

# CITY OF VICTORVILLE

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Report

## Sewer Rate Study

March 2018

### OFFICE LOCATIONS:

**Temecula – Corporate Headquarters**  
32605 Temecula Parkway, Suite 100  
Temecula, CA 92592

**San Francisco – Regional Office**  
870 Market Street, Suite 1223  
San Francisco, CA 94102

**California Satellite Offices**  
Atascadero, Davis  
Huntington Beach,  
Joshua Tree, Riverside  
Sacramento, San Jose

[www.nbsgov.com](http://www.nbsgov.com)

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# Section 1. PURPOSE AND OVERVIEW OF THE STUDY

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## A. Purpose

The City of Victorville (City) owns and operates a sewer collection system that collects wastewater from approximately 27,000 connections and transports it either to the City’s Industrial Wastewater Treatment Plant (IWWTP) or the Victor Valley Wastewater Reclamation Authority (VWVRA) for treatment. The City retained NBS to help update the current sewer rates. The sewer rate analysis was undertaken with a few specific objectives, including:

- Ensuring sewer rates will be able to cover all operating and maintenance costs, including treatment costs.
- Funding mandated Capital Improvement Projects.
- Developing a plan to maintain appropriate reserve funds.
- Complying with certain legal requirements (such as California Constitution article XIII D, section 6, which is commonly referred to as Proposition 218 [Prop 218]).

The rates resulting from this study were developed in a manner that is consistent with industry standard cost of service principles. In addition to documenting the rate study methodology, this report is provided with the intent of assisting the City to maintain transparent communications with its residents and businesses.

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

This report presents an overview of the methodologies, assumptions, and data used, along with the financial plans and proposed rates developed in this study<sup>1</sup>.

## B. Overview of the Study

Comprehensive rate studies such as this one typically include the following three components, as outlined in **Figure 1**:

1. Preparation of a **Financial Plan**, which identifies the net revenue requirements for the utility.
2. **Cost of Service Analysis**, which determines the cost of providing service to each customer class.
3. **Rate Design Analysis**, which evaluates different rate design alternatives for each customer class.

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<sup>1</sup> The complete financial plan is set forth in the Appendix.

**Figure 1. Primary Components of a Rate Study**



These steps are intended to follow 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<sup>2</sup>, also referred to as the M1 Manual. They also address requirements under Proposition 218 that rates not exceed the cost of providing the 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 in this Study. Detailed tables and figures documenting the development of the proposed rates are provided in the Appendices.

### FINANCIAL PLAN

As a part of this rate study, NBS projected revenues and expenditures on a cash flow basis for the next twenty years. The amount of rate revenue required, that will allow reserves to be maintained at the recommended levels, is known as the *net revenue requirement*. As current rate revenue falls short of the net revenue requirement, rate adjustments -- or more accurately, adjustments in the total revenue collected from rates -- are recommended.

### COST OF SERVICE ANALYSIS

The cost of service analysis process includes the following steps:

1. Allocating budget items to approximate cost components (including for those related to flow, strength of effluent and customer connections and bills)
2. Gathering customers into classes based upon similar characteristics.
3. Distributing costs to customer classes based upon the amount of anticipated flow and strength of wastewater contributed by each customer class.

### RATE DESIGN ANALYSIS

Rate Design is typically the stage in the study where NBS, staff and the Council must work closely together, to develop rate alternatives that will meet the City's objectives. Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been documented in a number of rate-setting manuals, such as the AWWA Manual M1. The foundation for

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<sup>2</sup> Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.

evaluating rate structures is generally credited to James C. Bonbright in the *Principles of Public Utility Rates*<sup>3</sup>, which outlines pricing policies, theories, and economic concepts along with various rate designs. The following is a simplified list of the attributes of a sound structure:

- 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 address other utility policies (for example, encouraging conservation & economic development).
- Rates should provide month-to-month and year-to-year revenue stability.

A number of criteria were considered when developing sewer rates for each customer class. The details of the study are discussed in the following sections.

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<sup>3</sup> James C. Bonbright; Albert L. Danielsen and David R. Kamerschen, *Principles of Public Utility Rates*, (Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988), p. 383-384.

## Section 2. SEWER RATES

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### A. Key Sewer Rate Study Issues

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

- Avoiding operational deficits and depletion of reserves beyond the target minimum reserve level.
- Generating additional revenue needed to meet projected funding requirements.

NBS developed various funding alternatives as requested by City staff and the Council over the course of this Study. The rate alternative that will be implemented, is ultimately the decision of the Council. The rates developed in this study are based on the net revenue requirements, number of customer accounts, and other City-provided information.

