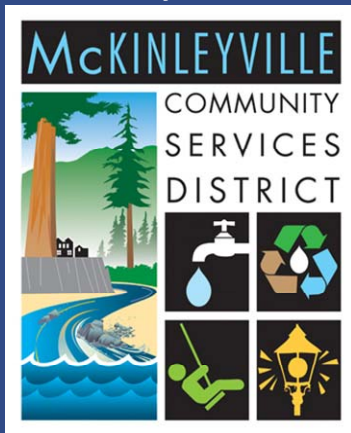


McKinleyville Community Services District



June 6, 2012



Water & Sewer Rate and Financial Analysis

Final Report



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Norman Shopay
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Mr. Shopay,

Willdan Financial Services (Willdan) is pleased to present this report on the Water and Sewer Rate Analysis and Financial Plan Study conducted for the McKinleyville Community Services District (MCS D).

This report was undertaken as part of MCS D's continued financial policy and fiscal review. The purpose of the analysis is to update and provide revenue and rate recommendations related to MCS D's water and sewer operations. Given the period between rate analyses, financial, operational, and growth assumptions have changed, and the focus of this study is to ensure MCS D has sufficient revenues to meet its short and long-term operational, capital and debt service obligations and that rates are set proportionate to the costs of providing service to each customer class. The following report outlines the approach, methodology, findings, and conclusions of this study.

This analysis has been prepared using generally accepted rate setting techniques. MCS D's accounting, budgeting, billing records, and capital improvement list were the primary sources for the data contained within the report. The conclusions enclosed within this report provide MCS D with a set of recommendations to provide stable defensible funding for continued high-quality operations. I am confident that the results developed based on the cost of service analysis result in fair and equitable rates to MCS D customers.

It was a pleasure working with you and other staff members at MCS D. Thank you for the support and cooperation extended throughout the study.

Sincerely,

Willdan Financial Services



Chris Fisher
Group Manager

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Introduction

In 2011, McKinleyville Community Services District (“MCSO” or “District”) selected Willdan Financial Services to perform a water and sewer rate analysis and financial plan. Building on the previously completed Connection Fee Analysis and Designated Reserve Policy review and update, this analysis continues to provide financial recommendations that focus on two key objectives: short and long-run financial health and stability for MCSO water and wastewater operations; and, equitable cost-of-service rates that reflect the benefit provided.

The initial review of the District’s existing rate structure suggested that it does not provide equitable rates that reflect the true cost of providing water and wastewater services to MCSO customers. In addition, the existing rates fail to generate sufficient revenue to fund existing and projected expenditures (operations, maintenance, and capital) and reserve targets. While MCSO currently maintains moderate reserve levels, the existing rates are not sustainable as both utilities are not generating sufficient revenues and are subsequently running net losses.

MCSO purchases its wholesale water supply from the Humboldt Bay Municipal Water District, which diverts water from its million-gallon tank on Essex Hill, under the Mad River, to MCSO’s Grant A. Ramey Pump Station at North Bank and Azalea Roads. Water is then pumped to storage tanks at McCluski Hill, Cochran Road and Norton Road; MCSO’s six storage tanks have a combined capacity of 5.25 million gallons, approximately a 36-hour supply for its 6,705 customers.

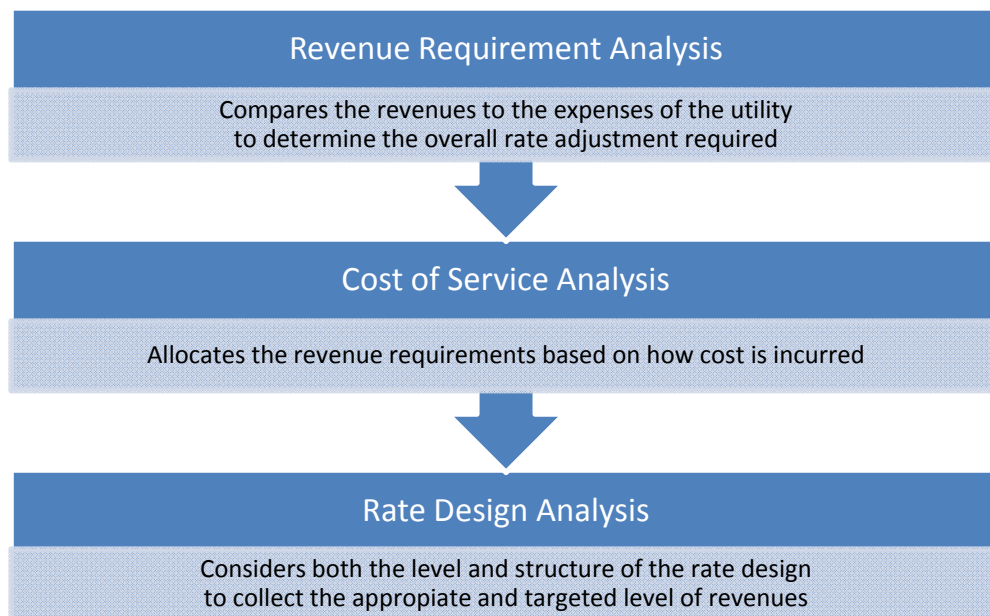
All sewage for MCSO’s customers is treated at the Wastewater Management Facility at Hiller Park. The District recently completed a \$770,000 wetland construction project at Hiller Park to enhance the wastewater treatment process and to prevent stormwater pollution to the Mad River estuary. MCSO maintains approximately 65 miles of sewer mains. MCSO recycles treated wastewater for agricultural irrigation at the Fischer Irrigation Site and at Hiller Park. MCSO is committed to maintaining its sewage collection, treatment and disposal systems as a model for other communities.

This report details the methodology, approach, and results of this analysis. Based on discussion with MCSO staff, guidance and direction from the District Board throughout the process, this report presents the recommended revenue adjustments and the corresponding rate impacts.

Overview of the Rate Setting Process

The scope of this study included the development of cost-based water and sewer user charges through a comprehensive cost of service and rate design analysis. Utility rates must be set at a level where a utility's operating and capital expenses are met with the revenues received from customers. This is a significant point, as failure to achieve this level could lead to a situation where insufficient funds are available to adequately maintain the system. A comprehensive rate study typically consists of following three interrelated analyses.

- I. **Financial Planning/Revenue Requirement Analysis:** Creation of a ten-year plan to support an orderly, efficient program of on-going maintenance and operating costs, capital improvement and replacement activities, debt financing, and retirement of any outstanding debt. In addition, the long-term plan should fund and maintain reserve balances to adequate levels based on industry standards and MCSO fiscal policies.
- II. **Cost of Service Analysis:** Identifies and apportions annual revenue requirements to customers based on their demand on the utility system.
- III. **Rate Design:** Develops an equitable and proportionate fixed/variable schedule of rates to recover the costs of the utilities. This is also where other policy objectives can be achieved, such as discouraging wasteful water use. The policy objectives are harmonized with cost of service objectives to achieve the delicate balance of equity, financial stability and resource conservation goals.



Rate Setting Principles

The primary objective when conducting this comprehensive rate and financial analysis was to determine the adequacy of the existing rates (pricing, structure, and revenue sufficiency) and provide the basis for any necessary adjustments to meet the MCS D’s operating and capital needs and policy objectives. MCS D desires a rate structure that fully funds operations, maintenance, and capital costs while providing long term funding of reserves, consistent with the recently established *Designated Funds Policy*. Furthermore, MCS D would like to adjust its existing rate structure to one that appropriately reflects costs, recovers them based upon a customer’s demand.

Financial Management, Policies, and Rates

A financial plan revolves around the development of a proper long and short-term balance of revenues and expenditures. The following provides an outline of MCS D’s financial targets and policies, and the financial foundation of the cost of service and rate analysis. Over the past years, many generally accepted principles or guidelines have been established to assist in developing utility rates. The purpose of this section of the report is to provide a general background of the methodology and guidelines used for setting cost based utility rates, in order to provide a higher-level understanding of the rate setting approach detailed later in this report.

As a practical matter, there should be a general set of principles used to guide the development of water and sewer rates. For water rates, the American Water Works Association (AWWA) establishes these principles in the M1 Manual – *Principles of Water Rates, Fees and Charges*. For sewer rate setting, the Water Environment Federation (WEF) establishes similar guidelines. These guiding principles help to ensure there is a consistent global approach that is employed by all utilities in the development of their rates (water and water-related utilities, including sewer and reclaimed water). Below is a summary listing the established guidelines, which public utilities should consider when setting their rates. These closely reflect MCS D’s specified objectives.

Rates should be cost-based, equitable, and set at a level such that they provide revenue sufficiency			
Rates and process of allocating costs should conform to generally accepted rate setting techniques	Rates should provide reliable, stable and adequate revenue to meet the utility’s financial, operational, and regulatory requirements	Rate levels should be stable from year to year - no “rate shocks” -	Rates should be easy to understand and administer

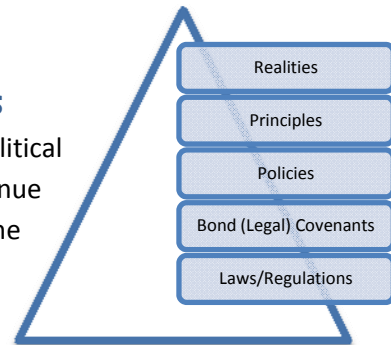
These guidelines, along with the District’s objectives, have been utilized within this study as a framework to help develop utility rates that are cost-based and equitable.

Overview of Rate Setting Environment, Objectives, Process

Rate analyses are typically performed every few years to ensure that revenues from rates are adequately funding utility operations, maintenance, and future capital needs. In California, rate analyses also require compliance with the cost-of-service principles imposed by Proposition 218 to ensure that rates correlate to how costs are incurred. Although MCS D is not a signatory to the California Urban Water Conservation Council (CUWCC) memorandum of understanding, Willdan utilized various best management practices (BMPs) related to water use and conservation. The most significant BMP is the targeted ratio between fixed and variable revenue, 30/70 respectively. This targeted ratio is thought to best provide customers with incentive to use water efficiently, as 70% of their bill is related to consumption, while providing a moderate percentage of constant and stable revenue to the utility to cover a portion of total costs that do not typically fluctuate with the amount of water consumed. Beyond the laws, regulations, and guiding principles, the rates ultimately need to be approved and implemented by the MCS D Board.

