



City of Somerville, MA

**2021 Water and Sewer Rate Study – Draft
Report**

May 10, 2021





May 10, 2021

Mr. Alex G Marini Lessin
Director of Finance &
Administration
City of Somerville Water &
Sewer Department
17 Franey Rd Somerville, MA
02145

Re: 2021 Water and Sewer
Rate Study – Draft Report

Dear Mr. Lessin,

Stantec Consulting is pleased to present this Draft Report of the 2021 Water and Sewer Rate Study that we performed for the City of Somerville, Massachusetts. We appreciate the fine assistance provided by you and all of the members of the City Staff who participated in the Study.

If you or others at the City have any questions, please do not hesitate to call me at (904) 610-2910 or email me at Kyle.Stevens@stantec.com. We appreciate the opportunity to be of service to the City and look forward to the possibility of doing so again in the near future.

Sincerely,

A handwritten signature in black ink, appearing to read "Kyle Stevens".

Kyle Stevens
Project Manager
Managing Consultant

Enclosure

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1. INTRODUCTION

1.1 BACKGROUND

Stantec Consulting Services Inc. (Stantec) has conducted a Rate Study (Study) for the Water and Sewer Funds (Fund or Utility) of the City of Somerville, Massachusetts (City). The following sections of the report describe in detail the assumptions, procedures, and results of the analysis, as well as the conclusions and recommendations developed during the analysis.

The City of Somerville is a City of approximately 81,000 residents and is one of several communities that make up the greater Boston metro area. One of the many critical quality of life functions of the City Government is to provide water and sewer services to its citizens and businesses located within the City while ensuring compliance with applicable environmental regulations. The City's water supply and wastewater treatment functions are provided by the Massachusetts Water Resources Authority (MWRA). At the end of 2020, there were approximately 15,000 water and sewer accounts receiving service within the City.

The City has historically evaluated water and sewer rates on an annual basis as part of its budget process. Consistent with this practice, in 2021, the City retained Stantec to perform a comprehensive rate study which includes a number of objectives as described below.

1.2 OBJECTIVES

The principal objectives or components of the Study are as follows:

Water and Sewer Financial Sustainability Analysis – Conduct an analysis that evaluates the current and projected financial condition of the City's Water and Sewer Funds and identifies financial adjustments that will provide a sustainable future for the City utilities over a multi-year projection period.

Affordability Analysis – Analyze current utility billing data and US census data for the service area to understand the extent of utility bill affordability challenges for residential customers currently and projected into the future. This analysis will consider traditional methods such as the EPA's residential indicator as well as more sensitive and granular metrics including Stantec's Weighted Average Residential Index (WARi) approach.

2. FINANCIAL SUSTAINABILITY ANALYSIS

The City retained the services of Stantec to evaluate the current and projected financial condition of the City's Water and Sewer Fund and identify revenue enhancements and other financial adjustments that will provide a sustainable future for the City's utilities over a multi-year projection period. This report describes in detail the approach taken to complete the study, as well as the results of the analysis, our concluding observations, and considerations for the future.

2.1 DESCRIPTION

This section presents the financial management plan developed during the Study. The first two sub-sections present a description of the base data, assumptions, and policies reflected in the Study. The last two sub-sections provide the results and conclusions of the Study, while Appendix A and Appendix B include detailed schedules supporting the financial management plan identified herein.

Throughout the course of the Study, we conducted multiple interactive work sessions with City Staff. During these work sessions, we examined the impact of various alternatives upon key financial indicators by use of graphical representations from our interactive rate model. In this way, we developed revenue adjustment plans for each alternative financial management plan identified, including the recommended financial management plan presented in this report, which will allow the Utility to meet its projected requirements and financial performance goals and objectives throughout the projection period. It is important to note that the revenue adjustment plans defined throughout this report are fundamentally being driven by the need to make generational investments in infrastructure through the City's capital investment plan.

In order to initialize our analysis, we obtained the historical and budgeted financial information regarding the operation of the Utility. We discussed with City Staff any assumptions and policies that would affect the financial performance of the Utility such as additional expenses outside of the budget, required levels of operating and capital reserves, earnings on invested funds, escalation rates for operating costs, etc.

All of this information was entered into our Financial Analysis and Management System (FAMS) interactive model. The FAMS model produced a ten-year projection of the sufficiency of the current revenues to meet all of the Utility's current and projected financial requirements and determined the level of revenue increases necessary in each year of the projection period to provide sufficient revenues to fund all of the Utility's cost requirements.

FAMS utilizes all projected available and unrestricted funds in each year of the projection period to pay for capital projects. The model is set up to reflect the rules of cash application as defined and applied by the City in order to produce a detailed summary of the funding sources to be used for each project in the Capital Investment Plan (CIP).

2.2 SOURCE DATA

The analysis used both historical and projected information. The following presents the key source data utilized in the Financial Sustainability Analysis (FSA).

2.2.1 Fund Balance

City Staff provided historical audited financial information as of July 1, 2020, which was used to establish the beginning fiscal year (FY) 2021 balances for the Water and Sewer Funds. Beginning balances were ultimately categorized into two “buckets”, the City’s Enterprise Fund and Stabilization Funds (Water & Sewer Stabilization Fund and Infiltration & Inflow Fund). The City’s Enterprise Fund consists of unrestricted cash balances that are available to the Utility for operations and ultimately represents the funds available for rate setting purposes.¹ Any funds or proceeds reserved for specific capital projects are excluded from Enterprise Fund beginning balances, as they are accounted for separately within the City’s separate debt/project sub-funds. Additional information regarding the purpose of the City’s Enterprise Fund is defined in Section 2.3.3 of this report and specific details regarding the City’s beginning Enterprise Fund balance calculation as of July 1, 2020 is presented on Schedule 2 of Appendix A and B.

2.2.2 Revenues

Revenue sources utilized in the Study consist of rate revenues, liens redeemed, other operating revenues from miscellaneous service charges, and interest earnings revenues. Rate revenues were projected in FY 2021 to reflect the continuation of impacts from the COVID-19 pandemic and observed demand trends. Each year thereafter, rate revenues reflect prior year revenue, adjusted for projected growth in equivalent residential units (ERUs) and billed volume. Annual lien revenues were estimated for FY 2021 to reflect administrative changes in the process and a rise in delinquent accounts due to the global pandemic. This is projected to result in a rise in revenues in FY 2022 and then a normalization of this revenue stream in FY 2023 and forward as the pandemic’s effects subside. As such, water and sewer liens redeemed were projected as a percent of rate revenues (approximately 2.5% for water and 2.3% for sewer) starting in FY 2023, based upon historical levels.

Other operating revenue projections were projected based upon the FY 2021 Original Budget provided by City Staff and maintained at the same level for the entire projection period. Interest earnings were calculated annually based upon projected average fund balances and assumed annual interest earnings rates. Additionally, contributions to the City’s Water and Sewer Stabilization Fund were forecasted at the budgeted level of \$2.2 million (M) for FY 2021 (split 32% water and 68% to sewer), and then for each year thereafter at an assumed amount of \$2.0M (split 20% water and 80% sewer).

¹ What the City refers to as its “Enterprise Fund” is commonly referred to as an “operating fund” or “revenue fund” by other municipal agencies.

2.2.3 Operating Expenditures

Operating expenses include personal services costs, operating and maintenance (O&M) costs, Massachusetts Water Resources Authority (MWRA) assessment costs, and minor capital outlays. All operating expenses in FY 2021 reflect the City's FY 2021 Original Budget and were projected each year thereafter based upon assumed future cost escalation factors. It is important to note that in each year of the forecast, including the budget year FY 2021, an actual execution rate of 100% was assumed for all operating expenses, meaning that the full budget is expected to be expended each year.

2.2.4 Capital Investment Plan

Capital improvement projects mostly represent the renewal and replacement of existing infrastructure and to a lesser extent new infrastructure. Under the auspice of the current rate study, Stantec worked with City Staff to develop a projection of capital spending for FY 2021 - FY 2031 and incorporate the capital investment plan (CIP) into the FAMS financial model. The total capital spending forecasted from FY 2021-FY 2031 in the model, in future day dollars², is \$116M for the Water Fund and \$463M for the Sewer Fund. The capital plan as projected has been executed at 100%, functionally meaning that all capital is anticipated to be spent in the year projected at the amount projected. Importantly, funding rules for capital spending projections were not defined within the financial model, rather the City's Finance Staff processed the expected CIP spending by year into a schedule of annual debt service requirements. In doing so the projection more accurately reflects the process by which the City utilizes short term debt, known as bond anticipation notes (BAN) for a typical 2-year term before securing long term financing.

2.2.5 Existing Debt Service

This Study reflects the annual principal and interest requirements associated with the City's outstanding water and sewer financing, which includes municipal use bonds, MWRA loans, and short-term BANS. Annual existing debt service levels in FY 2021 are approximately \$1.4M for the Water Fund and \$1.1M for the Sewer Fund.

² The CIP that was provided by City Staff includes inflationary assumptions, and therefore capital spending projections reflect future dollars rather than current day dollars.

2.3 ASSUMPTIONS

The following presents the key assumptions utilized in the FSA.

2.3.1 Cost Escalation

Annual cost escalation factors for the various types of operating expenses were discussed with City Staff and applied in each year of the projection period, beginning in FY 2022. The specific escalation factors assumed for each category of expense are presented in Appendix A & B of this report and reflect recent historical trends, current industry observations, and City Staff expectations.

2.3.2 Interest Earnings on Invested Funds

The Study reflects assumed future annual interest-earning rates of 0.75% in each year of the forecast starting in FY 2021.

2.3.3 Minimum Reserve Policy

Reserve balances for utility systems are funds set aside for a specific cash flow requirement, financial need, project, task, or legal covenant. These balances are maintained in order to meet short-term cash flow requirements, and at the same time, minimize the risk associated with meeting the financial obligations and continued operational and capital needs under adverse conditions. The level of reserves maintained by a utility is an important component and consideration of developing a utility system multi-year financial management plan.

Many utilities, rating agencies, and the investment community as a whole place a significant emphasis on having sufficient reserves available for potentially adverse conditions. The rationale related to the maintenance of adequate reserves is twofold. First, it helps to assure that the utility will have adequate funds available to meet its financial obligations during unusual periods (e.g., when revenues are unusually low and/or expenditures are unusually high). Second, it provides funds for emergency repairs or replacements to the system, which may occur because of natural disasters or unanticipated system failures.

The financial management plan presented in this report assumes the City will maintain a minimum Enterprise Fund (operating fund) balance or reserve equal to 30% of annual operating expenses, including personal services costs, operating and maintenance costs, and MWRA assessment costs. This level of reserves is consistent with our experience with other financially stable utility systems.

2.3.4 Future Borrowing & Capital Funding

The analysis included herein assumes that future capital will be financed and result in new debt issuance, with the exception of vehicles and minor capital. As such Finance Staff has calculated future debt service schedules based on capital spending expectations and incorporates both short term and long-term financing facilities. This schedule has been relied upon in the analysis as the authoritative source for new annual debt service requirements and is included in appendix A & B, for water and sewer respectively.

2.3.5 Debt Service and Coverage

The utility has a stated financial policy of maintaining a debt to operating revenue ratio of 30% or lower. This key metric has been included in the forecast and calculated in each and every year using a conservative definition of revenues consisting of mainly rate revenues from charges for services. The metric will show notable deterioration as the utility is forecasted to take on meaningful additional debt over the forecast period. Of note the utility is expected to receive stabilization contributions which will pay for debt service but are not included in this ratio. The contributions are used only to offset debt service expenses and thus provide a significant boost in the resources available to manage ongoing debt cost.

Alternatively, many utilities have a debt covenant to maintain net revenues (gross revenues minus operating expenses) that are at least 1.25 times greater than the annual debt service expense (i.e. the annual principal and interest payments) for senior lien debt and 1.15 times annual debt service expenses for subordinate debt. Stantec has included this calculation as well for the entire forecast period.

Per recently published guidance from Fitch Ratings, the municipal ratings agency, utility systems with *Midrange* financial profiles maintain debt service coverage greater than 1.50 times net revenue and *Stronger* financial profiles maintain debt service coverage greater than 2.00 times net revenue. Per the financial management plan presented herein, projected annual debt service coverage ranges from 5.52 times net revenue to 1.31 times net revenue over the forecast period.

2.4 RESULTS

Once all revenue requirements for the Water and Sewer Funds were included within the Financial Sustainability Analysis, a diagnostic model run was conducted. A diagnostic model run allows for an understanding of the trajectory for the Water and Sewer Funds without any revenue adjustments (water and sewer rate increases) over the projection period. Importantly this step does not assume that future rate revenue adjustments are needed, rather it sets a baseline if current revenue levels are maintained. Figures 1 and 2 display the end of year Enterprise Fund balances for the Water Fund and Sewer Fund, respectively. In both cases the diagnostic calculation of the model results in a depletion of fund balances below the policy minimum target by FY 2023, indicating that revenues are insufficient to fund cost requirements over the projection period.

Figure 1 – Water Diagnostic Model Run (Enterprise Fund Balances)

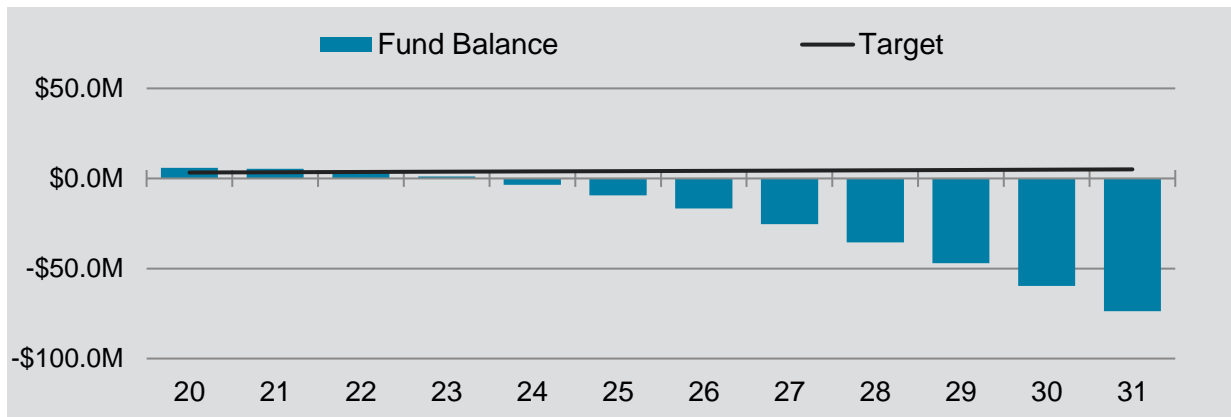
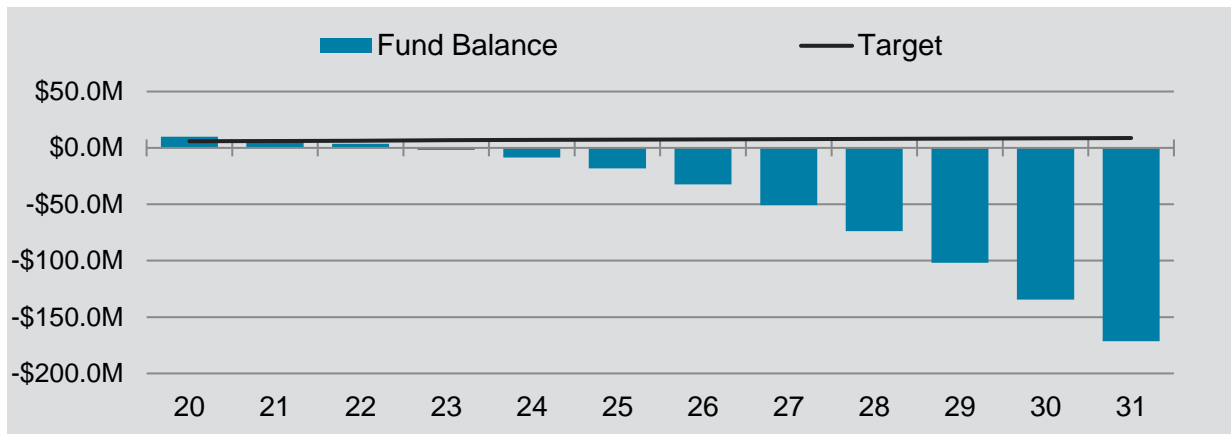


Figure 2 – Sewer Diagnostic Model Run (Enterprise Fund Balances)



As demonstrated in Figures 1 and 2, the Water and Sewer Funds will require revenue adjustments throughout the projection period in order to provide sufficient revenues to fund the ongoing operations and maintenance costs, capital improvement projects, renewal & replacement costs, new debt service, and reserve requirements of the Enterprise Fund.

The recommended financial management plan and corresponding plan of sustainable rate adjustments is based upon the source data and assumptions as described in the previous sections of this report. Appendix A and B include several detailed schedules presenting key aspects of the ten-year financial management plan, while the recommended rate adjustment plan for the immediate five-year planning period is presented on Tables 1 and 2. It is important to note that the rate adjustments presented herein are only applied to volumetric rates, with no adjustments applied to fixed charges. Additionally, the rate increases presented herein will have varying impacts on customer bills based upon user class and the respective level of water/sewer use. The sustainable rate adjustment plan has been shown first as “just-in-time” whereby increases are applied in the year they are required to maintain sustainability. Alternatively, in the “Level” plan adjustments provide a smoothed rate plan. The Level plan is the recommend plan for its predictability to customers and minimization of large increases in any given year.

Table 1 – Water Recommended Level Rate Revenue Adjustments and Just-in-Time Calculations

Fiscal Year	2022	2023	2024	2025	2026
Effective Date	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025
Water Volumetric Plan Just-in-Time	0.00%	22.44%	8.12%	9.06%	6.67%
Water Volumetric Plan Level Adjustments	7.00%	10.00%	10.00%	10.00%	10.00%

Table 2 – Sewer Recommended Level Rate Revenue Adjustments and Just-in-Time Calculations

Fiscal Year	2022	2023	2024	2025	2026
Effective Date	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025
Sewer Volumetric Plan Just-in-Time	12.45%	11.98%	3.79%	10.56	12.76%
Sewer Volumetric Plan Level Adjustments	10.50%	10.50%	10.50%	10.50%	10.50%

The revenue adjustments as calculated are fundamentally being driven by the need to make generational investments in infrastructure through the capital investment plan. The City is in a very similar situation as peer New England utilities that have significant replacement needs due to aging infrastructure and modern environmental regulations. Importantly, the CIP as projected by magnitude and timing is constructed to avoid regulatory compliance issues in the future, which almost certainly would result in large rate revenue increases at that point in time.

It is important to note that the projections of future conditions underlying this analysis are not intended to be predictions. Applicable to many utility systems, there are multiple factors beyond the City’s control, such as i) severe weather, ii) regulatory changes, iii) national, regional, and local economic conditions, iv) the rate of customer growth, v) operating and capital cost inflation, and vi) changes in the timing and composition of the Utility’s CIP, that may have material impacts on the future financial condition of the Utility. Furthermore, the projections in this Study rely upon data and guidance provided by the City during the

development of the Study, and while the information utilized in this Study is believed to be reliable, detailed independent reviews or auditing of the data were not conducted.

As a result, there will usually be differences between forecasted and actual results because events and circumstances frequently do not occur as expected, and those differences may be material. While Stantec has no responsibility to update this report for events and circumstances occurring after the date of this report, future management actions should be based upon and adjusted to reflect future results as they occur. These comments are provided to emphasize the importance of active management informed by the actual future results of Utility operations by the City. While the planning effort supported by this Study will serve to guide and inform the City in balancing future revenue and spending decisions, it is only through observation of future results, and the update of this analysis, that the City will be able to determine the actions required to ensure its financial and operational objectives are met over time.

Appendix A & B includes detailed schedules presenting all components of the financial management plan developed for the Utility.

2.5 CONCLUSIONS & RECOMMENDATIONS

We have reached the following conclusions and recommendations regarding the sufficiency of the Utility’s current rates over the projection period:

- Based upon the assumptions and base data described herein, the City’s current water and sewer rates will not generate sufficient revenue to satisfy the Utility’s annual operating expenses, capital improvement requirements, debt service, and operating reserve requirements over the five-year and ten-year planning horizon analyzed.
- We recommend that the City adopt the sustainable “level” annual rate revenue adjustments for water and sewer outlined in Table 3 below to cover all the utility’s expenses, provide sufficient debt service coverage, and maintain an operating reserve equal to 30% of operating expenses. If the City wishes to maintain a greater level of operating reserves, a plan of higher rate increases will be required.

Table 3 – Recommended Water and Sewer Revenue Adjustments

Fiscal Year	2022	2023	2024	2025	2026
Effective Date	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025
Water Volumetric Adjustments	7.00%	10.00%	10.00%	10.00%	10.00%
Sewer Volumetric Adjustments	10.50%	10.50%	10.50%	10.50%	10.50%

- The recommended water and sewer rate revenue adjustment plans will result in impacts to customer bills in FY 2022 as reflected in Table 4.

