

CITY OF RICHMOND



Sewer Rate Study





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EXECUTIVE SUMMARY

The City of Richmond, CA (the “City”) and the Richmond Municipal Sewer District own the Water Pollution Control Plant (Richmond Plant) that provides wastewater treatment services for the City. The Richmond Municipal Sewer District facilitates the allocation of sewer user fees paid by City of Richmond residents and customers. The City handles administrative, management and source control responsibilities for the wastewater utility and contracts out the operations and maintenance of the Richmond Plant and the sewer collection system.

The City’s wastewater enterprise fund is self-supporting and funds the operations and maintenance (O&M) associated with the utility, capital projects and repayment of any associated debt, and routine repair and replacement of aging system components of the system. The City commissioned Willdan to perform a wastewater rates study to ensure that user rate revenues continue to provide a stable source of funding for wastewater service. The primary objective of the rate study is to develop a five-year financial plan to cover the costs of operating the utility system. The projected expenditure requirements associated with the financial plan provide the basis to develop the recommended rate adjustments needed to ensure continued revenue sufficiency and stability.

Based upon the five-year projected expenditure requirements, the existing wastewater rates will not generate sufficient revenues to meet the financial needs of the system. The primary reason is that the City has identified significant wastewater capital improvements needs. The necessary funding for these capital improvements drives the need for rate adjustments. A summary of the projected operating results and eventual cash-flow deficits if the current rates are unchanged is provided in **Table 1**.

**TABLE 1
PROJECTED OPERATING RESULTS @ EXISTING RATES**

Description	Projected For Fiscal Year Ending June 30:				
	2021	2022	2023	2024	2025
Revenues:					
User Rate Revenues	\$25,788,700	\$26,181,500	\$26,322,300	\$26,502,500	\$26,643,300
Other Revenues	1,212,260	1,371,300	1,217,490	936,180	937,440
Total Revenues	\$27,000,960	\$27,552,800	\$27,539,790	\$27,438,680	\$27,580,740
System Expenditures:					
O&M Costs	\$13,279,750	\$13,782,290	\$14,311,460	\$14,859,587	\$15,433,141
Debt Service (P&I)	8,162,266	9,421,100	11,718,165	12,395,124	13,396,415
Cap Outlay	2,794,000	2,794,000	2,794,000	2,794,000	2,794,000
Total Expenditures	\$24,236,016	\$25,997,390	\$28,823,625	\$30,048,711	\$31,623,556
Bal. Available For Reserves	\$ 2,764,944	\$ 1,555,410	\$ (1,283,835)	\$ (2,610,031)	\$ (4,042,816)



The rate study methodology applied in the development of the Report consisted of reviewing the historical operating results of the wastewater utility system, analyzing the budget to identify the net revenue requirements to be recovered from user rate revenues, applying cost of service allocations, and revising the rates based on the applicable costs and expenditures to be recovered from user rates. In addition, a review of the system customers and usage characteristics (Commercial/Industrial class) was performed in order to identify the rate formula, usage and rate determinants since these are the primary sources for generating revenues. The projected revenue requirements were utilized in conjunction with the rate determinants and the current rate structure to develop proposed wastewater rates.

The findings and conclusions of the rate analysis, as well as the resulting revised rate recommendations, were utilized to develop a projection of future operating results for a 5-year planning period from fiscal year 2021 (beginning July 1, 2020) through fiscal year 2025 (herein referred to as the “Projection Period”). The purpose for developing the 5-year projections is to demonstrate the financial capability of the wastewater revenues generated from user rates to support system operations, including ongoing repair and maintenance activities as well as planned capital projects. The analyses, findings and accompanying recommendations are presented in the subsequent sections of the Report.

The wastewater rate analysis described in the Report is performed based on the general guidelines of the defined study objectives, as well as common industry standards with regard to setting utility rates. In addition to focusing on these major objectives, the rate analysis performed herein will consider other factors in designing rates. As will be discussed in detail later in the Report, such other rate considerations generally include sensitivity to the impact on existing customers, the relative comparability with neighboring utilities, the City’s existing rate structure, and the impact on future development.

The City sets its rates on an annual basis, subject to a previously approved maximum limit, and places the applicable charges on the Contra Costa County Secured Property Tax Roll for collection in conjunction with the ad valorem tax payments. As such, rates provided herein for the Single-Unit Residential and Multi-Unit Residential customers classes, as well as the minimum charge for the Commercial/Industrial customer class, are annual amounts rather than monthly.

The proposed wastewater rates for the first fiscal year of the Projection Period are provided in **Table 2**.



TABLE 2 PROPOSED RATES	
Description	Proposed Rates
	FY 2020/21
Single-Unit Residential:	\$ 940.00
Multi-Unit Residential (1):	\$ 752.00
Commercial/Industrial:	
Minimum Charge	\$ 564.00
Flow Rate Per IWU	\$ 67.45
Per LB of BOD	\$ 1.57
Per LB of TSS	\$ 0.71
⁽¹⁾ Per Dwelling Unit	

INTRODUCTION

The utility system provides wastewater treatment and effluent disposal services for most of the City and a small area within unincorporated Contra Costa County limits in the San Francisco Bay Area. Under contract with the City, Veolia Water North America (Veolia) operates and maintains the operating facilities, which include the wastewater collection system, the Water Pollution Control Plant and an effluent disposal system.

The City continues to focus significant attention and effort on strategic planning measures in all areas of the City operations in order to ensure that it remains financially stable and prepared for the future (e.g. regulatory changes, growth, etc.) As part of the strategic planning measures, the City has commissioned a wastewater rate study to analyze the current revenue sources and projected expenditures of the utility system and provide recommendations for proposed rate adjustments as needed to meet the financial and administrative goals and objectives of the City. The primary objectives of the rate study include:



- Full cost recovery (i.e. operating costs, debt and other expenditure requirements);
- Cost-based rate structure;
- Compliance with Proposition 218 requirements;
- Consistency with industry standards;
- Equity among customer classes;
- Administrative efficiency (i.e. easy to understand and implement); and
- 5-Year Capital Funding Plan.

EXISTING USER RATES

The City has established wastewater user rates that are applied to the retail customers (residential, commercial and industrial) of the system. The rates charged for wastewater service are approved by the City Council and are not subject to administrative review or approval by any other local or state agency. The City has historically adjusted rates as necessary to provide for the recovery of financial obligations including operating expenses, maintenance, routine repair and rehabilitation projects, debt service, capital expenditures and any other necessary expenses and transfers. The current schedule of rates was adopted and made effective on August 1, 2015, adjusted annually in accordance with the adopted 5-year schedule with the last approved adjustment going into effect on July 1, 2019.

Current Rates

The existing wastewater rates consist of 1) fixed annual charges for the Single-Unit Residential and Multi-Unit Residential customer classes, 2) a minimum annual charge for the Commercial/Industrial customer class, 3) flow rates per IWU (Industrial Wastewater Unit) for the Commercial/Industrial customer class, and 4) extra strength loading charges per pound of BOD (biochemical oxygen demand) and/or TSS (total suspended solids) for the Commercial/Industrial customer class. The fixed annual charge for the Single-Unit Residential class is applied to each detached residential home connected to the system. Similarly, the fixed annual charge for the Multi-Unit Residential class is applied per residential dwelling unit connected to the system via a master water meter. For the Commercial/Industrial customer class, one IWU represents 1,000 cubic feet (CF) of flow. Additionally, the BOD and TSS charges are applied for strength loading measured higher than 125 mg/l (milligrams per liter) and 275 mg/l, respectively. The existing rates for the wastewater service are provided in **Table 3**.



**TABLE 3
EXISTING RATES**

Description	Existing Rates	
	FY 2019/20	
Single-Unit Residential:	\$	880.00
Multi-Unit Residential (1):	\$	707.00
Commercial/Industrial:		
Minimum Charge	\$	527.00
Flow Rate Per IWU	\$	63.81
Per LB of BOD	\$	1.35
Per LB of TSS	\$	0.63

⁽¹⁾ Per Dwelling Unit

RATE-MAKING PRINCIPLES

The wastewater rate study completed for the City utilizes generally accepted rate-making principles established by the Water Environment Federation (WEF) in its “Financing and Charges for Wastewater Systems, Manual of Practice No. 27” and the American Water Works Association (AWWA). Such principles are applied in the development of rates and charges to: 1) generate sufficient revenue to meet the financial requirements of the wastewater system, and 2) address the need to recover costs from users in a manner that is proportionate to the cost of providing service, which is also a requirement of California Proposition 218.

As mentioned above, State law in California requires that property-related fees and charges (including wastewater utility rates) must be based upon the proportionate cost of providing the services, and not exceed the cost of providing the service. The principles by which rate practitioners are guided is that rates designed for any utility should strike a reasonable balance between several key factors. In general, the rates should:

- Generate a stable revenue stream that, when combined with other sources of funds, is sufficient to meet the financial requirements and goals of the utility;
- Be equitable – that is, rates should generate revenues from customer classes that are reasonably in proportion to the cost to provide service to that customer class;
- Be based upon the cost of providing service and be proportionate for system customers;
- Be easy to understand by customers; and
- Be easy to administer by the utility.



Striking the appropriate balance between the principles of rate-making is the result of a detailed process of evaluation of revenue requirements and cost of service, and how those translate into the rates that meet legal requirements and the specific objectives of the utility under the circumstances in which the utility operates.

RATE STRUCTURE REVIEW

In an effort to meet the objectives of establishing rates that are administratively efficient, equitable and based upon the cost of service provided, the analysis developed herein includes a review of the existing rate structure. In reviewing the current rate structure, primary consideration is given to the overall equity of the rate structure as it applies to various customers and customer classes, and the guiding principle that rates should be based on the proportionate cost of service. Consideration is also given to administrative efficiency, the comparativeness of the rate structure with other regional utility systems, as well as common industry standards for wastewater utility rates. A general description of the rate structure methodology is provided in the following discussions.