Considerations in Setting Revenue Requirements

There are a multitude of considerations, ranging from financial to political to legal, which must be analyzed or discussed during the revenue requirements process of a rate analysis. This section, along with the accompanying graphic, provides an overview of the considerations that are reviewed during this process.



Capital Budgeting and Financing

Capital needs are defined by MCS D’s Capital Improvement Plan. As part of its budget and planning process, MCS D identifies capital improvements that are necessary for the continued delivery of clean, safe, drinking water and treatment of wastewater in accordance with increasingly stringent wastewater standards. The Capital Improvement Plan is funded by a variety of sources including system depreciation, water and sewer rates, connection (impact) fees, and capital reserves. Recent economic realities, including slower than anticipated growth and usage, have reduced funding and/or delayed funding of critical system improvements.

Capital Funding: Debt vs. PAYGO

The selection of the most appropriate funding strategy for capital projects is primarily a policy decision between use of cash (“Pay-as-you-go financing” or PAYGO), the issuance of debt (bonding), or a combination. PAYGO is the use or build-up of cash to fund capital improvements. With debt financing, capital improvements are paid for with borrowed funds (usually through the issuance of bonds) with the obligation of repayment, typically with interest, in future years. Development of an optimal capital financial plan depends on the definition of optimal. Each funding mechanism has a different impact on water rates in the short and long run, different net present values, risks, and legal obligations. Due to the borrowing costs associated with debt, cash funding can be cheaper in the end; however, debt typically ensures greater generational equity for larger and longer lasting capital projects.

Our review of the District’s historical and planned Capital Improvement Plan revealed that the District does not have sufficient funding on hand to meet its planned capital investments without a significant increase to rates. As such, to limit the immediate impact on ratepayers, MCSO plans to issue two separate series of bonds: \$4.6 million in 2014 for water related capital; and, \$9.0 million in 2016 to meet planned capital investments for wastewater facilities.

Our recommendation is consistent with the observed funding policy of MCSO, and is that the District continues to balance the use all financing options, by using debt in the near-term to mitigate the impact on rates, and cash funding in the long-term for annual replacement projects.

Revenue Requirements

The method used by most public utilities to establish their revenue requirements is called the “cash basis” approach of setting rates. As the name implies, a public utility combines its cash expenditures over a time period to determine their required revenues from rates and other forms of income. The figure below presents the “cash basis” methodology.

Figure 1-1: Overview of the “Cash Basis” Design

+ Operation and Maintenance Expenses
 + Taxes
 + Capital Additions Financed with Rate Revenue
 + Debt Service (Principal and Interest)
 = Total Revenue Requirements

To ensure that existing ratepayers are not paying for growth-related capital projects, Willdan, as part of a previously completed *Water and Sewer Connection Fee Analysis*, reviewed existing, approved/pending, and proposed Capital Improvement Projects (CIPs) with District staff in order to allocate projects between new (growth) and existing customers (operations and maintenance or “O&M”). Additionally, capital replacement expense (depreciation) is sometimes included in the cash basis approach to stabilize annual required revenue by spreading the replacement costs of a depreciated asset over the expected life of the asset, or through the term of a bond issue.

Based on the revenue requirement analysis, the utility can determine the overall level of rate adjustments needed in order for the utility to meet its overall expenditures.

Financial Planning

In the development of the revenue requirements, certain parameters are utilized to project future expenditures, growth in customers and consumption, and necessary revenue adjustments. MCSO’s budget documents are used as the baseline, which are then projected over a ten-year planning horizon to account for fluctuations in costs from year to year as well as adjustments to debt service payments.

Conservative growth assumptions and prudent financial planning are fundamental in ensuring adequate rate revenue to promote financial stability. The developed financial model considers the District’s

existing debt service coverage ratio and operating cash balances (cash on hand). In addition, as part of the financial planning, municipal bond financing is incorporated into the model to fund necessary capital improvements, including repair and replacement. The cost of depreciated infrastructure is collected through rate revenue and used to fund annual repair and replacement of the infrastructure as it ages. As debt is redeemed, additional bonds may be utilized to fund additional capital improvements required due to aging infrastructure.

Rate Setting Principles Summary

In meeting the overall objectives of MCSO, the rate design must also conform to the State Constitution and the State’s Water Code. More specifically, Proposition 218 requires that property related fees and charges, such as water rates (as affirmed in *Bighorn-Desert View Water Agency v. Verjil*), not exceed the reasonable cost of providing the service associated with the fee or charge, and shall also not exceed the proportional cost of the service attributable to the parcel that is subject to the fee or charge.

In conjunction with Proposition 218, Article X (2) of the State Constitution institutes the need to preserve the State’s water supplies and discourage the wasteful or unreasonable use of water by encouraging conservation. Article X (2) is broad in its declarations; however, the Water Code provides guidance to its application for developing water rates. Section 106 declares that the highest use of water is for domestic purposes, and irrigation is secondary. In connection with meeting the objectives of Article X, Water Code Sections 370 (AB2882) and 375 authorize a water purveyor to utilize its water rate design to incentivize the efficient use of water; or stated differently, to encourage conservation.

Although incentives to conserve water could be provided by implementing a higher rate for water as consumption increases, a nexus between rates and cost incurred to provide water at those rates must be developed to achieve compliance with Proposition 218. Therefore, in our analysis, when developing a tiered rate structure, we analyzed the consumption and peaking characteristics of each defined tier to determine the proportional share of cost incurred by each tier. The cost is then divided by consumption to derive a rate per unit of water for each tier. Doing so synchronizes the objectives of Article X (2) and Article XIID (6) in developing a cost of service tiered rate structure.

Besides ensuring compliance with State law, another key principle for a comprehensive rate study is found in economic theory, which suggests that the price of a commodity must roughly equal its cost or value if equity among customers is to be maintained – i.e. cost-based. For example, capacity-related costs are usually incurred by a water utility to meet peak use requirements. Consequently, the customers causing peak demands should pay for the demand-related facilities in proportion to their contribution to maximum demands.

Through refinement of costing and pricing techniques, consumers of a product are given a more accurate price point, representative of what the commodity costs to produce and deliver, to meet their needs, in this case, for water use. The above fundamentals have considerable foundation in economic literature and correlate to the cost of service principles of Proposition 218. This “price-equals-cost” theory provides the basis for much of the subsequent analysis and comment. This theory is particularly important as the proposed rate structure has been developed to encourage the efficient use of water while maintaining economic and cost of service principles.

Rate Design

The final element, the rate design process, applies the results from the revenue requirements to develop rates that achieve the general guidelines, policies and objectives of MCSO, and compliance with the provisions of law. These objectives are achieved through the development of cost-based rates, but may also account for adjustments to expenditures or the level of cash reserves to balance rate shock, continuity of past rate philosophy, conservation objectives, ease of administration, and legal requirements. This section of the report incorporates the general principles, techniques, and economic theory used to set utility rates. These principles, techniques, and economic theory were the starting point for this rate study and the groundwork used to meet MCSO's key objectives in analyzing and redesigning their utility rates.

This utility rate study was performed to allocate the costs of providing service to users in order to ensure that the resulting rates are equitable and in compliance with Proposition 218 requirements. The total cost of serving MCSO customers is determined by distributing each of the utility cost components based upon the service demands placed on the District by its customers. Therefore, a cost of service rate study enables a utility to adopt rates based on the costs incurred to serve its customers and corresponding accounts. The purposes of this cost of service study include defining the proportional allocation of the costs of service to users and deriving unit costs to support the development of water rates.

Water Rate Analysis

MCSO engaged Willdan Financial Services (Willdan) to perform a Water Rate Redesign study focused on two main principles. First, develop rates that provide sufficient revenues to fund expenditures related to operations, maintenance, capital, and funding of reserves. And second, within the cost of service principles of Proposition 218, design water rates that promote efficient use of water and reflect the varying costs of serving customers within the service area of the District. This section of the report outlines the details of the analysis and the approach to developing the recommendations.

Water Consumption and User Characteristics

Willdan examined the previous three years of billing data provided by the District. Multiple years of data were analyzed to ensure short-term anomalies accounted for and long-term trends were captured. Furthermore, billing data was analyzed to determine seasonal demand patterns and overall consumption characteristics. As the projected volume of water consumption is a key component in revenue generation, it is critical that appropriate adjustments and trends are rationalized. The consumption analysis revealed that MCSO customers have a lower than average per capita use of water, when compared to similar California agencies, which is mainly due to its coastal climate. MCSO provides water to approximately 5,260 accounts.

Figure 2-1: Water Consumption Characteristics

Category Description	Count of Accounts	Average Month	Peak Month	FY2011 Consumption
00 - Non-User	3	64	696	762
01 - Residential	4,578	33,432	53,020	401,187
02 - Fire Protection Svc	6	1	5	8
03 - Res Out Of District	6	95	400	1,138
04 - Residential Multi	424	10,167	14,320	122,007
11 - Commercial	177	3,683	6,134	44,193
13 - Comm Out Of District	23	465	1,240	5,577
14 - Commercial Multi	34	319	436	3,823
Bw - Bulk Water	4	29	48	346
So - Metered Sewer Svc.	3	2,340	6,186	28,077
Total	5,258	50,593	82,485	607,118

These records were analyzed and compiled by reviewing MCSO's billing records. As shown above, residential customers, Residential (01) and multi-family (04), represent nearly 95% of the total water accounts and 85% of total water consumption

Revenue Requirements Analysis

The first step in a rate analysis is a review of MCSO’s revenue requirements. The result of this review is a picture of the utility’s existing financial health, which is necessary to determine the current and future revenue needs. To ensure that both short and long term financial health were reviewed, Willdan developed a 10-year financial outlook. However, for the purposes of this study, rates and financial projections will be limited to 5 years. Willdan reviewed expenditures (operation and maintenance (O&M), capital, and reserves requirements) against revenues (rate revenue, capacity fee revenues, etc). Willdan analyzed and reviewed the water utility’s historical and current financial statements, three years of water consumption records, capital improvement programs and plans, reserve policies, and conferred with staff to forecast future expenditures.