Table 4 – FY 2022 Customer Bill Impacts Based Upon Recommended Revenue Adjustments

Total Units per Bill (in CCF) ³	Current	FY 2022	\$ Change	% Change
	Annual Total	Annual Total		
15 (average condo unit)	\$784	\$840	\$55.98	7%
18 (average single family home)	\$946	\$1,017	\$70.92	7%
30 (average two-family home)	\$1,597	\$1,727	\$130.68	8%
42 (average three-family home)	\$2,247	\$2,437	\$190.44	8%
110 (average 8-unit apartment building)	\$6,043	\$6,583	\$539.40	9%

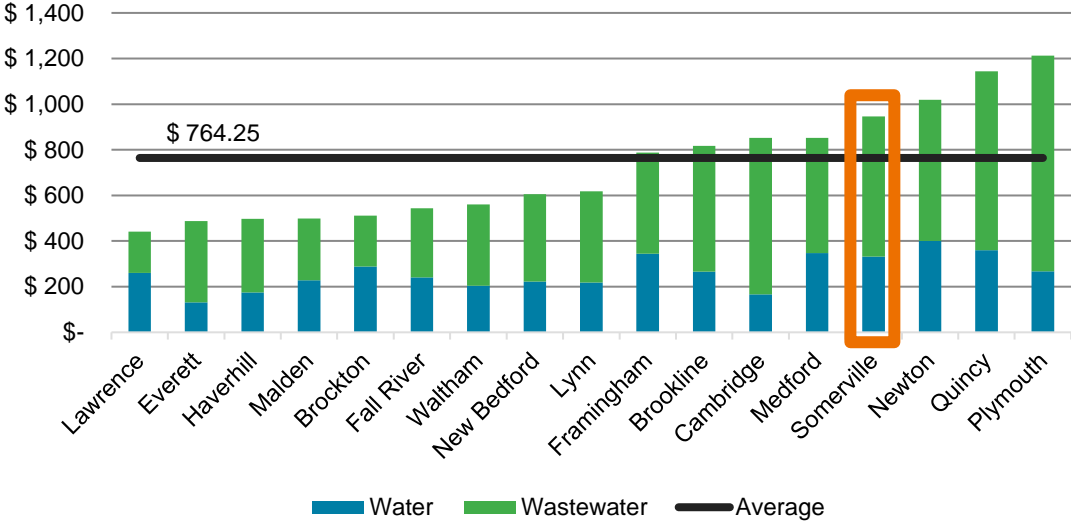
- In addition, the City should perform updates to this analysis on an annual basis to evaluate the adequacy of its revenues and plan of annual rate revenue increases. Doing so will allow for the incorporation of updated revenue and expense information and changes in economic conditions and demands so that any necessary adjustments to planned rate increases can be made to allow the Utilities to meet requirements during the projection period and minimize rate impacts from future events which occur differently than currently projected.

³ Average usage assumptions reflect 4 months of usage (tri-annual bill) per customer class, as derived from analysis of the City's FY 2019 detailed billed data.

3. RESIDENTIAL BILL SURVEY & CUSTOMER IMPACTS

Stantec also performed a comparative water and sewer monthly residential bill survey of the City's surrounding geographic area. The survey presents the average annual water and sewer bill in effect for each community as of FY 2021 based on an assumed average annual usage of 54 CCF.

Figure 3 – FY 2021 Annual Single Family 5/8" Water and Wastewater Bill Comparison



The survey results indicate that the City charges water and sewer rates that are currently towards the middle/higher of the market range for the City's surrounding geographic area. It should be noted though that no detailed review of other peer municipalities has been performed. Often times there are level of service differences, alternative funding arrangements and plans for future rate increases that are not evident in this type of comparison.

It is important to note that there are several factors that contribute to differences in the cost of service observed between communities at a given point in time. Each entity in the bill comparisons provided herein have a unique combination of level of service, pricing objectives, supplemental funding sources, system characteristics, age of infrastructure, regulatory requirements, development activity, etc. These bill comparisons reflect the current cost of service in each community as of March 2021 and readers are advised to expect that many of the bills presented herein will increase in the future at varying levels.

4. AFFORDABILITY ANALYSIS

This section of the report discusses the affordability characteristics in the City's service area and the impacts of current and future water and sewer bills. These characteristics include the quantification of affordability and potential measures to be taken to improve affordability of water and sewer service for the City's utility customers. Metrics used to measure affordability in the service area include the U.S. EPA's Residential Indicator (RI), the Hours Worked at Minimum Wage (HM) as well as the Weighted Average Residential Index (WARI®). It is important to note that the affordability analysis documented in this section of the report was completed in 2021 and reflects the most current data available at that time. The methodology, analysis and results for each of the affordability metrics are outlined in the following sections of the report.

4.1 U.S. EPA RESIDENTIAL INDICATOR

The first approach is based on the guidance provided by the U.S. EPA within their financial capability assessment guidance. The U.S. EPA has historically used the Residential Indicator (RI) to assess the ability of a community to afford necessary capital improvements to meet regulatory requirements. The RI approach evaluates the combined water and sewer bill as a percentage of the median household income within the utility's service area. Under this approach water and sewer service are deemed unaffordable or a high burden if the bill exceeds 4.5% of the median household income. This approach was applied within the City based on the current water and sewer bill and the median household income. As shown in Figure 3, when the average residential single family bill is divided into median household income the resulting burden is 0.77%, well under the 4.5% considered unaffordable. In fact, the bill would have to rise to \$4,379 in order to reach the 4.5% level, indicating that bills could rise significantly before unaffordability is reached.

Figure 3 – U.S. EPA Calculation

$$\frac{\$752 \text{ (Average Bill)}}{\$97,328 \text{ (MHI)}} = 0.77\%$$

While the RI calculation for the City demonstrates that bills are currently affordable and that rates would have to increase substantially before the service would be deemed unaffordable, the approach uses a very broad-brush approach. The use of median household income does not provide insight into how the bills impact utility customers that fall outside the median income. For these reasons alternative affordability metrics have been developed.

4.2 HOURS WORKED AT MINIMUM WAGE (HM)

The Hours Worked at Minimum Wage (HM) approach was developed by Dr. Manny Teodoro (2018. Measuring Household Affordability for Water and Sewer Utilities. Journal AWWA, 110:1:13). The approach evaluates the affordability of water and sewer bills in terms of the hours of work required at minimum wage to pay the monthly bill. While cautioning against comparing utilities' HM results, Dr. Teodoro considers an HM of 8 hours or less (or one day of work per month) as a rule of thumb for what is an affordable level of spending on water and sewer bills. HM is calculated using the following formula:

$$HM = \frac{(W + S)}{A}$$

W & S are the average costs of essential water and sewer services; and A is the state or local minimum wage.

The HM calculation provides the most direct measurement of household-level affordability for households at the lowest end of the income distribution. Figure 4 displays the calculation for the City's service area, demonstrating that 5.84 hours are required at the statutory minimum wage in order to pay the average monthly cost of water and sewer utility services. As mentioned above, over 8 hours working at the minimum wage is considered to be burdensome and therefore the City's HM falls below this threshold. Additionally, the minimum wage is expected to rise over the coming years to \$15 per hour per state law. In the near term this increase in base pay will act to maintain this metrics findings even in light of increasing average bills, due to rate increases.

Figure 4 – Hours Worked at Minimum Wage

$$\frac{\$78.87}{\$13.50} = 5.84 \text{ Hours}$$

Unaffordable = 8+ Hours

4.3 WEIGHTED AVERAGE RESIDENTIAL INDEX (WARI®)

Stantec's WARI® analysis provides detailed information on the total cost of water and sewer bills relative to household income for each census block in the City's service area, both currently and as projected based on the rate increases discussed in preceding sections of the report. This detailed view of affordability not only provides information regarding the impact of the proposed changes in rates, but also helps the City

identify neighborhoods facing the greatest affordability challenges, quantify potential impacts of different forms of assistance, and target outreach and assistance to areas with the greatest need.

The WARi® analysis is an improvement over the U.S. EPA's Residential Indicator. In contrast to the simplified RI approach, WARi® accounts for income distribution and actual typical residential water and sewer bills at the census block level. This approach is different from the traditional calculation used by U.S. EPA which uses an average imputed water and sewer bill divided by a single median household income (MHI) value for the entire service area. WARi® has been specifically designed to leverage the data that modern utilities have about customer rates, and the highly granular demographic information available from the US Census Bureau through the American Community Survey. Given Somerville's population density Census block were used as opposed to tracts, this provides a greater level of granularity in the analysis.

The following sections explain the assumptions, sources of data, and calculations applied under the WARi® methodology.

4.3.1 Assumptions and Data

The following assumptions and information are applied in the census blocks to evaluate affordability at the census block level:

- Income and typical bills increase uniformly across census blocks when projecting affordability impacts in future years
- Income increases at the rate of inflation but income distribution across income bins does not change over time when projecting affordability impacts
- Household usage characteristics remain unchanged in affordability projection
- Projected annual rate increases and changes to rate structures are applied to average consumption by census block to project affordability over time
- Consumer price index (CPI) inflation estimate is 2.0% per year

The following sources of data were used in determining the service area WARi®:

- Somerville's retail residential billing records for fiscal year 2019
- Projected retail residential rates for Somerville water and Sewer
- American Community Survey (ACS) household and income data tables
 - 2019 ACS 5-year Median Household Income, Table B19013
 - 2019 ACS 5-year Household Income Distribution, Table B19001
 - 2019 ACS 5-year Selected Housing Characteristics, Table B25024
- United States Census Bureau's Topologically Integrated Geographic Encoding and Referencing (TIGER) feature class to geolocate accounts

4.3.2 WARi® Calculations

Previously discussed assumptions and data sources are combined to evaluate the financial impact of changes to water and sewer rates in the Somerville service area. The following steps outline the WARi® calculation methodology.

1. Residential billing accounts were geolocated within the Somerville service area and associated with a particular census block;
2. Account and census block data were summarized to aggregate data by census block and validate data;
3. Typical bills were calculated for customers paying standard rates in each census block based on block-specific usage levels and applying the 2021 rates for Somerville;
4. Census data were gathered for MHI, income distribution, and housing characteristics within each census block;
5. A residential indicator (similar to EPA's Residential Indicator) was calculated for each income bin by dividing the block-specific average annual bill (based on block-level usage and rate data) by the midpoint income level of each income bin;
6. A weighted average residential indicator was calculated for each block by averaging the residential indicator in each income bin, weighted by the number of households in each bin;
7. All calculations were repeated for each census block to determine a weighted average residential indicator for each census block; and
8. A single WARi® value for the service area was calculated as the weighted average residential indicator from each block, weighted by the number of households in each block.

4.3.3 WARi® Thresholds

The City's WARi® analysis requires benchmarking in order to put the service area and localized financial impacts into perspective. For this analysis, the WARi® results were benchmarked against thresholds for affordability as defined the U.S. EPA for Somerville, expressed as a typical indoor usage bill as a percent of median household income. For the service area a 10.60% WARI figure maps to the 4.5% U.S. EPA unaffordable bill threshold, meaning that all WARI scores above 10.60% are indicative of an unfordable census block. An affordability mapping and color schema have been defined in Table 5.

Table 5 WARI® Financial Impact Thresholds

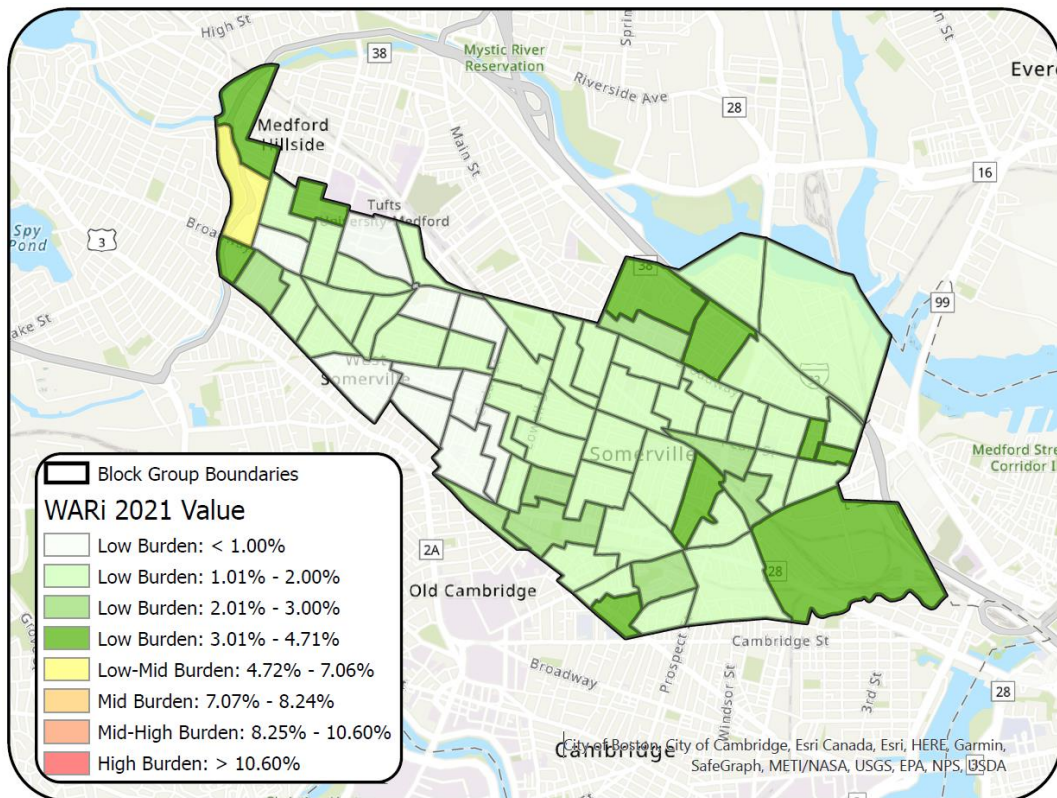
Financial Impact	EPA Affordability Index	WARI®	Shading
Low	<2.0%	< 4.71%	
Low-Mid	2.0% - 3.0%	4.71% - 7.06%	
Mid	3.0% - 3.5%	7.06% - 8.24%	
Mid-High	3.5% - 4.5%	8.24% - 10.60%	
High	>4.5%	> 10.60%	

4.3.4 WARI® Findings – Actual Bills

The WARI® methodology allows for evaluation of affordability at the census block level. Maps were developed using this approach to illustrate localized bill and income impacts throughout the City's service area. Bill impacts were calculated for each block as outlined in Section 4.1.5.

A baseline assessment of affordability was developed based on typical usage levels in each block and the City's rates in FY 2021. The FY 2021 WARI® value for the Somerville service area was calculated at 1.53%, well within the low burden category from Table 5. Figure 5 presents the map of block-level WARI® results in FY2021 based on actual billing data.

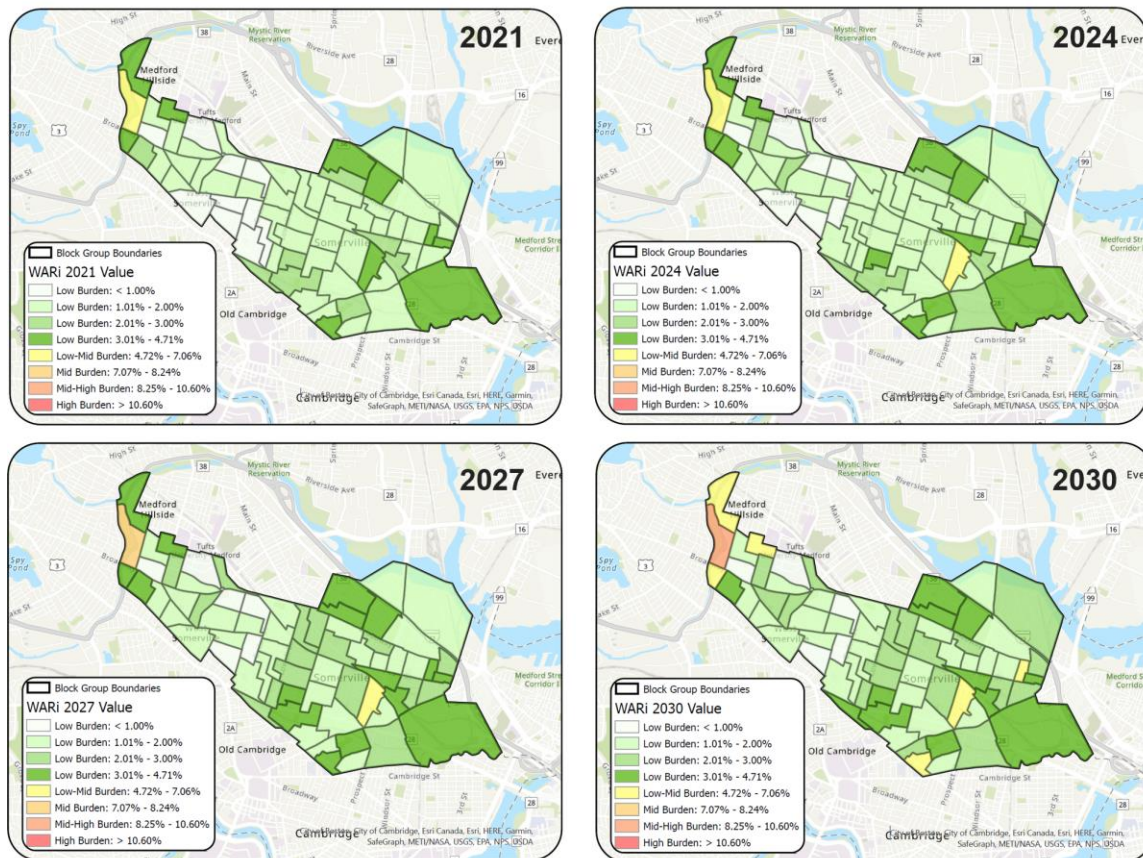
Figure 5 WARI® Map – 2021 Actual Bills



Areas of concern can be identified when looking at regional impacts throughout the City's service area. Specifically, the northwest region of the service area shows the greatest level of financial burden detected in the service area and is low-medium. Overall, the service area does not display widespread affordability issues when analyzed at the census block level, that is not to say that individual households are not affected by unaffordable bills. The affordability analysis considers household dynamics as part of the affordability program considerations in the next section.

Bill impacts were then projected to 2030, the final year of interest in this current rate study. Typical bills were projected by applying changes to rate revenues as developed during the course of this study and discussed in section 2 of this report. The Somerville service area WARI® value in 2031 was calculated at 2.25%, placing the financial impact still in the low burden range, but higher than the baseline. Figure 6 presents projected block-level WARI® results in 2021, 2024, 2027, and 2030 based on actual typical usage levels.

Figure 6 WARI® Map – 2021-2030 Actual Bills



The financial burden associated with paying water and sewer bills clearly increases from 2021 to 2030 as bills are projected to increase faster than household incomes. This is evident as an increasing number of blocks move into the mid-impact category with a block-level WARI® value of at least 4.72%. It should be noted though even with the increases applied for the next 10 years the overall service area still shows broad affordability.

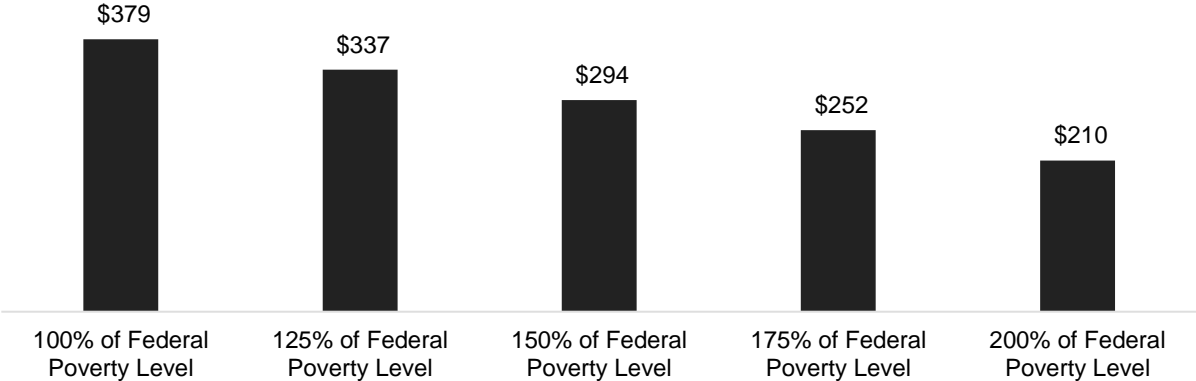
In addition to the WARI analysis, the data that underpinned the analysis was further investigated for the purpose of defining affordability at the household level. This step recognizes that affordability is a household by household dynamic and while averages are useful for determining the prevalence of unaffordability when it is concentrated, they can often overlook acute instances of unaffordability. In order to understand the scale of unaffordability at the household level the average bill by census block was divided into each household's income in the block and for households where the bill exceeds a 10.60% burden they are considered unaffordable. Figure 7 displays the service area wide estimate of households with unaffordable bills and demonstrates a range of 2,180 - 3,460 households have unaffordable bills.

With regards to income and eligibility, the most commonly used metric is the federal poverty level. Specifically, 200% of the federal poverty level is often used as the maximum income for eligibility into affordability programs. We recommend that the City use this common industry threshold in designing a pilot affordability program. It should be noted that in Stantec’s experience there is often a gap in the number of households who are eligible and those who avail themselves of an assistance program. As such the pilot will assist in determining the level of demand in the community and providing a flexible framework that can evolve to best help customers in need. The amount of the discount provided by the customer assistance program is fundamentally a policy decision. One approach is to scale the benefits with either household size or declining income. Doing so allows the benefits of the program to be uniformly distributed recognizing that households often times have differing circumstances. Table 6 displays an example scaling of utility bill assistance based on declining household income as measured against the federal poverty line. Then Figure 8 displays the application of assistance to a 2 person household at different household income levels, highlighting the increasing assistance that scaling provides as income falls.