### B. Financial Plan

It is important for municipal utilities to maintain reasonable reserves in order to handle emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices. Rate increases are governed by the need to meet operating and capital costs, maintain adequate debt coverage, and build reasonable reserve funds. The current state of the City, with regard to these objectives, is as follows:

- **Meeting Net Revenue Requirements:** For FY 2018/19 through FY 2022/23, the projected operating and maintenance costs escalate from \$18.5 million to \$19.3 million. General cost inflation and potential regulatory compliance costs are the primary reasons for this increase. Expected inflation of treatment expenses at VVWRA are not included as part of this analysis<sup>4</sup>.
- **Building and Maintaining Reserve Funds:** Reserve funds provide a basis for a utility to cope with fiscal emergencies such as revenue shortfalls, asset failure, and natural disasters, among other events. Reserve policies provide guidelines for sound financial management, with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and emergencies. The City plans to have approximately \$6.7 million in reserves by the end of FY 2022/23. The reserve funds for the Utility are considered unrestricted reserves and consist of the following:
  - **The Operating Reserve** should equal approximately 90 days of operating expenses (approximately \$4.8 million for FY 2022/23). An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures. Fluctuations in revenue can be caused by the inflow and outflow of cash during billing cycles, and - particularly in periods of economic distress - changes or trends in age of receivables.

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<sup>4</sup> As will be discussed later, any future increases in VVWRA expenses will be directly passed through to ratepayers in future sewer rate adjustments.

- **The Capital Rehabilitation and Replacement Reserve** should at a minimum, equal 3 percent of net capital assets (approximately \$1.7 million by the end of FY 2022/23), which is set aside to address long-term capital system replacement and rehabilitation needs.
- **Funding Capital Improvement Projects:** The City must also be able to fund necessary capital improvements in order to maintain current service levels. City staff has identified roughly \$23 million in needed capital expenditures for FY 2018/19 through 2022/23. With the recommended rate increases, these expenditures can be accomplished while maintaining reserves to the minimum recommended target.
- **Inflation and Growth Projections** – Assumptions regarding cost inflation were made in order to project future revenues and expenses for the study period. The following inflation factors were used in the analysis:
  - No Customer growth is expected.
  - General cost inflation is 2.7 percent annually.
  - Transportation cost is 4 percent annually.
  - Utilities cost inflation is 5 percent annually.
  - Contract cost inflation is 3% annually.
- **Impact of Annual Rate Adjustment Date:** The financial plan modelling assumes that rate adjustments occur on July 1st of each year starting on July 1, 2018. Rate revenue increases as follows will be needed in order to fully fund all operating expenses, planned capital projects and maintain reserves at the recommended targets by FY 2022/23.

**Figure 2. Rate Revenue Targets**

Fiscal Year	Rate Revenue Target
FY 2017/18	\$15,969,914
FY 2018/19	\$18,365,401
FY 2019/20	\$21,120,211
FY 2020/21	\$22,704,227
FY 2021/22	\$24,407,044
FY 2022/23	\$26,237,572

**Figure 3** summarizes the sources and uses of funds, net revenue requirements, and the recommended annual percent increases in total rate revenue recommended for the next 5 years for the City.



