

Los Altos

CITY OF LOS ALTOS

DRAFT Report for:

Sewer Rate Study

February 2018

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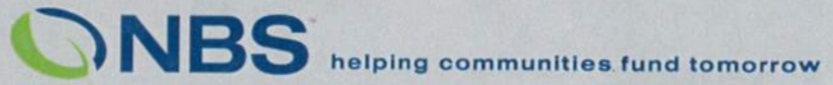
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ATTACHMENT A

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Section 1. EXECUTIVE SUMMARY

Background

The City of Los Altos has a sewer collection system that serves the residents and business within the City, as well as a portion of the Town of Los Altos Hills. The sewer collection system has 140 miles of pipes; wastewater is then conveyed via a sewer trunk line to the Palo Alto Regional Water Quality Control Plant (RWQCP) for treatment. The City is one of several partner agencies that send wastewater to the RWQCP for treatment and disposal.

Purpose

The City of Los Altos (City) retained NBS in 2017 to perform a comprehensive sewer rate study for a number of reasons, including developing rates that support the sewer utility's long-term financial health, reflect the cost of providing service to each customer class, and are defensible and equitable. This report is provided in part to assist the City in its effort to communicate transparently with the residents and businesses it serves.

In developing new sewer rates, NBS worked cooperatively with City staff in selecting appropriate rate alternatives. Based on input from City staff, the proposed rates are summarized in this study.

Key Findings

REVENUE REQUIREMENTS

As a part of this rate study, NBS projected revenues and expenditures on a cash flow basis for the next twenty years. Ongoing rehabilitation and replacement projects are expected to draw down existing reserves. Capital and operational reserve funding targets incorporated input from City staff and are intended to meet the utility's specific financial objectives. The amount of rate revenue required, that will allow reserves to be maintained at the recommended levels, is known as the *net revenue requirement*.

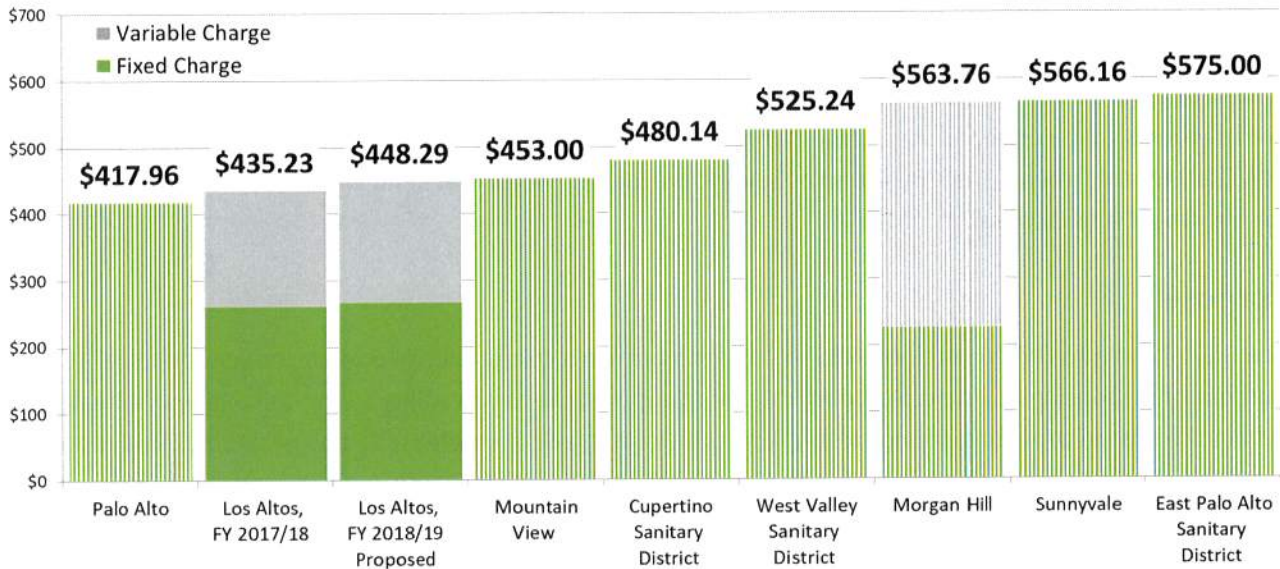
To keep meeting net revenue requirements, moderate rate adjustments – or more accurately, adjustments in the total revenue collected from rates – are recommended over the next five years.