Table 6 – Assistance Scaling by Income

	100% of Federal Poverty Level	125% of Federal Poverty Level	150% of Federal Poverty Level	175% of Federal Poverty Level	200% of Federal Poverty Level
Bill Assistance	45%	40%	35%	30%	25%

Figure 8 – Assistance for an Average home (2 Person) \$835 Annual W&S Bill



5. CONCLUSIONS AND RECOMMENDATIONS

Based upon the analysis presented herein and the results presented in the prior subsections, we have developed the following conclusions and recommendation for the City's consideration:

- The City's current water and sewer rates will not be sufficient to fund its future expenses, should they occur as planned. As such a plan of rate revenue adjustments has been developed for both the water and sewer utility in order to ensure that fiscal sustainability can be achieved by balancing revenues with expected expenditures. The recommended water and sewer rate adjustments for FY2022 are presented below along with estimated future year adjustments.

Recommended Water and Sewer Revenue Adjustments

Fiscal Year	2022	2023	2024	2025	2026
Effective Date	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025
Water Volumetric Adjustments	7.00%	10.00%	10.00%	10.00%	10.00%
Sewer Volumetric Adjustments	10.50%	10.50%	10.50%	10.50%	10.50%

- The City's current water and sewer bills are broadly affordable when viewed at the service level or census block group level. When affordability calculations are run at the household level there are an estimated 2,820 households that have an unaffordable utility bill. A such a direct assistance program targeted at these households is warranted and could provide relief, in light of rising utility bills.

The City should continue to review the financial sustainability of the water and sewer fund on an annual basis. Doing so will allow for the recognition of revenues and expenses that may occur differently than forecasted in this Study, as well as changes to customer class characteristics and system costs. In doing so, the City may consider necessary adjustments to its rates in the future.

Disclaimer

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In preparing this report, Stantec utilized information and data obtained from the City or public and/or industry sources. Stantec has relied on the information and data without independent verification, except only to the extent such verification is expressly described in this document. Any projections of future conditions presented in the document are not intended as predictions, as there may be differences between forecasted and actual results, and those differences may be material.

Additionally, the purpose of this document is to summarize Stantec’s analysis and findings related to this project, and it is not intended to address all aspects that may surround the subject area. Therefore, this document may have limitations, assumptions, or reliances on data that are not readily apparent on the face of it. Moreover, the reader should understand that Stantec was called on to provide judgments on a variety of critical factors which are incapable of precise measurement. As such, the use of this document and its findings by the City should only occur after consultation with Stantec, and any use of this document and findings by any other person is done so entirely at their own risk.

APPENDIX A: WATER FUND FINANCIAL SUSTAINABILITY ANALYSIS SUPPORTING SCHEDULES

- Schedule 1 Assumptions
- Schedule 2 FY 2021 Beginning Balances as of 7/1/2020
- Schedule 3 Projection of Cash Inflows
- Schedule 4 Projection of Cash Outflows
- Schedule 5 Cost Escalation Factors
- Schedule 6 Capital Investment Plan (CIP)
- Schedule 7 FAMS - Control Panel
- Schedule 8 Pro Forma
- Schedule 9 Funding Summary by Fund

Assumptions	Schedule 1										
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Rate Increase Adoption Date	7/1/2020	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025	7/1/2026	7/1/2027	7/1/2028	7/1/2029	7/1/2030
Annual Growth											
Water System											
Ending # of ERUs (1)	17,335	17,405	17,475	17,545	17,615	17,685	17,755	17,825	17,895	17,965	18,035
ERU Growth	70	70	70	70	70	70	70	70	70	70	70
% Change in ERUs	0.41%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%	0.39%	0.39%	0.39%	0.39%
Usage per ERU	122.13	123.26	123.27	123.28	123.30	123.31	123.32	123.33	123.34	123.35	123.37
% Change in Usage per ERU (2)	-0.69%	0.92%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Usage (CCF) (3)	2,117,216	2,145,366	2,154,206	2,163,045	2,171,884	2,180,723	2,189,563	2,198,402	2,207,241	2,216,081	2,224,920
% Change in Usage	-0.29%	1.33%	0.41%	0.41%	0.41%	0.41%	0.41%	0.40%	0.40%	0.40%	0.40%
Revenue Weighted % Change in Usage (4)	-0.38%	1.45%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.40%	0.40%	0.40%
Capital Spending											
Annual Capital Budget (Future Year Dollars)	\$ 4,770,000	\$ 7,970,000	\$ 12,380,000	\$ 15,060,000	\$ 11,160,000	\$ 11,390,000	\$ 10,010,000	\$ 10,360,000	\$ 10,740,000	\$ 11,060,000	\$ 11,400,000
Average Annual Interest Earnings Rate											
On Fund Balances	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%
Operating Budget Reserve (5)											
Target (Number of Months of Reserve)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Operating Budget Execution Percentage											
Personal Services	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
MWRA Assessment	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Fixed Operations and Maintenance	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Capital Outlay	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

- (1) Equivalent residential units (ERUs) are a unit of measurement based upon a standard single-family residential home (5/8" meter) used to establish rates, fees and charges, and volume capacity limits.
- (2) FY 2021 assumption of reduced volume per ERU driven by assumed reduction in commercial billed volumes due to continued COVID-19 impacts. The analysis reflects a normalizing adjustment in commercial billed volumes in FY 2022.
- (3) A CCF stands for "centum cubic feet" and reflects 100 cubic feet of water, sometimes referred to as an HCF (hundred cubic feet). One CCF is equivalent to approximately 748 gallons.
- (4) Considers the weighted impact of projected usage assumptions by customer class. For example, commercial customers do not have a conservation tier for billed usage and therefore a reduction in usage per customer would hold a greater impact.
- (5) Reflects reserve target of 30% of operating expenditures per discussions with City Staff.

FY 2021 Beginning Balances as of 7/1/2020 ⁽¹⁾

Schedule 2

Fund Number Stantec Grouping of Funds in Model	6000		7400	
	Enterprise Fund		Stabilization Fund	
Current Unrestricted Assets				
Cash and Cash Equivalents (2)	\$	1,910,456	\$	4,361,567
Receivables Net of Allowance for Uncollectible	\$	4,705,415	\$	-
Total Assets	\$	6,615,871	\$	4,361,567
Current Liabilities				
Warrants Payable	\$	(425,227)	\$	-
Accrued Payroll	\$	(24,261)	\$	-
Accrued Interest	\$	(26,483)	\$	-
Compensated Absences	\$	(1,000)	\$	-
Current Portion of Notes Payable (BAN)	\$	(3,415,710)	\$	-
Current Portion of Bonds Payable	\$	(1,123,234)	\$	-
Calculated Fund Balance (Current Assets - Current Liabilities)	\$	1,599,956	\$	4,361,567
Unrestricted Fund Balance Adjustments				
Plus: Current Portion of Notes Payable (3)	\$	3,415,710	\$	-
Plus: Current Portion of Bonds Payable (3)	\$	1,123,234	\$	-
Less: FY 2021 Liens Redeemed	\$	(323,298)	\$	-
Less: Reclass Water Capital Expense (4)	\$	-	\$	(2,101,014)
Net Unrestricted Fund Balance for Rate Setting	\$	5,815,602	\$	2,260,553
Available Fund Balance for Rate Setting	\$	5,815,602	\$	2,260,553
Fund Summary				
Enterprise Fund	\$	5,815,602		
Stabilization Fund	\$	2,260,553		
Total Available Funds for Rate Setting (5)	\$	8,076,155		

(1) Figures as of 6/30/2020 presented herein are per the City's Audited FY 2020 Comprehensive Annual Financial Report (Audited Report) and detailed Audited Report workpapers provided by City Staff.

(2) Sub-fund apportionment of cash and cash equivalents derived per the City's detailed Audited Report workpapers. Adjustments for the reclass of water capital expenses are reported separately (refer to footnote 4).

(3) Current portion of notes payable and bonds payable is omitted from the available fund balance calculation as the debt service associated is reflected within the annual cash flows forecast.

(4) The City's detailed Audited Report workpapers include a report journal entry (JE #47) to reclass water and sewer capital expenses, resulting in a \$2.1 million reduction in available cash and cash equivalents as of 6/30/2020.

(5) Note that operating encumbrances and use of retained earnings have not been removed from beginning "available funds for rate setting" presented herein, but are accounted for elsewhere in the analysis.

Projection of Cash Inflows

Schedule 3

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1 Rate Revenue Growth Assumptions											
2 Water											
3 % Change in ERUs (Base Revenue)	0.41%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%	0.39%	0.39%	0.39%	0.39%
4 % Change in Billed Volume (Usage Revenue)	-0.38%	1.45%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.40%	0.40%	0.40%
5 Assumed Rate Revenue Increases											
6 Assumed Water Base Rate Increase	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7 Assumed Water Usage Rate Increase	0.00%	7.00%	10.00%	10.00%	10.00%	10.00%	7.00%	5.00%	5.00%	5.00%	5.00%
8 Water Rate Revenue (1)											
9 Base Rate Revenue	\$ 905,705	\$ 932,004	\$ 935,753	\$ 939,501	\$ 943,249	\$ 946,998	\$ 950,746	\$ 954,494	\$ 958,243	\$ 961,991	\$ 965,740
10 Usage Rate Revenue	\$ 12,662,179	\$ 14,084,114	\$ 15,556,755	\$ 17,183,084	\$ 18,979,111	\$ 20,962,512	\$ 22,521,362	\$ 23,743,479	\$ 25,031,503	\$ 26,388,972	\$ 27,819,608
11 Total Water Rate Revenue (1)	\$ 13,567,884	\$ 15,016,118	\$ 16,492,508	\$ 18,122,585	\$ 19,922,360	\$ 21,909,510	\$ 23,472,109	\$ 24,697,973	\$ 25,989,746	\$ 27,350,963	\$ 28,785,348
12 Other Operating Revenue											
13 Water Liens Redeemed (2)	\$ 323,298	\$ 712,314	\$ 381,494	\$ 419,003	\$ 460,416	\$ 506,140	\$ 556,625	\$ 596,324	\$ 627,468	\$ 660,286	\$ 694,869
14 Misc Receipts	\$ 285,000	\$ 285,000	\$ 285,000	\$ 285,000	\$ 285,000	\$ 285,000	\$ 285,000	\$ 285,000	\$ 285,000	\$ 285,000	\$ 285,000
15 Total Other Operating Revenue	\$ 608,298	\$ 997,314	\$ 666,494	\$ 704,003	\$ 745,416	\$ 791,140	\$ 841,625	\$ 881,324	\$ 912,468	\$ 945,286	\$ 979,869
16 Interest Income											
17 Unrestricted (3)	\$ 42,045	\$ 40,137	\$ 36,540	\$ 31,007	\$ 28,264	\$ 29,669	\$ 33,540	\$ 37,282	\$ 40,005	\$ 42,544	\$ 46,072
18 Total Interest Income	\$ 42,045	\$ 40,137	\$ 36,540	\$ 31,007	\$ 28,264	\$ 29,669	\$ 33,540	\$ 37,282	\$ 40,005	\$ 42,544	\$ 46,072
19 Stabilization Fund Contributions to Debt Service (4)	\$ 1,423,728	\$ 955,080	\$ 409,582	\$ 407,536	\$ 407,528	\$ 583,035	\$ 602,306	\$ 562,433	\$ 439,220	\$ 533,000	\$ 597,609
20 Total Cash Inflows	\$ 15,641,955	\$ 17,008,649	\$ 17,605,124	\$ 19,265,130	\$ 21,103,568	\$ 23,313,355	\$ 24,949,580	\$ 26,179,013	\$ 27,381,439	\$ 28,871,793	\$ 30,408,898

(1) Note that in addition to the growth assumptions and rate increases presented herein, the rate revenue projection for FY 2022 also includes an adjustment to "normalize" the City's assumed level of bill collections. Starting in FY 2023, rate revenues are projected based upon a higher level of collected rate revenues; consequently, the water liens redeemed assumption is reduced going forward (refer to footnote 2 of this Schedule or refer to the Pro Forma on Schedule 8).

(2) The City's water liens redeemed have averaged at approximately 2.5% of annual rate revenues over the past 3 years (FY 2018 - FY 2020). Per discussions with City Staff, the financial projection assumes that water liens are collected within 1 year of their original bill date, with exception for FY 2020. Due to the impacts of COVID-19, the analysis assumes that uncollected water liens (in excess of 1 year) from FY 2020 will be recovered in FY 2022. The financial projection assumes water liens redeemed at 2.5% of rate revenue in each year thereafter.

(3) Calculated based upon assumed interest earnings percentage (refer to Schedule 1) that is applied to average annual projected fund balances (refer to Schedule 9).

(4) Reflects contribution of available Water Stabilization Fund balances to offset annual projected debt service. Additional information related to the Water Stabilization Fund (including assumed contributions from the General Fund) is presented on Schedule 9.

Projection of Cash Outflows

Schedule 4

Expense Line Item	Escalation Factor	FY 2021 (1)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
600051 - WATER PERSONAL SERVICE												
1 SALARIES	Salaries & Wages	\$ 535,455	\$ 551,519	\$ 568,064	\$ 585,106	\$ 602,659	\$ 620,739	\$ 639,361	\$ 658,542	\$ 678,298	\$ 698,647	\$ 719,607
2 SALARIES CONTINGENCY	Salaries & Wages	\$ 71,681	\$ 73,831	\$ 76,046	\$ 78,328	\$ 80,678	\$ 83,098	\$ 85,591	\$ 88,159	\$ 90,803	\$ 93,527	\$ 96,333
3 WAGES	Salaries & Wages	\$ 619,142	\$ 637,716	\$ 656,848	\$ 676,553	\$ 696,850	\$ 717,755	\$ 739,288	\$ 761,467	\$ 784,311	\$ 807,840	\$ 832,075
4 OVERTIME	Salaries & Wages	\$ 7,360	\$ 7,581	\$ 7,808	\$ 8,042	\$ 8,284	\$ 8,532	\$ 8,788	\$ 9,052	\$ 9,323	\$ 9,603	\$ 9,891
5 OVERTIME - LABOR	Salaries & Wages	\$ 110,000	\$ 113,300	\$ 116,699	\$ 120,200	\$ 123,806	\$ 127,520	\$ 131,346	\$ 135,286	\$ 139,345	\$ 143,525	\$ 147,831
6 LONGEVITY	Salaries & Wages	\$ 1,760	\$ 1,813	\$ 1,867	\$ 1,923	\$ 1,981	\$ 2,040	\$ 2,102	\$ 2,165	\$ 2,230	\$ 2,296	\$ 2,365
7 OUT OF GRADE-LABOR	Salaries & Wages	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524	\$ 6,720
8 LONGEVITY-LABOR	Salaries & Wages	\$ 2,400	\$ 2,472	\$ 2,546	\$ 2,623	\$ 2,701	\$ 2,782	\$ 2,866	\$ 2,952	\$ 3,040	\$ 3,131	\$ 3,225
9 OTHER DIFFERENTIALS	Salaries & Wages	\$ 32,609	\$ 33,587	\$ 34,595	\$ 35,633	\$ 36,702	\$ 37,803	\$ 38,937	\$ 40,105	\$ 41,308	\$ 42,547	\$ 43,824
10 HOLIDAYS NON-UNION	Salaries & Wages	\$ 1,574	\$ 1,621	\$ 1,670	\$ 1,720	\$ 1,772	\$ 1,825	\$ 1,879	\$ 1,936	\$ 1,994	\$ 2,054	\$ 2,115
11 UNIFORM ALLOWANCE	Salaries & Wages	\$ 5,565	\$ 5,732	\$ 5,904	\$ 6,081	\$ 6,263	\$ 6,451	\$ 6,645	\$ 6,844	\$ 7,050	\$ 7,261	\$ 7,479
12 OTHER LUMP SUM PAYMENTS	Salaries & Wages	\$ 50,000	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964	\$ 59,703	\$ 61,494	\$ 63,339	\$ 65,239	\$ 67,196
13 STIPENDS OTHER	Salaries & Wages	\$ 17,664	\$ 18,194	\$ 18,740	\$ 19,302	\$ 19,881	\$ 20,477	\$ 21,092	\$ 21,724	\$ 22,376	\$ 23,048	\$ 23,739
14 NEW IAM ENGINEERING STAFF	Salaries & Wages	\$ -	\$ 63,201	\$ 65,097	\$ 67,050	\$ 69,061	\$ 71,133	\$ 73,267	\$ 75,465	\$ 77,729	\$ 80,061	\$ 82,463
15 NEW W&S OPS STAFF	Salaries & Wages	\$ -	\$ 87,332	\$ 89,952	\$ 92,651	\$ 95,430	\$ 98,293	\$ 101,242	\$ 104,279	\$ 107,407	\$ 110,630	\$ 113,948
600052 - WATER ORDINARY MAINTENANCE												
17 REPAIRS-VEHICLES	Repair & Maintenance	\$ 5,000	\$ 5,125	\$ 5,253	\$ 5,384	\$ 5,519	\$ 5,657	\$ 5,798	\$ 5,943	\$ 6,092	\$ 6,244	\$ 6,400
18 REPAIRS-TOOLS & EQUIPMENT	Repair & Maintenance	\$ 10,000	\$ 10,250	\$ 10,506	\$ 10,769	\$ 11,038	\$ 11,314	\$ 11,597	\$ 11,887	\$ 12,184	\$ 12,489	\$ 12,801
19 MAINT CONTRACT-OFFC EQUIP	O&M General	\$ 6,000	\$ 6,180	\$ 6,365	\$ 6,556	\$ 6,753	\$ 6,956	\$ 7,164	\$ 7,379	\$ 7,601	\$ 7,829	\$ 8,063
20 LEASE - PHOTOCOPIES	O&M General	\$ 320	\$ 330	\$ 339	\$ 350	\$ 360	\$ 371	\$ 382	\$ 394	\$ 405	\$ 418	\$ 430
21 RENTAL-WATER COOLER	O&M General	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253	\$ 261	\$ 269
22 RUBBISH REMOVAL	Professional Services	\$ 35,000	\$ 36,050	\$ 37,132	\$ 38,245	\$ 39,393	\$ 40,572	\$ 41,792	\$ 43,046	\$ 44,337	\$ 45,667	\$ 47,037
23 PROFESSIONAL & TECHNCL SVC	Professional Services	\$ 235,900	\$ 242,977	\$ 250,266	\$ 257,774	\$ 265,508	\$ 273,473	\$ 281,677	\$ 290,127	\$ 298,831	\$ 307,796	\$ 317,030
24 EMPLOYEE TRAINING COURSES	O&M General	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524	\$ 6,720
25 ADVERTISING	O&M General	\$ 250	\$ 258	\$ 265	\$ 273	\$ 281	\$ 290	\$ 299	\$ 307	\$ 317	\$ 326	\$ 336
26 POLICE DETAIL	O&M General	\$ 100,000	\$ 103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927	\$ 119,405	\$ 122,987	\$ 126,677	\$ 130,477	\$ 134,392
27 BANK CHARGES	O&M General	\$ 1,200	\$ 1,236	\$ 1,273	\$ 1,311	\$ 1,351	\$ 1,391	\$ 1,433	\$ 1,476	\$ 1,520	\$ 1,566	\$ 1,613
28 WEB SITE COSTS	O&M General	\$ 10,500	\$ 10,815	\$ 11,139	\$ 11,474	\$ 11,818	\$ 12,172	\$ 12,538	\$ 12,914	\$ 13,301	\$ 13,700	\$ 14,111
29 OFFICE SUPPLIES	O&M General	\$ 2,800	\$ 2,884	\$ 2,971	\$ 3,060	\$ 3,151	\$ 3,246	\$ 3,343	\$ 3,444	\$ 3,547	\$ 3,653	\$ 3,763
30 PRINTING & STATIONERY	O&M General	\$ 27,520	\$ 28,346	\$ 29,196	\$ 30,072	\$ 30,974	\$ 31,903	\$ 32,860	\$ 33,846	\$ 34,862	\$ 35,907	\$ 36,985
31 COMPUTER EQUIPMENT NOT CAPITAL	O&M General	\$ 3,000	\$ 3,090	\$ 3,183	\$ 3,278	\$ 3,377	\$ 3,478	\$ 3,582	\$ 3,690	\$ 3,800	\$ 3,914	\$ 4,032
32 PLUMBING SUPPLIES	O&M General	\$ 400	\$ 412	\$ 424	\$ 437	\$ 450	\$ 464	\$ 478	\$ 492	\$ 507	\$ 522	\$ 538
33 TOOLS	O&M General	\$ 3,000	\$ 3,090	\$ 3,183	\$ 3,278	\$ 3,377	\$ 3,478	\$ 3,582	\$ 3,690	\$ 3,800	\$ 3,914	\$ 4,032
34 PAINT	O&M General	\$ 7,000	\$ 7,210	\$ 7,426	\$ 7,649	\$ 7,879	\$ 8,115	\$ 8,358	\$ 8,609	\$ 8,867	\$ 9,133	\$ 9,407
35 HARDWARE & SMALL TOOLS	O&M General	\$ 7,500	\$ 7,725	\$ 7,957	\$ 8,195	\$ 8,441	\$ 8,695	\$ 8,955	\$ 9,224	\$ 9,501	\$ 9,786	\$ 10,079
36 SUNDRY MAINT SUPPLIES	O&M General	\$ 2,500	\$ 2,575	\$ 2,652	\$ 2,732	\$ 2,814	\$ 2,898	\$ 2,985	\$ 3,075	\$ 3,167	\$ 3,262	\$ 3,360
37 SAND, GRAVEL, &	Fuel, Utilities, Chemicals	\$ 750	\$ 788	\$ 827	\$ 868	\$ 912	\$ 957	\$ 1,005	\$ 1,055	\$ 1,108	\$ 1,163	\$ 1,222
38 MOTOR GAS AND OIL	Fuel, Utilities, Chemicals	\$ 37,950	\$ 39,848	\$ 41,840	\$ 43,932	\$ 46,128	\$ 48,435	\$ 50,857	\$ 53,399	\$ 56,069	\$ 58,873	\$ 61,817
39 TIRES AND TUBES	O&M General	\$ 3,000	\$ 3,090	\$ 3,183	\$ 3,278	\$ 3,377	\$ 3,478	\$ 3,582	\$ 3,690	\$ 3,800	\$ 3,914	\$ 4,032
40 MOTOR PARTS & ACCESSORIES	O&M General	\$ 2,500	\$ 2,575	\$ 2,652	\$ 2,732	\$ 2,814	\$ 2,898	\$ 2,985	\$ 3,075	\$ 3,167	\$ 3,262	\$ 3,360
41 BOOKS	O&M General	\$ 898	\$ 925	\$ 953	\$ 981	\$ 1,011	\$ 1,041	\$ 1,072	\$ 1,104	\$ 1,138	\$ 1,172	\$ 1,207
42 SIGNS AND CONES	O&M General	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524	\$ 6,720
43 BITUMINOUS SUPPLIES	O&M General	\$ 25,000	\$ 25,750	\$ 26,523	\$ 27,318	\$ 28,138	\$ 28,982	\$ 29,851	\$ 30,747	\$ 31,669	\$ 32,619	\$ 33,598
44 READY MIX CONCRETE	O&M General	\$ 12,500	\$ 12,875	\$ 13,261	\$ 13,659	\$ 14,069	\$ 14,491	\$ 14,926	\$ 15,373	\$ 15,835	\$ 16,310	\$ 16,799
45 LUMBER & WOOD PRODUCTS	O&M General	\$ 2,000	\$ 2,060	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319	\$ 2,388	\$ 2,460	\$ 2,534	\$ 2,610	\$ 2,688
46 FOUNDRY PRODUCTS	O&M General	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524	\$ 6,720
47 UNIFORMS	O&M General	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230	\$ 1,267	\$ 1,305	\$ 1,344
48 PAYMENTS TO COMMONWEALTH	Water ERUs Growth	\$ 40,000	\$ 40,162	\$ 40,323	\$ 40,485	\$ 40,646	\$ 40,808	\$ 40,969	\$ 41,131	\$ 41,292	\$ 41,454	\$ 41,615
49 IN STATE TRAVEL	O&M General	\$ 100	\$ 103	\$ 106	\$ 109	\$ 113	\$ 116	\$ 119	\$ 123	\$ 127	\$ 130	\$ 134
50 DUES AND MEMBERSHIPS	O&M General	\$ 1,500	\$ 1,545	\$ 1,591	\$ 1,639	\$ 1,688	\$ 1,739	\$ 1,791	\$ 1,845	\$ 1,900	\$ 1,957	\$ 2,016
51 REIMB OF LICENSES	O&M General	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230	\$ 1,267	\$ 1,305	\$ 1,344
600058 - WATER CAPITAL OUTLAY												
52 ENGINEERING / ARCHITECTURE	W&S Maintenance Series -	\$ 335,000	\$ 349,737	\$ 365,122	\$ 381,184	\$ 397,953	\$ 415,459	\$ 433,736	\$ 452,816	\$ 472,736	\$ 493,532	\$ 515,243
53 WATER METERS & PARTS	W&S Maintenance Series -	\$ 240,000	\$ 250,558	\$ 261,580	\$ 273,087	\$ 285,101	\$ 297,642	\$ 310,736	\$ 324,406	\$ 338,676	\$ 353,575	\$ 369,129
54 HYDRANTS	W&S Maintenance Series -	\$ 50,000	\$ 52,200	\$ 54,496	\$ 56,893	\$ 59,396	\$ 62,009	\$ 64,737	\$ 67,584	\$ 70,558	\$ 73,661	\$ 76,902
55 LEAK DETECTION PROGRAM	W&S Maintenance Series -	\$ 21,500	\$ 22,446	\$ 23,433	\$ 24,464	\$ 25,540	\$ 26,664	\$ 27,837	\$ 29,061	\$ 30,340	\$ 31,674	\$ 33,068
56 PIPE FITTINGS	W&S Maintenance Series -	\$ 5,000	\$ 5,220	\$ 5,450	\$ 5,689	\$ 5,940	\$ 6,201	\$ 6,474	\$ 6,758	\$ 7,056	\$ 7,366	\$ 7,690
57 WATER SERVICE REPLACEMENT	W&S Maintenance Series -	\$ 1,500,000	\$ 1,565,986	\$ 1,634,876	\$ 1,706,795	\$ 1,781,879	\$ 1,860,265	\$ 1,942,100	\$ 2,027,535	\$ 2,116,728	\$ 2,209,845	\$ 2,307,058
58 WATER RECONSTRUCTION/RPAR	W&S Maintenance Series -	\$ 1,000,000	\$ 1,043,991	\$ 1,089,917	\$ 1,137,864	\$ 1,187,919	\$ 1,240,177	\$ 1,294,733	\$ 1,351,690	\$ 1,411,152	\$ 1,473,230	\$ 1,538,039