**Figure 3. Summary of Sewer Revenue Requirements**

Summary of Sources and Uses of Funds and Net Revenue Requirements	Projected				
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
<b>Sources of Sewer Funds</b>					
Rate Revenue Under Prevailing Rates	\$15,969,914	\$15,969,914	\$15,969,914	\$15,969,914	\$15,969,914
Additional Revenue from Rate Increases (1)	2,395,487	5,150,297	6,734,313	8,437,130	10,267,658
Sewer Use Fee - Capital and Connection Fees	1,042,632	1,054,632	1,066,632	1,078,632	1,090,632
Interest Earnings	62,281	51,857	47,060	33,522	49,284
<b>Total Sources of Funds</b>	<b>\$19,470,315</b>	<b>\$22,226,700</b>	<b>\$23,817,919</b>	<b>\$25,519,198</b>	<b>\$27,377,489</b>
<b>Uses of Sewer Funds</b>					
IWWTP Expenses	\$ 4,082,776	\$ 4,218,277	\$ 4,358,607	\$ 4,503,949	\$ 4,654,495
Sewer Expenses	2,981,735	3,064,101	3,148,794	3,235,890	3,748,014
GIS Expenses	91,538	94,009	96,547	99,153	101,830
DIV Expenses	109,762	112,725	115,769	118,894	122,104
Engineering Expenses	1,056,969	1,085,866	1,115,562	1,146,079	1,177,437
VVWRA Treatment	8,713,400	8,713,400	8,713,400	8,713,400	8,713,400
Non-Regular Operating Expenses	1,500,000	95,000	768,000	783,360	799,027
Debt Service	1,607,761	1,740,191	1,897,215	1,882,549	1,867,583
Rate-Funded Capital Expenses	-	4,505,268	5,628,267	4,318,735	2,851,947
<b>Total Use of Funds</b>	<b>\$20,143,941</b>	<b>\$23,628,837</b>	<b>\$25,842,161</b>	<b>\$24,802,009</b>	<b>\$24,035,837</b>
<b>Surplus (Deficiency) before Rate Increase</b>	<b>\$ (3,069,114)</b>	<b>\$ (6,552,434)</b>	<b>\$ (8,758,555)</b>	<b>\$ (7,719,942)</b>	<b>\$ (6,926,007)</b>
<b>Surplus (Deficiency) after Rate Increase</b>	<b>(673,627)</b>	<b>(1,402,137)</b>	<b>(2,024,242)</b>	<b>717,189</b>	<b>3,341,651</b>
<b>Net Revenue Requirement (2)</b>	<b>\$19,039,028</b>	<b>\$22,522,348</b>	<b>\$24,728,469</b>	<b>\$23,689,856</b>	<b>\$22,895,921</b>

1. Assumes new rates are implemented July 1, 2018 and each July 1st thereafter.

2. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from sewer rates.

Figure 4 summarizes the projected reserve fund balances and reserve targets. A more detailed version of the utility’s proposed 5-year financial plan is included in Tables 1 and 2 of Appendix A. The appendix tables include revenue requirements, reserve funds, revenue sources, proposed rate increases, and the City’s capital improvement program. As can be seen in Figure 4, given proposed rate increases, reserves will dip below the recommended levels; however, it is expected that the City reserves are expected return to target levels by the end of FY 2022/23.

**Figure 4. Summary of Reserve Funds**

Reserve Fund Balances and Recommended Reserve Targets	Projected				
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
<b>Operating Reserve</b>					
Ending Balance	\$ 4,634,000	\$ 4,346,000	\$ 2,681,721	\$ 3,398,909	\$ 4,829,000
<i>Recommended Minimum Target</i>	<i>4,634,000</i>	<i>4,346,000</i>	<i>4,579,000</i>	<i>4,650,000</i>	<i>4,829,000</i>
<b>Capital Rehabilitation &amp; Replacement Reserve</b>					
Ending Balance	\$ 2,280,237	\$ 359,963	\$ -	\$ -	\$ 1,911,560
<i>Recommended Minimum Target</i>	<i>1,360,400</i>	<i>1,474,100</i>	<i>1,593,700</i>	<i>1,671,500</i>	<i>1,704,400</i>
<b>Total Ending Balance</b>	<b>\$ 6,914,237</b>	<b>\$ 4,705,963</b>	<b>\$ 2,681,721</b>	<b>\$ 3,398,909</b>	<b>\$ 6,740,560</b>
<b>Total Recommended Minimum Target</b>	<b>\$ 5,994,400</b>	<b>\$ 5,820,100</b>	<b>\$ 6,172,700</b>	<b>\$ 6,321,500</b>	<b>\$ 6,533,400</b>

**Figure 5** summarizes the City’s Capital Improvement Plan, providing the expected cost and timing of capital projects during the 5-year rate period.

**Figure 5 Capital Improvement Program**

Capital Improvement Program Costs	Projected				
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
IWWTP Capital Asset Replacement	\$ 1,065,000	\$ 1,093,755	\$ 1,123,286	\$ 1,153,615	\$ 1,184,763
Sanitary Related Equipment	26,000	27,600	29,300	31,100	33,000
Vehicles/Large Equipment	975,000	8,000	75,000	278,000	20,000
Lift Station/SCADA	20,000	-	-	-	100,000
Sewer Master Plan	-	-	-	342,000	-
Mainline Replacements	-	3,892,000	4,102,800	2,208,096	1,100,000
Manhole Rehabilitation	282,425	290,050	297,881	305,924	314,184
Sewer Rate Study Update	-	-	-	-	100,000
Coad Road Sewer Line	2,500,000	-	-	-	-
<b>Total</b>	<b>\$ 4,868,425</b>	<b>\$ 5,311,405</b>	<b>\$ 5,628,267</b>	<b>\$ 4,318,735</b>	<b>\$ 2,851,947</b>