SEWER RATES

The current sewer rate design includes an annual fixed service charge per equivalent dwelling unit (EDU) and a single volumetric rate based on average winter water consumption. After thorough discussion and review of rate alternatives, City staff decided to maintain the existing rate structure.

Figure 1 below shows the estimated annual sewer bill for a typical single-family customer in the City compared to annual bills in other nearby communities. Even after rates are adjusted, residential customer bills in Los Altos still compare favorably with other communities in the region. Many of these other communities may have, or may currently be going through a rate study process; and as such, sewer rates in these communities may be higher in the future.

FIGURE 1. REGIONAL SEWER BILL COMPARISON FOR SFR CUSTOMERS



Sewer rate calculation assumes a winter-based average consumption of 84 HCF Annually

FIXED CHARGES

Fixed charges can be called base charges, minimum charges, etc. Although fixed charges are typically a significant percentage of a utility’s overall costs, utilities rarely collect 100 percent of their fixed costs through fixed charges. In general, customers prefer that charges include a volumetric component, as there is an inherent and widely recognized equity in a “pay-for-what-you-use” philosophy. Fixed charges are often charged on a per equivalent dwelling unit (EDU), or per account basis.

VARIABLE CHARGES

In contrast, variable costs such as the cost of electricity and chemicals used in the treatment facilities tend to change with the quantity of wastewater treated. For sewer utilities, variable charges are often based on winter water consumption and charged on a dollar-per-unit cost (per 100 cubic feet, or hcf, in the City’s case). Variable sewer rate structures typically include one rate (\$/hcf); sometimes variable rates are specific to customer classes (i.e. residential, commercial, etc.). The intent with a rate structure that varies by customer class is to reflect the cost of service differences between customer classes in rates, with respect to the amount of wastewater treated (flow based costs) as well as the costs of treating the level of sewer “strength” (i.e., the amount of chemical oxygen demand (COD) and total suspended solids (TSS) components). The cost per unit does not change with consumption, and provides a simple and straightforward approach from the perspective of customer understanding, rate administration, and customer billing.

Study Recommendations

NBS recommends the City take the following actions:

- Adopt the long-range financial plan presented in this report.
- Adopt the recommended reserve fund target balances.
- Adopt the proposed sewer rates.
- Conduct a legal review of the rate study.
- Proceed with Prop 218 noticing requirements and 45-day protest period.
- Assuming a successful Prop 218 process (that is, there is no majority protest of the rates), adopt the rates summarized in this report.

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Section 2. SEWER RATE STUDY

Key Sewer Rate Study Issues

The sewer rate study was undertaken with the goal of maintaining the strong financial health of the City's sewer utility. Additional study goals included reviewing the existing sewer rate structure and developing rate alternatives that promote equity among customer classes. The City has had various types of sewer rates over the last two decades – 100% fixed, 100% volumetric, and now a combination of the two.

NBS developed several rate alternatives as requested by City staff over the course of this study, although staff chose to maintain the existing rate structure. All rate alternatives developed in this study relied on industry standard cost of service principles. The fixed and variable charges were developed based on the net revenue requirements, number of customer accounts and EDU's, water consumption and other City'-provided information. Detailed tables showing the systematic development of the analysis are presented in Appendix B – Sewer Rate Study Summary Tables.

Financial Plan

To identify the sewer utility's long-term financial needs, including funding for capital improvement projects, NBS developed a 20-year financial plan that forecasts sewer revenues, expenditures, and projected reserves. This plan is based on the City's current operating budget for the utility, discussions with City staff, and related information such as capital improvement plans and financial statements.