Projection of Cash Outflows

Schedule 4

Expense Line Item	Escalation Factor	FY 2021 (1)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
600060 - WATER SPECIAL ITEMS												
MWRA ASSESSMENT	MWRA Assessment	\$ 8,711,112	\$ 9,012,516	\$ 9,451,515	\$ 9,829,576	\$ 10,222,759	\$ 10,631,669	\$ 11,056,936	\$ 11,499,213	\$ 11,959,182	\$ 12,437,549	\$ 12,935,051
INDIRECT COST SUBSIDY	Indirect Cost Subsidy	\$ 713,220	\$ 734,617	\$ 756,655	\$ 779,355	\$ 802,735	\$ 826,817	\$ 851,622	\$ 877,171	\$ 903,486	\$ 930,590	\$ 958,508
Transfers Out												
Transfer Earnings to Rate Stabilization Fund (2)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 175,507	\$ 194,778	\$ 154,905	\$ 31,692	\$ 125,472	\$ 190,081
Total Transfers Out		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 175,507	\$ 194,778	\$ 154,905	\$ 31,692	\$ 125,472	\$ 190,081
Debt Service												
Existing MWRA Notes												
June 6 2016 MWRA Water		\$ 27,600	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
June 11 2012 MWRA Water		\$ 133,600	\$ 133,600	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
June 3 2013 MWRA Water		\$ 124,234	\$ 124,234	\$ 124,234	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
September 8 2014 MWRA Water		\$ 87,500	\$ 87,500	\$ 87,500	\$ 87,500	\$ 87,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
March 20 2107 MWRA Water		\$ 166,000	\$ 166,000	\$ 166,000	\$ 166,000	\$ 166,000	\$ 166,000	\$ 166,000	\$ -	\$ -	\$ -	\$ -
August 27, 2018 MWRA Water		\$ 254,300	\$ 254,300	\$ 254,300	\$ 254,300	\$ 254,300	\$ 254,300	\$ 254,300	\$ 254,300	\$ 254,300	\$ -	\$ -
December 2, 2019 MWRA Water		\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ -
Existing Municipal Purpose												
April 1 2010- Water Mains		\$ 27,250	\$ 26,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
December 7 2017 - Adv Ref Feb 15 10 Water		\$ 111,981	\$ 110,908	\$ 100,186	\$ 95,614	\$ 93,842	\$ 90,642	\$ 87,442	\$ 84,002	\$ 103,200	\$ 96,069	\$ -
June 7 2018 Series B- Cedar St Water Repairs		\$ 26,556	\$ 26,156	\$ 30,756	\$ 30,306	\$ 29,706	\$ 29,106	\$ 28,506	\$ 27,906	\$ 27,306	\$ 26,706	\$ 26,106
June 6 2019 - CEDAR ST WATER REPAIRS		\$ 39,500	\$ 38,750	\$ 38,000	\$ 37,250	\$ 36,500	\$ 40,750	\$ 39,750	\$ 38,750	\$ 37,750	\$ 36,950	\$ 41,150
June 6 2019 - WATER MAIN REHAB & REPLACEMENT		\$ 138,150	\$ 140,650	\$ 137,900	\$ 140,150	\$ 137,150	\$ 139,150	\$ 140,900	\$ 137,400	\$ 138,900	\$ 140,900	\$ 137,700
June 4 2020 - Cedar St Water Repairs		\$ 36,916	\$ 41,350	\$ 40,350	\$ 39,350	\$ 38,350	\$ 37,350	\$ 41,350	\$ 40,100	\$ 38,850	\$ 37,600	\$ 36,350
June 4 2020 - Water Main Rehabilitation & Replacement		\$ 93,060	\$ 96,506	\$ 94,256	\$ 92,006	\$ 94,756	\$ 92,256	\$ 94,756	\$ 97,006	\$ 94,006	\$ 96,006	\$ 92,756
Future Long-Term Projects												
Pitman St. - Water Improvements (3)		\$ -	\$ -	\$ -	\$ -	\$ 58,987	\$ 58,987	\$ 58,987	\$ 58,987	\$ 58,987	\$ 58,987	\$ 58,987
Water Meter Replacement		\$ -	\$ -	\$ 426,165	\$ 857,683	\$ 857,683	\$ 857,683	\$ 857,683	\$ 857,683	\$ 857,683	\$ 857,683	\$ 857,683
Water Vehicles		\$ -	\$ 51,843	\$ 51,843	\$ 51,843	\$ 51,843	\$ 51,843	\$ 51,843	\$ 51,843	\$ 51,843	\$ 51,843	\$ 51,843
Lead Line Replacement Program		\$ -	\$ 101,616	\$ 175,282	\$ 312,394	\$ 453,994	\$ 600,218	\$ 748,966	\$ 899,989	\$ 1,053,539	\$ 1,209,617	\$ 1,368,222
BAN Projects & Associated Long-Term Debt Service (4)												
Unspecified FY 2021 (per Budget)		\$ 67,081	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Somerville Ave. Utility & Streetscape Improvements - Water		\$ -	\$ 46,125	\$ 49,725	\$ 7,650	\$ 8,100	\$ 8,500	\$ 4,000	\$ -	\$ -	\$ -	\$ -
Long-Term		\$ -	\$ -	\$ -	\$ 170,191	\$ 170,191	\$ 170,191	\$ 182,330	\$ 193,120	\$ 193,120	\$ 193,120	\$ 193,120
Water Improvements		\$ -	\$ 1,743	\$ 160,020	\$ 324,495	\$ 335,475	\$ 354,475	\$ 369,975	\$ 419,250	\$ 436,250	\$ 452,500	\$ 467,500
Long-Term		\$ -	\$ -	\$ 6,576	\$ 6,576	\$ 445,777	\$ 910,114	\$ 1,392,872	\$ 1,895,322	\$ 2,417,463	\$ 2,960,566	\$ 3,525,901
Spring Hill Sewer Separation - Project Area 1 Water Line Improvements		\$ -	\$ -	\$ 67,066	\$ 141,626	\$ 132,551	\$ 64,434	\$ -	\$ -	\$ -	\$ -	\$ -
Long-Term		\$ -	\$ -	\$ -	\$ -	\$ 184,073	\$ 394,566	\$ 558,283	\$ 558,283	\$ 558,283	\$ 558,283	\$ 558,283
Spring Hill Sewer Separation - Highland Ave Water Line Improvements		\$ -	\$ -	\$ -	\$ -	\$ 49,329	\$ 70,180	\$ 15,371	\$ -	\$ -	\$ -	\$ -
Long-Term		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 139,262	\$ 178,317	\$ 178,317	\$ 178,317	\$ 178,317
Spring Hill Sewer Separation - Project Area 2B Water Line Improvements (5)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32,345	\$ 76,769	\$ 44,424	\$ -	\$ -	\$ -
Long-Term		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 82,184	\$ 195,059	\$ 195,059	\$ 195,059
Total Debt Service		\$ 1,423,728	\$ 1,537,531	\$ 2,100,159	\$ 2,904,934	\$ 3,776,107	\$ 4,513,090	\$ 5,399,345	\$ 6,008,867	\$ 6,784,857	\$ 7,240,206	\$ 7,788,978
Total Expenses by Category												
Personal Services		\$ 1,460,210	\$ 1,654,549	\$ 1,704,186	\$ 1,755,311	\$ 1,807,971	\$ 1,862,210	\$ 1,918,076	\$ 1,975,618	\$ 2,034,887	\$ 2,095,933	\$ 2,158,811
MWRA Assessment		\$ 8,711,112	\$ 9,012,516	\$ 9,451,515	\$ 9,829,576	\$ 10,222,759	\$ 10,631,669	\$ 11,056,936	\$ 11,499,213	\$ 11,959,182	\$ 12,437,549	\$ 12,935,051
Operations & Maintenance		\$ 1,314,508	\$ 1,353,604	\$ 1,393,904	\$ 1,435,448	\$ 1,478,274	\$ 1,522,422	\$ 1,567,935	\$ 1,614,856	\$ 1,663,229	\$ 1,713,101	\$ 1,764,519
Capital Outlay		\$ 3,151,500	\$ 3,290,137	\$ 3,434,874	\$ 3,585,977	\$ 3,743,727	\$ 3,908,417	\$ 4,080,352	\$ 4,259,851	\$ 4,447,246	\$ 4,642,884	\$ 4,847,129
Transfers Out		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 175,507	\$ 194,778	\$ 154,905	\$ 31,692	\$ 125,472	\$ 190,081
Debt Service		\$ 1,423,728	\$ 1,537,531	\$ 2,100,159	\$ 2,904,934	\$ 3,776,107	\$ 4,513,090	\$ 5,399,345	\$ 6,008,867	\$ 6,784,857	\$ 7,240,206	\$ 7,788,978
Total Expenses		\$ 16,061,058	\$ 16,848,338	\$ 18,084,638	\$ 19,511,246	\$ 21,028,837	\$ 22,613,315	\$ 24,217,422	\$ 25,513,310	\$ 26,921,091	\$ 28,255,145	\$ 29,684,569

Projection of Cash Outflows

Schedule 4

Expense Line Item	Escalation Factor	FY 2021 (1)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
109	Expense Execution Factors											
110	Personal Services	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
111	MWRA Assessment	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
112	Operations & Maintenance	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
113	Capital Outlay	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
114	Transfers Out	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
115	Debt Service	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
116	Expenses at Execution											
117	Personal Services	\$ 1,460,210	\$ 1,654,549	\$ 1,704,186	\$ 1,755,311	\$ 1,807,971	\$ 1,862,210	\$ 1,918,076	\$ 1,975,618	\$ 2,034,887	\$ 2,095,933	\$ 2,158,811
118	MWRA Assessment	\$ 8,711,112	\$ 9,012,516	\$ 9,451,515	\$ 9,829,576	\$ 10,222,759	\$ 10,631,669	\$ 11,056,936	\$ 11,499,213	\$ 11,959,182	\$ 12,437,549	\$ 12,935,051
119	Operations & Maintenance	\$ 1,314,508	\$ 1,353,604	\$ 1,393,904	\$ 1,435,448	\$ 1,478,274	\$ 1,522,422	\$ 1,567,935	\$ 1,614,856	\$ 1,663,229	\$ 1,713,101	\$ 1,764,519
120	Capital Outlay	\$ 3,151,500	\$ 3,290,137	\$ 3,434,874	\$ 3,585,977	\$ 3,743,727	\$ 3,908,417	\$ 4,080,352	\$ 4,259,851	\$ 4,447,246	\$ 4,642,884	\$ 4,847,129
121	Transfers Out	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 175,507	\$ 194,778	\$ 154,905	\$ 31,692	\$ 125,472	\$ 190,081
122	Debt Service	\$ 1,423,728	\$ 1,537,531	\$ 2,100,159	\$ 2,904,934	\$ 3,776,107	\$ 4,513,090	\$ 5,399,345	\$ 6,008,867	\$ 6,784,857	\$ 7,240,206	\$ 7,788,978
123	Total Expenses	\$ 16,061,058	\$ 16,848,338	\$ 18,084,638	\$ 19,511,246	\$ 21,028,837	\$ 22,613,315	\$ 24,217,422	\$ 25,513,310	\$ 26,921,091	\$ 28,255,145	\$ 29,684,569
124	Projects Designated To Be Funded with Cash (6)	\$ -	\$ 250,000	\$ 390,000	\$ 360,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
125	Total Cash Outflows	\$ 16,061,058	\$ 17,098,338	\$ 18,474,638	\$ 19,871,246	\$ 21,228,837	\$ 22,813,315	\$ 24,417,422	\$ 25,713,310	\$ 27,121,091	\$ 28,455,145	\$ 29,884,569

(1) FY 2021 operating expenses reflect the City's FY 2021 Revised Budget, after which all future operating costs escalate based upon assumed escalation factors presented on Schedule 5.
 (2) Reflects transfer out of the City's Operating Fund (Fund 6000) to the City's Rate Stabilization Fund. Note that the transfer to the Rate Stabilization Fund is calculated at 60% of positive net cash flow in any given year (net cash flows before any contributions from the Rate Stabilization Fund for debt service).
 (3) Projected debt schedules moved out one year to FY 2025 per discussions with City Staff.
 (4) Reflects the City's projected Bond Anticipation Note (BAN) annual interest payments (ranging from 2-5 years per project), as well as the associated long-term debt service payments for each project.
 (5) Projected debt schedules moved forward one year to FY 2026 per discussions with City Staff.
 (6) Reflects cash funding of vehicles and Yard 3 CIP, as directed by City Staff.

Cost Escalation Factors

Schedule 5

<u>Inflation Factor</u>	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Salaries & Wages	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Fuel, Utilities, Chemicals	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Professional Services	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
O&M General	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Indirect Cost Subsidy	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
MWRA Assessment (1)	3.46%	4.87%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
W&S Maintenance Series - 10 Year	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%
Default Inflation Factor	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%

(1) Annual MWRA Assessment cost escalation factor in FY 2022 reflects resulting factor based upon preliminary MWRA estimates. The FY 2023 escalation factor reflects an estimated assessment increase provided by City Staff. MWRA Assessments in FY 2024 through the remainder of the projection are projected to increase at 4.00% annually based upon a 5 year history of the assessment change.



Capital Investment Plan (CIP)											Schedule 6	
Project Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Total Cost
Debt Funded Projects (1)												
1 Somerville Ave. Utility & Streetscape Improvements - Water	\$ 180,000	\$ 160,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 340,000
2 Water Improvements	\$ -	\$ 200,000	\$ 7,110,000	\$ 7,310,000	\$ 7,600,000	\$ 7,910,000	\$ 8,220,000	\$ 8,550,000	\$ 8,900,000	\$ 9,200,000	\$ 9,500,000	\$ 74,500,000
3 Lead Line Replacement Program	\$ 1,060,000	\$ 850,000	\$ 1,470,000	\$ 1,510,000	\$ 1,540,000	\$ 1,500,000	\$ 1,590,000	\$ 1,610,000	\$ 1,640,000	\$ 1,660,000	\$ 1,700,000	\$ 16,130,000
4 Pitman St. - Water Improvements (2)	\$ -	\$ -	\$ -	\$ 1,020,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,020,000
5 Water Meter Replacement	\$ 3,500,000	\$ 3,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,000,000
6 Spring Hill Sewer Separation - Project Area 1 Water Line Improvements	\$ 30,000	\$ 2,950,000	\$ 3,310,000	\$ 2,580,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,870,000
7 Spring Hill Sewer Separation - Highland Ave Water Line Improvements	\$ -	\$ 60,000	\$ 100,000	\$ 2,190,000	\$ 610,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,960,000
8 Spring Hill Sewer Separation - Project Area 2B Water Line Improvements (3)	\$ -	\$ -	\$ -	\$ 90,000	\$ 1,210,000	\$ 1,780,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,080,000
Cash Funded Projects												
10 Water Vehicles	\$ -	\$ 150,000	\$ 290,000	\$ 260,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 1,400,000
11 Yard 3 Annual PAYGO	\$ -	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 1,000,000
12 Total CIP Budget (in Future Dollars) (4)	\$ 4,770,000	\$ 7,970,000	\$ 12,380,000	\$ 15,060,000	\$ 11,160,000	\$ 11,390,000	\$ 10,010,000	\$ 10,360,000	\$ 10,740,000	\$ 11,060,000	\$ 11,400,000	\$ 116,300,000
13 Cumulative Projected Cost Escalation (4)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
14 Resulting CIP Funding Level	\$ 4,770,000	\$ 7,970,000	\$ 12,380,000	\$ 15,060,000	\$ 11,160,000	\$ 11,390,000	\$ 10,010,000	\$ 10,360,000	\$ 10,740,000	\$ 11,060,000	\$ 11,400,000	\$ 116,300,000

(1) Project amounts and timing presented herein reflects adjustments made during meetings with City Staff. FY 2031 project values were calculated based upon debt service schedules provided by City Staff.

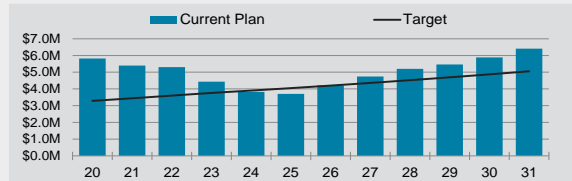
(2) Project and associated debt schedules moved out one year to FY 2025 per discussions with City Staff.

(3) Project and associated debt schedules moved forward one year to FY 2026 per discussions with City Staff.

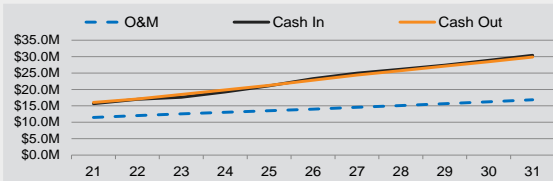
(4) CIP already includes inflationary assumptions as provided by City Staff.