### C. Cost of Service Analysis

Once the net revenue requirements are determined, the cost of service analysis proportionately distributes the revenue requirements to each of the customer classes. The cost of service analysis consists of two major components: (1) the classification of expenses, and (2) the allocation of costs to customer classes. Costs were classified corresponding to the function they serve. All costs in the City’s budget are allocated to each component of the rate structure in proportion to the level of service required by customers. The levels of service are related to volumes of flow and pounds treated at the wastewater treatment facilities, process treatment, and customer service. Ultimately, a cost-of-service analysis is intended to result in rates that are proportional to the cost of providing service to each customer.

#### FUNCTIONALIZATION AND CLASSIFICATION

Budgeted costs were classified into the following categories to develop the basis for allocating costs to various customer classes in this analysis:

- **Flow** – Flow based costs are primarily related to the collection and distribution system which gather effluent from customers and transports it to the two treatment facilities.
- **Strength Based Factors** – Strength based costs are related to the treatment of effluent at the IWWTP. Two factors, Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) measure different aspects of the treatment process.
- **Process Treatment** – Process Treatment costs are those related to the Upflow Anaerobic Sludge Blanket (UASB) Reactor and the Ion Exchange treatment system which are needed to process effluent from the Dr. Pepper/Snapple facility (DPSG).
- **VVWRA Treatment** – Treatment costs for the VVWRA facility.
- **Customers** – Customer based costs are related to the billing of customers (such as mailing and staff time committed to customer service).

All projected expenses from FY 2018/19 are allocated by percentage, to each of the cost factors. Additionally, all costs associated with Process Treatment which is primarily the UASB Reactor, were

allocated as such. The summary for each Sewer division is shown in **Figure 6**. The details of how each budget item was allocated can be found in Appendix A on pages 13 through 16.

**Figure 6. Classification of Expenses**

Budget Categories	Total Revenue Req't.	Flow	Strength		Process Treatment	VWRA Treatment	Customer
	FY 2018/19	(VOL)	(BOD)	(TSS)	(PT)	(VWRA)	(CA)
IWWTP	\$4,082,776	\$0	\$1,536,237	\$1,536,237	\$1,010,302	\$0	\$0
Sewer	4,481,735	4,074,622	-	-	-	-	407,113
GIS	91,538	91,538	-	-	-	-	-
Sewer DEV	109,762	109,762	-	-	-	-	-
Engineering	1,056,969	1,056,969	-	-	-	-	-
VWRA Treatment	8,713,400	-	-	-	-	8,713,400	-
Debt Service Payments	1,607,761	456,000	282,565	282,565	586,632	-	-
<b>Total Revenue Requirement</b>	<b>\$20,143,941</b>	<b>\$5,788,891</b>	<b>\$1,818,802</b>	<b>\$1,818,802</b>	<b>\$1,596,934</b>	<b>\$8,713,400</b>	<b>\$407,113</b>
Less: Non-Rate Revenues	(1,104,913)	(473,898)	(5,623)	(5,623)	(591,569)	(26,940)	(1,259)
<b>Net Revenue Requirements</b>	<b>\$19,039,028</b>	<b>\$5,314,992</b>	<b>\$1,813,178</b>	<b>\$1,813,178</b>	<b>\$1,005,365</b>	<b>\$8,686,460</b>	<b>\$405,855</b>
	100.0%	27.9%	9.5%	9.5%	5.3%	45.6%	2.1%

The percentage of costs allocated to each category are then applied to the revenue target for FY 2018/19, which is \$18,365,401. This is the Adjusted Net Revenue Requirement, and show in **Figure 7**.

**Figure 7. Adjusted Net Revenue Requirement**

Fiscal Year 2018/19 Adjusted Net Revenue Requirements	
Projected Rate Revenue at Current Rates	\$ 15,969,914
Projected Rate Increase	15.0%
<b>Adjusted Net Revenue Requirement</b>	<b>\$ 18,365,401</b>
<u>By Cost Category:</u>	
Volume	5,126,941
BOD	1,749,025
TSS	1,749,025
Process Treatment	969,793
VWRA Treatment	8,379,121
Customer	391,495
<b>Total</b>	<b>\$ 18,365,401</b>

**CUSTOMER CLASSES**

Customers were grouped into four primary categories: residential single family residential, multi-family residential, commercial and industrial/user-specific. The City uses two different treatment locations to provide service to customers. However, for the purposes of this analysis, residential customers were not differentiated based upon which site was providing treatment.