KEY ASSUMPTIONS

The following are the key assumptions used in the rate analysis:

- **Funding Capital Projects** – The analysis assumes that capital project costs will be funded with reserves over the next five years.
- **Reserve Targets** – NBS has developed reserve targets that are based on the City's specific needs and accommodate the timing of annual billing on the tax roll.
- **Inflation and Growth Projections** – The following inflation factors were applied to revenues and expenditures in the analysis:
 - General inflation is 3.0 percent annually.
 - Labor cost inflation is 4.0 percent annually.
 - PERS Obligation inflation is 22.35 percent in FY 2018/19 and decreases to 11.5 percent by FY 2022/23. Long-term inflation is held at 5.57 percent per year.
 - Energy cost inflation is 5.0 percent annually.
 - Palo Alto RWQCP cost inflation is approximately 4.0 percent annually (ranges from 3.64-4.06 percent).
 - No customer growth is anticipated.

The City of Palo Alto also provided a 10-year projection of costs for the Regional Water Quality Control Plant (RWQCP). The RWQCP cost projection includes the City's share of annual operating costs, debt service payments and capital improvement costs. RWQCP costs are allocated to the City of Los Altos based

on annual metered flow sent to the treatment plant; typically, the City represents around 10 percent of total RWQCP flows.

KEY OBJECTIVES

This financial plan addresses three primary objectives:

- 1. Meeting Operating Costs:** The sewer utility must generate enough revenue to cover the expenses of sewer operations, including: administration, maintenance of the collection system, and RWQCP treatment costs. Operating costs are approximately \$3.6 million in FY 2018/19.
- 2. Meeting Capital Improvement Costs:** The sewer utility plans to adequately fund necessary capital improvements, which includes roughly \$16.9 million in planned capital improvements for the current fiscal year through the end of FY 2022/23.
- 3. Maintaining Reserve Funds:** Currently, the sewer utility's reserves are higher than target levels. Recommended rate adjustments will help maintain healthy unrestricted and restricted reserve fund balances over the next ten years. After discussions with City staff, the following reserve targets were established for this analysis:
 - **Operating Reserve** equal to about 50 percent of the utility's budgeted annual operating expenses. This reserve target is equal to a six-month (or 180-day) cash cushion for normal operations. In FY 2018/19 the operating reserve target is \$1.8 million. This reserve is intended to ensure financial stability in the event of any short-term fluctuation in revenues and/or expenditures. Also of note, since the City collects sewer rates on the tax roll (and not on a monthly billing cycle), a higher reserve fund level will help carry the utility through semi-annual payments from Santa Clara County.
 - **Capital Rehabilitation and Replacement (R&R) Reserve** equal to average annual capital expenditures serves as a starting point for supporting long-term capital needs. For FY 2018/19, this reserve target is \$2.3 million. The primary purpose of a capital reserves is to set aside a cash resource to address long-term capital rehabilitation and replacement needs.
 - **City of Palo Alto RWQCP Reserve** is a new, recommended reserve target intended to accumulate funds equal to one year of CIP costs that the City pays to Palo Alto (for RWQCP costs). Target reserve level is initially set at \$300,000.
 - **Debt Reserves** for the sewer utility's existing debt obligations has a target level of \$462,000 in FY 2018/19 and increases to approximately \$570,000 by FY 2019/20. The City does not have any direct debt issuances; debt service obligations are through the City's partnership with Palo Alto's RWQCP. Debt reserves increase in anticipation of new bonds being issued for projects at the RWQCP. Debt reserve funds are typically considered restricted funds.

Figure 2 summarizes the sources and uses of funds and net revenue requirements for the next five years. Figure 3 summarizes the utility's projected reserve funds and target balances for the next five years.

