

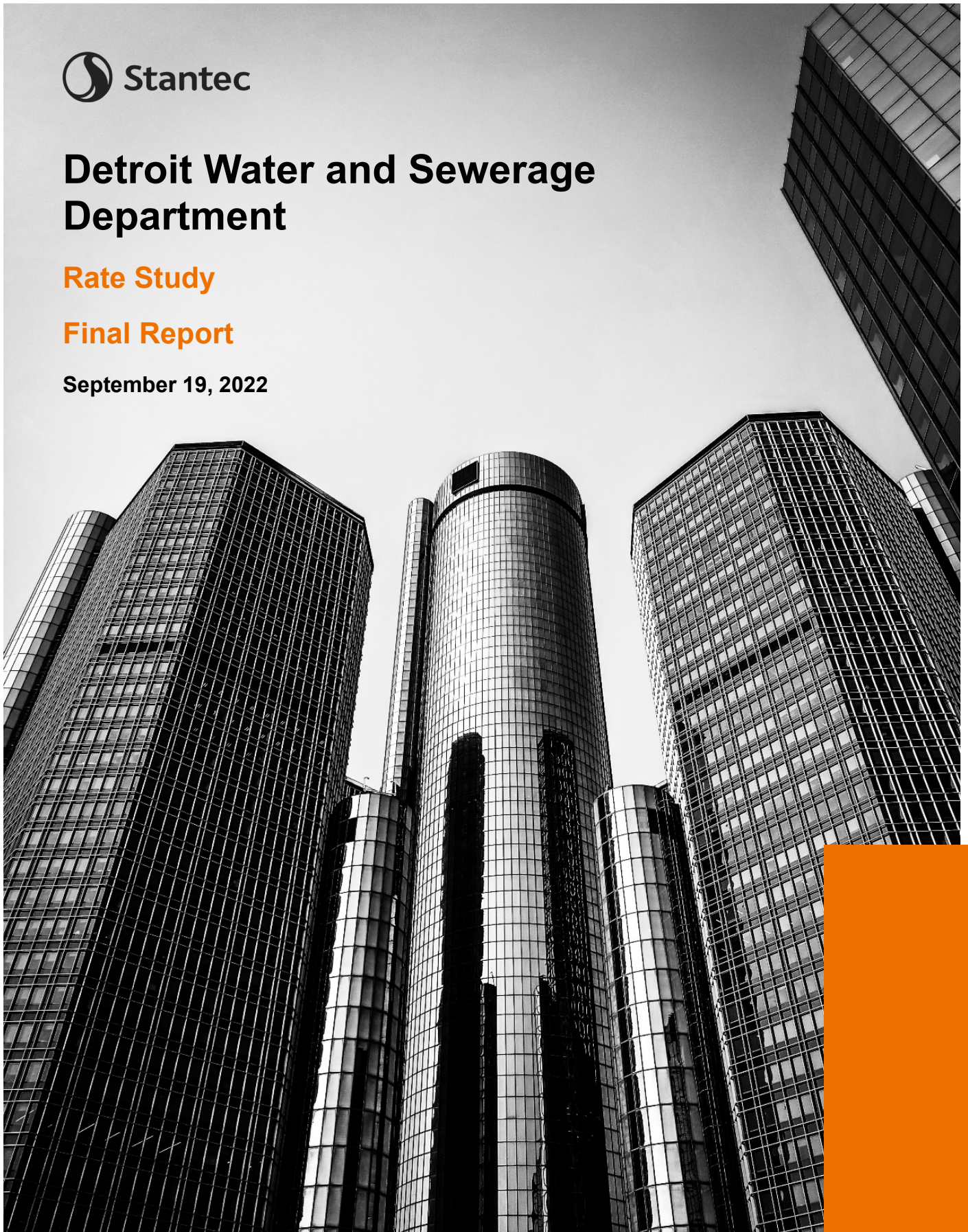


Detroit Water and Sewerage Department

Rate Study

Final Report

September 19, 2022





September 19, 2022

Mr. Istakur Rahman
Chief Financial Officer,
Detroit Water and Sewerage
Department

Re: Rate Study

Dear Mr. Rahman,

Stantec Consulting Services Inc. is pleased to present this Final Report of the Rate Study (Study) that we completed for the Detroit Water and Sewerage Department (DWSD). We appreciate the fine assistance provided by you and the members of DWSD staff who participated in this Study.