Single-Unit Residential & Multi-Unit Residential Charges

For residential customers, the Single-Unit Residential class represents standard, detached homes each served by their own single connection to the system, while the Multi-Unit Residential class represents customers for which more than one dwelling unit is served by a single, shared connection (e.g. apartments, condominiums, duplexes, triplexes, etc.) The charge for Multi-Unit Residential is set at a factor of 0.80 (80%) times the Single-Unit Residential charge. Based on discussions with City staff, the factor was developed from a prior study to determine the difference in the impact on the wastewater system between each class and based on the relative density associated with the different uses between the customer classes. In addition, the current 0.80 factor is consistent with industry standards that typically range between 0.70 and 0.80 for a multi-unit differential for utilities in which such a differential is applied. As such, this study found no cost-based reason to change the factor currently being used for the Multi-Unit Residential class.

Commercial/Industrial Minimum Charges

The minimum annual charge applied to Commercial and Industrial customers is currently set at a factor of 0.60 (60%) times the Single-Unit Residential charge. Like the Multi-Unit Residential factor previously addressed, the Commercial/Industrial factor is based on a prior study to determine the difference in the impact on the wastewater system between each class.

During the course of the study, consideration was given to proposing a meter-based structure whereby the minimum charge would be increased for customers with larger meter/connection sizes. The methodology for incrementing the charge is often based upon standardized demand criteria established by the American Water Works Association (AWWA) and the Water Environmental Federation (WEF) pursuant to the size of the water meter. Since the amount of



wastewater flow is a direct function of the size of the water meter, it is equitable to use the water meter size as the basis for the potential wastewater impact. The AWWA/WEF meter-size criteria are commonly used to establish a standard unit of measure for customers referred to as an Equivalent Residential Unit (ERU). Based upon the established standards, an ERU is equal to one single-family residential connection with a 5/8 x 3/4-inch water meter. The applicable ERU factors for larger connections are based upon the incremental increase in potential demand as compared to that of a standard water meter size. The factors are determined by hydraulic flow capabilities as defined by AWWA and WEF, and are commonly utilized by the utility industry. A summary of the standard AWWA/WEF meter-size equivalency factors is provided in **Table 4**.

TABLE 4 METER EQUIVALENCY FACTORS	
Meter Size	AWWA Factors ⁽¹⁾
5/8"	1.00
3/4"	1.50
1.0"	2.50
1.5"	5.00
2.0"	8.00
3.0"	16.00
4.0"	25.00
6.0"	50.00
8.0"	80.00

(1) Meter-size equivalency factors established by the AWWA and identified in AWWA Standards C700, M1 and M22, as well as WEF Manual of Practice No. 27.

In general, the practice of increasing the minimum charge as the connection size increases is equitable since, the larger the connection, the more potential demand a connection may place upon the system. In addition, applying a methodology that is based on the AWWA/WEF standards provides a justifiable and defensible basis for incrementing the charges.

However, since the City does not provide the water service, it does not currently maintain information that identifies the size of the water meters for its wastewater customers. Therefore, the rates developed herein do not include meter-based charges. Rather, it is proposed that the City take the necessary steps to identify the water meter sizes for all customers on the system and incorporate the information into its electronic customer data. Once all customers are properly identified and coded, consideration can be given to implementing a structure that is in accordance with the AWWA/WEF meter equivalency factors as identified in the previous table.



	PROJECTED REVENUE REQUIREMENTS
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The determination of the monthly user rates and charges to be applied to wastewater customers is based upon the estimated revenue requirements of the system. Revenue requirements consist of the operating, maintenance, debt service, capital and other monetary expenditures necessary to provide, maintain and perpetuate quality services to meet the goals and objectives of the utility system.

The rate analysis performed herein utilizes the City’s approved budget for fiscal year 2019/20 (the “Budget” for fiscal year ending June 30, 2020) as the basis for developing the revenue requirements to be recovered from user rates over the Projection Period. In developing the rate analysis, certain adjustments are made such that the expenditures are categorized into either Operating and Maintenance (O&M) expenses or Non-Operating expenses. The O&M expenses are primarily those ongoing costs for labor, materials, supplies, services, etc., required to manage and operate the utility system on a day-to-day basis while maintaining a dependable level of service. The estimated O&M requirements are generally a function of a budgetary process and are directly related to the level of service provided to customers of the utility system. The non-operating expenses include such items as debt service, capital outlay and any other expenses & transfers. The Budget also identifies estimated revenues to be derived from sources other than the retail wastewater user rates and charges. Such other revenue sources include connection fees, penalty fees, administrative fees and various other miscellaneous service charges. The revenues generated from the other sources are applied to the gross revenue requirements to reduce the amount of revenues required from user rates.

The proposed wastewater rates developed in the Report are designed for assumed implementation effective July 1, 2020 for the entire fiscal year 2020/21 (fiscal year 2021, herein referred to as the “Test Year”). The projected Test Year revenue requirements, as well as the requirements for the remaining years of the Projection Period are estimated by utilizing the adjusted Budget as a basis and making annual escalation adjustments for each line-item in accordance with historical cost escalation trends, as well as assumed future activities and events that may impact the system. Such projections include increasing applicable O&M expenses by inflationary and/or customer growth factors depending upon the nature of the expense, utilizing actual debt service requirements as provided in the applicable debt service schedules, using capital outlay estimates as provided by the City, and tying non-operating transfers to revenues or O&M expenses as applicable. The projected net revenue requirements for the Test Year and the remaining years of the Projection Period are detailed in **Exhibit 1** at the end of the report and summarized in **Table 5**.



**TABLE 5
PROJECTED REVENUE REQUIREMENTS**

Description	Projected For Fiscal Year Ending June 30:				
	2021	2022	2023	2024	2025
Total O&M	\$13,279,750	\$13,782,290	\$14,311,460	\$14,859,587	\$15,433,141
Debt Service	8,162,266	9,421,100	11,718,165	12,395,124	13,396,415
Other Expenditures	2,794,000	2,794,000	2,794,000	2,794,000	2,794,000
Gross Requirement	\$24,236,016	\$25,997,390	\$28,823,625	\$30,048,711	\$31,623,556
Less Other Revenues	(1,212,260)	(1,371,300)	(1,217,490)	(936,180)	(937,440)
Net Requirement	\$23,023,756	\$24,626,090	\$27,606,135	\$29,112,531	\$30,686,116

**CUSTOMERS AND
BILLABLE FLOW**

The wastewater rate study performed herein is heavily reliant upon a thorough review of the system customers. The historical and existing utility customer data provides the determinants utilized in calculating the user rates and charges and becomes the foundation for projecting future revenues to be generated by the wastewater system.

It is important to note that the customer analysis focuses primarily on the customer classifications that will be impacted by the user rates and charges to be developed in the Report. This consists of the general service (retail) customers that currently pay for utility services pursuant to the existing user rates and charges as previously detailed. For the purpose of the rate study, it is these customers and their accompanying flows that will generate revenues based upon the proposed user rates and charges.

Customer Billing Analysis

For the purpose of the rate study, tax roll information for each individual customer provided a breakdown of the wastewater customers by class. An analysis of the data was conducted in order to obtain an understanding of the existing customers and customer classes. The data was utilized to identify the number of customer accounts within each class and the applicable IWUs. In addition, the historical billing data provides a basis to estimate future customer growth trends within each class. In accordance with the data, as well as discussions with City staff, the wastewater system provides service to various identifiable retail customer classes consisting of:

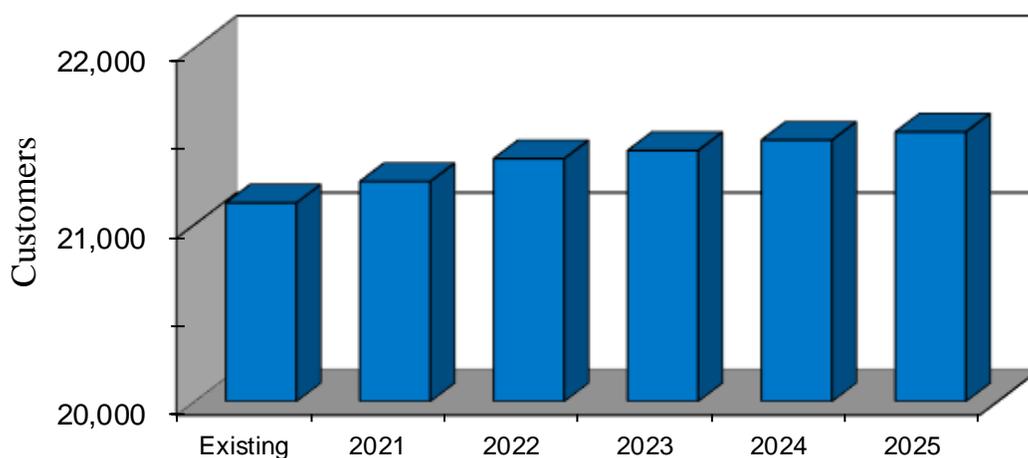
- Single-Unit Residential;
- Multi-Unit Residential; and
- Commercial/Industrial.



Customer Accounts

An account is defined as a single connection to the System, regardless of customer class or connection size. The customer data was utilized to establish the current number of accounts within each customer class. In addition, growth estimates provided by the City were used to project the average number of accounts within each class for the Test Year plus the remaining years of the Projection Period. The existing and projected average customer accounts are summarized in **Figure 1**.

**FIGURE 1
CUSTOMER GROWTH PROJECTIONS
WASTEWATER SYSTEM**



The City has experienced positive customer growth in recent years, particularly within the residential customer class. The annual increase in new customers is based on estimates provided by City staff. The growth assumptions are included in the projected customers illustrated above and are utilized in estimating the revenues each year of the Projection Period.