FIGURE 2. SUMMARY OF SEWER REVENUE REQUIREMENTS

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	Projected				
	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Sources of Wastewater Funds						
Rate Revenue Under Prevailing Rates	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000
Additional Revenue from Rate Increases (1)	-	150,000	334,500	524,535	720,271	921,879
Sewer Service Charge not on Tax Roll	400,000	400,000	400,000	400,000	400,000	400,000
Non-Rate Revenues	52,100	31,835	43,216	60,539	79,377	96,888
Total Sources of Funds	\$ 6,452,100	\$ 6,581,835	\$ 6,777,716	\$ 6,985,074	\$ 7,199,648	\$ 7,418,767
Uses of Wastewater Funds						
Operating Expenses	\$ 3,606,883	\$ 3,619,614	\$ 3,771,246	\$ 3,918,434	\$ 4,084,011	\$ 4,254,008
Debt Service	126,204	245,630	452,269	465,652	470,458	470,650
Rate-Funded Capital Expenses	-	-	-	-	-	-
Total Use of Funds	\$ 3,733,087	\$ 3,865,244	\$ 4,223,515	\$ 4,384,086	\$ 4,554,469	\$ 4,724,658
Projected Annual Rate Increase	0.00%	2.50%	3.00%	3.00%	3.00%	3.00%
Cumulative Rate Increases	0.00%	2.50%	5.58%	8.74%	12.00%	15.36%
Rate Revenue with Annual Rate Increase(s)	\$ 6,000,000	\$ 6,150,000	\$ 6,334,500	\$ 6,524,535	\$ 6,720,271	\$ 6,921,879
Surplus (Deficiency) before Rate Increase	2,719,013	2,716,590	2,554,202	2,600,988	2,645,179	2,694,109
Surplus (Deficiency) after Rate Increase	2,719,013	2,866,590	2,888,702	3,125,523	3,365,450	3,615,988
Net Revenue Requirement (2)	\$ 3,280,987	\$ 3,433,410	\$ 3,780,298	\$ 3,923,547	\$ 4,075,092	\$ 4,227,771

1. Assumes new rates are implemented July 1, 2018.

2. Total Use of Funds less non-rate revenues. This is the annual amount needed from wastewater rates.

FIGURE 3. SUMMARY OF SEWER RESERVE FUNDS

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	Projected				
	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Un-Restricted Reserves						
Operating Reserve						
Ending Balance	\$ 1,803,400	\$ 1,809,800	\$ 1,885,600	\$ 1,959,200	\$ 2,042,000	\$ 2,127,000
Recommended Minimum Target	\$ 1,803,400	\$ 1,809,800	\$ 1,885,600	\$ 1,959,200	\$ 2,042,000	\$ 2,127,000
Capital Rehabilitation & Replacement Reserve						
Ending Balance	\$ 7,370,829	\$ 6,833,467	\$ 6,186,286	\$ 5,978,465	\$ 5,709,024	\$ 5,335,105
Recommended Minimum Target	\$ 2,300,000	\$ 2,370,000	\$ 2,440,000	\$ 2,510,000	\$ 2,590,000	\$ 2,670,000
City of Palo Alto RWQCP R&R Reserve						
Ending Balance	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 310,000	\$ 320,000
Recommended Minimum Target	\$ 300,000	\$ 290,000	\$ 290,000	\$ 300,000	\$ 310,000	\$ 320,000
Restricted Reserves						
Debt Reserve						
Ending Balance	\$ 126,850	\$ 462,690	\$ 568,436	\$ 568,436	\$ 568,272	\$ 568,272
Recommended Minimum Target	\$ 126,411	\$ 462,690	\$ 568,436	\$ 568,436	\$ 568,272	\$ 568,272
Total Ending Balance	\$ 9,601,078	\$ 9,405,958	\$ 8,940,321	\$ 8,806,100	\$ 8,629,296	\$ 8,350,377
Recommended Minimum Target	\$ 4,529,811	\$ 4,932,490	\$ 5,184,036	\$ 5,337,636	\$ 5,510,272	\$ 5,685,272

A summary of the entire 20-year financial plan, showing revenue requirements, revenues, and recommended rate increases is presented in Appendix B, along with a summary of the City's capital improvement program.

Cost-of-Service Summary

Once the revenue requirements are determined, the cost-of-service analysis distributes the revenue requirements to cost classification components. These include the estimated amount of effluent (flow or volume), effluent strengths (COD and TSS), and customer-related costs (e.g., billing and administrative costs). Figure 4 shows the net revenue requirements of \$6,150,000 to be collected from sewer rates.

FIGURE 4. RATE REVENUE REQUIREMENTS BY COST CLASSIFICATION

Cost Classification Components	Volume	Treatment		Customer Related	Cost-of-Service Net Revenue Requirement
		COD	TSS		
Net Revenue Requirements	\$ 4,272,233	\$ 864,045	\$ 864,045	\$ 149,676	\$ 6,150,000
<i>% of Net Revenue Requirements</i>	69.5%	14.0%	14.0%	2.4%	100.0%

Actual sewer flow data from 2016 and 2017 was used in the Study. The City uses average winter water consumption from the previous calendar year (lowest water consumption for three months) to estimate annual sewer usage¹.