Existing Water Revenues

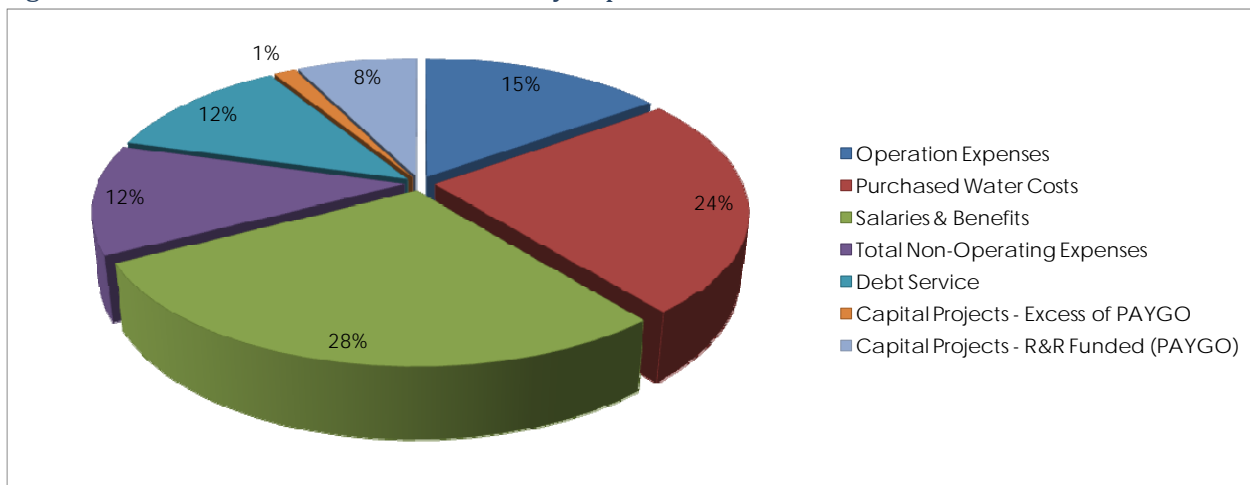
The water utility derives revenue from a variety of sources. Annually, MCSO expects nearly 85% of the Water Fund’s revenue to be originated from rate revenues (monthly rates). In Fiscal Year 2010-2011, MCSO generated nearly \$1.6 million in operating rate revenue, compared with \$300 thousand in non-operating revenue, such as interest income and capacity fees.

Existing Water Expenditures

To achieve long-term financial health, a utility’s revenues must be sufficient to meet total expenditures or cash obligations. This “required revenue” includes all incurred costs related to operation and maintenance, capital improvement programs, and principal and interest payments on existing or proposed debt.

As demonstrated by Figure 2-2, Water Fund expenditures were categorized into one of seven classifications: (1) Operation; (2) Salaries & Benefits; (3) Non-Operation Expenses; (4) Debt Service; (5) Capital Projects Funded by Rates; (6) Repair & Replacements (R&R) funded Capital, and (7) Purchased Water Costs. The pie chart below demonstrates the relative size of the various expense categories over the study period.

Figure 2-2: Water Fund - Cost Distribution by Expenditure Classification



For Water, nearly, 25% of the utility's expenditures are related to cost for water purchased from Humboldt Bay Municipal Water District. This cost of purchased water, which is beyond MCSO's direct control, now represents 31% of total expenditures, which is the single largest cost among operating expenses. This percentage is an increase over the historical average and is projected to climb higher as HBMWD continues to raise rates to fund capital and operations. This represents a significant and uncontrollable cost burden on the utility. As such, it is recommended the District implement an automatic rate pass-through to respond immediately to HBMWD increases. This pass-through mechanism will ensure the District recovers the full costs of purchased water without a significant time-delay or a need for additional Proposition 218 Noticing.

The District prepares an annual list of water related capital improvements to address current and future water system needs. As a result of the economic downturn, and in an attempt to limit capital expenditures, the utility has reduced or delayed capital projects to only essential and critical needs.

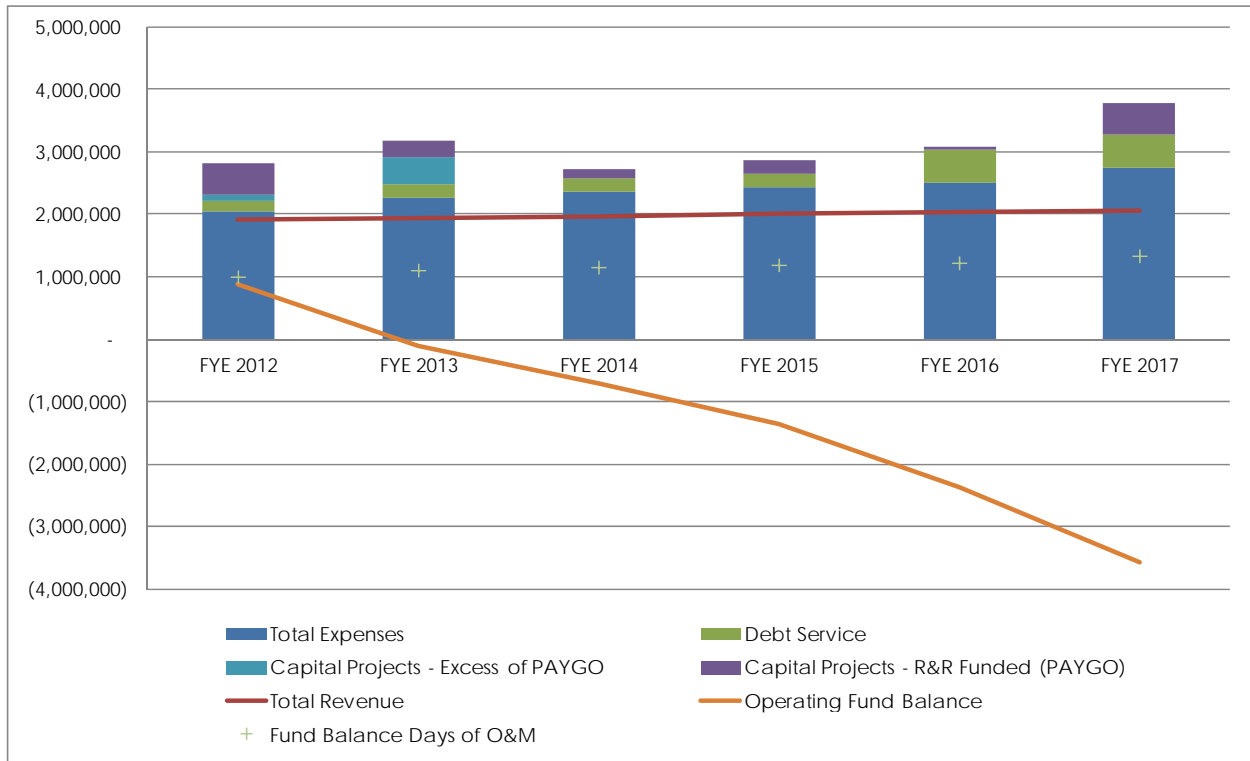
Through the study period debt service costs, related to principal and interest on the existing debt service account for a small percent of the water fund's expenditures (3%). As previously mentioned, due to continued effort to mitigate rate shock and smooth increases, MCSO is planning on issuing new debt to smooth the cash-flow needs of each fund, while maintaining moderate reserve levels. Revenues must be targeted to ensure MCSO meets its debt service coverage requirements, of 1.25, on any existing and proposed debt service.

In addition, to maintain financial flexibility, the water utility has a target to maintain an operating reserve of nearly \$1.1 million cash on hand (180 days of operating expense) as part of its reserve policy. At the end of June (FYE 2011), the water fund maintained a cash balance of \$0.9 million. This reserve will be utilized to offset the short-term revenue shortfall associated with pay-as-you-go funded capital.

Willdan worked with MCSO staff to establish financial thresholds and reserve accounts to ensure sufficient funding and best management practices for operations and capital. Consistent with industry standards, Willdan targeted an Operating reserve of 180 days with a ceiling of a full year (365 days). This will provide the utilities sufficient working capital to fund day-to-day operations and cash outlay. Additionally, Willdan established a Repair and Replacement Reserve (R&R) that is primarily funded through the realized depreciation expense, or with excess Operating Reserve funds.

Figures 2-3 demonstrates the Baseline Scenario for the Water Funds. This represents current and projected financial conditions of the water utility absent any revenue adjustment (increases) over the next 5 years. As the figure illustrates, existing revenue levels are unsustainable and the water fund is forecast to continue to run at a loss.

Figure 2-3: Water Fund - Baseline Financial Scenario



The declining orange line (lower line) shows the fund’s projected ending cash balance. While short-term drops or dips of reserve levels are acceptable, given the beginning cash balance, the continued downward trend must be reversed with revenue adjustments, as the illustrated baseline scenario is unsustainable.

Recommended Revenue Requirements

Given the existing financial condition of the utility, without near term revenue adjustments, MCSO’s water fund will not be able to meet its targeted objectives without large spiked increases in the future. As such, Willdan worked with MCSO staff, the District Board, and community stakeholders to seek input for the development a financial plan and rate structure that provides gradual adjustment to provide continued financial stability throughout the study period. Numerous financial scenarios were analyzed and presented over the course of the study. The results and recommendations provided in the analysis were presented in March 2012 and stakeholders were subsequently mailed a Proposition 218 Noticed in April. The recommended financial scenario was developed and analyzed to achieve a positive net income within the five-year study period and to maintain in compliance with the MCSO’s Debt Coverage Ratio.