The cost components used in this analysis and allocated to each customer class are as follows:

- **Flow** – Costs related to flow are allocated based upon anticipated volume into the collection system. For Single Family Residential customers, volume is based upon average winter water

consumption (metered consumption from Nov through February). For all other customer classes, flow is based upon the total amount of water consumed, annually<sup>5</sup>.

- **Strength Based Costs** – Costs related to strength are allocated to each customer class based on either the estimated strength of influent treated<sup>6</sup> or actual measured flow to the IWWTP. Strength characteristics from the three industrial customers were measured as part of the City’s pre-treatment program and used for this analysis.
- **Process Treatment Costs** – Costs related to Process treatment are allocated to Dr. Pepper Snapple because this is entirely for the Dr. Pepper/Snapple facility.
- **VVWRA Treatment Costs** – Costs related to VVWRA treatment are allocated based upon anticipated flow to the VVWRA treatment plant.
- **Customer Related Costs** – Costs related to billing and customer service are allocated based upon number of customers within a given customer class.

The percentage allocations for each customer class are summarized in **Figure 8**.

**Figure 8. Customer Allocation**

Development of Allocation Factors	Percentage Allocated by Each Factor (1)					
	Customer Class	Volume	BOD	TSS	PT	VVWRA
<b>Sanitary Flow</b>						
Single Family Residential	58.7%	57.0%	55.1%	0.0%	58.3%	94.8%
Multi-Family Residential	10.6%	10.3%	9.9%	0.0%	10.5%	2.0%
Commercial	16.2%	0.0%	0.0%	0.0%	21.7%	3.2%
<b>Industrial Flow</b>						
FCC	9.8%	10.9%	10.1%	0.0%	9.5%	0.0%
Dr. Pepper/Snapple	4.6%	21.5%	23.6%	100.0%	0.0%	0.0%
PlastiPack	0.1%	0.4%	1.2%	0.0%	0.0%	0.0%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

1. Volume - Percentage of Total Adjusted Volume, BOD & TSS - Percentage of Total LBS, Process Treatment - All Allocated to Dr. Pepper/Snapple, VVWRA - Percentage of Adjusted Volume at VVWRA, Customer Related - Percentage of Total Accounts

**Figure 9** applies the allocation from Figure 8 to the net revenue requirement from Figure 7 and shows the total amount of rate revenue which should be collected from each customer class in FY 2018/19.

<sup>5</sup> Water consumption records for Fiscal Year 2014/15 were used as the basis for this analysis.

<sup>6</sup> Strength factors developed based on State Water Resources Control Board Revenue Program Guidelines Appendix G Strength Factors by customer class.

**Figure 9. Cost of Service Allocation to Each Customer Class**

Allocation of FY 2018/19 Revenue Requirements by Customer Class							
Customer Class	Cost Classification Components (1)						Cost-of-Service Net Revenue Reqts.
	Volume	BOD	TSS	Process Treatment	VVWRA Treatment	Customer Related	
<b>Net Revenue Requirements</b>	<b>\$5,126,941</b>	<b>\$1,749,025</b>	<b>\$1,749,025</b>	<b>\$969,793</b>	<b>\$8,379,121</b>	<b>\$391,495</b>	<b>\$18,365,401</b>
	27.9%	9.5%	9.5%	5.3%	45.6%	2.1%	100.0%
<b>SINGLE FAMILY RESIDENTIAL</b>	\$3,010,224	\$ 996,741	\$ 963,901	\$ -	\$4,883,589	\$ 371,016	<b>\$ 10,225,471</b>
<b>MULTI-FAMILY RESIDENTIAL</b>	542,785	179,726	173,805	-	880,579	7,802	<b>1,784,698</b>
<b>COMMERCIAL</b>	830,196	-	-	-	1,819,342	12,619	<b>2,662,157</b>
<b>INDUSTRIAL</b>							
FCC	\$ 504,236	\$ 190,708	\$ 176,317	\$ -	\$ 795,610	\$ 29	<b>\$ 1,666,899</b>
Dr. Pepper/Snapple	234,592	375,593	413,212	969,793	-	14	<b>1,993,205</b>
Plastipak	4,908	6,257	21,791	-	-	14	<b>32,971</b>
<b>GRAND TOTAL</b>	<b>\$5,126,941</b>	<b>\$1,749,025</b>	<b>\$1,749,025</b>	<b>\$ 969,793</b>	<b>\$8,379,121</b>	<b>\$ 391,495</b>	<b>\$ 18,365,401</b>

1. Revenue requirement for each customer class is determined by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class. Volume - Percentage of Total Adjusted Volume, BOD & TSS - Percentage of Total LBS, Process Treatment - All Allocated to Dr. Pepper/Snapple, VVWRA - Percentage of Adjusted Volume at VVWRA, Customer Related - Percentage of Total Accounts

## D. Current and Proposed Sewer Rates

The proposed rates are designed to capture the cost of service from each customer class. The details on how the costs allocated each customer class were used to develop the rates can be found on page 23 of Appendix A.