Figure 5 shows winter-average flow by customer class. The City's sewer customer classes are represented by the following types of customers: residential, multi-family residential, commercial, and public/institutional.

FIGURE 5. SUMMARY OF ESTIMATED FLOW TO TREATMENT PLANT

Customer Class	Number of Accounts	Annual Winter-Average Based Volume (HCF)	Percentage of Adjusted Volume
Residential			
Single Family Home	10,330	893,765	78.3%
Multifamily Residence (2 units)	65	7,884	0.7%
Multifamily Residence (3-4 units) & Multifamily Residence (5+ units)	35	21,748	1.9%
Condominium Unit	1,029	52,954	4.6%
Commercial	490	135,753	11.9%
Public/Institutional	45	30,028	2.6%
Grand Total:	11,994	1,142,132	100.0%

1. Data Source: Los Altos Combined Levy data 1516 to 1718.xlsx; Restaurant information: March 2017.xlsx and April and May 2-17.xlsx FOG reports.

Figure 6 compares the total number of accounts and equivalent dwelling units (EDUs) by customer class. EDUs are assigned to customers based on average winter water consumption. Typically, a single-family residential customer represents one EDU. Multi-family residential customers are assigned one EDU per unit (i.e. a triplex would be equal to three EDUs). Commercial customer EDUs are recalculated annually based on water consumption².

¹ The City bills sewer usage on a per unit basis; one estimated sewer unit is equal to 748 gallons or one (1) hundred cubic feet (hcf).

² See City of Los Altos Ordinance No. 2013-394; Section 10.12.140, Estimation of Sewer Use.

FIGURE 6. SUMMARY OF SEWER CUSTOMER ACCOUNTS AND EQUIVALENT DWELLING UNITS (EDU'S)

Customer Class	Number of Accounts (1)	Percent of Total	Number of Equivalent Dwelling Units (1)	Percent of Total
Residential				
Single Family Home	10,330	86.1%	10,330	74.9%
Multifamily Residence (2 units)	65	0.5%	130	0.9%
Multifamily Residence (3-4 units) & Multifamily Residence (5+ units)	35	0.3%	554	4.0%
Condominium Unit	1,029	8.6%	1,029	7.5%
Commercial	490	4.1%	1,464	10.6%
Public/Institutional	45	0.4%	277	2.0%
Total:	11,994	100%	13,785	100%
Vacant	15	0.00%	-	0.00%
N/A	3	0.00%	-	0.00%
Grand Total:	12,012	0.00%	13,785	0.00%

1. Data Source: Los Altos Combined Levy data 1516 to 1718.xlsx.

Fixed and Variable Charges

The City's sewer rates consist of a fixed annual base charge per equivalent dwelling unit (EDU), and a volumetric rate for all water consumed. Water consumption charges are based on average winter water use from the prior year (using the three wettest months)³.

The existing rate structure collects 40 percent of revenue from volumetric charges and 60 percent of revenue from fixed charges; City Staff has decided to maintain this revenue allocation in the proposed rates. Figure 7 calculates the fixed charge per EDU; and Figure 8 calculates the volumetric charge per HCF. Figure 9 shows the current and proposed sewer rates through FY 2022/23.

FIGURE 7. SEWER RATE CALCULATION FOR FY 2018/19 – FIXED CHARGES

Fixed Charges (per EDU)	Total Revenue Requirements	Percent of Total Rev. Req't. to be Collected from Fixed Charges	Amount to be Collected from Fixed Charges	Number of Equivalent Dwelling Units	Rate per EDU
	<i>A</i>	<i>B</i>	<i>C = A * B</i>	<i>D</i>	<i>E = C / D</i>
All Customers	\$6,150,000	60%	\$3,690,000	13,785	\$267.69

FIGURE 8. SEWER RATE CALCULATION FOR FY 2018/19 – VOLUMETRIC CHARGES

Volumetric Charges (per HCF)	Total Revenue Requirements (1)	Percent of Total Rev. Req't. to be Collected from Volumetric Charges (2)	Amount to be Collected from Volumetric Charges	Annual Billable Volume (hcf) (3)	Rate per HCF
	<i>F</i>	<i>G = 1 - B</i>	<i>H = F * G</i>	<i>I</i>	<i>J = H / I</i>
All Customers	\$6,150,000	40%	\$2,460,000.00	1,142,132	\$2.15

³ Average winter consumption is recalculated each year using the most recent winter water consumption.