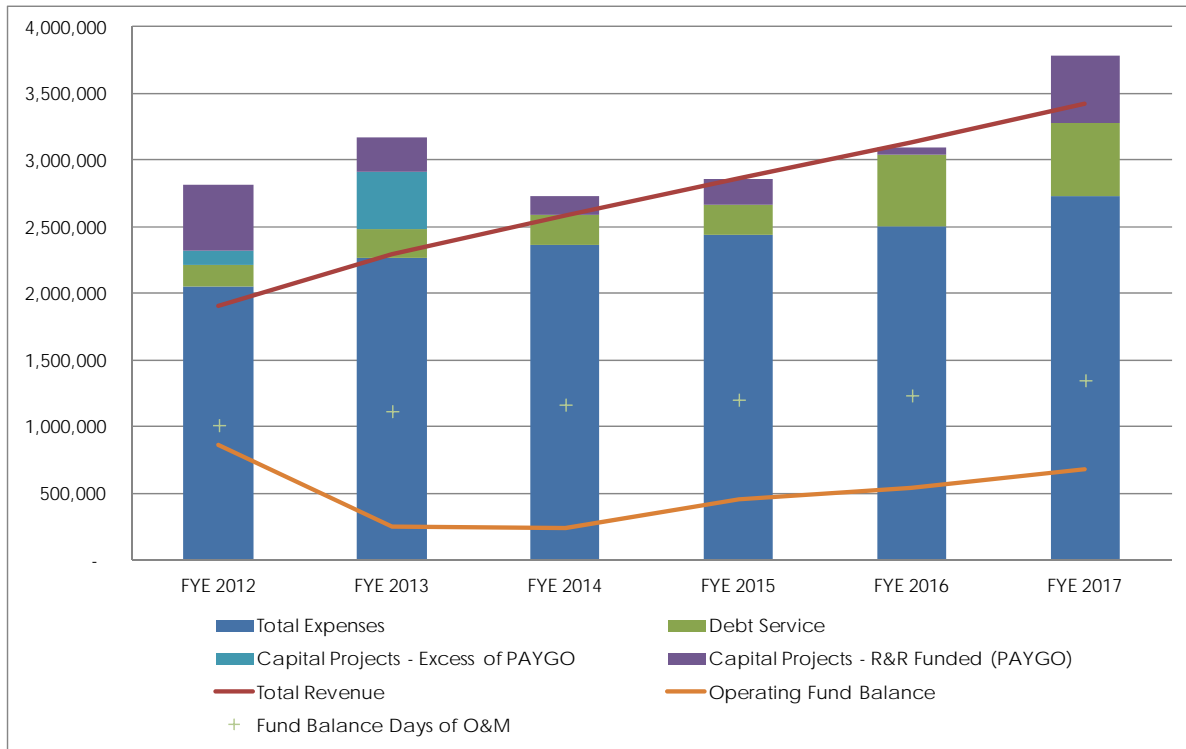
Figure 2-4 details the existing and projected expenditures of the water fund and the corresponding impact of the revenue adjustments on the fund’s financial health.

Figure 2-4: Water - Revenue Requirements Analysis

Description	FYE 2012	FYE 2013	FYE 2014	FYE 2015	FYE 2016	FYE 2017
	1	2	3	4	5	6
Revenue from Rates	Current Year	Projected				
Water Base Charges	\$ 637,000	\$ 648,466	\$ 660,138	\$ 672,021	\$ 684,117	\$ 696,431
Water Metered Sales	1,070,779	1,090,053	1,109,674	1,129,648	1,149,982	1,170,681
Total Operating Revenue	\$ 1,707,779	\$ 1,738,519	\$ 1,769,812	\$ 1,801,669	\$ 1,834,099	\$ 1,867,113
Additional Rate Revenue Required						
	Fiscal Year					
FYE 2012	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FYE 2013		347,700	354,000	360,300	366,800	373,400
FYE 2014			254,900	259,400	264,100	268,900
FYE 2015				242,100	246,500	250,900
FYE 2016					216,900	220,800
FYE 2017						238,500
Total Additional Rate Revenue	\$ -	\$ 347,700	\$ 608,900	\$ 861,800	\$ 1,094,300	\$ 1,352,500
Total Revenue	\$ 1,707,779	\$ 2,086,219	\$ 2,378,712	\$ 2,663,469	\$ 2,928,399	\$ 3,219,613
Operation Expenses						
Salaries & Benefits						
Wages-Administrative	\$ 721,158	\$ 825,490	\$ 877,685	\$ 904,891	\$ 919,856	\$ 938,874
Other Expenses	1,081,051	1,177,639	1,211,440	1,246,455	1,282,734	1,320,331
PAYGO, In excess of R&R Fund	111,635	420,718	-	-	-	-
Total Operating Expenses	1,802,209	2,003,129	2,089,125	2,151,346	2,202,590	2,259,205
Operating Income	\$ (94,430)	\$ 83,090	\$ 289,587	\$ 512,123	\$ 725,809	\$ 960,408
Total Non-Operating Revenue	202,920	202,920	202,920	202,920	202,920	202,920
Total Non-Operating Expenses	\$ 250,000	\$ 262,000	\$ 274,576	\$ 287,756	\$ 301,568	\$ 475,765
Debt Service	\$ 158,000	\$ 222,000	\$ 222,000	\$ 222,000	\$ 541,000	\$ 541,000
Targeted Debt Coverage Ratio	125%	125%	125%	125%	125%	125%
Calculated Debt Coverage Ratio	-45%	48%	141%	241%	138%	182%
Net Income	\$ (411,145)	\$ (618,707)	\$ (4,069)	\$ 205,287	\$ 86,161	\$ 146,562

Similar to the Water - Baseline Scenario Figure, Figure 2-5 forecasts the financial health of the water fund; however, as opposed to the baseline scenario, the revenue adjustments provide a more positive outlook and allow for a funding of capital projects, while maintaining limited reserves.

Figure 2-5: Water - Recommended Financial Scenario



Cost of Service Analysis

Following the consumption and revenue requirement analysis, the next stage was to distribute costs (revenue requirements) to functional components, and ultimately, to customers. The cost of service analysis is a systematic process by which revenue requirements are allocated by function to generate a classification of fair and equitable costs in proportion to the service received by each account. The cost of services analysis marries the Water Consumption and Usage Characteristics analysis with the Revenue Requirements and expenditure analyses. This section of the report discusses the methodology of allocating expenditures to the functional cost components to best project the total burden on the system.

Cost Allocation by Function

To equitably allocate the cost to customers in proportion to their usage and peaking demands, costs first need to be allocated to functional cost components. The cost of service allocation completed in this study is established on the base-extra capacity method endorsed by the American Water Works Association (AWWA). Under the base-extra capacity method, revenue requirements are allocated based on the demand placed on the water system. Allocations to functional cost components are established on average day (base) usage, maximum day (peak) usage, meters and services, and billing and collection.

Use of this methodology results in an AWWA-accepted cost distribution to customers and a means of calculating and designing rates to proportionately recover those costs.

Figure 2-6 shows a summary distribution of the utility’s expenditures for each year of the study period. To generate this data, MCS D’s budget was analyzed line-item by line-item and expenditures were distributed based on a variety of demand factors: average day (base), maximum day (peak) usage, meters and services, and customer accounts.

Base costs are those operating and capital costs incurred by the water system that are associated with servicing customers based on demand.

Max Day (Extra Capacity) costs represent those operating costs incurred to meet customer peak demands for water in excess of average day demand (base). This cost also includes capital costs related providing excess capacity.

Humboldt Bay Municipal Water District costs which are attributable to the direct and indirect costs of purchased water.

Customer Service costs include those related to the maintenance and servicing of customer accounts, and meter service related costs. Customer account costs are uniform to all customers and include such costs as meter reading, billing, accounting, and administration. Meter service costs include maintenance and capital costs associated with meters and services related costs.

Figure 2-6: Distribution of Expenditure by Function

Rate Revenue Required	Base	Max Day	Customer Account	Meters & Services	HB Passthrough	
Percent Allocation	100%	21.6%	21.6%	10.9%	21.6%	24.3%

Fiscal Year Ending

Fiscal Year Ending	Rate Revenue Required	Base	Max Day	Customer Account	Meters & Services	HB Passthrough
FYE 2012	\$ 1,707,779	\$ 368,952	\$ 368,952	\$ 186,765	\$ 368,952	\$ 414,157
FYE 2013	\$ 2,086,219	450,711	450,711	228,151	450,711	505,934
FYE 2014	\$ 2,378,712	513,902	513,902	260,139	513,902	576,867
FYE 2015	\$ 2,663,469	575,422	575,422	291,280	575,422	645,924
FYE 2016	\$ 2,928,399	632,658	632,658	320,253	632,658	710,173
FYE 2017	\$ 3,219,613	695,572	695,572	352,100	695,572	780,795
FYE 2018	\$ 3,408,721	736,428	736,428	372,781	736,428	826,656
FYE 2019	\$ 3,504,934	757,214	757,214	383,303	757,214	849,989
FYE 2020	\$ 3,603,663	778,543	778,543	394,100	778,543	873,932
FYE 2021	\$ 3,705,018	800,440	800,440	405,185	800,440	898,512
FYE 2022	\$ 3,742,118	808,456	808,456	409,242	808,456	907,509

Once the system cost causation analysis is complete, the next step is to design the most equitable and appropriate rate structure to recover those revenues.

Rate Design Analysis

Rate design is the process of analysis that determines how the allocated revenue requirements are recovered by each customer through water rates. In the cost allocation section of this Report, we were concerned with horizontal equity – equity and proportionate share between customer classes; however,

in the rate design process, the focus is on vertical equity – how to ensure each user is paying its fair and proportionate share.

Criteria and Considerations

In determining the appropriate rate level and structure, Willdan, in conjunction with MCSO staff, analyzed various generated financial scenarios concerning the proposed adjustments and the implications attributed to those decisions.

A simplified list of some of the rate design considerations that were reviewed is listed:

- Clear and understandable
- Easily administered
- cost of service principles
- Revenue stability (month to month and year to year)
- Prudent financial planning
- Capital Improvement Program Financing (improving the existing system)
- Fair and equitable (cost-based)
- Comply with legal and regulatory requirements

Every consideration has merit and plays an important role in a comprehensive rate study. When developing MCSO’s proposed rates, all of the aforementioned criteria were taken into consideration, in addition to the objective of minimizing rate shock. Determining the appropriate balance is crucial, as some of the criteria sometimes conflict with one another, i.e. the conservation measures and cost-based. In designing rates, there will always be a goal of achieving balance between the various objectives as well as policy decisions made by the District Board.