COST OF SERVICE & PROPOSED RATES

Consistent with the existing rate structure previously discussed, the proposed wastewater rates are composed of flat annual charges for the Single-Unit Residential and Multi-Unit Residential customers, and a minimum charge, flow rate and BOD/TSS strength charges for Commercial/Industrial. As previously addressed, this type of rate structure meets the City's objectives and provides a reasonable allocation of the cost among the various customer classes pursuant to the demand characteristics previously determined for each customer class.



The methodology used to calculate the wastewater rates proposed herein involves applying the projected customers and Commercial/Industrial flows and loadings to the existing rates in order to develop the estimated revenues, comparing the projected revenues to the projected revenue requirements, and adjusting the wastewater rates on a percentage basis as necessary to generate the revenues sufficient to meet the revenue needs of the utility system.

The cost of service analysis applied herein is somewhat different than such analyses in the traditional sense of the term. Since the City does not provide the water service for its customers, it does not currently have or maintain information that identifies the “billable” flows for the majority of its wastewater customers. Billable flows represent the amount of metered water usage to which wastewater volumetric rates are applied. Currently, the City only has such data for the Commercial/Industrial class. As such, given the limited availability of data, the cost analysis performed herein finds that it is equitable to apply customer equivalency factors to allocate revenue requirements to the customer classes.

In performing this type of cost analysis, each customer within the Single-Unit Residential class is assumed to represent a standard, detached, single-family home and is given an equivalency factor of 1.00. As previously addressed, the Multi-Unit Residential class represents customers for which more than one dwelling unit is served by a single, shared, master-metered connection (e.g. apartments, condominiums, duplexes, triplexes, etc.) These types of connections are commonly referred to as multi-family customers. It is common practice in the utility industry to assume that, as a class, the average multi-family customer will use less service than the average single-family customer. The reasons for applying such an assumption include smaller dwelling units, fewer residence per dwelling unit, and lower non-discretionary (e.g. outside irrigation) usage per dwelling unit. Although different systems can vary, the assumption of a lower per-unit service requirement for multi-family connections is supported by empirical evidence from utility industry studies. The City currently utilizes an equivalency factor of 0.80 per dwelling unit for the Multi-Unit Residential class. The current factor is consistent with industry standards for a multi-family differential.

For Commercial and Industrial customers, the City applies an equivalency factor of 0.60 for the minimum annual charge. However, unlike the Multi-Unit Residential factor that is based on an assumption of a lower average service requirement, the Commercial/Industrial factor is typically based on a differing system impact assumption. Generally, the non-residential customers that fall into the Commercial/Industrial class will use more service per account on average than their residential counterparts. Water demand patterns of various customers differ depending upon their maximum-day and maximum-hour rates of demand relative to their average demand. For example, residential customers typically have a much higher peak-demand requirement, relative to the average demand, than do large manufacturing facilities. This is because residential usage is often confined to certain times of the day (e.g. mornings when families are getting ready for work or school), while larger non-residential operations will likely require service on a more uniform basis throughout the day and year. These differences in demand patterns can create differences in the cost to serve those customers.



While this methodology provides a calculation of the rates needed to fund expenditures, there are other factors that must be considered in designing rates in order to satisfy the City’s objectives. Such other rate considerations include, but are not limited to:

1. Sensitivity to existing customers - the proposed rates must consider the impact on existing customers and avoid putting an inequitable financial burden on any particular customer class.
2. Comparability with neighboring utilities - the proposed rates should consider, and be relatively comparable to, the rates and charges applied to customers of neighboring utilities of relatively similar size for similar service.
3. Existing rate structure - the proposed rates must consider the logistics and cost/benefit implications of instituting significant changes to the existing rates and rate structure.
4. Economic development - the proposed rates must consider the potential for future development within the City’s service area and ensure that the rates do not make it cost-prohibitive for future development.

The proposed rates developed herein utilize these considerations, as well as discussions with City staff, professional judgment and prior experience with comparable utility systems. A comparison of the existing rates to those proposed for the Test Year is provided in **Table 6**.

TABLE 6 EXISTING VS. PROPOSED RATE COMPARISON				
Description	Annual Charges		Difference	
	Existing	Proposed	Annual	Monthly
Single-Unit Residential:	\$ 880.00	\$ 940.00	\$ 60.00	\$ 5.00
Multi-Unit Residential (1):	\$ 707.00	\$ 752.00	\$ 45.00	\$ 3.75
Commercial/Industrial:				
Minimum Charge	\$ 527.00	\$ 564.00	\$ 37.00	\$ 3.08
Flow Rate Per IWU	\$ 63.81	\$ 67.45	\$ 3.64	n/a
Per LB of BOD	\$ 1.35	\$ 1.57	\$ 0.22	n/a
Per LB of TSS	\$ 0.63	\$ 0.71	\$ 0.08	n/a

(1) Per Dwelling Unit

The Commercial/Industrial charges for BOD and TSS are established to recover the costs associated with treating high-strength wastewater from industrial users with applicable discharge permits. The term high-strength refers to wastewater effluent that has higher concentrations of



conventional pollutants than do typical households (i.e. domestic levels). High-strength wastewater can cost more for the utility system to treat and dispose of because it can require higher levels of oxygen, create more biosolids, and/or require additional chemicals for treatment. For this reason, the BOD and TSS charges are applied in addition to the normal flow rate for those customers.

The methodology and structure utilized by the City for applying the industrial surcharges is consistent with those used by other utility systems in California and is consistent with industry standards for such charges. In general, wastewater samples are collected for each qualifying customer and then used to calculate wastewater strength. For the purpose of the City's strength-charge program, wastewater strength is calculated based upon the concentrations of BOD and TSS. The resulting concentration amounts are applied in conjunction with the flows in order to determine the loading strength of the wastewater for comparison to the loading thresholds. The threshold values represent the City's established level-of-service standard for domestic wastewater discharges. Wastewater loading strengths that exceed the domestic threshold values are considered high-strength wastewater and subject to the applicable strength-charges to recover the extra costs of treatment and disposal. As previously addressed, the City's adopted domestic threshold levels are 125 mg/l for BOD and 275 mg/l for TSS.

The cost analysis utilizes historical daily wastewater treatment plant data including total flow, BOD and TSS amounts reported for the wastewater treatment plant during fiscal year ended June 30, 2019. The analysis involves utilizing data for the total wastewater system in conjunction with the Budget and applicable costs allocated to wastewater treatment in order to determine an estimated total costs per unit of combined pounds of BOD and TSS for the entire wastewater system.

In general, the costs associated with BOD removal are higher than the costs associated with comparable amounts of TSS removal. Such cost differences are typically a result of the higher energy demands for oxygen used for the breakdown and consumption of the particulate BOD that reaches the aeration system. Therefore, in developing the proposed surcharges, an additional 2-times cost differential factor is weighted to the BOD portion of loadings. The development of the unit cost analysis for BOD and TSS is Summarized in **Table 7**.



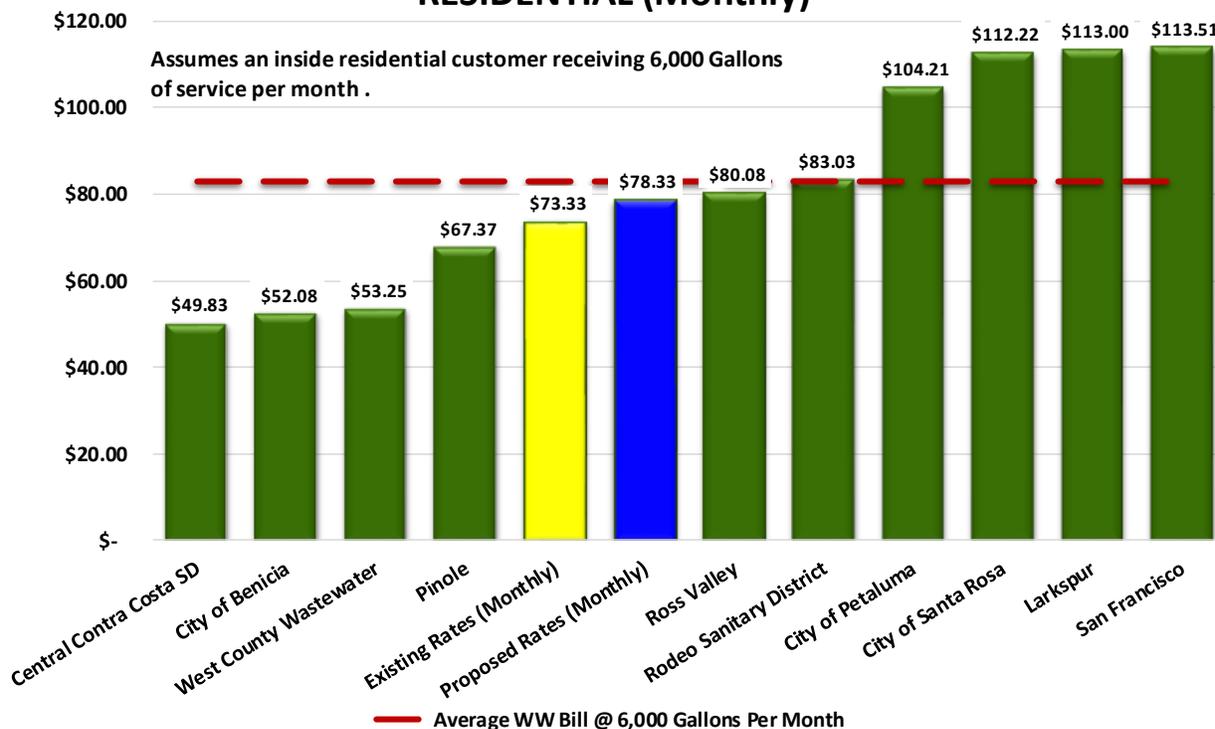
TABLE 7 BOD & TSS CHARGES	
Description	Total
Wastewater Loadings For FY 2019 (Pounds):	
Influent BOD	5,128,970
Influent TSS	5,697,444
Total Influent Pounds of BOD & TSS	10,826,414
Allocated Treatment Costs	\$ 12,106,966
Cost Differential Factor:	
BOD	0.6667
TSS	0.3333
Calculated Component Rate Per Pound:	
BOD	\$ 1.57
TSS	\$ 0.71

RATE COMPARISON WITH NEIGHBORING UTILITIES

In order to provide the City with additional insight regarding the proposed rate levels, the analysis includes a comparison of both the existing and proposed user rates relative to the user rates imposed by other wastewater utility systems located in the same general region of California as the City. A summary analysis is provided comparing the cost of monthly wastewater service for a typical residential customer (assumed to have a 5/8 x 3/4-inch water meter where applicable) calculated under the existing and proposed rates of the City with those of the other neighboring utilities. The rates utilized for the other utilities shown were in effect as of September 2019 and are exclusive of local taxes, outside surcharges, franchise fees or other rate adjustments. A summary comparison with neighboring utilities for a residential customer using 6,000 gallons (an industry standard of monthly flow commonly used for comparison of typical residential customers) of service per month is illustrated in **Figure 2**.