FIGURE 9. CURRENT (FY 2017/18) AND PROPOSED SEWER RATES (FY 2018/19 – FY 2022/23)

Sewer Rate Schedule	Current Rates	Proposed Yearly Sewer Rates				
		Year 1	Year 2	Year 3	Year 4	Year 5
		FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Annual Fixed Service Charge per EDU	\$261.35	\$267.69	\$275.72	\$283.99	\$292.51	\$301.29
Volumetric Rate (\$/hcf) (1, 2)	\$2.07	\$2.15	\$2.21	\$2.28	\$2.35	\$2.42

1. One Unit is equal to one HCF (Hundred Cubic Feet) or 748 gallons.
2. Rates are charged based on average winter water consumption (three lowest months from previous year).

Customer Bill Comparisons

RESIDENTIAL SEWER CUSTOMERS

Figure 10 compares typical single-family annual sewer bills over the next five years, under the current and proposed rates. Similarly, Figure 11 compares typical multi-family annual sewer bills over the next five years, under the current and proposed rates.

FIGURE 10. ANNUAL SINGLE-FAMILY SEWER BILL COMPARISON

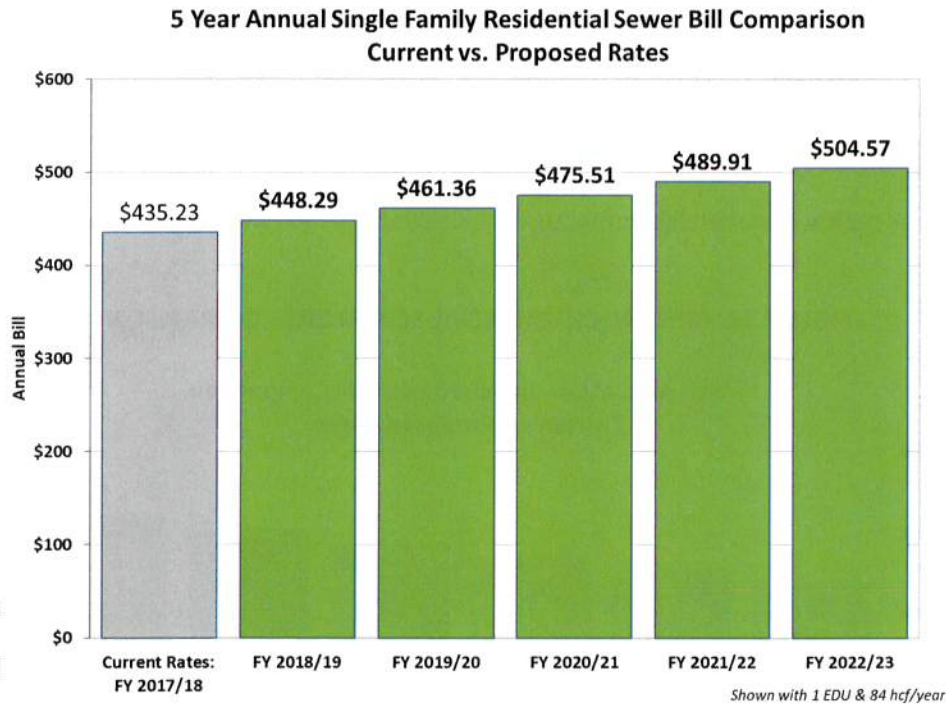
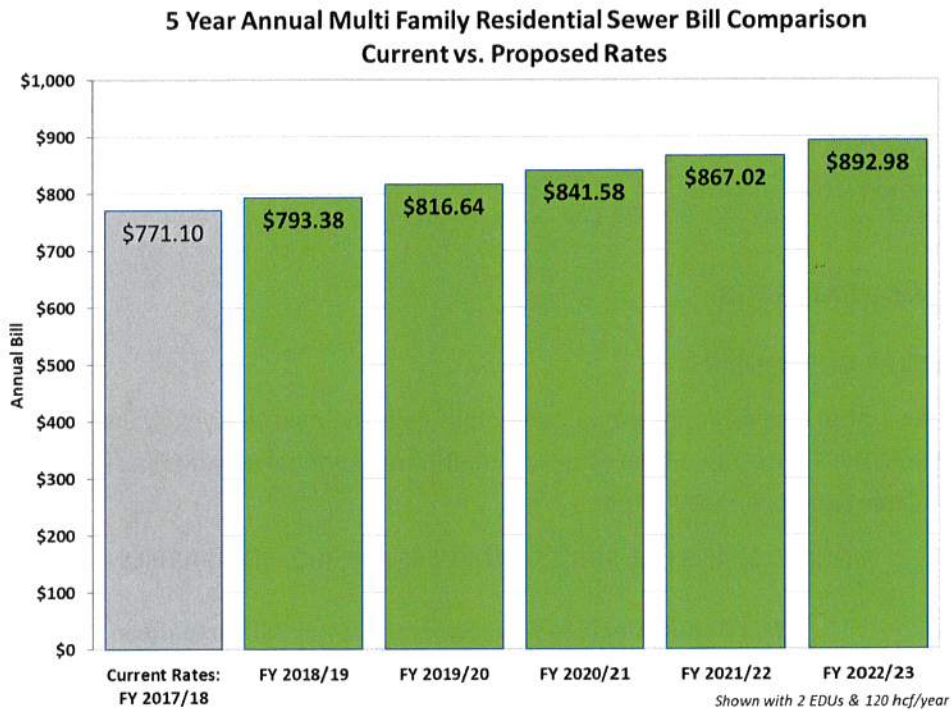