If you or others at DWSD have any questions, please do not hesitate to contact us. We appreciate the opportunity to be of service to DWSD and look forward to working with you again in the near future.

Sincerely,

A handwritten signature in blue ink, appearing to read "Andrew J. Burnham".

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Enclosure

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1. EXECUTIVE SUMMARY

This executive summary outlines the background, objectives, approach, and results of the Rate Study (Study) completed by Stantec Consulting Services Inc. (Stantec) for the Detroit Water and Sewerage Department (DWSD or “the Utility”). The full report describes the detailed assumptions, data sources, and methodology used in the Study.

1.1 BACKGROUND AND OBJECTIVES

DWSD provides water, wastewater, and drainage services to a customer base of approximately 230,000 accounts. DWSD is an enterprise agency of the City of Detroit and is a customer of the Great Lakes Water Authority (GLWA). The City of Detroit by and through the Water and Sewerage Department is GLWA's agent to perform certain services and functions in Detroit, including setting retail rates to meet revenue requirements, billing and collecting from Detroit retail customers, and enforcing the collection of fees and charges. GLWA leases the City's water supply and sewerage disposal facilities serving the regional service area and makes an annual payment that is used by DWSD to support capital infrastructure for its retail systems. The Study focuses on DWSD's costs, paid for by DWSD customers through water, sewer, and drainage rates.

A formal cost-of-service study has not been performed since bifurcation of the City of Detroit's water and sewer system assets in January 2016. This Study also facilitates DWSD's efforts to structure rates that adhere to proportionality¹ and cost-of-service principles. This Study's overall goal is to develop rates for DWSD's customers that are in proportion to the cost of providing service, follow industry best practices, and are reasonable and transparent.

The Study was performed based on the following process:

Revenue Requirements – Develop a multi-year forecast for DWSD that determines the annual revenue needed to fund operating expenses, wholesale costs, existing liabilities, and infrastructure needs. Determine appropriate funding sources for capital projects and maintain financial policies and targets. Identify key factors affecting future rate increases and compare results to national trends.

Cost Allocation – Allocate test year revenue requirements to water and combined sewer systems based on cost center categories and proportional usage characteristics of each system. Allocate water revenue requirements to water system functions and customers based on system and use

¹ *Bolt v City of Lansing*, a 1998 Michigan Supreme Court decision, identified what is a valid user fee versus a tax, suggesting that user fees should be regulatory, proportional, and voluntary.

characteristics. Allocate combined sewer revenue requirements to wastewater and drainage based on functional categories and components of combined sewage flow.

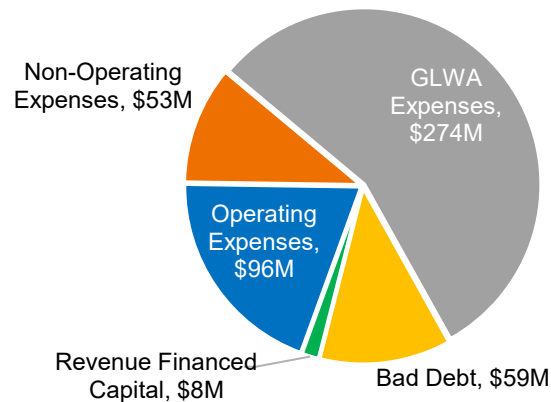
Rate Design – Review DWSD’s existing rate structure and develop modifications, as appropriate, based on accepted industry best practices and proportional allocation of costs based on cost-of-service analysis. Evaluate customer bill impacts, affordability programs currently available to DWSD customers, and possible future affordability programs. Perform bill comparisons to other agencies.