Existing Rate Structure

The existing rate structure is a three-tiered rate structure for residential customers, and two-tier rate structure for non-residential customers. The structure is comprised of the following cost components.

Meter Charge: Charge is per month and is based on the size of water meter. This component of the water rate reflects the cost of metering support, customer service, and maintaining the account.

Commodity Charge: Charge is \$1.11 for first 5 hundred cubic feet (HCF) used per month; \$1.66 for the following 8 HCF, and \$2.58 for all HCF used in excess of 13 HCF per month. This supports the variable cost of the system that brings the water to homes or businesses.

Proposed Rate Structure

Given the perceived inequities between customer classes in the existing rate structure, where the third tier applies only to residential customers, and only the first two tiers apply to commercial customers, Willdan recommends modifying the existing rate structure. Due to the lack of justification of a third tier, Willdan recommends condensing the existing rate structure into a single and clearer rate structure. Beyond changing the structure, some components of the rate structure were modified to reflect the

current analysis and allocation of the costs incurred. Below are the proposed components of the recommended rate structure.

Customer Charge: Charge is per month and based on the size of water meter. This component of the water rate reflects the cost of metering support, customer service, and maintaining customer accounts. *(Each meter size has a different capacity and therefore cost)*

Commodity Charge: Charge is applied to all units of water used per month and split between two tiers. Starting in July 2012, all users will be charge \$0.89 cents for the first 8 HCF and \$2.24 for each additional unit.

Humboldt Bay Pass-through: This new addition to the rate structure, initially starting at zero, will be adjusted semi-annually as a pass-through to reflect and recover cost increases outside the control of MCSO, such as increased cost of purchased water, pursuant to Government Code Section 53756. This decision was made to ensure appropriate cost recovery without the possibility of overcharging customers for assumed increases. The water adjustment charge will be calculated as necessary to reflect cost increases implemented by HBMWD.

Recommended Water Charges

The proposed revenue adjustments as a percentage do not equal or necessary correlate to an equivalent percentage increase to rates or monthly bills. The results of the cost-of-service analysis and rate redesign will affect users differently, based on meter size and water consumed.

Fixed Charge

There are two components to the proposed fixed charge: Customer Account costs; and Meters and Services. Per Figure 3-1, roughly \$228 thousand of required revenue is allocated to Customer Accounts. These costs are distributed to each account evenly, as each account benefits equally from those expenditure functions.

Figure 3-1: Total Charge per Account

	FYE 2013	FYE 2014	FYE 2015	FYE 2016	FYE 2017
Total Customer Accounts Cost	\$ 228,151	\$ 260,139	\$ 291,280	\$ 320,253	\$ 352,100
Number of Accounts	5,260	5,261	5,261	5,262	5,263
Monthly Charge per Account	\$ 3.61	\$ 4.12	\$ 4.61	\$ 5.07	\$ 5.57

Costs related to Meters and Services are distributed on an equivalent meter factor, as endorsed by the AWWA. Larger meters place a higher demand on the utility due to a higher capacity and total flow rate, which in turn cause higher maintenance costs. Figure 3-2, shows the determined meter equivalency factor based on gallon per minute flow rates. This factor ensures meter costs are proportionate to the demand and cost incurred on the utility.

Figure 3-2: Total Charge per Meter

	FYE 2013	FYE 2014	FYE 2015	FYE 2016	FYE 2017
Total Meters and Services Cost	\$ 450,711	\$ 513,902	\$ 575,422	\$ 632,658	\$ 695,572
Number of Equivalent Meters	6,477	6,478	6,479	6,480	6,481
Monthly Meter Charge per 5/8" Meter	\$ 5.80	\$ 6.61	\$ 7.40	\$ 8.14	\$ 8.94

Meter Size	Eq Meter Factor	Monthly Meters and Services Charge				
5/8"	1.0	5.80	6.61	7.40	8.14	8.94
3/4"	1.5	8.70	9.92	11.10	12.20	13.42
1"	2.5	14.50	16.53	18.50	20.34	22.36
1.5"	5.0	29.00	33.06	37.01	40.68	44.72
2"	8.0	46.39	52.89	59.21	65.09	71.55
3"	15.0	86.99	99.17	111.02	122.05	134.16
4"	25.0	144.98	165.28	185.04	203.41	223.60
6"	50.0	289.96	330.56	370.07	406.82	447.20
8"	80.0	463.94	528.90	592.12	650.91	715.52
10"	115.0	666.91	760.29	851.17	935.68	1,028.56

The following figure outlines the recommended meter charge. Please note, the following recommendations and cost of service meter charges are a departure from MCS D’s existing structure where “like sized meters” are grouped and larger meters are undercharged when compared against industry standards. In addition, the cost of service analysis allocated a higher percentage of utility expenditures as “fixed costs” than was previously calculated – this in turn lowered the allocation of “variable costs”. These costs are classified as “fixed” as they are incurred by the utility regardless of consumption. As a result, the fixed charge has increased, which influences all users, regardless of water use and efficiency. Although all ratepayers will pay the increased charge, it affects very low users more, on a percentage basis of their overall water bill.

Figure 3-3: Fixed Charge

Meter Charge	July 1, 2012	July 1, 2013	July 1, 2014	July 1, 2015	July 1, 2016
5/8"	\$ 9.41	\$ 10.73	\$ 12.01	\$ 13.21	\$ 14.52
3/4"	12.31	14.04	15.72	17.28	18.99
1"	18.11	20.65	23.12	25.41	27.94
1.5"	32.61	37.18	41.62	45.75	50.30
2"	50.01	57.01	63.83	70.16	77.13
3"	90.60	103.29	115.64	127.12	139.74
4"	148.60	169.40	189.65	208.48	229.18
6"	293.58	334.68	374.69	411.89	452.78
8"	467.55	533.02	596.73	655.98	721.10
10"	670.53	764.41	855.78	940.75	1,034.14

Commodity Charge

Similar to the existing rate structure, remaining expenditures, not recovered from the Fixed Charge, will be collected by means of a commodity charge. The recommended adjustments included simplifying the rate structure to treat all customers equally. Given that a significant majority of the account base and system design is made up of residential, there was not sufficient data available to justify creation of additional rate classes or structures.

Figure 3-4: Recommended Water Commodity Rate

Commodity Charge	July 1, 2012	July 1, 2013	July 1, 2014	July 1, 2015	July 1, 2016	
Tiered	Tier (HCF)					
Tier 1	0 - 8	\$ 0.89	\$ 1.02	\$ 1.14	\$ 1.25	\$ 1.38
Tier 2	8.01+	2.24	2.55	2.85	3.14	3.45
Pass Through ¹	All units	TBD	TBD	TBD	TBD	TBD

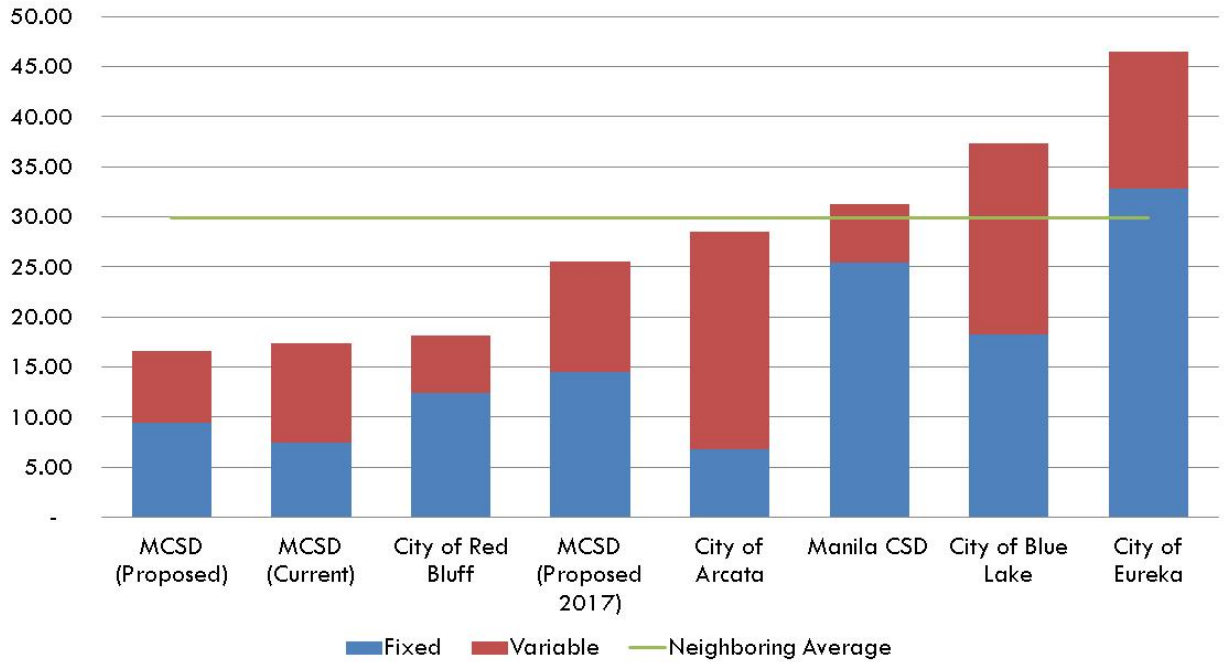
¹ MCS D will pass-through adjustments in the wholesale water charges established by HBMWD

The pass through will be adjusted as necessary to reflect the adjustments in the wholesale water charges established by HBWMD. This mechanism enables MCS D to only pass-through the true costs of water providing for lower, more accurate and defensible rates; while providing a significant increase in financial stability and certainty to MCS D.