**FIGURE 2
COMPARISON WITH OTHER UTILITY SYSTEMS
RESIDENTIAL (Monthly)**



It should be noted that when making comparisons for wastewater service, several factors influence the level of rates and charges. Such factors may include:

- 1) Level of treatment and effluent disposal methods of wastewater service;
- 2) Anticipated capital improvement programs and capital financing methods;
- 3) Plant capacity utilization, age of facilities, and assistance in construction by federal or state grants, connection fees, developer contributions, etc;
- 4) Supporting transfers from water revenues, reserves or the General Fund made by municipal systems which may account for differences in the level of rates charged; and
- 5) Bond covenants and funding requirements of the rates.

For the utilities included in the rate comparisons, no analysis has been performed with consideration to the above-mentioned factors as they relate to the reported wastewater rates currently being charged. Additional analyses to identify and quantify the possible impacts of such other factors for each of the utility systems included in the comparison group are beyond the scope of this study.



PROJECTED OPERATING RESULTS

As a conclusion to the study, a proforma operating statement is developed for the wastewater system. The statement is developed in order to summarize the projected financial results based on the system revenues, expenses and other revenue requirements anticipated in future years. The projected operating results provide the basis to determine if the existing rates will generate sufficient revenues to meet the anticipated expenditure requirements of the system (see **Table 5** for the projected revenue requirements). The proforma operating statement covers the 5-fiscal year Projection Period through June 30, 2025 and is prepared on a cash-flow basis. A summary of the projected operating results at the existing rates (i.e. assuming no rate adjustments) is provided in **Table 8**.

TABLE 8 PROJECTED OPERATING RESULTS @ EXISTING RATES					
Description	Projected For Fiscal Year Ending June 30:				
	2021	2022	2023	2024	2025
Revenues:					
User Rate Revenues	\$25,788,700	\$26,181,500	\$26,322,300	\$26,502,500	\$26,643,300
Other Revenues	1,212,260	1,371,300	1,217,490	936,180	937,440
Total Revenues	\$27,000,960	\$27,552,800	\$27,539,790	\$27,438,680	\$27,580,740
System Expenditures:					
O&M Costs	\$13,279,750	\$13,782,290	\$14,311,460	\$14,859,587	\$15,433,141
Debt Service (P&I)	8,162,266	9,421,100	11,718,165	12,395,124	13,396,415
Cap Outlay	2,794,000	2,794,000	2,794,000	2,794,000	2,794,000
Total Expenditures	\$24,236,016	\$25,997,390	\$28,823,625	\$30,048,711	\$31,623,556
Bal. Available For Reserves	\$ 2,764,944	\$ 1,555,410	\$ (1,283,835)	\$ (2,610,031)	\$ (4,042,816)

As can be seen in the previous table, the existing rates will not generate enough revenues to fund all of the anticipated revenue requirements. Therefore, rate adjustments are necessary to meet the needs of the system. Based on those financial needs, the projected operating results are then developed assuming that the updated wastewater rates recommended in this report are adopted and implemented. In addition, the updated proforma operating statement identifies the applicable annual percentage rate adjustments necessary to meet the projected revenue requirements. The following discussions describe the development of the major components of the projected operating results.

PROJECTED REVENUES

The user rate and charge revenues are estimated by applying the existing and proposed rates to the projected customers and Commercial/Industrial flows and loadings. The revenues for the Projection Period are estimated for wastewater and further segmented by customer class. The



resulting revenues are then compared to the projected revenue requirements (i.e. O&M expenses, debt service, capital outlay, transfers, etc.) in each fiscal year in order to determine if the revenues are sufficient to satisfy the expenditure needs of the system. To the extent that there are revenue shortfalls, the wastewater rates are adjusted on a percentage basis as necessary to generate the required level of revenues. Based on the projected revenue requirements, this Report proposes rate adjustments of 7.0% annually for each year of the Projection Period. Such rate adjustments are driven primarily by anticipated capital expenditure needs. The City's adopted Capital Improvements Program (CIP) will be addressed in more detail later in the Report. The projected wastewater revenues, including proposed rate adjustments, are provided in **Table 9**.

TABLE 9 PROJECTED REVENUES						
Description	Existing Rates 2021	Proposed Rates 2021	Projected For Fiscal Year Ending June 30:			
			2022	2023	2024	2025
Customer Class:						
Single-Unit Residential	\$ 14,442,600	\$ 15,427,300	\$ 16,412,000	\$ 17,560,800	\$ 18,709,700	\$ 19,858,500
Multi-Unit Residential	6,394,100	6,801,100	7,681,600	8,390,500	9,172,900	9,929,700
Commercial/Industrial	4,815,400	5,220,200	5,562,300	5,951,200	6,352,500	6,760,500
Total	\$25,652,100	\$27,448,600	\$29,655,900	\$31,902,500	\$34,235,100	\$36,548,700

As previously indicated, the projected revenues also include the annual wastewater rate adjustments anticipated for the remaining years of Projection Period beyond the Test Year. The projected wastewater user rates from which the projected operating results are developed for the entire 5-fiscal year Projection Period are provided in **Table 10**.

TABLE 10 PROJECTED USER RATES						
Description	Existing Rates 2021	Proposed Rates 2021	Projected For Fiscal Year Ending June 30:			
			2022	2023	2024	2025
Single-Unit Residential:	\$ 880.00	\$ 940.00	\$ 1,000.00	\$ 1,070.00	\$ 1,140.00	\$ 1,210.00
Multi-Unit Residential (1):	\$ 707.00	\$ 752.00	\$ 800.00	\$ 856.00	\$ 912.00	\$ 968.00
Commercial/Industrial:						
Minimum Charge	\$ 527.00	\$ 564.00	\$ 600.00	\$ 642.00	\$ 684.00	\$ 726.00
Flow Rate Per IWU	\$ 63.81	\$ 67.45	\$ 71.73	\$ 76.76	\$ 81.75	\$ 86.74
Per LB of BOD	\$ 1.35	\$ 1.57	\$ 1.68	\$ 1.80	\$ 1.93	\$ 2.07
Per LB of TSS	\$ 0.63	\$ 0.71	\$ 0.76	\$ 0.81	\$ 0.87	\$ 0.93

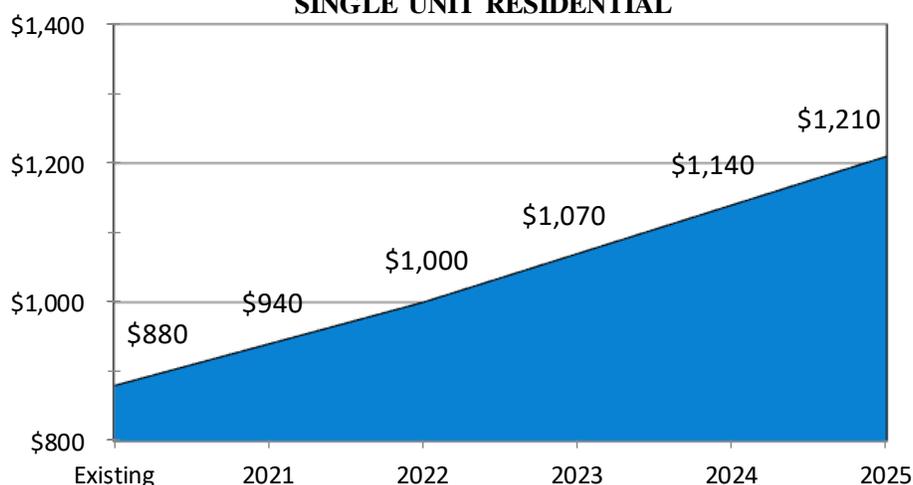
(1) Per Dwelling Unit

The projected user rates provided herein for the periods beyond the Test Year are intended for strategic planning purposes and to provide the City with the future rates that would be needed to



satisfy the projected cash flow requirements. The rates are developed in accordance with the assumed customer, expenditure and revenue estimates projected in the wastewater rate study. It is important to note that, since it is necessary to utilize multiple assumptions to develop the projected operating results, to the extent that actual customers, flows and/or system expenditures differ from those assumed herein, additional rate adjustments may be required. For informative purposes, the typical monthly bill is calculated for a representative Single-Unit Residential customer based on the projected rates, as well as the accompanying change in the annual bill for each year of the Projection Period. The projected Single-Unit Residential rate path is provided in **Figure 3**.