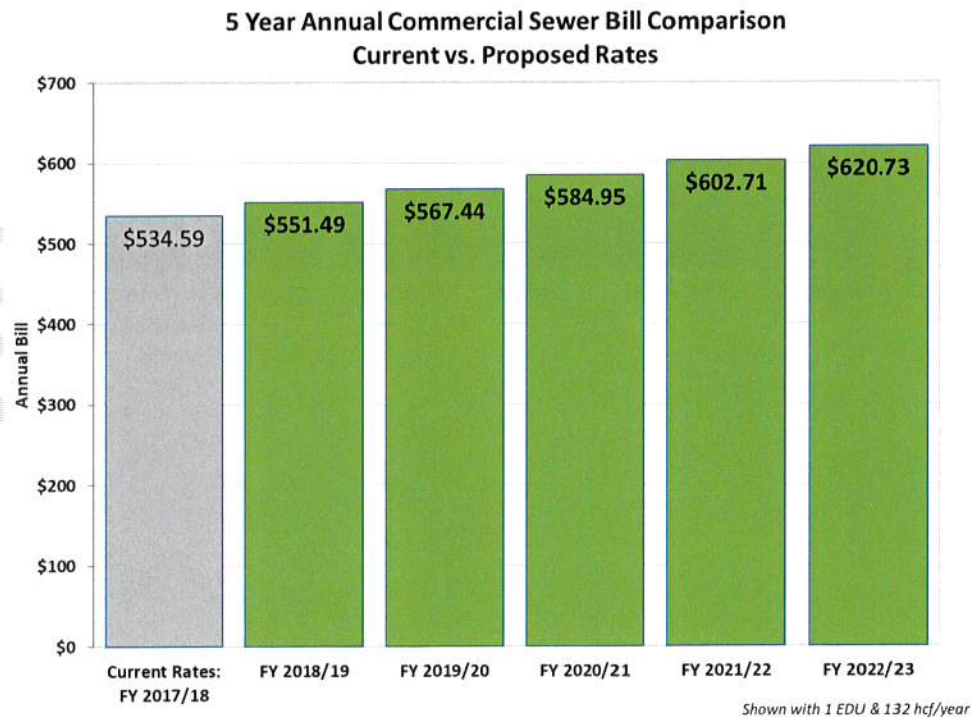
FIGURE 11. ANNUAL MULTI-FAMILY SEWER BILL COMPARISON (2 UNITS)



COMMERCIAL SEWER CUSTOMERS

Figure 12 compares typical commercial annual sewer bills over the next five years, under the current and proposed rates.

