjustments vs. the rate with an inflation-based annual adjustment of three percent.

Figure 13. Comparison of Residential Monthly Charges Since 2010



SECTION 3. RECOMMENDATIONS AND NEXT STEPS

A. Consultant Recommendations

NBS recommends the City take the following actions:

Approve and Accept this Study: NBS recommends the City Council formally approve and adopt this Study, its recommendations (which include approval of the rates shown in Figure 11), and proceed with the steps required to implement the proposed rates. This will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.

Complete Proposition 218 Protest Balloting Process: The City Council should direct staff to proceed with issuing Prop 218 notices to customers and, after at least 45 days, hold a public hearing to tabulate protests, listen to public comments, and consider final discussions of the proposed wastewater rates.

Implement Recommended Levels of Rate Adjustments and Proposed Rates: Based on successfully meeting the Prop 218 procedural requirements, the City Council should proceed with implementing the five-year schedule of proposed rates and rate adjustments previously shown in Figure 11. This will help ensure the continued financial health of the City's wastewater utility.

B. Next Steps

Annually Review Rates and Revenue – Any time an agency adopts new utility rates or rate structures, those new rates should be closely monitored over the next several years to ensure the revenue generated is sufficient to meet the annual revenue requirements. Changing economic and water consumption patterns underscore the need for this review, as well as potential and unseen changing revenue requirements—particularly those related to environmental regulations that can significantly affect capital improvements and repair and replacement costs.

Note: The attached Appendix provide more detailed information on the analysis of the wastewater revenue requirements, cost-of-service analysis and cost allocations, and the rate design analyses that have been summarized in this report.

C. NBS' Principal Assumptions and Considerations

In preparing this report and the opinions and recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, conditions, and events that may occur in the future. This information and these assumptions, including City's budgets, capital improvement costs, and information from City staff were provided by sources we believe to be reliable, although NBS has not independently verified this data.

While we believe NBS' use of such information and assumptions is reasonable for the purpose of this report and its recommendations, some assumptions will invariably not materialize as stated herein and may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

APPENDIX: ADDITIONAL WASTEWATER RATE STUDY TABLES AND FIGURES

(Table numbers reflect those in the Excel sewer rate model; only selected figures and tables are shown.)