**FIGURE 3
PROJECTED 5-YEAR RATE PATH
SINGLE UNIT RESIDENTIAL**



PROJECTED REVENUE REQUIREMENTS

As previously discussed, the estimated revenue requirements for the Test Year are developed utilizing the Budget as a basis. The revenue requirements for the Test Year and the remainder of the Projection Period are developed by escalating the budgeted costs on a line-item basis in accordance with assumed future activities and events that may impact the system (see **Exhibit 1**). The costs associated with certain operating expenses that are typically more variable in nature, such as chemicals and electrical power, are escalated pursuant to various factors based on a combination of estimated customer and/or flow growth and assumed inflationary forces. Personnel related costs such as employee salaries and benefits are generally escalated based on assumed labor escalator factors that, over the Projection Period, include adjustments in pay and incremental addition of employees as necessary. Certain expenses that do not generally vary with system growth (e.g. telephones, publications, training, etc.) are assumed to either escalate based only on inflation or remain relatively constant. Materials, supplies, general repairs and maintenance expenses generally increase from current levels based on inflationary factors that directly impact the wastewater industry. Such factors are derived on a composite basis from historical analyses of price indices used by many utilities for financial forecasting.



CAPITAL IMPROVEMENT PROGRAM (CIP)

The City provided Willdan with its adopted CIP that offers a forecast of capital requirements and anticipated sources of funding (e.g. new debt, reserves, etc.) for the five-year Projection Period. Many of the capital projects are required to meet federal and State regulatory requirements, specifically projects necessary to improve quality and pollutant levels in treated wastewater discharged to the San Francisco Bay, as well as to maintain quality service to existing and new customers. Two of the largest cost projects include 1) Screening, Grit Facility and Aeration Upgrades (approximately \$30.6 million), and 2) Biosolids Dewatering and Sidestream Treatment Facilities (approximately \$32.0 million). The combined cost of these two projects represents more than 43% of the total 5-year CIP. As previously addressed, the capital cost estimates and applicable funding sources are used in the analysis for purposes of developing the revenue requirements and are the primary drivers behind the need for rate adjustments that are higher than normal inflationary increases. A summary of the 5-fiscal year CIP is provided in **Table 11**.

Fiscal Year	Capital Expenditures
2021	\$ 40,682,100
2022	34,422,800
2023	35,822,000
2024	22,212,100
2025	12,110,500
Total	\$ 145,249,500

DEBT SERVICE & COVERAGE

The City's wastewater system currently has outstanding debt service obligations for various loans. In addition, the City has identified various capital projects in its CIP that will require funding from new debt during the Projection Period. The estimated future payments associated with the new debt are based on information provided by City staff and the City's financial advisor and are intended for order-of-magnitude planning purposes only. The existing debt payments and estimated new debt service payments are included in the revenue requirements developed herein.

The projected operating statement also includes a calculation of the annual debt service coverage (based on both current and planned debt). Debt service coverage is generally viewed as an indicator of the financial strength of the utility. The debt service coverage ratio is calculated by dividing the net revenues by the annual debt service requirement for the outstanding and anticipated new debt. For the purpose of the debt service coverage calculation developed herein, the net revenues consist of the total operating revenues (user rate revenues plus other revenues) less the O&M expenses. It is important to note that, while the debt service coverage calculations



developed herein are based on the relative flow-of-fund requirements defined in most common revenue bond ordinances, the results are provided for informative purposes only, and not intended as a legally supportable calculation for representation to bondholders.

SUMMARY OF PROJECTED OPERATING RESULTS

The cash-flow statement outlining the projected operating results is detailed in **Exhibit 2**. The results demonstrate that the proposed rates and charges along with the other system revenues and projected future rate adjustments are anticipated to satisfy the projected revenue requirements and capital needs of the utility system. A summary of the projected operating results is provided in **Table 12**.

TABLE 12 PROJECTED OPERATING RESULTS						
Description	Existing Rates	Projected For Fiscal Year Ending June 30:				
		2021	2022	2023	2024	2025
Rate Adjustments		7.00%	7.00%	7.00%	7.00%	7.00%
Revenues:						
User Rate Revenues	\$25,652,100	\$27,448,600	\$29,655,900	\$31,902,500	\$34,235,100	\$36,548,700
Other Revenues	1,212,260	1,212,260	1,371,300	1,217,490	936,180	937,440
Total Revenues	\$26,864,360	\$28,660,860	\$31,027,200	\$33,119,990	\$35,171,280	\$37,486,140
System Expenditures:						
O&M Costs	\$13,279,750	\$13,279,750	\$13,782,290	\$14,311,460	\$14,859,587	\$15,433,141
Debt Service (P&I)	8,162,266	8,162,266	9,421,100	11,718,165	12,395,124	13,396,415
Cap Outlay/Auto Equip>5,000	44,000	44,000	44,000	44,000	44,000	44,000
Cap Outlay/Cap Prj In Progress	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Brick Manhole Lining Program	250,000	250,000	250,000	250,000	250,000	250,000
Total Expenditures	\$24,236,016	\$24,236,016	\$25,997,390	\$28,823,625	\$30,048,711	\$31,623,556
Bal. Available For Reserves	\$ 2,628,344	\$ 4,424,844	\$ 5,029,810	\$ 4,296,365	\$ 5,122,569	\$ 5,862,584
Debt Service Coverage	1.66	1.88	1.83	1.61	1.64	1.65

GENERAL ASSUMPTIONS AND CONSIDERATIONS

In the development of the proposed user rates and charges, certain historical reviews and analyses have been performed, together with the application of assumptions based on prudent financial, operational and ratemaking relationships. The cost criteria and customer characteristics associated with general ratemaking procedures are representative of averages and are not intended as indicators of any individual customer.

In the preparation of the rate study, certain assumptions have been made with respect to conditions that may occur in the future. While it is believed that these assumptions are reasonable for the



purpose of this update, they are dependent upon future events and actual conditions may differ from those assumed. In addition, the study has used and relied upon certain information that was provided by other parties not associated with Willdan. Such information includes, among other things, the City's audited financial statements, annual operating budgets, periodic reports, and other information and data provided by the City, its independent auditors, financial advisor, and other sources. While the sources are believed to be reliable, there has been no independent verification of the information and no assurances are offered with respect thereto. To the extent that future conditions differ from those assumed herein or provided by others, the actual results may vary from those projected.

CONCLUSIONS

As previously addressed, the purpose of this study is to provide a review of the City's existing utility rates and to determine if rate adjustments are necessary to meet the budgeted and/or projected financial needs in future years. This Report is the result of the collaborative efforts of representatives from both the City and Willdan. The City staff was diligent, professional and cooperative in their efforts to ensure the availability and quality of source data on financial and operating matters. Based on the reviews, analyses and assumptions discussed herein, it is concluded that:

1. The proposed user rates and charges are anticipated to generate sufficient revenues to meet the revenue requirements of the system based upon the projected expenditures, transfers and customers estimated for the Test Year. The proposed rates are based on an assumed implementation date of July 1, 2020 (i.e. the beginning of Fiscal Year 2021). To the extent that the implementation date is postponed, additional rate adjustments and/or appropriations from existing reserves may be necessary.
2. The proposed user rates and charges are in conformance with industry standard rate-making practices, Proposition 218 and the City's rate policies with respect to:
 - a. The equitable recovery of costs;
 - b. Setting rates based upon the proportionate cost of providing service; and
 - c. Generating sufficient revenue to fully recover system expenditures and satisfy reserve requirements.
3. The estimated revenues and resulting rate adjustments for the remaining years of the Projection Period beyond the Test Year are developed based on the customer growth assumptions generated from the historical analyses and information provided by City staff. If the customer growth projections are not realized, additional rate adjustments may be necessary.
4. Customer account growth for the wastewater system is projected based on historical customer account data as provided by the City as well as discussions with City staff



regarding developer activity and anticipated new construction. The customer information indicates that the utility system has experienced a certain amount of continued new growth during recent years. As such, for the purpose of the analyses developed herein, it is assumed that growth will continue at levels consistent with recent historical trends or as otherwise indicated by the City.

5. Future capital improvement projects are assumed to occur as reported by the City in its CIP. To the extent that the timing of such projects may change from that estimated herein, the cost of such projects and resulting impact on future rates and charges may vary from those indicated.
6. As part of the City's strategic planning process, it is prudent to identify all the existing customer connections by the size of the water meter (or sewer meter if applicable). This information can be utilized in future studies to separate these customers and develop a meter-based rate structure for wastewater service that is consistent with common industry standards.

RECOMMENDATIONS

Based on the reviews, analyses and assumptions addressed herein, as well as the resulting conclusions provided above, it is respectfully recommended that the City:

1. Adopt the proposed wastewater rates developed herein.
2. Enact the proposed rates to become effective as of July 1, 2020 (fiscal year 2021).
3. Readdress the rate analysis on an annual basis in order to review the assumptions and projections and make adjustments as required to maintain the financial integrity of the utility system.
4. Work in conjunction with the water service providers to identify the size of the water meter for each existing and future customer connection.