 WATER ENTERPRISE FUND													
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2026	FY 2031
Water Usage Rate Plan	0.00%	7.00%	10.00%	10.00%	10.00%	10.00%	7.00%	5.00%	5.00%	5.00%	5.00%	56.43%	103.57%
Debt Service Coverage (1.25 Target)	1.92	2.62	2.21	2.01	1.90	1.93	1.82	1.75	1.66	1.67	1.66	Stab. Fund	Debt Service
Debt Service / Revenue	10.0%	9.6%	12.2%	15.4%	18.3%	19.9%	22.2%	23.5%	25.2%	25.6%	26.2%	Growth	Normal
Tri-Annual Single-Family Bill @ 18 CCF	\$110.70	\$117.02	\$126.72	\$137.34	\$149.06	\$162.01	\$171.94	\$179.49	\$187.45	\$195.82	\$204.60	Check	-
Combined Tri-Annual W&S Single-Family Bill	\$315.49	\$339.13	\$367.97	\$399.70	\$434.76	\$473.51	\$511.98	\$551.07	\$588.93	\$629.84	\$674.08		
Annual W&S Bill as % of MHI	1.0%	1.0%	1.1%	1.2%	1.3%	1.5%	1.6%	1.7%	1.8%	1.9%	2.1%		
Net Cash Flow (\$ M)	-\$0.42	-\$0.09	-\$0.87	-\$0.61	-\$0.13	\$0.50	\$0.53	\$0.47	\$0.26	\$0.42	\$0.52		

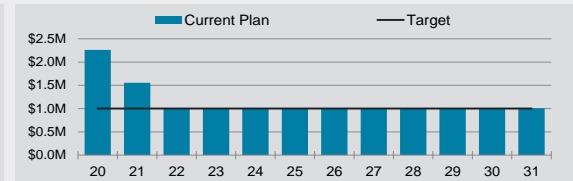
Operating Fund



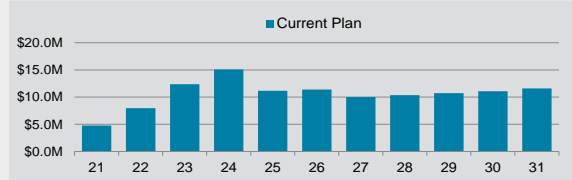
Revenues vs. Expenses



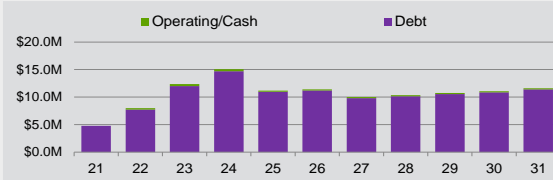
Stabilization Fund



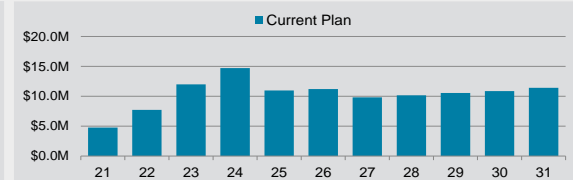
CIP Spending



CIP Funding



Borrowing



Pro Forma

Schedule 8

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1 Operating Revenue											
2 Water Rate Revenue	\$ 13,567,884	\$ 13,567,884	\$ 15,016,118	\$ 16,492,508	\$ 18,122,585	\$ 19,922,360	\$ 21,909,510	\$ 23,472,109	\$ 24,697,973	\$ 25,989,746	\$ 27,350,963
3 Change in Revenue From Growth	\$ -	\$ 187,646	\$ 62,139	\$ 67,978	\$ 74,401	\$ 81,467	\$ 89,239	\$ 95,223	\$ 99,797	\$ 104,599	\$ 109,642
4 Other Revenue Adjustments (1)	-	339,197	-	-	-	-	-	-	-	-	-
5 Subtotal	\$ 13,567,884	\$ 14,094,727	\$ 15,078,257	\$ 16,560,486	\$ 18,196,986	\$ 20,003,827	\$ 21,998,748	\$ 23,567,331	\$ 24,797,770	\$ 26,094,345	\$ 27,460,605
6 Weighted Average Rate Increase	0.00%	6.54%	9.38%	9.43%	9.48%	9.53%	6.70%	4.80%	4.81%	4.82%	4.82%
7 Additional Rate Revenue From Rate Increase	\$ -	\$ 921,391	\$ 1,414,250	\$ 1,562,099	\$ 1,725,374	\$ 1,905,683	\$ 1,473,360	\$ 1,130,642	\$ 1,191,976	\$ 1,256,618	\$ 1,324,743
8 Total Rate Revenue	\$ 13,567,884	\$ 15,016,118	\$ 16,492,508	\$ 18,122,585	\$ 19,922,360	\$ 21,909,510	\$ 23,472,109	\$ 24,697,973	\$ 25,989,746	\$ 27,350,963	\$ 28,785,348
9 Plus: Other Operating Revenue	\$ 608,298	\$ 997,314	\$ 666,494	\$ 704,003	\$ 745,416	\$ 791,140	\$ 841,625	\$ 881,324	\$ 912,468	\$ 945,286	\$ 979,869
10 Equals: Total Operating Revenue	\$ 14,176,182	\$ 16,013,432	\$ 17,159,002	\$ 18,826,588	\$ 20,667,776	\$ 22,700,650	\$ 24,313,734	\$ 25,579,297	\$ 26,902,214	\$ 28,296,249	\$ 29,765,217
11 Less: Operating Expenses											
12 Personal Services	\$ (1,460,210)	\$ (1,654,549)	\$ (1,704,186)	\$ (1,755,311)	\$ (1,807,971)	\$ (1,862,210)	\$ (1,918,076)	\$ (1,975,618)	\$ (2,034,887)	\$ (2,095,933)	\$ (2,158,811)
13 MWRA Assessment	\$ (8,711,112)	\$ (9,012,516)	\$ (9,451,515)	\$ (9,829,576)	\$ (10,222,759)	\$ (10,631,669)	\$ (11,056,936)	\$ (11,499,213)	\$ (11,959,182)	\$ (12,437,549)	\$ (12,935,051)
14 Operations & Maintenance Costs	\$ (1,314,508)	\$ (1,353,604)	\$ (1,393,904)	\$ (1,435,448)	\$ (1,478,274)	\$ (1,522,422)	\$ (1,567,935)	\$ (1,614,856)	\$ (1,663,229)	\$ (1,713,101)	\$ (1,764,519)
15 Equals: Net Operating Income	\$ 2,690,352	\$ 3,992,763	\$ 4,609,397	\$ 5,806,253	\$ 7,158,773	\$ 8,684,349	\$ 9,770,787	\$ 10,489,610	\$ 11,244,917	\$ 12,049,666	\$ 12,906,836
16 Plus: Non-Operating Income/(Expense)											
17 Interest Income	\$ 42,045	\$ 40,137	\$ 36,540	\$ 31,007	\$ 28,264	\$ 29,669	\$ 33,540	\$ 37,282	\$ 40,005	\$ 42,544	\$ 46,072
18 Stabilization Fund Contributions to Debt Service	\$ 1,423,728	\$ 955,080	\$ 409,582	\$ 407,536	\$ 407,528	\$ 583,035	\$ 602,306	\$ 562,433	\$ 439,220	\$ 533,000	\$ 597,609
19 Equals: Net Income	\$ 4,156,125	\$ 4,987,980	\$ 5,055,519	\$ 6,244,796	\$ 7,594,566	\$ 9,297,054	\$ 10,406,633	\$ 11,089,326	\$ 11,724,142	\$ 12,625,210	\$ 13,550,517
20 Less: Revenues Excluded From Coverage Test											
21 Stabilization Fund Contributions to Debt Service	\$ (1,423,728)	\$ (955,080)	\$ (409,582)	\$ (407,536)	\$ (407,528)	\$ (583,035)	\$ (602,306)	\$ (562,433)	\$ (439,220)	\$ (533,000)	\$ (597,609)
22 Equals: Net Income Available For Debt Service	\$ 2,732,397	\$ 4,032,900	\$ 4,645,937	\$ 5,837,260	\$ 7,187,037	\$ 8,714,019	\$ 9,804,327	\$ 10,526,892	\$ 11,284,922	\$ 12,092,210	\$ 12,952,908
23 Total All-In Debt Service Coverage Test											
24 Net Income Available for Debt Service	\$ 2,732,397	\$ 4,032,900	\$ 4,645,937	\$ 5,837,260	\$ 7,187,037	\$ 8,714,019	\$ 9,804,327	\$ 10,526,892	\$ 11,284,922	\$ 12,092,210	\$ 12,952,908
25 Total Short-Term Debt Service (BAN)	\$ 67,081	\$ 47,868	\$ 276,811	\$ 473,771	\$ 525,455	\$ 529,934	\$ 466,115	\$ 463,674	\$ 436,250	\$ 452,500	\$ 467,500
26 Total Long-Term Debt Service	\$ 1,356,647	\$ 1,489,664	\$ 1,823,348	\$ 2,431,163	\$ 3,250,652	\$ 3,983,156	\$ 4,933,230	\$ 5,545,193	\$ 6,348,607	\$ 6,787,706	\$ 7,321,478
27 Total Annual Debt Service	\$ 1,423,728	\$ 1,537,531	\$ 2,100,159	\$ 2,904,934	\$ 3,776,107	\$ 4,513,090	\$ 5,399,345	\$ 6,008,867	\$ 6,784,857	\$ 7,240,206	\$ 7,788,978
28 <i>Calculated All-In Debt Service Coverage</i>	Targ. 1.25	1.92	2.62	2.21	2.01	1.90	1.93	1.82	1.75	1.66	1.67
29 Cash Flow Test											
30 Net Income Available For Debt Service	\$ 2,732,397	\$ 4,032,900	\$ 4,645,937	\$ 5,837,260	\$ 7,187,037	\$ 8,714,019	\$ 9,804,327	\$ 10,526,892	\$ 11,284,922	\$ 12,092,210	\$ 12,952,908
31 Less: Non-Operating Expenditures											
32 Net Interfund Transfers (In - Out)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (175,507)	\$ (194,778)	\$ (154,905)	\$ (31,692)	\$ (125,472)	\$ (190,081)
33 Net Debt Service Payment (Net of Stabilization Fund Contributions)	\$ -	\$ (582,451)	\$ (1,690,577)	\$ (2,497,398)	\$ (3,368,579)	\$ (3,930,055)	\$ (4,797,039)	\$ (5,446,433)	\$ (6,345,637)	\$ (6,707,206)	\$ (7,191,368)
34 Capital Outlay	\$ (3,151,500)	\$ (3,290,137)	\$ (3,434,874)	\$ (3,585,977)	\$ (3,743,727)	\$ (3,908,417)	\$ (4,080,352)	\$ (4,259,851)	\$ (4,447,246)	\$ (4,642,884)	\$ (4,847,129)
35 Cash Flow Surplus/(Deficit)	\$ (419,103)	\$ 160,312	\$ (479,514)	\$ (246,115)	\$ 74,731	\$ 700,040	\$ 732,158	\$ 665,703	\$ 460,348	\$ 616,648	\$ 724,330
36 Unrestricted Reserve Fund Test											
37 Balance At Beginning Of Fiscal Year	\$ 5,815,602	\$ 5,396,499	\$ 5,306,811	\$ 4,437,297	\$ 3,831,182	\$ 3,705,913	\$ 4,205,953	\$ 4,738,111	\$ 5,203,814	\$ 5,464,162	\$ 5,880,810
38 Cash Flow Surplus/(Deficit)	\$ (419,103)	\$ 160,312	\$ (479,514)	\$ (246,115)	\$ 74,731	\$ 700,040	\$ 732,158	\$ 665,703	\$ 460,348	\$ 616,648	\$ 724,330
39 Projects Designated To Be Paid With Cash	\$ -	\$ (250,000)	\$ (390,000)	\$ (360,000)	\$ (200,000)	\$ (200,000)	\$ (200,000)	\$ (200,000)	\$ (200,000)	\$ (200,000)	\$ (200,000)
40 Balance At End Of Fiscal Year	\$ 5,396,499	\$ 5,306,811	\$ 4,437,297	\$ 3,831,182	\$ 3,705,913	\$ 4,205,953	\$ 4,738,111	\$ 5,203,814	\$ 5,464,162	\$ 5,880,810	\$ 6,405,139
41 Minimum Working Capital Reserve Target	\$ 3,445,749	\$ 3,606,201	\$ 3,764,882	\$ 3,906,100	\$ 4,052,701	\$ 4,204,890	\$ 4,362,884	\$ 4,526,906	\$ 4,697,189	\$ 4,873,975	\$ 5,057,514
42 Excess/(Deficiency) Of Working Capital To Target	\$ 1,950,750	\$ 1,700,611	\$ 672,416	\$ (74,918)	\$ (346,788)	\$ 1,063	\$ 375,227	\$ 676,908	\$ 766,973	\$ 1,006,835	\$ 1,347,625

(1) Assumption of higher rate revenue collections starting in FY 2022, which serves as basis for future rate revenue projections. Water liens redeemed (within other operating revenue) are projected at 2.50% of rate revenues starting after FY 2022.

Funding Summary by Fund

Schedule 9

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Stabilization Fund											
Balance At Beginning Of Fiscal Year	\$ 2,260,553	\$ 1,555,080	\$ 1,009,582	\$ 1,007,536	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528
Annual Revenues (1)	\$ 704,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 575,507	\$ 594,778	\$ 554,905	\$ 431,692	\$ 525,472	\$ 590,081
Less: Payment Of Debt Service	\$ (1,423,728)	\$ (955,080)	\$ (409,582)	\$ (407,536)	\$ (407,528)	\$ (583,035)	\$ (602,306)	\$ (562,433)	\$ (439,220)	\$ (533,000)	\$ (597,609)
Subtotal	\$ 1,540,825	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Less: Restricted Funds (2)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)
Total Amount Available For Projects	\$ 540,825	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0	\$ -	\$ 0
Amount Paid For Projects	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ 540,825	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0	\$ -	\$ 0
Add Back: Restricted Funds (2)	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Plus: Interest Earnings (3)	\$ 14,255	\$ 9,582	\$ 7,536	\$ 7,528	\$ 7,528	\$ 7,528	\$ 7,528	\$ 7,528	\$ 7,528	\$ 7,528	\$ 7,528
Less: Interest Allocated To Cash Flow	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Balance At End Of Fiscal Year	\$ 1,555,080	\$ 1,009,582	\$ 1,007,536	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528
Enterprise Fund											
Balance At Beginning Of Fiscal Year	\$ 5,815,602	\$ 5,396,499	\$ 5,306,811	\$ 4,437,297	\$ 3,831,182	\$ 3,705,913	\$ 4,205,953	\$ 4,738,111	\$ 5,203,814	\$ 5,464,162	\$ 5,880,810
Cash Flow Surplus/(Deficit)	\$ (419,103)	\$ 160,312	\$ (479,514)	\$ (246,115)	\$ 74,731	\$ 700,040	\$ 732,158	\$ 665,703	\$ 460,348	\$ 616,648	\$ 724,330
Less: Cash-Funded Capital Projects	\$ -	\$ (250,000)	\$ (390,000)	\$ (360,000)	\$ (200,000)	\$ (200,000)	\$ (200,000)	\$ (200,000)	\$ (200,000)	\$ (200,000)	\$ (200,000)
Subtotal	\$ 5,396,499	\$ 5,306,811	\$ 4,437,297	\$ 3,831,182	\$ 3,705,913	\$ 4,205,953	\$ 4,738,111	\$ 5,203,814	\$ 5,464,162	\$ 5,880,810	\$ 6,405,139
Plus: Interest Earnings	\$ 42,045	\$ 40,137	\$ 36,540	\$ 31,007	\$ 28,264	\$ 29,669	\$ 33,540	\$ 37,282	\$ 40,005	\$ 42,544	\$ 46,072
Less: Interest Allocated To Cash Flow	\$ (42,045)	\$ (40,137)	\$ (36,540)	\$ (31,007)	\$ (28,264)	\$ (29,669)	\$ (33,540)	\$ (37,282)	\$ (40,005)	\$ (42,544)	\$ (46,072)
Balance At End Of Fiscal Year	\$ 5,396,499	\$ 5,306,811	\$ 4,437,297	\$ 3,831,182	\$ 3,705,913	\$ 4,205,953	\$ 4,738,111	\$ 5,203,814	\$ 5,464,162	\$ 5,880,810	\$ 6,405,139

(1) Annual revenues reflect assumed contributions from the City's General Fund (assumptions provided by City Staff) and transfers in from the Water Enterprise operating fund in order to pay for future debt service. A transfer in from the General Fund of \$2.2 million is included in FY 2021, allocated 68% to sewer and 32% to water based upon current Stabilization Fund allocation methodology. An additional \$2 million of cash infusions from the City's General Fund is assumed for the remainder of the projection period, allocated 80% to sewer and 20% to water based upon the future capital needs of the two systems and per discussions with City Staff.

(2) Per discussions with City Staff, a minimum reserve target of \$1 Million has been targeted for the Water Stabilization Fund.

(3) Interest earned on Stabilization Fund balances will be retained in the Stabilization Funds as interpreted from the City's financial policies.

APPENDIX B: SEWER FUND FINANCIAL SUSTAINABILITY ANALYSIS SUPPORTING SCHEDULES

- Schedule 1 Assumptions
- Schedule 2 FY 2021 Beginning Balances as of 7/1/2020
- Schedule 3 Projection of Cash Inflows
- Schedule 4 Projection of Cash Outflows
- Schedule 5 Cost Escalation Factors
- Schedule 6 Capital Investment Plan (CIP)
- Schedule 7 FAMS - Control Panel
- Schedule 8 Pro Forma
- Schedule 9 Funding Summary by Fund

Assumptions

Schedule 1

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Rate Increase Adoption Date	7/1/2020	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025	7/1/2026	7/1/2027	7/1/2028	7/1/2029	7/1/2030
Annual Growth											
Sewer System											
Ending # of ERUs (1)	17,330	17,400	17,470	17,540	17,610	17,680	17,750	17,820	17,890	17,960	18,030
ERU Growth	70	70	70	70	70	70	70	70	70	70	70
% Change in ERUs	0.41%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%	0.39%	0.39%	0.39%	0.39%
Billed Volume per ERU	114.21	115.42	115.43	115.44	115.44	115.45	115.45	115.46	115.47	115.47	115.48
% Change in Billed Volume per ERU (2)	-0.54%	1.06%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Billed Volume (CCF) (3)	1,979,243	2,008,345	2,016,537	2,024,730	2,032,922	2,041,114	2,049,307	2,057,499	2,065,692	2,073,884	2,082,076
% Change in Billed Volume	-0.13%	1.47%	0.41%	0.41%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%
Revenue Weighted % Change in Billed Volume (4)	-0.19%	1.59%	0.41%	0.41%	0.41%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%
Capital Spending											
Annual Capital Budget (Future Year Dollars)	\$ 10,040,000	\$ 29,040,000	\$ 34,832,500	\$ 56,895,000	\$ 71,177,500	\$ 71,860,000	\$ 47,650,000	\$ 37,960,000	\$ 31,880,000	\$ 40,240,000	\$ 31,010,000
Average Annual Interest Earnings Rate											
On Fund Balances	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%
Operating Budget Execution Percentage (5)											
Target (Number of Months of Reserve)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Operating Budget Execution Percentage											
Personal Services	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
MWRA Assessment	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Fixed Operations and Maintenance	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Capital Outlay	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

(1) Equivalent residential units (ERUs) are a unit of measurement based upon a standard single-family residential home (5/8" meter) used to establish rates, fees and charges, and volume capacity limits.

(2) FY 2021 assumption of reduced volume per ERU driven by assumed reduction in commercial billed volumes due to continued COVID-19 impacts. The analysis reflects a normalizing adjustments in commercial billed volumes in FY 2022.

(3) A CCF stands for "centum cubic feet" and reflects 100 cubic feet of water, sometimes referred to as an HCF (hundred cubic feet). One CCF is equivalent to approximately 748 gallons.

(4) Considers the weighted impact of projected usage assumptions by customer class. For example, commercial customers do not have a conservation volume tier and therefore a reduction in billed volume per customer would hold a greater impact.

(5) Reflects reserve target of 30% of operating expenditures per discussions with City Staff.

FY 2021 Beginning Balances as of 7/1/2020 ⁽¹⁾

Schedule 2

Fund Number Stantec Grouping of Funds in Model	6400		7400		7401	
	Enterprise Fund		Stabilization Fund		Infiltration & Inflow (2)	
Current Unrestricted Assets						
Cash and Cash Equivalents (3)	\$	4,920,935	\$	7,133,721	\$	1,034,793
Receivables Net of Allowance for Uncollectibles	\$	8,587,463	\$	-	\$	-
Total Assets	\$	13,508,398	\$	7,133,721	\$	1,034,793
Current Liabilities						
Warrants Payable	\$	(2,961,096)	\$	-	\$	-
Accrued Payroll	\$	(34,239)	\$	-	\$	-
Accrued Interest	\$	(30,101)	\$	-	\$	-
Compensated Absences	\$	(1,600)	\$	-	\$	-
Current Portion of Notes Payable (BAN)	\$	(16,837,060)	\$	-	\$	-
Current Portion of Bonds Payable (MWRA)	\$	(499,048)	\$	-	\$	-
Calculated Fund Balance (Assets - Liabilities)	\$	(6,854,746)	\$	7,133,721	\$	1,034,793
Plus: Deferred Revenue	\$	-	\$	-	\$	-
Plus: Current Portion of Notes Payable (4)	\$	16,837,060	\$	-	\$	-
Plus: Current Portion of Bonds Payable (4)	\$	499,048	\$	-	\$	-
Less: FY 2021 Liens Redeemed	\$	(521,100)	\$	-	\$	-
Less: Reclass Sewer Capital Expense (5)	\$	-	\$	(3,355,377)	\$	-
Net Unrestricted Fund Balance for Rate Setting	\$	9,960,262	\$	3,778,344	\$	1,034,793
Available Fund Balance for Rate Setting	\$	9,960,262	\$	3,778,344	\$	1,034,793
Fund Summary						
Enterprise Fund	\$	9,960,262				
Stabilization Fund	\$	3,778,344				
Infiltration & Inflow	\$	1,034,793				
Total Available Funds for Rate Setting (6)	\$	14,773,399				

(1) Figures as of 6/30/2020 presented herein are per the City's Audited FY 2020 Comprehensive Annual Financial Report (Audited Report) and detailed Audited Report workpapers provided by City Staff.