FIGURE 12. ANNUAL COMMERCIAL SEWER BILL COMPARISON



Section 3. NEXT STEPS

Next Steps

A public hearing and protest balloting process are the next steps required to adopt new sewer rates. As a part of this process, NBS recommends the City take the following actions:

- **Approve and Accept This Study Report:** NBS recommends the City Council formally approve and adopt this report and its recommendations. This will provide the documentation and administrative record necessary to adopt and implement the proposed sewer rates.
- **Implement Proposed Rates:** Based on successfully meeting the Proposition 218 balloting requirements, the City Council should proceed with implementing the rates proposed in this report for the next five years (see Figure 9). These rates are intended to ensure the continued financial health of the City's sewer utility.
- **Further Evaluate the Cost of Service for Each Customer Class:** NBS recommends that the City take the steps necessary to implement full cost of service based sewer rates at a later date, that reflect the cost of providing sewer collection and treatment services to various customer classes. This process would include developing a rate structure that varies by customer class.

ANNUALLY REVIEW RATES AND REVENUE

Any time an agency adopts new utility rates, particularly when facing significant future capital costs, 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 capital improvement and repair and replacement costs that can significantly affect annual cash flows.

PRINCIPAL ASSUMPTIONS AND CONSIDERATIONS

In preparing this report and the recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, including the City's utility budgets, capital improvement plans, the number of customer accounts, water consumption records, and other conditions and events projected to occur in the future. This information and these assumptions 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 or 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.

Section 4. APPENDIX A – ABBREVIATIONS & ACRONYMS⁴

AAF	Average Annual Flow
Alt.	Alternative
Avg.	Average
AWWA	American Water Works Association
BMP	Best Management Practice
BOD	Biochemical Oxygen Demand
CA	Customer
CAP	Capacity
CCI	Construction Cost Index
COD	Chemical Oxygen Demand
COM	Commodity
Comm.	Commercial
COS	Cost of Service
COSA	Cost of Service Analysis
CPI	Consumer Price Index
CIP	Capital Improvement Program
DU	Dwelling Unit
Excl.	Exclude
ENR	Engineering News Record
EDU	Equivalent Dwelling Unit
Exp.	Expense
FY	Fiscal Year (e.g., July 1st to June 30th)
FY 2017/18	July 1, 2017 through June 30, 2018
GPD	Gallons per Day
GPM	Gallons per Minute
HCF	Hundred Cubic Feet; equal to 748 gallons or 1 CCF
Ind.	Industrial
LAIF	Local Agency Investment Fund
Lbs.	Pounds
MFR	Multi-Family Residential
MGD	Million Gallons per Day
MG/L	Milligrams per Liter
Mo.	Month
Muni.	Municipal
NH ₃	Ammonia
N/A	Not Available or Not Applicable
O&M	Operational & Maintenance Expenses
Prop 13	Proposition 13 (1978) – Article XIII A of the California Constitution which limits taxes on real property to 1 percent of the full cash value of such property.
Prop 218	Proposition 218 (1996) – State Constitutional amendment expanded restrictions of local government revenue collections.
Req't	Requirement
Res.	Residential
Rev.	Revenue
R&R	Rehabilitation & Replacement
SFR	Single Family Residential
TSS / SS	Total Suspended Solids
V. / Vs. /vs.	Versus
WWTP	Waste Water Treatment Plant

4 This appendix identifies abbreviations and acronyms that may be used in this report. This appendix has not been viewed, arranged, or edited by an attorney, nor should it be relied on as legal advice. The intent of this appendix is to support the recognition and analysis of this report. Any questions regarding clarification of this document should be directed to staff or an attorney specializing in this particular subject matter.

Section 5. APPENDIX B – SEWER RATE STUDY
SUMMARY TABLES

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