For Single Family and Multi-Family Residential customers, rates are fixed based on the number of dwelling units<sup>7</sup> per account. As the average volume estimated for Multi-Family customers (per dwelling unit) is only 76 percent of Single Family volume, Multi-Family rates have been adjusted to properly show the difference in the impact to the sewer system, which is why Multi-Family rates are not increasing in the same proportion as Single-family residential customers.

For Commercial customers a variable component (based upon water consumption) has been added to the rate structure, to improve equity between customers within this class. Previously, rates were fixed based upon expected consumption (assigned EDUs). Going forward, EDU charges have been eliminated and all accounts will pay a fixed charge that is the same as the single-family residential charge, and a variable component that is based upon estimated volume contributed to the sewer system.

For the Federal Corrections Complex (FCC), the sewer rate is based on the number of calculated EDU's on a monthly basis. One EDU is estimated to be equal to 200 gallons per day of volume contributed to the sewer system.

For Plastipak, there is a fixed monthly charge and a variable component based upon monthly water consumption; 100% of which is assumed to return to the City's sewer system.

<sup>7</sup> A dwelling unit is an individual living unit; for single-family residential customers, this is a single family home and for multi-family customers, this would be an individual unit (for example, an apartment unit, or one of the living units in a duplex or triplex building).

Finally, in accordance with the existing contract, Dr. Pepper/Snapple has been assigned a minimum monthly fee and an additional volume and COD surcharges which apply when monthly effluent exceeds the existing hurdle. An FDS charge was developed by Woodard and Curran (shown in Appendix B), to reflect the cost of additional Ion treatment needed for this customer.

As noted earlier, VVWRA costs are expected to increase, but that inflation is not included in this rate design. Should VVWRA costs increase, those increases will be directly passed-through to City customers through a rate adjustment, except for industrial customers. Since none of the City’s Industrial customers participate in VVWRA treatment, their rates will not be adjusted if and when VVWRA’s rates are updated in the future.

Figure 10 provides a comparison of the current and proposed rates through FY 2022/23.