Rate Comparison

While the cost structure and facilities vary greatly between water utilities, rate comparisons provide stakeholders a barometer of its rates in relation to surrounding communities. For increased application, the figure below compares agencies where HBMWD is the wholesaler. The figure provides the estimated monthly bill for typical household’s consumption (8 HCF). As the figure demonstrates, holding rates level, the Proposed FY 2016-17 rates would still be amongst the lowest in the region.

Figure 3-5: Single Family Regional Rate Comparison (8 HCF)



Sewer Rate Analysis

The sewer utility is in a similar financial position when compared to the water fund. Although starting with higher reserves, the Sewer Fund is facing significant future capital expenditures and increased costs related to operations and a need to repair and replace aging infrastructure. This section of the report outlines the details of the analysis and the approach to developing the recommendations.

Sewer Discharge and User Characteristics

As sewer usage (discharge) is not metered, an examination of seasonal water consumption plays a critical role in ensuring equitable and revenue sufficient rates. Willdan examined the previous three years of billing data provided by the District. Multiple years of data were analyzed to ensure short-term anomalies accounted for and long-term trends were captured. Furthermore, billing data was analyzed to determine seasonal demand patterns and overall consumption characteristics. These discharge assumptions were cross-analyzed against treatment plant information (gallons treated) to confirm the appropriateness of the user discharge analysis.

It is important to note that multi-family complexes are charged and analyzed on a per unit basis, rather than by meter size. This is due to the lack of correlation between the meter size for water service and the amount discharged into the system.

Customer Statistics

During the Fiscal Year 2011, an analysis of the sewer data, provided by MCSO, revealed service to an estimated 6,562 units across 52 different customer classifications, and discharging an estimated 489 thousand HCF of wastewater. A projection of units, discharge, and loading strengths is necessary in the evaluation of the revenue requirements. This projection is critical for the determination of revenues from rates, escalation of treatment-related costs, and design of the rates.

Revenue Requirements Analysis

Similar to water, the first step in a sewer rate analysis is the review of required revenues. The result of this analysis is a snapshot of the utility's existing financial health, which is necessary to determine current and future revenue needs. To ensure that both short and long-term financial health were reviewed, Willdan performed a 10-year financial outlook; however, for the purposes of this study, rates and financial projections will be limited to 5 years. Willdan reviewed expenditures (operation and maintenance (O&M), capital, and reserves requirements) against revenues (rate revenue, capacity fee revenues, etc). Willdan also analyzed and reviewed the sewer fund's historical and current financial statements, three years of water consumption records, capital improvement programs and plans, reserve policies, and conferred with staff to forecast future expenditures.

Existing Sewer Revenues

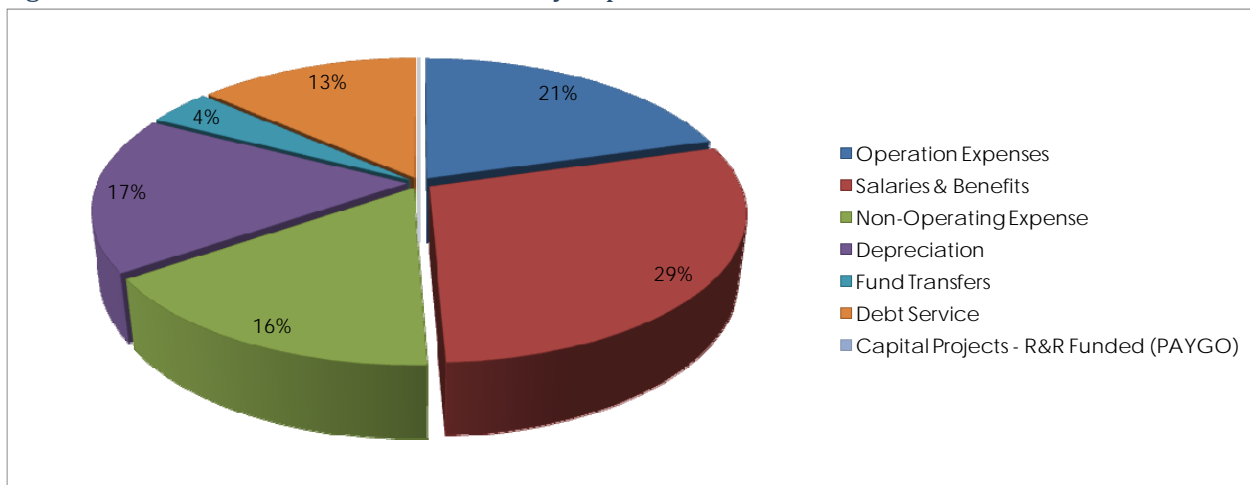
Similar to Water, the Sewer Fund receives a majority of its revenues from rates. In Fiscal Year 2010-2011, the Sewer Fund yielded \$1.4 million in operating rate revenue, compared with \$271 thousand in non-operating revenue.

Existing Sewer Expenditures

To achieve long-term financial health, a utility’s revenues must be sufficient to meet total expenditures or cash obligations. This “required revenue” includes all incurred costs related to operation and maintenance, capital improvement programs, and principal and interest payments on existing or proposed debt.

As demonstrated by Figure 4-1, Water Fund expenditures were categorized into one of six classifications: (1) Operation; (2) Salaries & Benefits; (3) Depreciation; (4) Debt Service; (5) Fund Transfers; and (6) Repair & Replacements (R&R) funded Capital. The pie chart below demonstrates the relative size of the various expense categories over the study period.

Figure 4-1: Sewer Fund - Cost Distribution by Expenditure Classification



The District prepares annual list of sewer related capital improvements to address current and future sewer system needs. As a result of the economic downturn, and in an attempt to limit capital expenditures, the utility has reduced or delayed capital projects to only essential and critical needs.

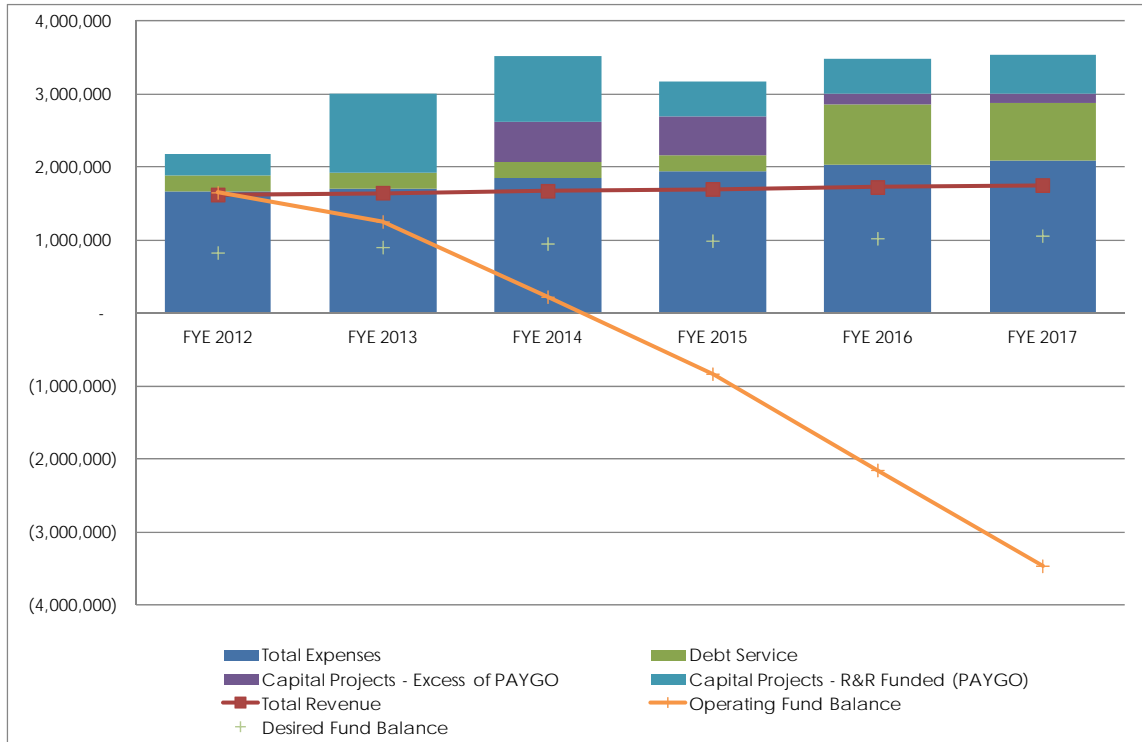
Through the study period debt service costs, related to principal and interest on the existing debt service account for a roughly thirteen percent (13%) of the sewer fund’s expenditures. As previously mentioned, due to continued effort to mitigate rate shock and smooth increases, MCSO is planning on issuing new debt to smooth the cash-flow needs of each fund, while maintaining moderate reserve levels. Revenues must be targeted to ensure MCSO meets its debt service coverage requirements, of 1.25, on any existing and proposed debt service.

In addition, to maintain financial flexibility, the sewer fund has a target to maintain an operating reserve of nearly \$0.9 million cash on hand (180 days of operating expense) as part of its reserve policy. At the end of June (FYE 2011), the sewer fund maintained a cash balance of nearly \$3.2 million. Although in

excess of the reserves target, the immediate need for cash funded capital projects will significantly burden the current reserve levels. As such, this reserve will be utilized to offset the short-term revenue shortfall associated with pay-as-you-go funded capital.

Figures 4-2 demonstrates the Baseline Scenario for the Sewer Fund. This represents current and projected financial conditions of the water utility absent any revenue adjustment (increases) over the next 5 years. As the figure illustrates, existing revenue levels are unsustainable and the water fund is forecasted to continue to run at a loss.

Figure 4-2: Sewer - Baseline Financial Scenario



The declining orange line (lower line) shows the fund’s projected ending cash balance. While short-term drops or dips of reserve levels are acceptable, given the beginning cash balance, the continued downward trend must be reversed with revenue adjustments, as the illustrated baseline scenario is unsustainable.