**EXHIBIT 1
PROJECTED REVENUE REQUIREMENTS
WASTEWATER SYSTEM**

Line	Description	Budget 2020	Escalation Reference	Test Year 2021	Projected For Fiscal Year Ending June 30:			
					2022	2023	2024	2025
OPERATING EXPENSES								
SALARIES & WAGES:								
1	SALARIES & WAGES/Executive	\$ 278,268	Labor	\$ 292,180	\$ 306,789	\$ 322,128	\$ 338,234	\$ 355,146
2	SALARIES & WAGES/Executive	95,355	Labor	100,120	105,126	110,382	115,901	121,696
3	SALARIES & WAGES/Mgmt-Local 21	80,093	Labor	84,100	88,305	92,720	97,356	102,224
4	SALARIES & WAGES/Mgmt-Local 21	171,933	Labor	180,530	189,557	199,035	208,987	219,436
5	SALARIES & WAGES/Mgmt-Local 21	72,073	Labor	75,680	79,464	83,437	87,609	91,989
6	SALARIES & WAGES/Local 1021	64,314	Labor	67,530	70,907	74,452	78,175	82,084
7	SALARIES & WAGES/Local 1021	230,471	Labor	241,990	254,090	266,795	280,135	294,142
8	SALARIES & WAGES/PT- Temp	26,000	Labor	27,300	28,665	30,098	31,603	33,183
9	SALARIES & WAGES/PT- Temp	19,562	Labor	20,540	21,567	22,645	23,777	24,966
10	OVERTIME/General	8,500	Labor	8,930	9,377	9,846	10,338	10,855
11	OTHER PAY/Shift Differential	7,272	Labor	7,640	8,022	8,423	8,844	9,286
12	OTHER PAY/Stand By	8,898	Labor	9,340	9,807	10,297	10,812	11,353
13	OTHER PAY/Bilingual Pay	1,602	Labor	1,680	1,764	1,852	1,945	2,042
14	OTHER PAY/Bilingual Pay	1,434	Labor	1,510	1,586	1,665	1,748	1,835
15	OTHER PAY/Auto Allowance	4,560	Labor	4,790	5,030	5,282	5,546	5,823
16	OTHER PAY/Medical Flex	2,400	Labor	2,520	2,646	2,778	2,917	3,063
17	OTHER PAY/Medical Flex	1,200	Labor	1,260	1,323	1,389	1,458	1,531
18	OTHER PAY/Vacation Lve Payout	7,510	Labor	7,890	8,285	8,699	9,134	9,591
19	OTHER PAY/Vacation Lve Payout	2,949	Labor	3,100	3,255	3,418	3,589	3,768
20	OTHER PAY/Vacation Lve Payout	6,206	Labor	6,520	6,846	7,188	7,547	7,924
21	Total	\$ 1,090,600		\$ 1,145,150	\$ 1,202,411	\$ 1,262,529	\$ 1,325,655	\$ 1,391,937

**EXHIBIT 1
PROJECTED REVENUE REQUIREMENTS
WASTEWATER SYSTEM**

Line	Description	Budget 2020	Escalation Reference	Test Year 2021	Projected For Fiscal Year Ending June 30:			
					2022	2023	2024	2025
BENEFITS:								
22	P-ROLL BEN/Medicare Tax-ER Shr	\$ 6,233	Labor	\$ 6,540	\$ 6,867	\$ 7,210	\$ 7,571	\$ 7,950
23	P-ROLL BEN/Medicare Tax-ER Shr	2,538	Labor	2,660	2,793	2,933	3,080	3,234
24	P-ROLL BEN/Medicare Tax-ER Shr	4,425	Labor	4,650	4,883	5,127	5,383	5,652
25	P-ROLL BEN/Health Insurance Be	70,234	Labor	73,750	77,438	81,310	85,376	89,645
26	P-ROLL BEN/Health Insurance Be	14,047	Labor	14,750	15,488	16,262	17,075	17,929
27	P-ROLL BEN/Health Insurance Be	47,194	Labor	49,550	52,028	54,629	57,360	60,228
28	P-ROLL BEN/Dental Insurance	5,838	Labor	6,130	6,437	6,759	7,097	7,452
29	P-ROLL BEN/Dental Insurance	2,956	Labor	3,100	3,255	3,418	3,589	3,768
30	P-ROLL BEN/Dental Insurance	4,729	Labor	4,970	5,219	5,480	5,754	6,042
31	P-ROLL BEN/Employee Assistance	174	Labor	180	189	198	208	218
32	P-ROLL BEN/Employee Assistance	88	Labor	90	95	100	105	110
33	P-ROLL BEN/Employee Assistance	143	Labor	150	158	166	174	183
34	P-ROLL BEN/Professional Dev-Mg	4,500	Labor	4,730	4,967	5,215	5,476	5,750
35	P-ROLL BEN/Professional Dev-Mg	1,500	Labor	1,580	1,659	1,742	1,829	1,920
36	P-ROLL BEN/Professional Dev-Mg	375	Labor	390	410	431	453	476
37	P-ROLL BEN/Vision	763	Labor	800	840	882	926	972
38	P-ROLL BEN/Vision	387	Labor	410	431	453	476	500
39	P-ROLL BEN/Vision	618	Labor	650	683	717	753	791
40	P-ROLL BEN/Life Insurance	2,389	Labor	2,510	2,636	2,768	2,906	3,051
41	P-ROLL BEN/Life Insurance	1,726	Labor	1,810	1,901	1,996	2,096	2,201
42	P-ROLL BEN/Life Insurance	704	Labor	740	777	816	857	900
43	P-ROLL BEN/Long Term Disabilit	4,054	Labor	4,260	4,473	4,697	4,932	5,179
44	P-ROLL BEN/Long Term Disabilit	2,420	Labor	2,540	2,667	2,800	2,940	3,087
45	P-ROLL BEN/Long Term Disabilit	1,913	Labor	2,010	2,111	2,217	2,328	2,444
46	P-ROLL BEN/Unemployment Ins	1,801	Labor	1,890	1,985	2,084	2,188	2,297
47	P-ROLL BEN/Unemployment Ins	912	Labor	960	1,008	1,058	1,111	1,167
48	P-ROLL BEN/Unemployment Ins	1,458	Labor	1,530	1,607	1,687	1,771	1,860
49	P-ROLL BEN/Personal/Prof Dev	1,500	Labor	1,580	1,659	1,742	1,829	1,920
50	P-ROLL BEN/Personal/Prof Dev	2,025	Labor	2,130	2,237	2,349	2,466	2,589
51	P-ROLL BEN/Worker Comp-Clerica	5,936	Labor	6,230	6,542	6,869	7,212	7,573
52	P-ROLL BEN/Worker Comp-Prof	23,962	Labor	25,160	26,418	27,739	29,126	30,582
53	P-ROLL BEN/Worker Comp-Prof	17,858	Labor	18,750	19,688	20,672	21,706	22,791
54	P-ROLL BEN/Worker Comp-Prof	4,803	Labor	5,040	5,292	5,557	5,835	6,127
55	P-ROLL BEN/Workr Comp-Ser/Main	25,883	Labor	27,180	28,539	29,966	31,464	33,037
56	P-ROLL BEN/CON-MEDICL EE Share	(4,425)	Labor	(4,650)	(4,883)	(5,127)	(5,383)	(5,652)
57	P-ROLL BEN/CON-MEDICL EE Share	(3,000)	Labor	(3,150)	(3,308)	(3,473)	(3,647)	(3,829)
58	P-ROLL BEN/CON-MEDICL EE Share	(750)	Labor	(790)	(830)	(872)	(916)	(962)
59	P-ROLL BEN/OPEB	12,623	Labor	13,250	13,913	14,609	15,339	16,106
60	P-ROLL BEN/OPEB	7,973	Labor	8,370	8,789	9,228	9,689	10,173
61	P-ROLL BEN/OPEB	8,978	Labor	9,430	9,902	10,397	10,917	11,463
62	P-ROLL BEN/CON-OPEB-EE Share	(3,540)	Labor	(3,720)	(3,906)	(4,101)	(4,306)	(4,521)
63	P-ROLL BEN/CON-OPEB-EE Share	(2,400)	Labor	(2,520)	(2,646)	(2,778)	(2,917)	(3,063)
64	P-ROLL BEN/CON-OPEB-EE Share	(600)	Labor	(630)	(662)	(695)	(730)	(767)
65	P-ROLL BEN/PERS-Misc	55,318	Labor	58,080	60,984	64,033	67,235	70,597
66	P-ROLL BEN/PERS-Misc	34,809	Labor	36,550	38,378	40,297	42,312	44,428
67	P-ROLL BEN/PERS-Misc	39,434	Labor	41,410	43,481	45,655	47,938	50,335
68	P-ROLL BEN/PERS-Misc (UAL)	76,389	Labor	80,210	84,221	88,432	92,854	97,497
69	P-ROLL BEN/PERS-Misc (UAL)	38,677	Labor	40,610	42,641	44,773	47,012	49,363
70	P-ROLL BEN/PERS-Misc (UAL)	61,885	Labor	64,980	68,229	71,640	75,222	78,983
71	Total	\$ 587,457		\$ 616,830	\$ 647,683	\$ 680,067	\$ 714,071	\$ 749,776