(2) Infiltration & Inflow (I/I) Fund balances as of 6/30/2020 is as provided by City Staff and is not derived per the City's FY 2020 Audited Report.

(3) Sub-fund apportionment of cash and cash equivalents derived per the City's detailed Audited Report workpapers (with exception for the existing I/I Fund Balance). Adjustments for the reclass of sewer capital expenses are reported separately (refer to footnote 4).

(4) Current portion of notes payable and bonds payable is omitted from the available fund balance calculation as the debt service associated is reflected within the annual cash flows forecast.

(5) The City's detailed Audited Report workpapers include a report journal entry (JE #47) to reclass water and sewer capital expenses, resulting in a \$3.4 million reduction in available cash and cash equivalents as of 6/30/2020.

(6) Note that operating encumbrances and use of retained earnings have not been removed from beginning "available funds for rate setting" presented herein, but are accounted for elsewhere in the analysis.

Projection of Cash Inflows

Schedule 3

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1 Rate Revenue Growth Assumptions											
2 Sewer											
3 % Change in ERUs (Base Revenue)	N/A	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%	0.39%	0.39%	0.39%	0.39%
4 % Change in Billed Volume (Usage Revenue)	N/A	1.47%	0.41%	0.41%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%
5 Assumed Rate Revenue Increases											
6 Assumed Sewer Base Rate Increase	N/A	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7 Assumed Sewer Usage Rate Increase	N/A	10.50%	10.50%	10.50%	10.50%	10.50%	10.50%	10.50%	9.00%	9.00%	9.00%
8 Sewer Rate Revenue (1)											
9 Base Rate Revenue	\$ 1,821,045	\$ 1,873,927	\$ 1,881,465	\$ 1,889,004	\$ 1,896,543	\$ 1,904,082	\$ 1,911,621	\$ 1,919,160	\$ 1,926,698	\$ 1,934,237	\$ 1,941,776
10 Usage Rate Revenue	\$ 21,063,595	\$ 24,227,023	\$ 26,880,514	\$ 29,824,135	\$ 33,089,558	\$ 36,711,910	\$ 40,730,143	\$ 45,187,456	\$ 49,451,234	\$ 54,116,473	\$ 59,220,900
11 Total Sewer Rate Revenue (1)	\$ 22,884,640	\$ 26,100,950	\$ 28,761,979	\$ 31,713,139	\$ 34,986,102	\$ 38,615,992	\$ 42,641,764	\$ 47,106,616	\$ 51,377,932	\$ 56,050,710	\$ 61,162,676
12 Other Operating Revenue											
13 Sewer Liens Redeemed (2)	\$ 521,100	\$ 1,201,444	\$ 607,120	\$ 669,017	\$ 737,662	\$ 813,793	\$ 898,225	\$ 991,867	\$ 1,095,721	\$ 1,195,074	\$ 1,303,765
14 Total Other Operating Revenue	\$ 521,100	\$ 1,201,444	\$ 607,120	\$ 669,017	\$ 737,662	\$ 813,793	\$ 898,225	\$ 991,867	\$ 1,095,721	\$ 1,195,074	\$ 1,303,765
15 Interest Income											
16 Unrestricted (3)	\$ 63,134	\$ 47,956	\$ 42,989	\$ 45,983	\$ 55,049	\$ 62,219	\$ 66,175	\$ 68,400	\$ 67,110	\$ 62,621	\$ 61,785
17 Total Interest Income	\$ 63,134	\$ 47,956	\$ 42,989	\$ 45,983	\$ 55,049	\$ 62,219	\$ 66,175	\$ 68,400	\$ 67,110	\$ 62,621	\$ 61,785
18 Stabilization Fund Contributions to Debt Service (4)	\$ 1,128,414	\$ 1,125,418	\$ 1,600,246	\$ 3,318,203	\$ 1,628,943	\$ 1,622,609	\$ 1,622,585	\$ 1,622,585	\$ 1,622,585	\$ 1,622,585	\$ 1,622,585
19 I/I Fund Contributions to Debt Service (4)	\$ -	\$ -	\$ -	\$ 51,608	\$ 1,017,546	\$ 219,553	\$ 207,573	\$ 207,528	\$ 207,528	\$ 207,528	\$ 207,528
20 Total Cash Inflows	\$ 24,597,289	\$ 28,475,767	\$ 31,012,334	\$ 35,797,950	\$ 38,425,302	\$ 41,334,165	\$ 45,436,322	\$ 49,996,995	\$ 54,370,877	\$ 59,138,518	\$ 64,358,340

(1) Note that in addition to the growth assumptions and rate increases presented herein, the rate revenue projection for FY 2022 also includes an adjustment to "normalize" the City's assumed level of bill collections. Starting in FY 2023, rate revenues are projected based upon a higher level of collected rate revenues; consequently, the sewer liens redeemed assumption is reduced going forward (refer to footnote 2 of this Schedule or refer to the Pro Forma on Schedule 8).

(2) The City's sewer liens redeemed have averaged at approximately 2.3% of annual rate revenues over the past 3 years (FY 2018 - FY 2020). Per discussions with City Staff, the financial projection assumes that sewer liens are collected within 1 year of their original bill date, with exception for FY 2020. Due to the impacts of COVID-19, the analysis assumes that uncollected sewer liens (in excess of 1 year) from FY 2020 will be recovered in FY 2022. The financial projection assumes sewer liens redeemed at 2.3% of rate revenue in each year thereafter.

(3) Calculated based upon assumed interest earnings percentage (refer to Schedule 1) that is applied to average annual projected fund balances (refer to Schedule 9).

(4) Reflects contribution of available Sewer Stabilization Fund and I/I Fund balances to offset annual projected debt service. Additional information related to the Sewer Stabilization Fund and I/I Fund (including assumed contributions from the General Fund) is presented on Schedule 9.

Projection of Cash Outflows

Schedule 4

Expense Line Item	Escalation Factor	FY 2021 (1)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
640051 - SEWER PERSONAL SERVICE												
1 SALARIES	Salaries & Wages	\$ 971,170	\$ 1,000,305	\$ 1,030,314	\$ 1,061,224	\$ 1,093,060	\$ 1,125,852	\$ 1,159,628	\$ 1,194,417	\$ 1,230,249	\$ 1,267,157	\$ 1,305,171
2 SALARY CONTINGENCY	Salaries & Wages	\$ 83,748	\$ 86,260	\$ 88,848	\$ 91,514	\$ 94,259	\$ 97,087	\$ 99,999	\$ 102,999	\$ 106,089	\$ 109,272	\$ 112,550
3 WAGES	Salaries & Wages	\$ 497,864	\$ 512,800	\$ 528,184	\$ 544,029	\$ 560,350	\$ 577,161	\$ 594,476	\$ 612,310	\$ 630,679	\$ 649,600	\$ 669,088
5 OVERTIME	Salaries & Wages	\$ 15,640	\$ 16,109	\$ 16,592	\$ 17,090	\$ 17,603	\$ 18,131	\$ 18,675	\$ 19,235	\$ 19,812	\$ 20,407	\$ 21,019
6 OVERTIME - LABOR	Salaries & Wages	\$ 55,000	\$ 56,650	\$ 58,350	\$ 60,100	\$ 61,903	\$ 63,760	\$ 65,673	\$ 67,643	\$ 69,672	\$ 71,763	\$ 73,915
7 LONGEVITY	Salaries & Wages	\$ 3,740	\$ 3,852	\$ 3,968	\$ 4,087	\$ 4,209	\$ 4,336	\$ 4,466	\$ 4,600	\$ 4,738	\$ 4,880	\$ 5,026
8 OUT OF GRADE-LABOR	Salaries & Wages	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524	\$ 6,720
9 LONGEVITY-LABOR	Salaries & Wages	\$ 3,750	\$ 3,863	\$ 3,978	\$ 4,098	\$ 4,221	\$ 4,347	\$ 4,478	\$ 4,612	\$ 4,750	\$ 4,893	\$ 5,040
10 OTHER DIFFERENTIALS	Salaries & Wages	\$ 29,250	\$ 30,128	\$ 31,031	\$ 31,962	\$ 32,921	\$ 33,909	\$ 34,926	\$ 35,974	\$ 37,053	\$ 38,165	\$ 39,310
11 HOLIDAYS NON-UNION	Salaries & Wages	\$ 2,808	\$ 2,892	\$ 2,979	\$ 3,068	\$ 3,160	\$ 3,255	\$ 3,353	\$ 3,453	\$ 3,557	\$ 3,664	\$ 3,774
12 UNIFORM ALLOWANCE	Salaries & Wages	\$ 5,145	\$ 5,299	\$ 5,458	\$ 5,622	\$ 5,791	\$ 5,964	\$ 6,143	\$ 6,328	\$ 6,518	\$ 6,713	\$ 6,914
13 OTHER LUMP SUM PAYMENTS	Salaries & Wages	\$ 3,368	\$ 3,469	\$ 3,573	\$ 3,680	\$ 3,791	\$ 3,904	\$ 4,022	\$ 4,142	\$ 4,266	\$ 4,394	\$ 4,526
14 STIPENDS-OTHER	Salaries & Wages	\$ 18,736	\$ 19,298	\$ 19,877	\$ 20,473	\$ 21,088	\$ 21,720	\$ 22,372	\$ 23,043	\$ 23,734	\$ 24,446	\$ 25,180
15 ADDITIONAL STAFFING - POPLAR PUMP STATION	Salaries & Wages	\$ -	\$ -	\$ 150,000	\$ 300,000	\$ 309,000	\$ 318,270	\$ 327,818	\$ 337,653	\$ 347,782	\$ 358,216	\$ 368,962
16 NEW IAM ENGINEERING STAFF	Salaries & Wages	\$ -	\$ 63,201	\$ 65,097	\$ 67,050	\$ 69,061	\$ 71,133	\$ 73,267	\$ 75,465	\$ 77,729	\$ 80,061	\$ 82,463
17 NEW W&S OPS STAFF	Salaries & Wages	\$ -	\$ 185,580	\$ 191,148	\$ 196,882	\$ 202,789	\$ 208,872	\$ 215,139	\$ 221,593	\$ 228,241	\$ 235,088	\$ 242,140
640052 - SEWER ORDINARY MAINTENANCE												
18 REPAIRS-VEHICLES	Repair & Maintenance	\$ 40,000	\$ 41,000	\$ 42,025	\$ 43,076	\$ 44,153	\$ 45,256	\$ 46,388	\$ 47,547	\$ 48,736	\$ 49,955	\$ 51,203
19 REPAIRS-TOOLS & EQUIPMENT	Repair & Maintenance	\$ 500	\$ 513	\$ 525	\$ 538	\$ 552	\$ 566	\$ 580	\$ 594	\$ 609	\$ 624	\$ 640
21 RENTALS EQUIPMENT	O&M General	\$ 150,000	\$ 154,500	\$ 159,135	\$ 163,909	\$ 168,826	\$ 173,891	\$ 179,108	\$ 184,481	\$ 190,016	\$ 195,716	\$ 201,587
22 LEASE - PHOTOCOPIER EQUIPMENT	O&M General	\$ 4,361	\$ 4,492	\$ 4,627	\$ 4,765	\$ 4,908	\$ 5,056	\$ 5,207	\$ 5,363	\$ 5,524	\$ 5,690	\$ 5,861
23 RUBBISH REMOVAL	Professional Services	\$ 25,000	\$ 25,750	\$ 26,523	\$ 27,318	\$ 28,138	\$ 28,982	\$ 29,851	\$ 30,747	\$ 31,669	\$ 32,619	\$ 33,598
24 DISPOSAL C BASIN SPOILS	Fuel, Utilities, Chemicals	\$ 300,000	\$ 400,000	\$ 420,000	\$ 441,000	\$ 463,050	\$ 486,203	\$ 510,513	\$ 536,038	\$ 562,840	\$ 590,982	\$ 620,531
25 PROFESSIONAL & TECHNCL SVC	Professional Services	\$ 85,000	\$ 87,550	\$ 90,177	\$ 92,882	\$ 95,668	\$ 98,538	\$ 101,494	\$ 104,539	\$ 107,675	\$ 110,906	\$ 114,233
26 EMPLOYEE TRAINING COURSES	O&M General	\$ 2,500	\$ 2,575	\$ 2,652	\$ 2,732	\$ 2,814	\$ 2,898	\$ 2,985	\$ 3,075	\$ 3,167	\$ 3,262	\$ 3,360
27 ADVERTISING	O&M General	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253	\$ 261	\$ 269
28 POLICE DETAIL	O&M General	\$ 145,000	\$ 149,350	\$ 153,831	\$ 158,445	\$ 163,199	\$ 168,095	\$ 173,138	\$ 178,332	\$ 183,682	\$ 189,192	\$ 194,868
29 BANK CHARGES	O&M General	\$ 2,000	\$ 2,060	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319	\$ 2,388	\$ 2,460	\$ 2,534	\$ 2,610	\$ 2,688
30 SOFTWARE	O&M General	\$ 34,000	\$ 35,020	\$ 36,071	\$ 37,153	\$ 38,267	\$ 39,415	\$ 40,598	\$ 41,816	\$ 43,070	\$ 44,362	\$ 45,693
31 EXPRESS / FREIGHT	O&M General	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230	\$ 1,267	\$ 1,305	\$ 1,344
32 OFFICE SUPPLIES	O&M General	\$ 500	\$ 515	\$ 530	\$ 546	\$ 563	\$ 580	\$ 597	\$ 615	\$ 633	\$ 652	\$ 672
33 PRINTING & STATIONERY	O&M General	\$ 58,480	\$ 60,234	\$ 62,041	\$ 63,903	\$ 65,820	\$ 67,794	\$ 69,828	\$ 71,923	\$ 74,081	\$ 76,303	\$ 78,592
34 COMPUTER EQUIPMENT NOT CAPITAL	O&M General	\$ 2,500	\$ 2,575	\$ 2,652	\$ 2,732	\$ 2,814	\$ 2,898	\$ 2,985	\$ 3,075	\$ 3,167	\$ 3,262	\$ 3,360
35 TELECOM EQUIPMENT	O&M General	\$ 80,000	\$ 82,400	\$ 84,872	\$ 87,418	\$ 90,041	\$ 92,742	\$ 95,524	\$ 98,390	\$ 101,342	\$ 104,382	\$ 107,513
36 TOOLS	O&M General	\$ 2,000	\$ 2,060	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319	\$ 2,388	\$ 2,460	\$ 2,534	\$ 2,610	\$ 2,688
37 PAINT	O&M General	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230	\$ 1,267	\$ 1,305	\$ 1,344
38 HARDWARE & SMALL TOOLS	O&M General	\$ 7,000	\$ 7,210	\$ 7,426	\$ 7,649	\$ 7,879	\$ 8,115	\$ 8,358	\$ 8,609	\$ 8,867	\$ 9,133	\$ 9,407
39 MOTOR GAS AND OIL	Fuel, Utilities, Chemicals	\$ 37,950	\$ 39,848	\$ 41,840	\$ 43,932	\$ 46,128	\$ 48,435	\$ 50,857	\$ 53,399	\$ 56,069	\$ 58,873	\$ 61,817
40 MOTOR PARTS & ACCESSORIES	O&M General	\$ 31,300	\$ 32,239	\$ 33,206	\$ 34,202	\$ 35,228	\$ 36,285	\$ 37,374	\$ 38,495	\$ 39,650	\$ 40,839	\$ 42,065
41 SIGNS AND CONES	O&M General	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524	\$ 6,720
42 BITUMINOUS SUPPLIES	O&M General	\$ 30,888	\$ 31,609	\$ 32,557	\$ 33,534	\$ 34,540	\$ 35,576	\$ 36,643	\$ 37,742	\$ 38,875	\$ 40,041	\$ 41,242
43 READY MIX CONCRETE	O&M General	\$ 15,000	\$ 15,450	\$ 15,914	\$ 16,391	\$ 16,883	\$ 17,389	\$ 17,911	\$ 18,448	\$ 19,002	\$ 19,572	\$ 20,159
44 PIPE FITTINGS	O&M General	\$ 23,000	\$ 23,690	\$ 24,401	\$ 25,133	\$ 25,887	\$ 26,663	\$ 27,463	\$ 28,287	\$ 29,136	\$ 29,999	\$ 30,910
45 MASONRY SUPPLIES	O&M General	\$ 25,000	\$ 25,750	\$ 26,523	\$ 27,318	\$ 28,138	\$ 28,982	\$ 29,851	\$ 30,747	\$ 31,669	\$ 32,619	\$ 33,598
46 FOUNDRY PRODUCTS	O&M General	\$ 10,000	\$ 10,300	\$ 10,609	\$ 10,927	\$ 11,255	\$ 11,593	\$ 11,941	\$ 12,299	\$ 12,668	\$ 13,048	\$ 13,439
47 UNIFORMS	O&M General	\$ 3,000	\$ 3,090	\$ 3,183	\$ 3,278	\$ 3,377	\$ 3,478	\$ 3,582	\$ 3,690	\$ 3,800	\$ 3,914	\$ 4,032
48 REIMB OF LICENSES	O&M General	\$ 600	\$ 618	\$ 637	\$ 656	\$ 675	\$ 696	\$ 716	\$ 738	\$ 760	\$ 783	\$ 806
640058 - SEWER CAPITAL OUTLAY												
49 VEHICLES	W&S Maintenance Series	\$ 100,000	\$ 104,399	\$ 108,992	\$ 113,786	\$ 118,792	\$ 124,018	\$ 129,473	\$ 135,169	\$ 141,115	\$ 147,323	\$ 153,804
51 SEWER CLEANING/REPAIRS (2)	W&S Maintenance Series	\$ 3,200,000	\$ 3,340,771	\$ 3,487,735	\$ 3,641,163	\$ 3,801,341	\$ 3,968,566	\$ 4,143,147	\$ 4,325,408	\$ 4,515,687	\$ 4,714,336	\$ 4,921,724
52 ENGINEERING / ARCHITECTURE	W&S Maintenance Series	\$ 1,960,000	\$ 2,046,222	\$ 2,136,237	\$ 2,230,213	\$ 2,328,322	\$ 2,430,747	\$ 2,537,678	\$ 2,649,312	\$ 2,765,858	\$ 2,887,531	\$ 3,014,556
53 EQUIPMENT	W&S Maintenance Series	\$ 500,000	\$ 521,995	\$ 544,959	\$ 568,932	\$ 593,960	\$ 620,088	\$ 647,367	\$ 675,845	\$ 705,576	\$ 736,615	\$ 769,019
54 WATER METER & PAR	W&S Maintenance Series	\$ 420,000	\$ 438,476	\$ 457,765	\$ 477,903	\$ 498,926	\$ 520,874	\$ 543,788	\$ 567,710	\$ 592,684	\$ 618,757	\$ 645,976
640060 - SEWER SPECIAL ITEMS												
56 MWRA ASSESSMENT	MWRA Assessment	\$ 16,822,763	\$ 17,143,800	\$ 18,521,717	\$ 19,077,369	\$ 19,649,690	\$ 20,239,181	\$ 20,846,356	\$ 21,471,747	\$ 22,115,899	\$ 22,779,376	\$ 23,462,757
57 INDIRECT COST SUBSIDY	Indirect Cost Subsidy	\$ 732,980	\$ 754,969	\$ 777,618	\$ 800,947	\$ 824,975	\$ 849,725	\$ 875,216	\$ 901,473	\$ 928,517	\$ 956,373	\$ 985,064
Debt Service												
Existing MWRA Notes												
60 April 8 2019 MWRA SEWER		\$ 49,978	\$ 49,978	\$ 49,978	\$ 49,978	\$ 49,978	\$ 49,978	\$ 49,978	\$ 49,978	\$ 49,978	\$ 49,978	\$ -
Existing Municipal Purpose												
62 April 1 2010- Sewer		\$ 43,600	\$ 42,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63 December 7 2017- Cur Ref Aug 15 06- Sewer Construction 1		\$ 78,384	\$ 72,942	\$ 63,500	\$ 61,300	\$ 68,900	\$ 36,900	\$ 30,600	\$ -	\$ -	\$ -	\$ -
64 December 7 2017- Cur Ref Aug 15 06- Sewer Construction 2		\$ 48,448	\$ 41,948	\$ 40,548	\$ 35,424	\$ 33,000	\$ 31,800	\$ 30,600	\$ -	\$ -	\$ -	\$ -
65 June 7 2018 Series B- Nunziation Field Stormwater Project		\$ 62,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
66 June 7 2018 Series B- Cedar St Sewer Repairs		\$ 26,556	\$ 26,156	\$ 30,756	\$ 30,306	\$ 29,706	\$ 29,106	\$ 28,506	\$ 27,906	\$ 27,306	\$ 26,706	\$ 26,106
67 June 6 2019 - CEDAR ST SEWER REPAIRS		\$ 138,150	\$ 140,650	\$ 137,900	\$ 140,150	\$ 137,150	\$ 139,150	\$ 140,900	\$ 137,400	\$ 138,900	\$ 140,900	\$ 137,700
68 June 6 2019 - NUNZIATIO FIELD STORMWATER PROJ		\$ 88,250	\$ 89,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
69 June 6 2019 - SEWER MAIN REHAB & REPLACEMENT		\$ 82,850	\$ 81,350	\$ 84,850	\$ 83,100	\$ 81,350	\$ 84,600	\$ 82,600	\$ 85,600	\$ 83,350	\$ 81,550	\$ 84,750