Revenue Requirement Summary

Given the existing financial condition of the utility, without near term revenue adjustments, MCSO’s water fund will not be able to meet its targeted objectives without large spiked increases in the future. As such, Willdan worked with MCSO staff, the District Board, and community stakeholders to seek input for the development a financial plan and rate structure that provides gradual adjustment to provide continued financial stability throughout the study period. Numerous financial scenarios were analyzed and presented over the course of the study. The results and recommendations provided in the analysis were presented in March 2012 and stakeholders were subsequently mailed a Proposition 218 Noticed in April. The recommended financial scenario was structured and analyzed to achieve a positive net

income within the five-year study period and to maintain be in compliance with the MCSO’s Debt Coverage Ratio.

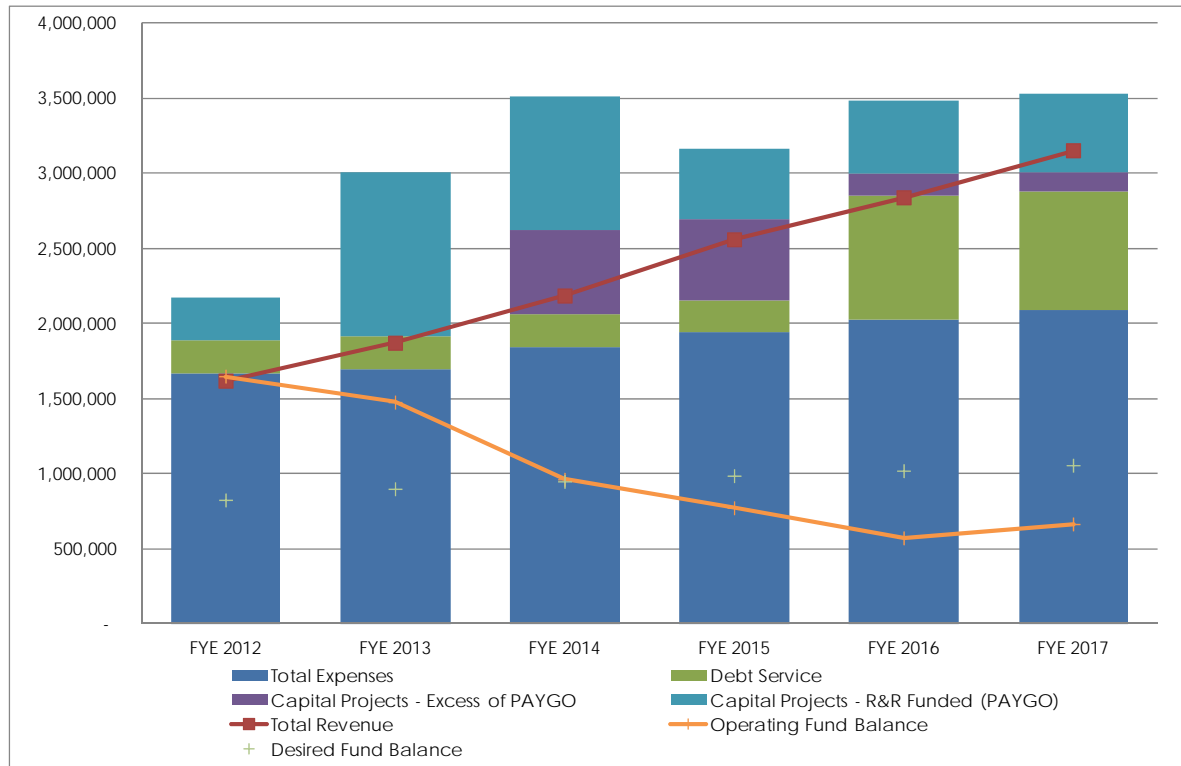
Figure 4-3 details the existing and projected expenditures of the sewer fund and the corresponding impact of the revenue adjustments on the fund’s financial health.

Figure 4-3: Sewer - Revenue Requirements Analysis

Description	FYE 2012	FYE 2013	FYE 2014	FYE 2015	FYE 2016	FYE 2017
	1	2	3	4	5	6
Revenue from Rates	Current Year		Projected			
Sewer Service Charges	\$ 1,393,000	\$ 1,418,074	\$ 1,443,599	\$ 1,469,584	\$ 1,496,037	\$ 1,522,965
Sewer Service Charges	-	-	-	-	-	-
Total Operating Revenue	\$ 1,393,000	\$ 1,418,074	\$ 1,443,599	\$ 1,469,584	\$ 1,496,037	\$ 1,522,965
Additional Rate Revenue Required						
Fiscal Year						
FYE 2012	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FYE 2013		226,900	231,000	235,100	239,400	243,700
FYE 2014			284,700	289,800	295,000	300,300
FYE 2015				339,100	345,200	351,400
FYE 2016					237,600	241,800
FYE 2017						266,000
Total Additional Rate Revenue	\$ -	\$ 226,900	\$ 515,700	\$ 864,000	\$ 1,117,200	\$ 1,403,200
Total Required Revenue	\$ 1,393,000	\$ 1,644,974	\$ 1,959,299	\$ 2,333,584	\$ 2,613,237	\$ 2,926,165
Operation Expenses						
Salaries & Benefits						
Wages-Administrative	\$ 721,158	\$ 825,490	\$ 877,685	\$ 904,891	\$ 919,856	\$ 938,874
Other Expenses	533,390	558,993	585,824	613,944	643,413	674,297
PAYGO, In excess of R&R Fund	-	-	559,348	535,373	141,941	132,918
Total Operating Expenditures	\$ 1,254,548	\$ 1,384,483	\$ 1,463,509	\$ 1,518,835	\$ 1,563,269	\$ 1,613,171
Net Operating Income	\$ 138,452	\$ 260,491	\$ 495,790	\$ 814,749	\$ 1,049,967	\$ 1,312,994
Total Non-Operating Revenue	\$ 224,255	\$ 224,255	\$ 224,255	\$ 224,255	\$ 224,255	\$ 224,255
Total Non-Operating Expenses	415,506	435,450	456,352	478,257	501,213	525,271
Debt Service	215,000	222,000	218,000	215,000	831,000	787,000
Targeted Debt Coverage Ratio	125%	125%	125%	125%	125%	125%
Calculated Debt Coverage Ratio	78%	131%	241%	393%	130%	171%
Net Income	\$ (267,799)	\$ (172,704)	\$ (513,654)	\$ (189,625)	\$ (199,932)	\$ 92,060

Similar to the Sewer - Baseline Scenario figure, Figure 4-4 forecasts the financial health of the sewer fund; however, as opposed to the baseline scenario, the revenue adjustments provide a more positive outlook and allow for a funding of reserves.

Figure 4-4: Sewer - Recommended Financial Scenario



Cost of Service Analysis

Following the discharge and revenue requirement analysis, the next stage is to distribute costs (revenue requirements) to functional components, and ultimately, to each customer class. The cost of service analysis is a systematic process by which revenue requirements are allocated by function to generate a classification of fair and equitable costs in proportion to the service received for each user class.

This section of the report discusses the allocation of operating and capital costs to the Flow, Suspended Solids (SS) and Biochemical Oxygen Demand (BOD) parameters, the determination of unit rates, and the calculation of user class cost responsibility.

Cost Allocation by Function

The cost of service allocation conducted in this study is established on the flow and strength characteristics method, which is endorsed by the Water Environmental Federation (WEF). Under this method, revenue requirements are allocated to the different user classes proportionate to their use of the wastewater system. Allocations are based on flow volume, SS, BOD, customer accounts, and wastewater monitoring. Use of this methodology results in a generally accepted cost distribution among customer classes and a means of calculating and designing rates to proportionately recover those costs.

Figure 4-5 presents the net plant in service analysis. This analysis is important in order to determine an appropriate and reasonable means of allocating debt service requirements and future capital projects to utility demand.

Figure 4-5: Distribution of Expenditure by Function

	Rate Revenue Required	Flow Volume	BOD	SS	Customer Accounts
Percent Allocation	100%	12.1%	12.1%	12.1%	63.6%

Fiscal Year Ending

FYE 2012	\$ 1,393,000	\$ 169,109	\$ 169,109	\$ 169,109	\$ 885,673
FYE 2013	1,644,974	199,698	199,698	199,698	1,045,879
FYE 2014	1,959,299	237,857	237,857	237,857	1,245,728
FYE 2015	2,333,584	283,295	283,295	283,295	1,483,700
FYE 2016	2,613,237	317,244	317,244	317,244	1,661,503
FYE 2017	2,926,165	355,234	355,234	355,234	1,860,464
FYE 2018	3,068,279	372,486	372,486	372,486	1,950,820
FYE 2019	3,154,585	382,964	382,964	382,964	2,005,695
FYE 2020	3,243,495	393,757	393,757	393,757	2,062,223
FYE 2021	3,335,015	404,868	404,868	404,868	2,120,412
FYE 2022	3,429,056	416,284	416,284	416,284	2,180,204

The separation of costs into these functional components provides the means for further allocation to the customer classes based upon their respective demand of each function. The resulting distribution percentages are utilized to allocate annual required revenue to each customer class based on the class’ respective demand on the system

Once the system cost causation analysis is complete, the next step is to design the most equitable and appropriate rate structure to recover those revenues.

Rate Design Analysis

The final step of the rate study is the design of the wastewater rates to collect the desired level of revenue determined in the revenue requirement analysis. During this analysis, consideration is given to the levels of the rates. This section reviews the proposed wastewater rate design for the District.

Criteria and Considerations

In determining the appropriate rate level and structure, Willdan, in conjunction with MCSO staff, analyzed various generated financial scenarios concerning the proposed adjustments and the implications attributed to those decisions.

Listed below is a simplified list of the design considerations that were reviewed:

- Consideration of the customer’s ability to pay
- Clear and understandable rates
- Easily administered

- Outdoor water usage
- Revenue stability (month to month and year to year)
- Efficient allocation of resources
- Implementation of Capital Improvements (rate of improving the existing system)
- Fair and equitable (cost-based) rates
- Comply with legal and regulatory requirements

When developing the proposed rates all of the aforementioned criteria were taken into consideration. Determining the appropriate balance is crucial, as some of the criteria occasionally conflict with one another, i.e. the customer's ability to pay and cost-based rates. In designing rates, there will always be concessions between the various objectives; however, the proposed rates meet all of the leading objectives of MCSO as discussed with staff and the Board.