**EXHIBIT 1
PROJECTED REVENUE REQUIREMENTS
WASTEWATER SYSTEM**

Line	Description	Budget 2020	Escalation Reference	Test Year 2021	Projected For Fiscal Year Ending June 30:			
					2022	2023	2024	2025
GENERAL OPERATING:								
72	PROF SVCS/Professional Svcs	\$ 75,000	General	\$ 77,250	\$ 79,568	\$ 81,955	\$ 84,414	\$ 86,946
73	PROF SVCS/Professional Svcs	4,064,786	General	4,186,730	4,312,332	4,441,702	4,574,953	4,712,202
74	PROF SVCS/Professional Svcs	3,537,175	General	3,643,290	3,752,589	3,865,167	3,981,122	4,100,556
75	PROF SVCS/Professional Svcs	205,000	General	211,150	217,485	224,010	230,730	237,652
76	PROF SVCS/Management Fees	294,000	General	302,820	311,905	321,262	330,900	340,827
77	PROF SVCS/Lab & Drug Testing	11,500	Labor	12,080	12,684	13,318	13,984	14,683
78	OFF EXP/Postage & Mailing	250	Infl/Cust	260	269	279	288	297
79	OFF EXP/Postage & Mailing	2,250	Infl/Cust	2,320	2,403	2,490	2,570	2,655
80	OFF EXP/Postage & Mailing	515	Infl/Cust	530	549	569	587	606
81	OFF EXP/Printing & Binding	2,500	Infl/Cust	2,580	2,673	2,770	2,859	2,953
82	OFF EXP/Printing & Binding	5,800	Infl/Cust	5,980	6,195	6,420	6,627	6,845
83	OFF EXP/Printing & Binding	5,000	Infl/Cust	5,150	5,335	5,529	5,708	5,896
84	TRAVEL & TRNG/Meal Allowance	1,000	General	1,030	1,061	1,093	1,126	1,160
85	TRAVEL & TRNG/Meal Allowance	1,339	General	1,380	1,421	1,464	1,508	1,553
86	TRAVEL & TRNG/Meal Allowance	1,000	General	1,030	1,061	1,093	1,126	1,160
87	TRAVEL & TRNG/Mileage	1,000	General	1,030	1,061	1,093	1,126	1,160
88	TRAVEL & TRNG/Mileage	500	General	520	536	552	569	586
89	TRAVEL & TRNG/Mileage	1,000	General	1,030	1,061	1,093	1,126	1,160
90	TRAVEL & TRNG/Conf, Mtng Trng	9,000	General	9,270	9,548	9,834	10,129	10,433
91	TRAVEL & TRNG/Conf, Mtng Trng	7,750	General	7,980	8,219	8,466	8,720	8,982
92	TRAVEL & TRNG/Conf, Mtng, Trng	3,000	General	3,090	3,183	3,278	3,376	3,477
93	TRAVEL & TRNG/Registration Fee	4,945	General	5,090	5,243	5,400	5,562	5,729
94	TRAVEL & TRNG/Registration Fee	2,395	General	2,470	2,544	2,620	2,699	2,780
95	TRAVEL & TRNG/Registration Fee	3,750	General	3,860	3,976	4,095	4,218	4,345
96	DUES & PUB/Membership & Dues	10,550	General	10,870	11,196	11,532	11,878	12,234
97	DUES & PUB/Membership & Dues	275	General	280	288	297	306	315
98	DUES & PUB/Membership & Dues	808	General	830	855	881	907	934
99	DUES & PUB/Membership & Dues	1,610	General	1,660	1,710	1,761	1,814	1,868
100	DUES & PUB/Books & Subs	450	General	460	474	488	503	518
101	ADM EXP/Fees & Permit Exp	37,500	General	38,630	39,789	40,983	42,212	43,478
102	ADM EXP/Fees & Permit Exp	85,000	General	87,550	90,177	92,882	95,668	98,538
103	RENTAL EXP/Rental Expenses	17,500	General	18,030	18,571	19,128	19,702	20,293
104	RENTAL EXP/Building	219,532	General	226,120	232,904	239,891	247,088	254,501
105	RENTAL EXP/Equipment Rental	19,000	General	19,570	20,157	20,762	21,385	22,027
106	MISC EXP/Misc Exp	250	General	260	268	276	284	293
107	MISC EXP/Misc Exp	750	General	770	793	817	842	867
108	OFF SUPP/Office Supplies	5,000	M&S	5,130	5,258	5,389	5,524	5,662
109	OFF SUPP/Office Supplies	1,803	M&S	1,850	1,896	1,943	1,992	2,042
110	OFF SUPP/Office Supplies	2,000	M&S	2,050	2,101	2,154	2,208	2,263
111	Total	\$ 8,642,483		\$ 8,901,980	\$ 9,169,338	\$ 9,444,736	\$ 9,728,340	\$10,020,476

**EXHIBIT 1
PROJECTED REVENUE REQUIREMENTS
WASTEWATER SYSTEM**

Line	Description	Budget 2020	Escalation Reference	Test Year 2021	Projected For Fiscal Year Ending June 30:			
					2022	2023	2024	2025
OPERATIONS:								
112	RD, VEH SUPL, SERV/Equip Svcs	\$ 1,845	Utilities/Fuel	\$ 1,990	\$ 2,149	\$ 2,321	\$ 2,507	\$ 2,708
113	CLOTH & O SUPP/Cloth& Ot Sup	6,415	M&S	6,580	6,745	6,914	7,087	7,264
114	CLOTH & O SUPP/Sml Tool & Inst	2,575	M&S	2,640	2,706	2,774	2,843	2,914
115	CLOTH & O SUPP/Sfty, Mat&Supp	5,000	M&S	5,130	5,258	5,389	5,524	5,662
116	CLOTH & O SUPP/Sfty, Mat&Supp	750	M&S	770	789	809	829	850
117	CLOTH & O SUPP/Sfty, Mat&Supp	2,060	M&S	2,110	2,163	2,217	2,272	2,329
118	UTILITIES/Tel & Telegraph	2,040	Utilities/Fuel	2,200	2,376	2,566	2,771	2,993
119	UTILITIES/Tel & Telegraph	720	Utilities/Fuel	780	842	909	982	1,061
120	UTILITIES/Tel & Telegraph	4,800	Utilities/Fuel	5,180	5,594	6,042	6,525	7,047
121	UTILITIES/Electricity & Power	53,000	Utilities/Fuel	57,240	61,819	66,765	72,106	77,874
122	UTILITIES/Electricity & Power	1,046,250	Utilities/Fuel	1,129,950	1,220,346	1,317,974	1,423,412	1,537,285
123	UTILITIES/Water	28,500	Utilities/Fuel	30,780	33,242	35,901	38,773	41,875
124	UTILITIES/Water	57,680	Utilities/Fuel	62,290	67,273	72,655	78,467	84,744
125	UTILITIES/Sewer Service Expens	30,586	Utilities/Fuel	33,030	35,672	38,526	41,608	44,937
126	EQPT SERVS/Software Maint	11,580	General	11,930	12,288	12,657	13,037	13,428
127	EQPT SERVS/Equipment Repl	14,200	Infl/Flow	14,650	15,213	16,013	16,620	17,286
128	SERVICES/Sewer Repair Abatemnt	275,000	Infl/Flow	283,800	294,698	310,199	321,956	334,866
129	CONTRACL SVCS/Legal Services	157,400	General	162,120	166,984	171,994	177,154	182,469
130	COST POOL/(ISF)-Gen Liability	112,736	General	116,120	119,604	123,192	126,888	130,695
131	COST POOL/(ISF)-Gen Liability	56,368	General	58,060	59,802	61,596	63,444	65,347
132	COST POOL/(ISF)-Gen Liability	84,552	General	87,090	89,703	92,394	95,166	98,021
133	COST POOL/(CAP)- Admin Charges	135,597	General	139,660	143,850	148,166	152,611	157,189
134	COST POOL/(CAP)- Admin Charges	144,624	General	148,960	153,429	158,032	162,773	167,656
135	COST POOL/(CAP)- Admin Charges	50,089	General	51,590	53,138	54,732	56,374	58,065
136	COST POOL/(IND)Civic Ctr Alloc	63,429	General	65,330	67,290	69,309	71,388	73,530
137	COST POOL/(IND)Civic Ctr Alloc	63,429	General	65,330	67,290	69,309	71,388	73,530
138	COST POOL/(IND)Civic Ctr Alloc	63,429	General	65,330	67,290	69,309	71,388	73,530
139	NONCAP ASST/Comp Hrdware<5K	5,000	General	5,150	5,305	5,464	5,628	5,797
140	Total	\$ 2,479,654		\$ 2,615,790	\$ 2,762,858	\$ 2,924,128	\$ 3,091,521	\$ 3,270,952
141	TOTAL O&M	<u>\$12,800,194</u>		<u>\$13,279,750</u>	<u>\$13,782,290</u>	<u>\$14,311,460</u>	<u>\$14,859,587</u>	<u>\$15,433,141</u>