Projection of Cash Outflows

Schedule 4

Expense Line Item	Escalation Factor	FY 2021 (1)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
70 June 4 2020 - Cedar St Sewer Repairs		\$ 111,728	\$ 110,731	\$ 113,231	\$ 110,481	\$ 112,731	\$ 109,731	\$ 111,731	\$ 113,481	\$ 109,981	\$ 111,481	\$ 112,731
71 June 4 2020 - Sewer Main Rehabilitation & Replacement		\$ 56,157	\$ 55,169	\$ 53,919	\$ 57,669	\$ 56,169	\$ 54,669	\$ 53,169	\$ 56,669	\$ 54,919	\$ 53,169	\$ 56,419
72 Future Long-Term Projects												
73 Manhole Sealing		\$ -	\$ -	\$ 56,376	\$ 56,376	\$ 56,376	\$ 56,376	\$ 56,376	\$ 56,376	\$ 56,376	\$ 56,376	\$ 56,376
74 Sewer Clear Vehicle		\$ -	\$ 49,431	\$ 49,431	\$ 49,431	\$ 49,431	\$ 49,431	\$ 49,431	\$ 49,431	\$ 49,431	\$ 49,431	\$ 49,431
75 BAN Projects & Associated Long-Term Debt Service (3)												
76 Unspecified FY 2021 (per Budget)		\$ 330,664	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
77 Somerville Ave. Utility & Streetscape Improvements - Sewer		\$ -	\$ 295,612	\$ 383,530	\$ 383,530	\$ 398,870	\$ 426,145	\$ 272,745	\$ -	\$ -	\$ -	\$ -
78 Long-Term		\$ -	\$ -	\$ -	\$ 818,917	\$ 818,917	\$ 823,685	\$ 1,216,462	\$ 1,914,819	\$ 1,914,819	\$ 1,914,819	\$ 1,914,819
79 Poplar St. Stormwater Pump Station (4)		\$ -	\$ 13,263	\$ 47,250	\$ 128,906	\$ 337,329	\$ 491,052	\$ 491,052	\$ 491,052	\$ 391,250	\$ 117,250	\$ -
80 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ 130,897	\$ 130,897	\$ 130,897	\$ 130,897	\$ 369,385	\$ 1,108,517	\$ 1,424,806
81 Spring Hill Sewer Separation: Project Area 1- Sewer (4)		\$ -	\$ 21,087	\$ 107,282	\$ 162,149	\$ 233,216	\$ 258,107	\$ 258,107	\$ 157,000	\$ 68,750	\$ -	\$ -
82 Long-Term		\$ -	\$ -	\$ -	\$ 101,159	\$ 101,159	\$ 101,159	\$ 101,159	\$ 342,767	\$ 580,827	\$ 766,284	\$ 766,284
83 Nunziato Stormwater Storage (4)		\$ -	\$ -	\$ -	\$ 190,125	\$ 337,050	\$ 415,250	\$ 415,250	\$ 415,250	\$ 204,000	\$ 40,750	\$ -
84 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 569,860	\$ 1,010,237	\$ 1,120,163
85 Sewer Improvements (5)		\$ -	\$ -	\$ 48,884	\$ 185,850	\$ 193,500	\$ 201,375	\$ 232,750	\$ 242,250	\$ 252,000	\$ 262,000	\$ 272,000
86 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ 243,053	\$ 503,041	\$ 781,897	\$ 1,071,552	\$ 1,373,276	\$ 1,687,069	\$ 2,013,566
87 Somerville Marginal Interceptor Rehabilitation		\$ -	\$ 18,851	\$ 49,926	\$ 55,473	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
88 Long-Term		\$ -	\$ 4,850	\$ 82,554	\$ 82,554	\$ 215,719	\$ 215,719	\$ 215,719	\$ 215,719	\$ 215,719	\$ 215,719	\$ 215,719
89 SSES & I/I Assessment		\$ -	\$ 900	\$ 36,000	\$ 74,925	\$ 79,425	\$ 55,750	\$ 31,000	\$ 32,250	\$ 33,500	\$ 34,750	\$ 36,250
90 Long-Term		\$ -	\$ -	\$ 89,740	\$ 189,786	\$ 395,871	\$ 543,211	\$ 689,165	\$ 768,431	\$ 850,195	\$ 935,707	\$ 978,901
91 Willow to Grove Sewer Replacement		\$ -	\$ -	\$ 4,950	\$ 21,450	\$ 49,350	\$ 32,850	\$ -	\$ -	\$ -	\$ -	\$ -
92 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ 13,586	\$ 98,069	\$ 190,809	\$ 190,809	\$ 190,809	\$ 190,809	\$ 190,809
93 Flint St. Sewer Replacement		\$ -	\$ -	\$ 4,950	\$ 42,750	\$ 78,750	\$ 40,950	\$ -	\$ -	\$ -	\$ -	\$ -
94 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ 13,586	\$ 120,301	\$ 235,909	\$ 235,909	\$ 235,909	\$ 235,909	\$ 235,909
95 Sewer Separation Project 1		\$ -	\$ -	\$ -	\$ 57,825	\$ 271,125	\$ 708,800	\$ 991,000	\$ 495,500	\$ -	\$ -	\$ -
96 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 163,248	\$ 765,425	\$ 2,024,407	\$ 3,283,389	\$ 3,283,389	\$ 3,283,389
97 Sewer Separation Project 2		\$ -	\$ -	\$ -	\$ 57,825	\$ 271,125	\$ 708,800	\$ 991,000	\$ 495,500	\$ -	\$ -	\$ -
98 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 163,248	\$ 765,425	\$ 2,024,407	\$ 3,283,389	\$ 3,283,389	\$ 3,283,389
99 Sewer Separation Project 3 (6)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 62,544	\$ 293,249	\$ 766,638	\$ 1,071,866	\$ 535,933	\$ -
100 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 176,569	\$ 827,884	\$ 2,189,599	\$ 3,551,314
101 Sewer Separation Project 4		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 72,197	\$ 332,322	\$ 1,380,122	\$ 1,119,997
102 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 183,440	\$ 844,374
103 Sewer Separation Project 5		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 72,197	\$ 332,322
104 Sewer Separation Project 6 (7)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
105 Spring Hill Sewer Separation: Highland Avenue - Sewer		\$ -	\$ -	\$ 3,150	\$ 8,775	\$ 112,725	\$ 157,125	\$ 157,750	\$ 154,250	\$ 148,000	\$ 32,500	\$ -
106 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,441	\$ 26,301	\$ 337,869	\$ 425,540
107 Spring Hill Sewer Separation: Project Area 2B- Sewer (8)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,250	\$ 66,000	\$ 155,000	\$ 155,000	\$ 155,000	\$ 149,750
108 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,162
109 Boynton Yards - Pump Station (9)		\$ -	\$ -	\$ -	\$ 10,800	\$ 32,400	\$ 241,313	\$ 476,250	\$ 684,375	\$ 672,375	\$ 648,375	\$ 416,250
110 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32,371	\$ 97,112	\$ 723,284
111 Boynton Yards - Infrastructure (9)		\$ -	\$ -	\$ -	\$ 7,256	\$ 21,769	\$ 160,650	\$ 316,875	\$ 455,250	\$ 447,188	\$ 431,063	\$ 276,750
112 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 21,749	\$ 65,240	\$ 481,508
113 Clarendon Hill		\$ -	\$ -	\$ 24,750	\$ 78,750	\$ 110,250	\$ 113,000	\$ 119,000	\$ 95,000	\$ 35,000	\$ -	\$ -
114 Long-Term		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 74,183	\$ 236,037	\$ 330,452	\$ 330,452
115 New Washington Street Sewer Realignment (10)		\$ 11,250	\$ 11,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
116 Long-Term		\$ -	\$ -	\$ 36,791	\$ 36,791	\$ 36,791	\$ 36,791	\$ 36,791	\$ 36,791	\$ 36,791	\$ 36,791	\$ 36,791
117 Total Debt Service		\$ 1,128,414	\$ 1,125,418	\$ 1,600,246	\$ 3,369,811	\$ 5,171,253	\$ 7,620,070	\$ 10,875,576	\$ 14,505,054	\$ 18,430,200	\$ 22,101,903	\$ 24,962,009
118 Total Expenses by Category												
119 Personal Services		\$ 1,695,219	\$ 1,994,857	\$ 2,204,703	\$ 2,416,344	\$ 2,488,834	\$ 2,563,499	\$ 2,640,404	\$ 2,719,616	\$ 2,801,205	\$ 2,885,241	\$ 2,971,798
120 MWRA Assessment		\$ 16,822,763	\$ 17,143,800	\$ 18,521,717	\$ 19,077,369	\$ 19,649,690	\$ 20,239,181	\$ 20,846,356	\$ 21,471,747	\$ 22,115,899	\$ 22,779,376	\$ 23,462,757
121 Operations & Maintenance		\$ 1,855,559	\$ 2,002,782	\$ 2,071,455	\$ 2,142,623	\$ 2,216,382	\$ 2,292,834	\$ 2,372,082	\$ 2,454,237	\$ 2,539,412	\$ 2,627,726	\$ 2,719,302
122 Capital Outlay		\$ 6,180,000	\$ 6,451,864	\$ 6,735,687	\$ 7,031,997	\$ 7,341,341	\$ 7,664,293	\$ 8,001,453	\$ 8,353,444	\$ 8,720,920	\$ 9,104,561	\$ 9,505,079
123 Debt Service		\$ 1,128,414	\$ 1,125,418	\$ 1,600,246	\$ 3,369,811	\$ 5,171,253	\$ 7,620,070	\$ 10,875,576	\$ 14,505,054	\$ 18,430,200	\$ 22,101,903	\$ 24,962,009
124 Total Expenses		\$ 27,681,955	\$ 28,718,721	\$ 31,133,808	\$ 34,038,143	\$ 36,867,500	\$ 40,379,876	\$ 44,735,872	\$ 49,504,098	\$ 54,607,636	\$ 59,498,808	\$ 63,620,946

Projection of Cash Outflows

Schedule 4

Expense Line Item	Escalation Factor	FY 2021 (1)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
125 Expense Execution Factors												
126 Personal Services		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
127 MWRA Assessment		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
128 Operations & Maintenance		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
129 Capital Outlay		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
131 Debt Service		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
132 Expenses at Execution												
133 Personal Services		\$ 1,695,219	\$ 1,994,857	\$ 2,204,703	\$ 2,416,344	\$ 2,488,834	\$ 2,563,499	\$ 2,640,404	\$ 2,719,616	\$ 2,801,205	\$ 2,885,241	\$ 2,971,798
134 MWRA Assessment		\$ 16,822,763	\$ 17,143,800	\$ 18,521,717	\$ 19,077,369	\$ 19,649,690	\$ 20,239,181	\$ 20,846,356	\$ 21,471,747	\$ 22,115,899	\$ 22,779,376	\$ 23,462,757
135 Operations & Maintenance		\$ 1,855,559	\$ 2,002,782	\$ 2,071,455	\$ 2,142,623	\$ 2,216,382	\$ 2,292,834	\$ 2,372,082	\$ 2,454,237	\$ 2,539,412	\$ 2,627,726	\$ 2,719,302
136 Capital Outlay		\$ 6,180,000	\$ 6,451,864	\$ 6,735,687	\$ 7,031,997	\$ 7,341,341	\$ 7,664,293	\$ 8,001,453	\$ 8,353,444	\$ 8,720,920	\$ 9,104,561	\$ 9,505,079
138 Debt Service		\$ 1,128,414	\$ 1,125,418	\$ 1,600,246	\$ 3,369,811	\$ 5,171,253	\$ 7,620,070	\$ 10,875,576	\$ 14,505,054	\$ 18,430,200	\$ 22,101,903	\$ 24,962,009
139 Total Expenses		\$ 27,681,955	\$ 28,718,721	\$ 31,133,808	\$ 34,038,143	\$ 36,867,500	\$ 40,379,876	\$ 44,735,872	\$ 49,504,098	\$ 54,607,636	\$ 59,498,808	\$ 63,620,946
140 Projects Designated To Be Funded with Cash (11)		\$ -	\$ 720,000	\$ 240,000	\$ 600,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000
141 Total Cash Outflows		\$ 27,681,955	\$ 29,438,721	\$ 31,373,808	\$ 34,638,143	\$ 37,167,500	\$ 40,679,876	\$ 45,035,872	\$ 49,804,098	\$ 54,907,636	\$ 59,798,808	\$ 63,920,946

- (1) FY 2021 operating expenses reflect the City's FY 2021 Revised Budget, after which all future operating costs escalate based upon assumed escalation factors presented in Schedule 5.
- (2) Sewer cleaning/repairs original budget of \$2.04 million was adjusted to \$3.2 million per discussions with City Staff to account for emergency system repairs identified by the City.
- (3) Reflects the City's projected Bond Anticipation Note (BAN) annual interest payments (ranging from 2-5 years per project), as well as the associated long-term debt service payments for each project.
- (4) Per discussions with City Staff, approximately 80% of project amounts may be funded by FEMA grant contributions. However, for purposes of this analysis, the entire debt service schedule for these projects has been considered.
- (5) Projected debt schedules pushed out one year to FY 2023 per discussions with City Staff.
- (6) Per discussions with City Staff, Sewer Separation Project 3 was assumed to be pushed out 2 years to FY 2026, after which point the remaining Separation Projects are assumed to start every 2 years thereafter. For all projects that were pushed out over the projection, the original debt service amounts were assumed to increase by 4% to account for an assumed 4% annual inflationary increase in capital costs.
- (7) Due to assumption that Sewer Separation Projects are pushed out and start every 2 years, Sewer Separation Project 6 does not occur within the projection period presented herein.
- (8) Projected debt schedules moved forward one year to FY 2026 per discussions with City Staff.
- (9) Per discussions with City Staff, approximately 25% of the project amount will be developer funded. As such, only 75% of the debt service schedule originally provided by staff is considered in this analysis. Furthermore, the projected debt schedules have been pushed out one year to start in FY 2024.
- (10) The New Washington Street Sewer Realignment project and associated debt service was added to CIP per the request of staff on 4/15/2021. The project assumes a spending schedule of \$500k over 3 years, with an assumed 2 year BAN (2.3% assumed interest rate) that is followed by long-term debt service (20 years at 4.0% assumed interest rate).
- (11) Reflects cash funding of vehicles and Yard 3 CIP, as directed by City Staff.

Cost Escalation Factors**Schedule 5**

<u>Inflation Factor</u>	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Salaries & Wages	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Fuel, Utilities, Chemicals	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Professional Services	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
O&M General	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Indirect Cost Subsidy	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
MWRA Assessment (1)	1.91%	8.04%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
W&S Maintenance Series - 10 Year	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%
Default Inflation Factor	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%

(1) Annual MWRA Assessment cost escalation factor in FY 2022 reflects resulting factor based upon preliminary MWRA estimates. The FY 2023 escalation factor reflects an estimated assessment increase provided by City Staff. MWRA Assessments in FY 2024 through the remainder of the projection are projected to increase at 3.00% annually based upon a 5 year history of the assessment change.

Capital Investment Plan (CIP)

Schedule 6

Project Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Total Cost
Debt Funded Projects (1)												
1 Somerville Ave. Utility & Streetscape Improvements - Sewer	\$ 7,320,000	\$ 12,060,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,380,000
2 Poplar St. Stormwater Pump Station (2)	\$ 510,000	\$ 830,000	\$ 4,840,000	\$ 10,960,000	\$ 4,690,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 21,830,000
3 Spring Hill Sewer Separation: Project Area 1- Sewer (2)	\$ 840,000	\$ 3,240,000	\$ 3,530,000	\$ 2,750,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,360,000
4 Nunziato Stormwater Storage (2)	\$ -	\$ -	\$ 8,450,000	\$ 6,530,000	\$ 1,630,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,610,000
5 Sewer Improvements (3)	\$ -	\$ 4,050,000	\$ 4,210,000	\$ 4,390,000	\$ 4,560,000	\$ 4,750,000	\$ 4,940,000	\$ 5,140,000	\$ 5,340,000	\$ 5,540,000	\$ 5,740,000	\$ 48,660,000
6 Manhole Sealing	\$ 830,000	\$ 460,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,290,000
7 Somerville Marginal Interceptor Rehabilitation	\$ 160,000	\$ 4,450,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,610,000
8 SSES & I/I Assessment	\$ 60,000	\$ 1,600,000	\$ 1,730,000	\$ 1,800,000	\$ 610,000	\$ 630,000	\$ 660,000	\$ 680,000	\$ 710,000	\$ 740,000	\$ 740,000	\$ 9,960,000
9 Willow to Grove Sewer Replacement	\$ -	\$ 220,000	\$ 1,330,000	\$ 1,460,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,010,000
10 Flint St. Sewer Replacement	\$ -	\$ 220,000	\$ 1,680,000	\$ 1,820,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,720,000
11 Sewer Separation Project 1	\$ -	\$ -	\$ 2,570,000	\$ 9,480,000	\$ 19,820,000	\$ 19,820,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 51,690,000
12 Sewer Separation Project 2	\$ -	\$ -	\$ 2,570,000	\$ 9,480,000	\$ 19,820,000	\$ 19,820,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 51,690,000
13 Sewer Separation Project 3 (4)	\$ -	\$ -	\$ -	\$ -	\$ 2,780,000	\$ 10,250,000	\$ 21,440,000	\$ 21,440,000	\$ -	\$ -	\$ -	\$ 55,910,000
14 Sewer Separation Project 4 (4)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,890,000	\$ 10,400,000	\$ 22,410,000	\$ 22,410,000	\$ -	\$ 58,110,000
15 Sewer Separation Project 5 (4)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,120,000	\$ 11,250,000	\$ 24,230,000	\$ 38,600,000
16 Sewer Separation Project 6 (4) (5)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17 Spring Hill Sewer Separation: Highland Avenue - Sewer	\$ -	\$ 140,000	\$ 250,000	\$ 4,620,000	\$ 1,300,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,310,000
18 Spring Hill Sewer Separation: Project Area 2B- Sewer (6)	\$ -	\$ -	\$ -	\$ -	\$ 210,000	\$ 2,430,000	\$ 3,560,000	\$ -	\$ -	\$ -	\$ -	\$ 6,200,000
19 Boynton Yards - Pump Station (7)	\$ -	\$ -	\$ 480,000	\$ 960,000	\$ 9,285,000	\$ 8,325,000	\$ 8,325,000	\$ -	\$ -	\$ -	\$ -	\$ 27,375,000
20 Boynton Yards - Infrastructure (7)	\$ -	\$ -	\$ 322,500	\$ 645,000	\$ 6,172,500	\$ 5,535,000	\$ 5,535,000	\$ -	\$ -	\$ -	\$ -	\$ 18,210,000
21 Clarendon Hill	\$ 300,000	\$ 800,000	\$ 2,400,000	\$ 1,400,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,900,000
22 New Washington Street Sewer Realignment (8)	\$ 20,000	\$ 250,000	\$ 230,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 500,000
Cash Funded Projects												
24 Sewer Vehicles (9)	\$ -	\$ 520,000	\$ 40,000	\$ 400,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 1,660,000
25 Yard 3 Annual PAYGO	\$ -	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 2,000,000
26 Total CIP Budget (in Future Dollars) (10)	\$ 10,040,000	\$ 29,040,000	\$ 34,832,500	\$ 56,895,000	\$ 71,177,500	\$ 71,860,000	\$ 47,650,000	\$ 37,960,000	\$ 31,880,000	\$ 40,240,000	\$ 31,010,000	\$ 462,585,000
27 Cumulative Projected Cost Escalation (10)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
28 Resulting CIP Funding Level	\$ 10,040,000	\$ 29,040,000	\$ 34,832,500	\$ 56,895,000	\$ 71,177,500	\$ 71,860,000	\$ 47,650,000	\$ 37,960,000	\$ 31,880,000	\$ 40,240,000	\$ 31,010,000	\$ 462,585,000

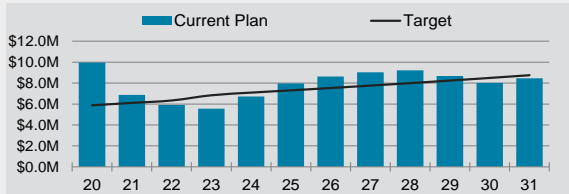
- (1) Project amounts and timing presented herein reflects adjustments made during meetings with City Staff. FY 2031 project values were calculated based upon debt service schedules provided by City Staff.
- (2) Per discussions with City Staff, approximately 80% of project amounts may be funded by FEMA grant contributions. However, for purposes of this analysis, the entire debt service schedule for these projects has been considered.
- (3) Project and associated debt schedules pushed out one year to FY 2023 per discussions with City Staff.
- (4) Per discussions with City Staff, Sewer Separation Project 3 was assumed to be pushed out 2 years (first year of debt service in FY 2026), after which point the remaining Separation Projects are assumed to start every 2 years thereafter.
- (5) Due to assumption that Sewer Separation Projects are pushed out and start every 2 years, Sewer Separation Project 6 does not occur within the projection period presented herein.
- (6) Project and associated debt schedules moved forward one year to FY 2026 per discussions with City Staff.
- (7) Project values displayed for Boynton Yards are net of assumed 25% developer funding based upon discussions with City Staff. As such, only 75% of the debt service schedule originally provided by staff is considered in this analysis. Furthermore, the project and debt schedules have been pushed out one year to start in FY 2024.
- (8) The New Washington Street Sewer Realignment project and associated debt service was added to CIP per the request of staff on 4/15/2021.
- (9) Projected vehicle costs of \$400,000 in FY 2024 reflects assumption of additional vac truck per discussion with City Staff.
- (10) CIP already includes inflationary assumptions as provided by City Staff.