Existing Rate Structure

The existing rate structure is a three-tiered rate structure for residential and two-tier rate structure for non-residential classes, both of which, also includes a base monthly rate. The structure is comprised of the following cost components.

Fixed Charge: Charge is per month and is based on the type of customer class. This component of the sewer rate reflects a portion of operations, customer service, and maintaining the accounts. In addition, the existing fixed charge had minimum appropriations of usage (i.e., the variable rate, below, would only be applied after the user exceeded the minimum amount).

Variable Charge: These charges reflect the remaining operational costs and reflect the user's different strength characteristics. This rate varies between \$0.22 to \$3.34 per hundred cubic feet (HCF) used per month. *To account for irrigation, residential discharge is limited (cannot exceed) to 12 HCF per month (per unit).*

Proposed Rate Structure

Given the perceived inequities between customer classes in the existing rate structure, Willdan recommends simplifying the rates into a single fixed charge with no allotments of units. Beyond changing the structure, some components of the rate structure were modified to reflect the current analysis and allocation of the costs incurred. Below are the proposed components of the recommended rate structure – while each customer class' rate(s) is comprised of these charges, the specific rates may differ based on demand.

Customer Charge: A fixed and uniform rate, applied per month and per dwelling unit, regardless of customer class. This component of the sewer rate reflects a portion of operations, customer service, and maintaining the account. *No prescribed allotment of units.*

Variable Charge: Charge has been updated to reflect the cost of service related to discharge strengths. The average rate is \$1.75 per HCF. *Identical to the existing structure, residential discharge is limited (cannot exceed) to 12 HCF per month (per unit).*

Rate Recommendations

The proposed revenue adjustments as a percentage do not equal or necessarily correlate to an equivalent percentage increase to rates or monthly bills. The results of the cost-of-service analysis and rate redesign will affect users differently, at both the customer class and account level.

The cost of service analysis created two notable rate impacts related to rate design: first, the balance between fixed and variable charges; second, the increased focus of a cost of service nexus and ensuring proper cost recognition and recovery of different users.

Sewer Charge

Unlike water, there is only one component to the proposed fixed charge: Customer Account costs, where 64% of required revenue is allocated to Customer Accounts. These costs are distributed to each unit evenly, as each unit benefits equally from those expenditure functions. The remaining 36% of expenditures are distributed and recovered via variable charges that reflect a customer's discharge volume and strength characteristics. Figure 5-1 provides the fixed and Variable charges for each of the customer classes.

Figure 5-1: Recommended Sewer Charges

	July 1, 2012		July 1, 2013		July 1, 2014		July 1, 2015		July 1, 2016	
	Fixed ¹	Variable ²	Fixed ¹	Variable ²	Fixed ¹	Variable ²	Fixed ¹	Variable ²	Fixed ¹	Variable ²
01 - Single Family Residence	\$ 12.83	\$ 1.09	\$ 15.01	\$ 1.27	\$ 17.57	\$ 1.49	\$ 19.33	\$ 1.64	\$ 21.27	\$ 1.80
02 - Apartment/multi unit (each)	12.83	1.09	15.01	1.27	17.57	1.49	19.33	1.64	21.27	1.80
03 - Mobile Homes (each)	12.83	1.09	15.01	1.27	17.57	1.49	19.33	1.64	21.27	1.80
04 - Barber/Beauty Shop	12.83	1.11	15.01	1.30	17.57	1.54	19.33	1.70	21.27	1.89
05 - Office Building/Post Office	12.83	1.11	15.01	1.30	17.57	1.54	19.33	1.70	21.27	1.89
07 - Churches	12.83	1.34	15.01	1.58	17.57	1.86	19.33	2.07	21.27	2.29
08 - Rectory	12.83	1.34	15.01	1.58	17.57	1.86	19.33	2.07	21.27	2.29
10 - Restaurant/Taverns	12.83	4.13	15.01	4.87	17.57	5.75	19.33	6.37	21.27	7.06
11 - Motels/Hotels	12.83	2.98	15.01	3.52	17.57	4.15	19.33	4.60	21.27	5.10
12 - Gas Stations (No Market)	12.83	1.49	15.01	1.75	17.57	2.06	19.33	2.29	21.27	2.54
13 - Laundromats	12.83	1.01	15.01	1.19	17.57	1.41	19.33	1.56	21.27	1.73
14 - Retail/Banks/Theater/Other	12.83	1.34	15.01	1.58	17.57	1.86	19.33	2.07	21.27	2.29
15 - Bakery	12.83	4.13	15.01	4.87	17.57	5.75	19.33	6.37	21.27	7.06
16 - Market	12.83	4.15	15.01	4.89	17.57	5.77	19.33	6.40	21.27	7.09
17 - Fire Station/School	12.83	0.94	15.01	1.11	17.57	1.31	19.33	1.45	21.27	1.61
18 - Coast Guard Station/Airport	12.83	1.34	15.01	1.58	17.57	1.86	19.33	2.07	21.27	2.29
19 - Car Wash	12.83	0.81	15.01	0.95	17.57	1.12	19.33	1.24	21.27	1.38
20 - Church & Residence	12.83	2.03	15.01	2.40	17.57	2.82	19.33	3.13	21.27	3.47
21 - Round Table/Market	12.83	3.57	15.01	4.20	17.57	4.96	19.33	5.49	21.27	6.09
22 - Two sewer units/business	12.83	1.34	15.01	1.58	17.57	1.86	19.33	2.07	21.27	2.29
23 - Metered septage vault	12.83	2.05	15.01	2.42	17.57	2.86	19.33	3.17	21.27	3.51
24 - Two sewer units/daycare	12.83	1.32	15.01	1.54	17.57	1.81	19.33	1.99	21.27	2.18
25 - Sewer Units - Commercial	12.83	1.49	15.01	1.75	17.57	2.06	19.33	2.29	21.27	2.54
26 - Sewer Only Accounts	12.83	1.32	15.01	1.54	17.57	1.81	19.33	1.99	21.27	2.18
27 - 2 sewer units/commercial	12.83	1.34	15.01	1.58	17.57	1.86	19.33	2.07	21.27	2.29
76 - Dialysis Clinic	12.83	1.22	15.01	1.44	17.57	1.69	19.33	1.88	21.27	2.08
MT - Minor Theater	12.83	1.11	15.01	1.30	17.57	1.54	19.33	1.70	21.27	1.89

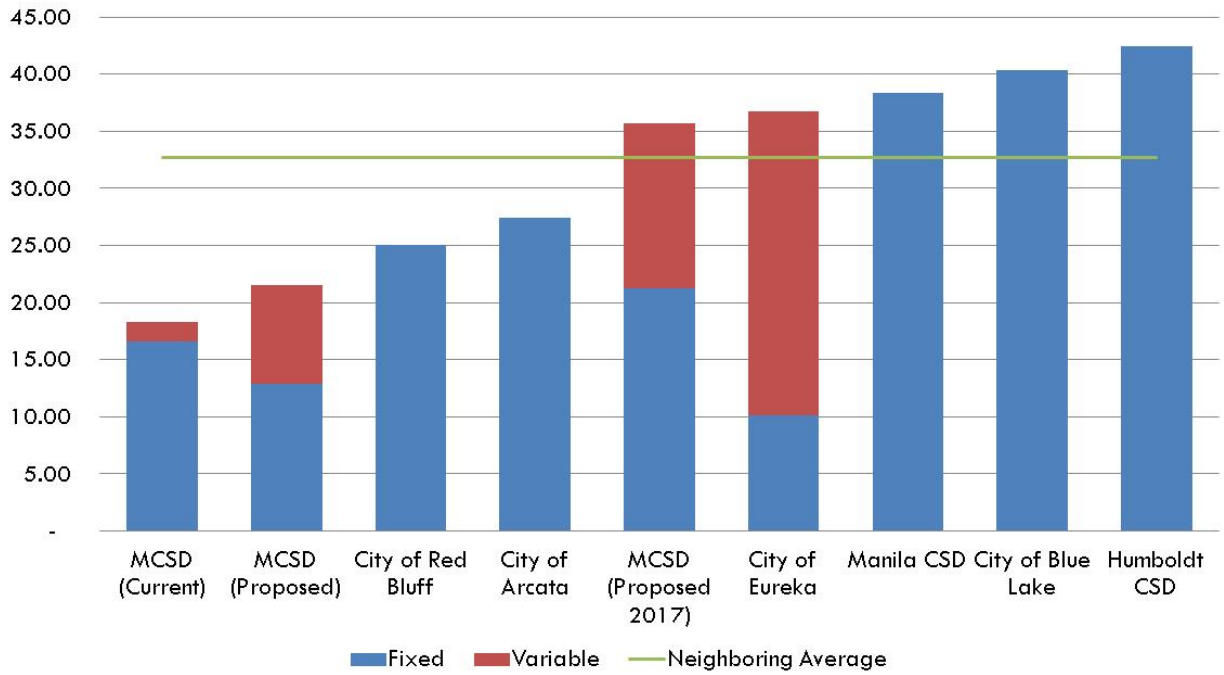
¹ If multiple units per account, the Fixed Charge is applied to each unit

² Per HCF (hundred Cubic Feet) based on water consumption. Due to irrigation, Residential units are limited to a maximum of 12 HCF monthly (per unit)

Rate Comparison

While the cost structure and facilities vary greatly between sewer utilities, rate comparisons provide stakeholders a barometer of the MCS D rates in relation to surrounding or similar communities. The figure provides the estimated monthly bill for typical single family household’s consumption (8 HCF). MCS D are Eureka are the only local agencies that charge a variable charge (represented in Red), which provides users greater control over their monthly bill.

Figure 5-2: Single-Family Regional Sewer Rate Comparison



Customer Impacts

The recommended rates will provide MCSO with the necessary revenue to provide continue quality service, without a significant impact on the average ratepayer. The figure below provides a combined water and sewer sample bill for a variety of single-family consumption levels. The black boxes represent the difference between the existing and proposed July 1, 2012 rates.

Figure 6-1: Single-Family Monthly Bill Comparison