**Figure 10. Current and Proposed Sewer Rates**

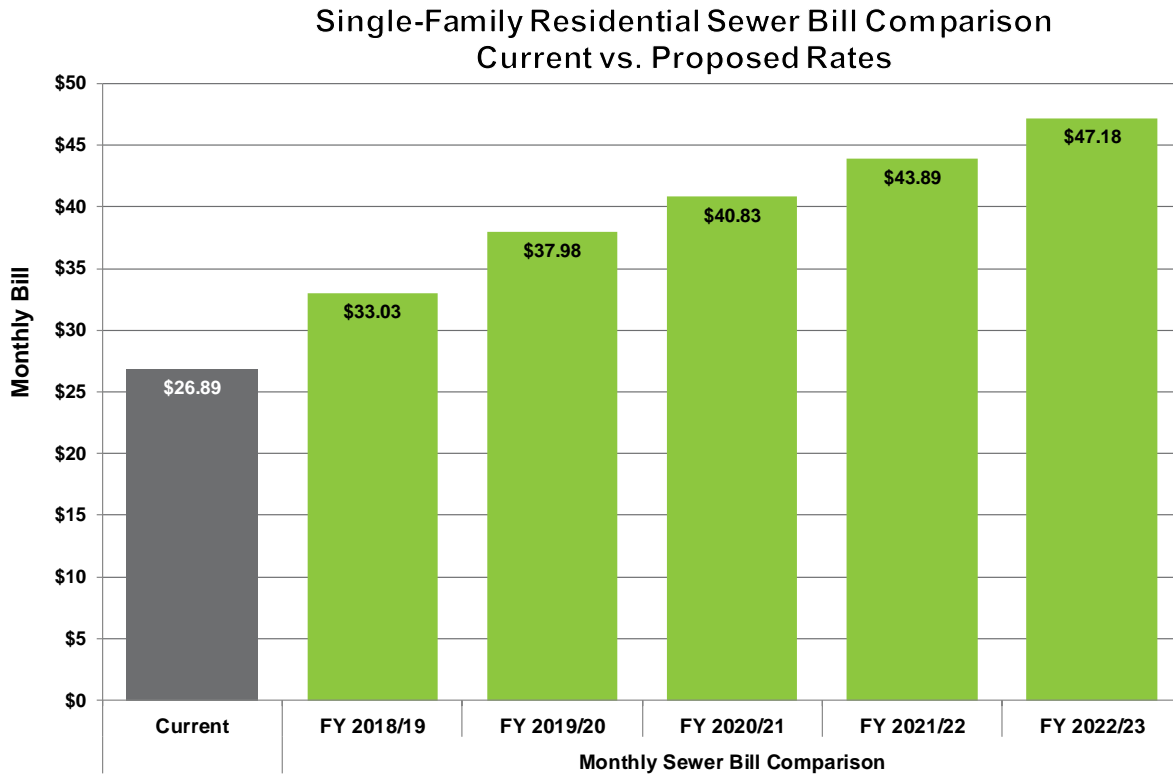
Sewer Rate Schedule	Current Rates	Recommended Sewer Rates				
		FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
<b>Residential Customers</b>						
<u>Monthly Fixed Service Charge, per Dwelling Unit:</u>						
Single-Family Residential	\$26.89	\$33.03	\$37.98	\$40.83	\$43.89	\$47.18
Multi-Family Residential	\$24.63	\$24.25	\$27.88	\$29.97	\$32.22	\$34.64
<b>Commercial Customers</b>						
<u>Monthly Fixed Service Charge, per Account:</u>						
Volumetric Charge, per hcf	--	\$2.81	\$3.23	\$3.48	\$3.74	\$4.02
<b>Industrial Customers (user specific)</b>						
<u>Federal Corrections Complex (FCC)</u>						
Monthly Fixed Charge Per EDU (1)	\$26.89	\$33.24	\$38.22	\$41.09	\$44.17	\$47.48
BOD Charge, per lb	\$0.3323	\$1.39	\$1.60	\$1.72	\$1.85	\$1.99
SS Charge, per lb	\$0.2262	\$1.40	\$1.61	\$1.73	\$1.86	\$1.99
<u>Dr. Pepper/Snapple (DPSG)</u>						
Monthly Min Charge (excluding capital recovery)	\$113,614	\$166,100	\$191,016	\$205,342	\$220,742	\$237,298
Volumetric Charge, per 1,000 gal (2)	\$0.37	\$0.92	\$1.06	\$1.14	\$1.23	\$1.32
COD Charge, per lb	\$0.13	\$0.16	\$0.19	\$0.20	\$0.22	\$0.23
SS Charge, per lb (3)	\$0.22	--	--	--	--	--
FDS Charge, per lb (4)	--	\$2.62	\$2.69	\$2.76	\$2.84	\$2.91
<u>Plastipak</u>						
Monthly Fixed Charge Per Account	\$26.89/EDU	\$118.93	\$136.77	\$147.02	\$158.05	\$169.91
Volumetric Charge, per hcf (5)	--	\$7.95	\$9.14	\$9.82	\$10.56	\$11.35

1. FCC will be billed based on a flow estimate of 200 gallons per day, per EDU.  
BOD and TSS surcharges apply to concentrations above 200 mg/l for BOD and 250 mg/l for TSS.
2. Volumetric charges (per 1,000 gal or lbs) for DPSG shall apply accordingly if discharge exceeds 585,000 gpd, 28,100 lbs/day of COD or 1,400 lbs/day of SS in accordance with Wastewater Capacity and Treatment Agreement.
3. The SS charge is replaced with an FDS surcharge in FY 2018/19.
4. The FDS surcharge was calculated by Woodard & Curran and is subject to a 2.7% general cost inflation factor in FY 2019/20 and beyond.  
This will apply to all pound of FDS treated. Source:2018.03.21 FDS Surcharge Limit Table.xlsx
5. Volumetric charge for Plastipak will apply to monthly water consumption.