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2026	FY 2031
Sewer Usage Rate Plan	0.00%	10.50%	10.50%	10.50%	10.50%	10.50%	10.50%	10.50%	9.00%	9.00%	9.00%	64.79%	160.78%
Debt Service Coverage (1.25 Target)	2.74	5.52	4.13	2.61	2.21	1.89	1.63	1.48	1.36	1.31	1.34	Scenario Manager	
Debt Service / Revenue	4.8%	4.1%	5.4%	10.4%	14.5%	19.3%	25.0%	30.2%	35.1%	38.6%	40.0%	Growth	Normal
Tri-Annual Single-Family Bill @ 18 CCF	\$204.79	\$222.11	\$241.25	\$262.36	\$285.70	\$311.50	\$340.04	\$371.58	\$401.48	\$434.02	\$469.48	Check	-
Combined Tri-Annual W&S Single-Family Bill	\$315.49	\$339.13	\$367.97	\$399.70	\$434.76	\$473.51	\$511.98	\$551.07	\$588.93	\$629.84	\$674.08		
Annual W&S Bill as % of MHI	1.0%	1.0%	1.1%	1.2%	1.3%	1.5%	1.6%	1.7%	1.8%	1.9%	2.1%		
Net Cash Flow (\$ M)	-\$3.08	-\$0.96	-\$0.36	\$1.16	\$1.26	\$0.65	\$0.40	\$0.19	-\$0.54	-\$0.66	\$0.44		

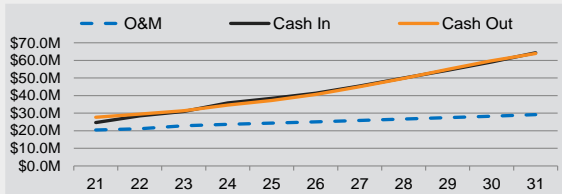
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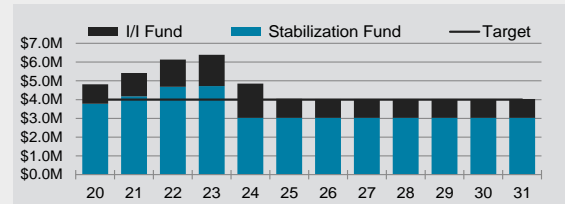
Operating Fund



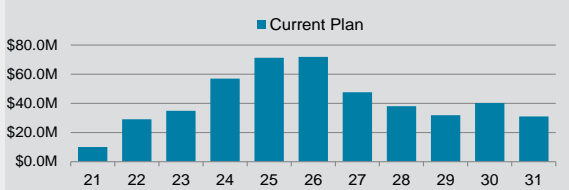
Revenues vs. Expenses



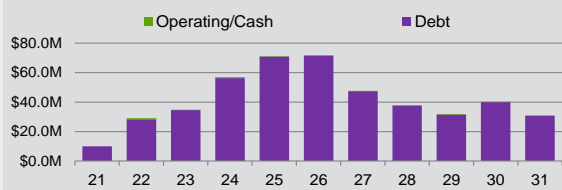
Stabilization Fund & I/I Fund



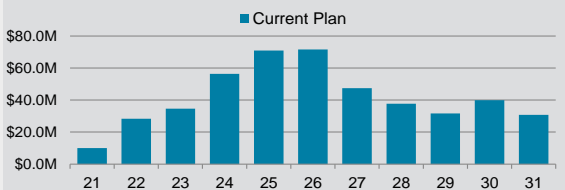
CIP Spending



CIP Funding



Borrowing



Pro Forma

Schedule 8

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1 Operating Revenue											
2 Sewer Rate Revenue	\$ 22,884,640	\$ 22,884,640	\$ 26,100,950	\$ 28,761,979	\$ 31,713,139	\$ 34,986,102	\$ 38,615,992	\$ 42,641,764	\$ 47,106,616	\$ 51,377,932	\$ 56,050,710
3 Change in Revenue From Growth	\$ -	\$ 342,078	\$ 106,773	\$ 117,192	\$ 128,706	\$ 141,428	\$ 155,487	\$ 171,021	\$ 188,187	\$ 204,445	\$ 222,167
4 Other Revenue Adjustments	\$ -	\$ 572,116	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5 Subtotal	\$ 22,884,640	\$ 23,798,834	\$ 26,207,722	\$ 28,879,171	\$ 31,841,845	\$ 35,127,530	\$ 38,771,479	\$ 42,812,785	\$ 47,294,803	\$ 51,582,378	\$ 56,272,877
6 Weighted Average Rate Increase	0.00%	9.67%	9.75%	9.81%	9.87%	9.93%	9.98%	10.03%	8.63%	8.66%	8.69%
7 Additional Rate Revenue From Rate Increase	\$ -	\$ 2,302,115	\$ 2,554,257	\$ 2,833,968	\$ 3,144,257	\$ 3,488,462	\$ 3,870,285	\$ 4,293,831	\$ 4,083,129	\$ 4,468,333	\$ 4,889,799
8 Total Rate Revenue	\$ 22,884,640	\$ 26,100,950	\$ 28,761,979	\$ 31,713,139	\$ 34,986,102	\$ 38,615,992	\$ 42,641,764	\$ 47,106,616	\$ 51,377,932	\$ 56,050,710	\$ 61,162,676
9 Plus: Other Operating Revenue	\$ 521,100	\$ 1,201,444	\$ 607,120	\$ 669,017	\$ 737,662	\$ 813,793	\$ 898,225	\$ 991,867	\$ 1,095,721	\$ 1,195,074	\$ 1,303,765
10 Equals: Total Operating Revenue	\$ 23,405,740	\$ 27,302,393	\$ 29,369,099	\$ 32,382,156	\$ 35,723,763	\$ 39,429,785	\$ 43,539,989	\$ 48,098,483	\$ 52,473,653	\$ 57,245,784	\$ 62,466,441
11 Less: Operating Expenses											
12 Personal Services	\$ (1,695,219)	\$ (1,994,857)	\$ (2,204,703)	\$ (2,416,344)	\$ (2,488,834)	\$ (2,563,499)	\$ (2,640,404)	\$ (2,719,616)	\$ (2,801,205)	\$ (2,885,241)	\$ (2,971,798)
13 MWRA Assessment	\$ (16,822,763)	\$ (17,143,800)	\$ (18,521,717)	\$ (19,077,369)	\$ (19,649,690)	\$ (20,239,181)	\$ (20,846,356)	\$ (21,471,747)	\$ (22,115,899)	\$ (22,779,376)	\$ (23,462,757)
14 Operations & Maintenance Costs	\$ (1,855,559)	\$ (2,002,782)	\$ (2,071,455)	\$ (2,142,623)	\$ (2,216,382)	\$ (2,292,834)	\$ (2,372,082)	\$ (2,454,237)	\$ (2,539,412)	\$ (2,627,726)	\$ (2,719,302)
15 Equals: Net Operating Income	\$ 3,032,199	\$ 6,160,954	\$ 6,571,224	\$ 8,745,820	\$ 11,368,857	\$ 14,334,271	\$ 17,681,147	\$ 21,452,882	\$ 25,017,137	\$ 28,953,441	\$ 33,312,583
16 Plus: Non-Operating Income/(Expense)											
17 Interest Income	\$ 63,134	\$ 47,956	\$ 42,989	\$ 45,983	\$ 55,049	\$ 62,219	\$ 66,175	\$ 68,400	\$ 67,110	\$ 62,621	\$ 61,785
18 Stabilization Fund Contributions to Debt Service	\$ 1,128,414	\$ 1,125,418	\$ 1,600,246	\$ 3,318,203	\$ 1,628,943	\$ 1,622,609	\$ 1,622,585	\$ 1,622,585	\$ 1,622,585	\$ 1,622,585	\$ 1,622,585
19 I/I Fund Contributions to Debt Service	\$ -	\$ -	\$ -	\$ 51,608	\$ 1,017,546	\$ 219,553	\$ 207,573	\$ 207,528	\$ 207,528	\$ 207,528	\$ 207,528
20 Equals: Net Income	\$ 4,223,748	\$ 7,334,328	\$ 8,214,459	\$ 12,161,614	\$ 14,070,396	\$ 16,238,652	\$ 19,577,480	\$ 23,351,395	\$ 26,914,360	\$ 30,846,175	\$ 35,204,482
21 Less: Revenues Excluded From Coverage Test											
22 Stabilization Fund Contributions to Debt Service	\$ (1,128,414)	\$ (1,125,418)	\$ (1,600,246)	\$ (3,318,203)	\$ (1,628,943)	\$ (1,622,609)	\$ (1,622,585)	\$ (1,622,585)	\$ (1,622,585)	\$ (1,622,585)	\$ (1,622,585)
23 I/I Fund Contributions to Debt Service	\$ -	\$ -	\$ -	\$ (51,608)	\$ (1,017,546)	\$ (219,553)	\$ (207,573)	\$ (207,528)	\$ (207,528)	\$ (207,528)	\$ (207,528)
24 Equals: Net Income Available For Debt Service	\$ 3,095,334	\$ 6,208,910	\$ 6,614,213	\$ 8,791,803	\$ 11,423,906	\$ 14,396,490	\$ 17,747,322	\$ 21,521,282	\$ 25,084,247	\$ 29,016,062	\$ 33,374,369
25 Total All-In Debt Service Coverage Test											
26 Net Income Available for Subordinate Debt Service	\$ 3,095,334	\$ 6,208,910	\$ 6,614,213	\$ 8,791,803	\$ 11,423,906	\$ 14,396,490	\$ 17,747,322	\$ 21,521,282	\$ 25,084,247	\$ 29,016,062	\$ 33,374,369
27 Total Short-Term Debt Service (BAN)	\$ 341,914	\$ 360,963	\$ 710,672	\$ 1,466,389	\$ 2,526,884	\$ 4,078,960	\$ 5,112,028	\$ 4,711,512	\$ 3,811,250	\$ 3,709,939	\$ 2,603,318
28 Total Long-Term Debt Service	\$ 786,501	\$ 764,455	\$ 889,574	\$ 1,903,422	\$ 2,644,370	\$ 3,541,110	\$ 5,763,549	\$ 9,793,542	\$ 14,618,950	\$ 18,391,965	\$ 22,358,690
29 Total Annual Debt Service	\$ 1,128,414	\$ 1,125,418	\$ 1,600,246	\$ 3,369,811	\$ 5,171,253	\$ 7,620,070	\$ 10,875,576	\$ 14,505,054	\$ 18,430,200	\$ 22,101,903	\$ 24,962,009
30 <i>Calculated All-In Debt Service Coverage</i>	1.25	2.74	5.52	4.13	2.61	2.21	1.89	1.63	1.48	1.36	1.34
31 Cash Flow Test											
32 Net Income Available For Debt Service	\$ 3,095,334	\$ 6,208,910	\$ 6,614,213	\$ 8,791,803	\$ 11,423,906	\$ 14,396,490	\$ 17,747,322	\$ 21,521,282	\$ 25,084,247	\$ 29,016,062	\$ 33,374,369
33 Less: Non-Operating Expenditures											
34 Net Debt Service Payment (Net of Stabilization & I/I Fund Contributions)	\$ -	\$ -	\$ -	\$ -	\$ (2,524,764)	\$ (5,777,909)	\$ (9,045,418)	\$ (12,674,940)	\$ (16,600,087)	\$ (20,271,790)	\$ (23,131,896)
35 Capital Outlay	\$ (6,180,000)	\$ (6,451,864)	\$ (6,735,687)	\$ (7,031,997)	\$ (7,341,341)	\$ (7,664,293)	\$ (8,001,453)	\$ (8,353,444)	\$ (8,720,920)	\$ (9,104,561)	\$ (9,505,079)
36 Cash Flow Surplus/(Deficit)	\$ (3,084,666)	\$ (242,954)	\$ (121,474)	\$ 1,759,806	\$ 1,557,801	\$ 954,289	\$ 700,451	\$ 492,898	\$ (236,759)	\$ (360,289)	\$ 737,394
37 Unrestricted Reserve Fund Test											
38 Balance At Beginning Of Fiscal Year	\$ 9,960,262	\$ 6,875,596	\$ 5,912,641	\$ 5,551,167	\$ 6,710,974	\$ 7,968,775	\$ 8,623,064	\$ 9,023,514	\$ 9,216,412	\$ 8,679,653	\$ 8,019,363
39 Cash Flow Surplus/(Deficit)	\$ (3,084,666)	\$ (242,954)	\$ (121,474)	\$ 1,759,806	\$ 1,557,801	\$ 954,289	\$ 700,451	\$ 492,898	\$ (236,759)	\$ (360,289)	\$ 737,394
40 Projects Designated To Be Paid With Cash	\$ -	\$ (720,000)	\$ (240,000)	\$ (600,000)	\$ (300,000)	\$ (300,000)	\$ (300,000)	\$ (300,000)	\$ (300,000)	\$ (300,000)	\$ (300,000)
41 Balance At End Of Fiscal Year	\$ 6,875,596	\$ 5,912,641	\$ 5,551,167	\$ 6,710,974	\$ 7,968,775	\$ 8,623,064	\$ 9,023,514	\$ 9,216,412	\$ 8,679,653	\$ 8,019,363	\$ 8,456,757
42 Minimum Working Capital Reserve Target	\$ 6,112,062	\$ 6,342,432	\$ 6,839,363	\$ 7,090,901	\$ 7,306,472	\$ 7,528,654	\$ 7,757,653	\$ 7,993,680	\$ 8,236,955	\$ 8,487,703	\$ 8,746,157
43 Excess/(Deficiency) Of Working Capital To Target	\$ 763,533	\$ (429,790)	\$ (1,288,195)	\$ (379,927)	\$ 662,303	\$ 1,094,410	\$ 1,265,862	\$ 1,222,732	\$ 442,698	\$ (468,340)	\$ (289,401)

(1) Assumption of higher rate revenue collections starting in FY 2022, which serves as basis for future rate revenue projections. Sewer liens redeemed (within other operating revenue) are projected at 2.30% of rate revenues starting after FY 2022.

Funding Summary by Fund

Schedule 9

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Stabilization Fund											
Balance At Beginning Of Fiscal Year	\$ 3,778,344	\$ 4,175,646	\$ 4,683,325	\$ 4,718,203	\$ 3,028,943	\$ 3,022,609	\$ 3,022,585	\$ 3,022,585	\$ 3,022,585	\$ 3,022,585	\$ 3,022,585
Annual Revenues (1)	\$ 1,496,000	\$ 1,600,000	\$ 1,600,000	\$ 1,600,000	\$ 1,600,000	\$ 1,600,000	\$ 1,600,000	\$ 1,600,000	\$ 1,600,000	\$ 1,600,000	\$ 1,600,000
Less: Payment Of Debt Service	\$ (1,128,414)	\$ (1,125,418)	\$ (1,600,246)	\$ (3,318,203)	\$ (1,628,943)	\$ (1,622,609)	\$ (1,622,585)	\$ (1,622,585)	\$ (1,622,585)	\$ (1,622,585)	\$ (1,622,585)
Subtotal	\$ 4,145,930	\$ 4,650,228	\$ 4,683,079	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000
Less: Restricted Funds	\$ (3,000,000)	\$ (3,000,000)	\$ (3,000,000)	\$ (3,000,000)	\$ (3,000,000)	\$ (3,000,000)	\$ (3,000,000)	\$ (3,000,000)	\$ (3,000,000)	\$ (3,000,000)	\$ (3,000,000)
Total Amount Available For Projects	\$ 1,145,930	\$ 1,650,228	\$ 1,683,079	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Amount Paid For Projects	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ 1,145,930	\$ 1,650,228	\$ 1,683,079	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Add Back: Restricted Funds (2)	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000
Plus: Interest Earnings (3)	\$ 29,716	\$ 33,097	\$ 35,124	\$ 28,943	\$ 22,609	\$ 22,585	\$ 22,585	\$ 22,585	\$ 22,585	\$ 22,585	\$ 22,585
Less: Interest Allocated To Cash Flow	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Balance At End Of Fiscal Year	\$ 4,175,646	\$ 4,683,325	\$ 4,718,203	\$ 3,028,943	\$ 3,022,609	\$ 3,022,585	\$ 3,022,585	\$ 3,022,585	\$ 3,022,585	\$ 3,022,585	\$ 3,022,585
Infiltration & Inflow											
Balance At Beginning Of Fiscal Year	\$ 1,034,793	\$ 1,243,304	\$ 1,453,379	\$ 1,665,029	\$ 1,826,466	\$ 1,019,553	\$ 1,007,573	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528
Annual Revenues (4)	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
Less: Payment Of Debt Service	\$ -	\$ -	\$ -	\$ (51,608)	\$ (1,017,546)	\$ (219,553)	\$ (207,573)	\$ (207,528)	\$ (207,528)	\$ (207,528)	\$ (207,528)
Subtotal	\$ 1,234,793	\$ 1,443,304	\$ 1,653,379	\$ 1,813,422	\$ 1,008,920	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Less: Restricted Funds	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)	\$ (1,000,000)
Total Amount Available For Projects	\$ 234,793	\$ 443,304	\$ 653,379	\$ 813,422	\$ 8,920	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Amount Paid For Projects	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ 234,793	\$ 443,304	\$ 653,379	\$ 813,422	\$ 8,920	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Add Back: Restricted Funds (2)	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Plus: Interest Earnings (3)	\$ 8,511	\$ 10,075	\$ 11,650	\$ 13,044	\$ 10,633	\$ 7,573	\$ 7,528	\$ 7,528	\$ 7,528	\$ 7,528	\$ 7,528
Less: Interest Allocated To Cash Flow	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Balance At End Of Fiscal Year	\$ 1,243,304	\$ 1,453,379	\$ 1,665,029	\$ 1,826,466	\$ 1,019,553	\$ 1,007,573	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528	\$ 1,007,528
Enterprise Fund											
Balance At Beginning Of Fiscal Year	\$ 9,960,262	\$ 6,875,596	\$ 5,912,641	\$ 5,551,167	\$ 6,710,974	\$ 7,968,775	\$ 8,623,064	\$ 9,023,514	\$ 9,216,412	\$ 8,679,653	\$ 8,019,363
Cash Flow Surplus/(Deficit)	\$ (3,084,666)	\$ (242,954)	\$ (121,474)	\$ 1,759,806	\$ 1,557,801	\$ 954,289	\$ 700,451	\$ 492,898	\$ (236,759)	\$ (360,289)	\$ 737,394
Less: Cash-Funded Capital Projects	\$ -	\$ (720,000)	\$ (240,000)	\$ (600,000)	\$ (300,000)	\$ (300,000)	\$ (300,000)	\$ (300,000)	\$ (300,000)	\$ (300,000)	\$ (300,000)
Subtotal	\$ 763,533	\$ -	\$ -	\$ -	\$ 662,303	\$ 1,094,410	\$ 1,265,862	\$ 1,222,732	\$ 442,698	\$ -	\$ -
Plus: Interest Earnings	\$ 63,134	\$ 47,956	\$ 42,989	\$ 45,983	\$ 55,049	\$ 62,219	\$ 66,175	\$ 68,400	\$ 67,110	\$ 62,621	\$ 61,785
Less: Interest Allocated To Cash Flow	\$ (63,134)	\$ (47,956)	\$ (42,989)	\$ (45,983)	\$ (55,049)	\$ (62,219)	\$ (66,175)	\$ (68,400)	\$ (67,110)	\$ (62,621)	\$ (61,785)
Balance At End Of Fiscal Year	\$ 6,875,596	\$ 5,912,641	\$ 5,551,167	\$ 6,710,974	\$ 7,968,775	\$ 8,623,064	\$ 9,023,514	\$ 9,216,412	\$ 8,679,653	\$ 8,019,363	\$ 8,456,757

(1) Annual revenues reflect assumed contributions from the City's General Fund (assumptions provided by City Staff) and transfers in from the Sewer Enterprise operating fund in order to pay for future debt service. A transfer in from the General Fund of \$2.2 million is included in FY 2021, allocated 68% to sewer and 32% to water based upon current Stabilization Fund allocation methodology. An additional \$2 million of cash infusions from the City's General Fund is assumed for the remainder of the projection period, allocated 80% to sewer and 20% to water based upon the future capital needs of the two systems and per discussions with City Staff.

(2) Per discussions with City Staff, a minimum reserve target of \$3 Million has been established for the Sewer Stabilization Fund and \$1 Million for the Infiltration & Inflow (I/I) Fund.

(3) Interest earned on Stabilization Fund balances will be retained in the Stabilization Funds as interpreted from City's financial policies. The same assumption has been made for the City's I/I Fund.

(4) Annual assumed revenues to I/I Fund of \$200k based upon assumed average annual receipts provided by City Staff.