**EXHIBIT 1
PROJECTED REVENUE REQUIREMENTS
WASTEWATER SYSTEM**

Line	Description	Budget 2020	Escalation Reference	Test Year 2021	Projected For Fiscal Year Ending June 30:			
					2022	2023	2024	2025
NON-OPERATING								
Debt Service:								
142	DEBT SERV EXP/2008A	\$ 0	<i>Debt Tab</i>	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
143	DEBT SERV EXP/2010B	1,227,911	<i>Debt Tab</i>	1,228,066	0	0	0	0
144	DEBT SERV EXP/2017A	2,868,650	<i>Debt Tab</i>	2,867,450	2,867,225	2,862,350	1,396,600	1,396,600
145	2019A Wastewater Revenue Bond	581,635	<i>Debt Tab</i>	973,900	973,900	973,900	973,900	973,900
146	2019B Wastewater Revenue Bond	1,819,647	<i>Debt Tab</i>	3,046,850	4,133,975	4,131,850	5,677,225	5,648,600
147	State Revolving Fund Loan	0	<i>Debt Tab</i>	0	0	1,604,065	1,604,065	1,604,065
148	Bond Series 2021	0	<i>Debt Tab</i>	0	1,400,000	2,100,000	2,100,000	2,831,250
149	Bond Series 2023	0	<i>Debt Tab</i>	0	0	0	597,333	896,000
150	Bond Series 2025	0	<i>Debt Tab</i>	0	0	0	0	0
151	DEBT SERV EXP/Bond Admin Fees	11,000	Constant	11,000	11,000	11,000	11,000	11,000
152	DEBT SERV EXP/Remarketing Fees	35,000	Constant	35,000	35,000	35,000	35,000	35,000
153	Total Debt Service	<u>\$ 6,543,843</u>		<u>\$ 8,162,266</u>	<u>\$ 9,421,100</u>	<u>\$11,718,165</u>	<u>\$12,395,124</u>	<u>\$13,396,415</u>
Other Expenditures & Transfers:								
154	CAP OUTLAY/Auto Equip>5,000	\$ 44,000	Constant	\$ 44,000	\$ 44,000	\$ 44,000	\$ 44,000	\$ 44,000
155	CAP OUTLAY/Cap Prj In Progress	2,500,000	Constant	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
156	Brick Manhole Lining Program	250,000	Constant	250,000	250,000	250,000	250,000	250,000
157	Total	<u>\$ 2,794,000</u>		<u>\$ 2,794,000</u>	<u>\$ 2,794,000</u>	<u>\$ 2,794,000</u>	<u>\$ 2,794,000</u>	<u>\$ 2,794,000</u>
158	TOTAL NON-OPERATING	<u>\$ 9,337,843</u>		<u>\$10,956,266</u>	<u>\$12,215,100</u>	<u>\$14,512,165</u>	<u>\$15,189,124</u>	<u>\$16,190,415</u>
159	TOTAL EXPENDITURES	<u>\$22,138,036</u>		<u>\$24,236,016</u>	<u>\$25,997,390</u>	<u>\$28,823,625</u>	<u>\$30,048,711</u>	<u>\$31,623,556</u>
OTHER REVENUES								
160	PERMITS/Licenses And Permits	\$ 6,000	Constant	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000
161	REVIEW FEES/Design Review	20,000	Constant	20,000	20,000	20,000	20,000	20,000
162	FEES/Sewer Connection Fees	802,165	<i>Per City</i>	559,000	715,520	559,000	276,710	276,710
163	FEES/Admin Fees	175,000	Constant	175,000	175,000	175,000	175,000	175,000
164	FEES/Ind Waste Pre-treatment	10,000	Constant	10,000	10,000	10,000	10,000	10,000
165	CHRG FOR SERV/Misc Chgs Serv	440,000	Customer	440,260	442,770	445,470	446,450	447,700
166	CHRG FOR SERV/Sewer Drain	0	Constant	0	0	0	0	0
167	FINES & FORFEIT/Penalties	2,000	Customer	2,000	2,010	2,020	2,020	2,030
168	Total Other Revenues	<u>\$ 1,455,165</u>		<u>\$ 1,212,260</u>	<u>\$ 1,371,300</u>	<u>\$ 1,217,490</u>	<u>\$ 936,180</u>	<u>\$ 937,440</u>
NET REVENUE REQUIREMENT								
Net Revenue Requirement For Projection Period:								
169	O&M Expenses	\$12,800,194		\$13,279,750	\$13,782,290	\$14,311,460	\$14,859,587	\$15,433,141
170	Non-Operating Expenses	9,337,843		10,956,266	12,215,100	14,512,165	15,189,124	16,190,415
171	Total Expenditures	<u>\$22,138,036</u>		<u>\$24,236,016</u>	<u>\$25,997,390</u>	<u>\$28,823,625</u>	<u>\$30,048,711</u>	<u>\$31,623,556</u>
172	Less Other Revenues	<u>(1,455,165)</u>		<u>(1,212,260)</u>	<u>(1,371,300)</u>	<u>(1,217,490)</u>	<u>(936,180)</u>	<u>(937,440)</u>
173	Net Requirement	<u>\$20,682,871</u>		<u>\$23,023,756</u>	<u>\$24,626,090</u>	<u>\$27,606,135</u>	<u>\$29,112,531</u>	<u>\$30,686,116</u>

**EXHIBIT 1
PROJECTED REVENUE REQUIREMENTS
WASTEWATER SYSTEM**

Line	Description	Budget 2020	Escalation Reference	Test Year 2021	Projected For Fiscal Year Ending June 30:			
					2022	2023	2024	2025
ESCALATION REFERENCES								
174	Constant Factor		Constant	1.0000	1.0000	1.0000	1.0000	1.0000
175	Labor Escalator Factor		Labor	1.0500	1.0500	1.0500	1.0500	1.0500
176	General Inflation Factor		General	1.0300	1.0300	1.0300	1.0300	1.0300
177	Customer Growth Factor		Customer	1.0006	1.0057	1.0061	1.0022	1.0028
178	Billable Flow Factor		Billable Flow	1.0019	1.0082	1.0219	1.0077	1.0098
179	Inflation/Customer Growth Factor		Infl/Cust	1.0306	1.0359	1.0363	1.0323	1.0329
180	Inflation/Metered Flow Factor		Infl/Flow	1.0320	1.0384	1.0526	1.0379	1.0401
181	Materials & Supplies		M&S	1.0250	1.0250	1.0250	1.0250	1.0250
182	Utilities & Fuel Expense Factor		Utilities/Fuel	1.0800	1.0800	1.0800	1.0800	1.0800
183	O&M Expense Factor		O&M	1.0375	1.0378	1.0384	1.0383	1.0386

**EXHIBIT 2
PROJECTED OPERATING RESULTS
WASTEWATER SYSTEM**

Line	Description	Existing Rates 2021	Proposed Rates 2021	Projected For Fiscal Year Ending June 30:			
				2022	2023	2024	2025
USER RATE REVENUES							
1	Total User Rate Revenues	\$25,652,100	\$27,448,600	\$29,655,900	\$31,902,500	\$34,235,100	\$36,548,700
2	PERCENTAGE RATE ADJUSTMENT		7.00%	7.00%	7.00%	7.00%	7.00%
OTHER REVENUES							
3	PERMITS/Licenses And Permits	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000
4	REVIEW FEES/Design Review	20,000	20,000	20,000	20,000	20,000	20,000
5	FEES/Sewer Connection Fees	559,000	559,000	715,520	559,000	276,710	276,710
6	FEES/Admin Fees	175,000	175,000	175,000	175,000	175,000	175,000
7	FEES/Ind Waste Pre-treatment	10,000	10,000	10,000	10,000	10,000	10,000
8	CHRG FOR SERV/Misc Chgs Serv	440,260	440,260	442,770	445,470	446,450	447,700
9	CHRG FOR SERV/Sewer Drain	0	0	0	0	0	0
10	FINES & FORFEIT/Penalties	2,000	2,000	2,010	2,020	2,020	2,030
11	Total Other Revenues	\$ 1,212,260	\$ 1,212,260	\$ 1,371,300	\$ 1,217,490	\$ 936,180	\$ 937,440
12	TOTAL REVENUES	\$26,864,360	\$28,660,860	\$31,027,200	\$33,119,990	\$35,171,280	\$37,486,140
O&M EXPENSES							
13	Salaries & Wages	\$ 1,145,150	\$ 1,145,150	\$ 1,202,411	\$ 1,262,529	\$ 1,325,655	\$ 1,391,937
14	Benefits	616,830	616,830	647,683	680,067	714,071	749,776
15	General Operating	8,901,980	8,901,980	9,169,338	9,444,736	9,728,340	10,020,476
16	Operations	2,615,790	2,615,790	2,762,858	2,924,128	3,091,521	3,270,952
17	Total O&M	\$13,279,750	\$13,279,750	\$13,782,290	\$14,311,460	\$14,859,587	\$15,433,141
18	Net Revenues	\$13,584,610	\$15,381,110	\$17,244,910	\$18,808,530	\$20,311,693	\$22,052,999
DEBT SERVICE							
19	DEBT SERV EXP/2008A	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
20	DEBT SERV EXP/2010B	1,228,066	1,228,066	0	0	0	0
21	DEBT SERV EXP/2017A	2,867,450	2,867,450	2,867,225	2,862,350	1,396,600	1,396,600
22	2019A Wastewater Revenue Bond	973,900	973,900	973,900	973,900	973,900	973,900
23	2019B Wastewater Revenue Bond	3,046,850	3,046,850	4,133,975	4,131,850	5,677,225	5,648,600
24	State Revolving Fund Loan	0	0	0	1,604,065	1,604,065	1,604,065
25	Bond Series 2021	0	0	1,400,000	2,100,000	2,100,000	2,831,250
26	Bond Series 2023	0	0	0	0	597,333	896,000
27	Bond Series 2025	0	0	0	0	0	0
28	DEBT SERV EXP/Bond Admin Fees	11,000	11,000	11,000	11,000	11,000	11,000
29	DEBT SERV EXP/Remarketing Fees	35,000	35,000	35,000	35,000	35,000	35,000
30	Total Debt Service	\$ 8,162,266	\$ 8,162,266	\$ 9,421,100	\$11,718,165	\$12,395,124	\$13,396,415
31	REMAINING BALANCE	\$ 5,422,344	\$ 7,218,844	\$ 7,823,810	\$ 7,090,365	\$ 7,916,569	\$ 8,656,584
OTHER EXPENDITURES & TRANSFERS							
32	CAP OUTLAY/Auto Equip>5,000	\$ 44,000	\$ 44,000	\$ 44,000	\$ 44,000	\$ 44,000	\$ 44,000
33	CAP OUTLAY/Cap Prj In Progress	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
34	Brick Manhole Lining Program	250,000	250,000	250,000	250,000	250,000	250,000
35	Total Other Expenditures	\$ 2,794,000	\$ 2,794,000	\$ 2,794,000	\$ 2,794,000	\$ 2,794,000	\$ 2,794,000
36	BAL. AVAILABLE FOR RESERVES	\$ 2,628,344	\$ 4,424,844	\$ 5,029,810	\$ 4,296,365	\$ 5,122,569	\$ 5,862,584
37	DEBT SERVICE COVERAGE	1.67	1.90	1.84	1.61	1.64	1.65
RESERVE BALANCES							
Unrestricted Reserves:							
38	Beginning Fund Balance		\$17,388,492	\$16,825,938	\$18,072,930	\$19,169,495	\$20,638,617
39	Transfer to Capital		2,794,000	2,794,000	2,794,000	2,794,000	2,794,000
40	Less Capital Expenditures		(7,781,398)	(6,576,817)	(5,993,800)	(6,447,447)	(5,911,546)
41	Remaining Operating Balance		4,424,844	5,029,810	4,296,365	5,122,569	5,862,584
42	Ending Fund Balance		\$16,825,938	\$18,072,930	\$19,169,495	\$20,638,617	\$23,383,654



27368 Via Industria, Suite 200
Temecula, California 92590-4856
800.755.6864 | 951.587.3500 | Fax: 951.587.3510
www.willdan.com