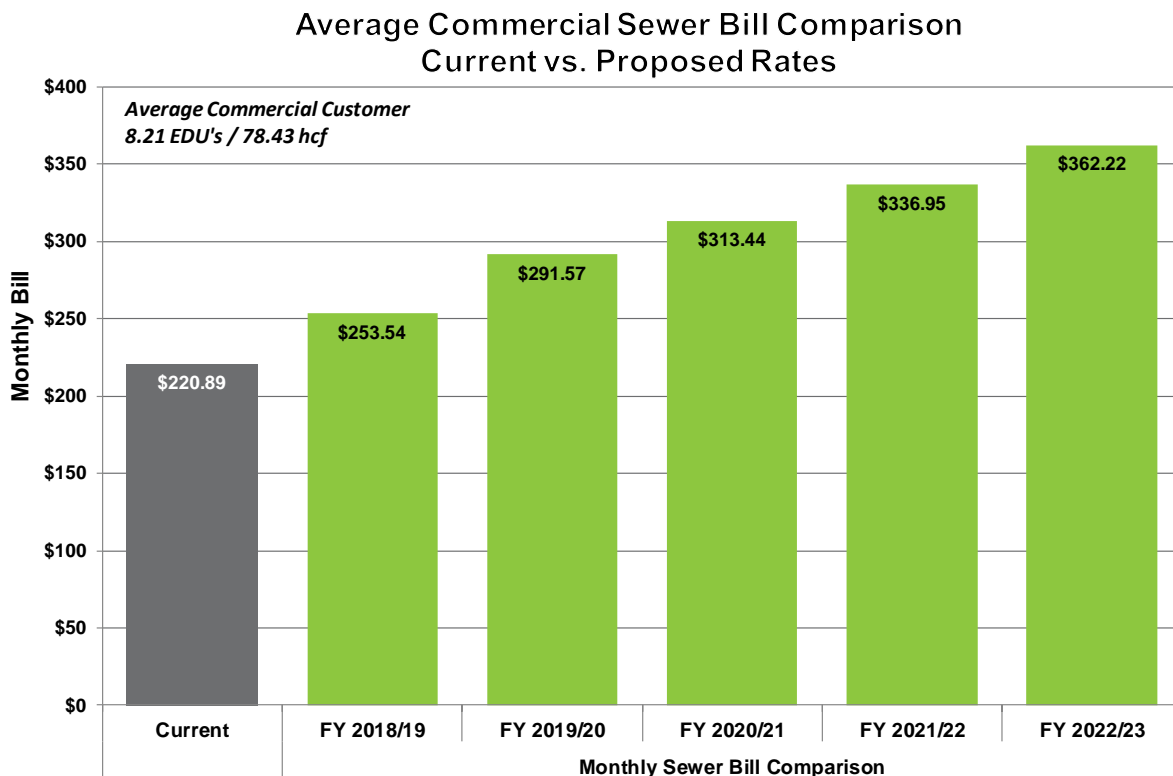
## E. Comparison of Current and Proposed Sewer Bills

Figure 11 and Figure 12 compare monthly sewer bills for the current and proposed sewer rates as a result of the planned rate adjustment for single-family residential customers and non-single family residential customers.

**Figure 11. Bi-Monthly Sewer Bill Comparison for Single Family Customers**



**Figure 12. Bi-Monthly Sewer Bill Comparison for Commercial Customers**



## Section 3. RECOMMENDATIONS AND NEXT STEPS

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### A. Findings and Recommendations

The following are the primary findings and recommendations resulting from this rate analysis.

**Summary of Findings** – The City’s sewer rates have not been adjusted since 2012 and need to incorporate historical increases in costs, and future estimated cost increases. This study has evaluated the various factors that are a part of the rate adjustment process, and the recommended rates are those that are necessary to adequately fund the City’s sewer utility

**Recommendations** – The following are the actions that NBS, in consultation with City staff, recommend the City take regarding the sewer rates:

- Review the results of this study and consider proceeding with the adoption process to implement the proposed rate adjustments.
- Approve the proposed sewer rates and formally adopt the recommended reserve fund targets as part of the rate resolution.
- Have the City’s legal counsel review the proposed rates and Prop 218 notices to ensure that they comply with existing statutes and legal requirements.
- Direct City staff to proceed with sending out Proposition 218 (Prop 218) notices to begin the protest ballot process required under State law prior to formal adoption and implementation of the proposed rates.
- After a minimum of 45 days after the initial mailing of the Prop 218 notices, determine if less than 50 percent of protest ballots were submitted. Assuming less than 50 percent of the eligible protest ballots were received, adopt the proposed rates in a public hearing.
- Assuming rates are adopted, direct staff to implement the new rates, with an effective date of July 1, 2018.

### B. 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 A: Detailed Sewer Study Tables and Figures

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# Appendix B: Woodard and Curran FDS Surcharge Development

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