1.2 REVENUE REQUIREMENTS

Revenue requirements are the level of revenues needed to meet annual system costs. The revenue requirements analysis evaluated the adequacy of DWSD’s current revenues and the levels of rate increases needed to meet projected financial requirements for DWSD’s water and combined sewer systems over the 10-year period of Fiscal Year (FY) 2023 through FY 2032. The process included a review of DWSD’s operating expenses, non-operating expenses, GLWA wholesale treatment and pre-bifurcation debt expenses, bad debt, and capital expenses. The analysis also evaluated non-rate revenue sources of funding and identified a capital funding plan for the projected capital cost requirements.

Through this process, financial management plans and associated annual water, wastewater, and drainage rate revenue increases were developed to address current and projected DWSD costs. Based on the FY 2023 Adopted Budget, GLWA expenses (including wholesale treatment expenses and pre-bifurcation debt) are more than 55 percent of the total revenue requirement, while costs funded by customer rates that DWSD can “control” (operating expenses and revenue financed capital costs) represent 21 percent of the total revenue requirement. Figure 1-1 shows a summary of FY 2023 revenue requirements for the DWSD combined water and sewer Revenue Fund by expense type.²

² In addition to the Revenue Fund, DWSD has an Improvement & Extension (I&E) fund that supports major capital expenses and is funded by the GLWA lease payment and transfers from the Revenue Fund.

Figure 1-1: FY 2023 Revenue Requirement Summary

Note: Non-Operating Expenses include pension requirements, Water Retail Assistance Program (WRAP) expenses, and industrial waste control (IWC) costs.

Stantec worked with DWSD to develop a sustainable financial management plan for the water and sewer systems that utilized available revenue sources, borrowing, and rate increases to support future expenditure requirements and reserve levels. The following are key assumptions impacting the forecast:

1. Water customer growth of 0.50 percent and wastewater customer growth of 0.25 percent per year in FY 2023 and beyond. Water and wastewater volume decline of 2.00 percent per year. No drainage customer growth. Growth assumptions were provided by DWSD staff and are consistent with historical trends.
2. Bad debt expense is assumed to be 10 percent of water rate revenue, 10 percent of sewer rate revenue, and 18 percent of drainage rate revenue, based on FY 2019 through FY 2021 historical revenue collection rates. The current shutoff moratorium is expected to end during FY 2023 and DWSD staff expects that bad debt expense should decrease to 8 percent of water rate revenue, 8 percent of sewer rate revenue, and 16 percent of drainage rate revenue by FY 2027, but this is an estimate and bad debt may increase or decrease depending upon the circumstances and available funding programs. However, these latter levels are consistent with longer-term historical collection rates provided by DWSD staff.
3. GLWA gross wholesale water and sewer treatment expenses are assumed to escalate by 4.00 percent per year based on GLWA estimates available at the time the Study was conducted;³ DWSD operating costs are assumed to escalate by 2.60 percent per year, on average, based on the specific operating cost escalation factors shown in Schedule 5 of Appendices A and B. The

³ 4.00% escalation is applied to the GLWA wholesale charge inclusive of the fixed ownership charge.

level of increases align with long-term inflationary trends that are consistent with the duration of the projection period of this Study.

4. Total anticipated capital improvement program spending of approximately \$258 million and \$218 million in FY 2023 through FY 2027 for the water and sewer systems, respectively, based on DWSD's FY 2023 5-Year CIP Plan.
5. Borrowing for future capital at 5.00 percent interest rate for revenue bonds and 2.00 percent for State Revolving Fund (SRF) loans based on DWSD staff input and recent SRF loan experience.
6. Minimum Operating Fund reserve target for each system of three months of annual operating expenses, consistent with industry practices to ensure availability of funds for unforeseen risks and cash flow purposes.
7. Principal forgiveness of 8.00 percent on future Drinking Water Revolving Fund (DWRF) loans based on input from DWSD staff based on recent DWRF loan experience per DWSD staff.

Based on DWSD budget data and the above assumptions, Stantec developed a plan of annual rate adjustments to fund DWSD's financial requirements. The level of projected water, wastewater, and drainage adjustments to rate revenues are shown in Table 1-1. The FY 2023 proposed rate adjustments reflect the results of the cost allocation study to rebalance the revenue needed from each system. The total amount of additional revenue generated by the rate increase for FY 2023 is 0.8 percent.

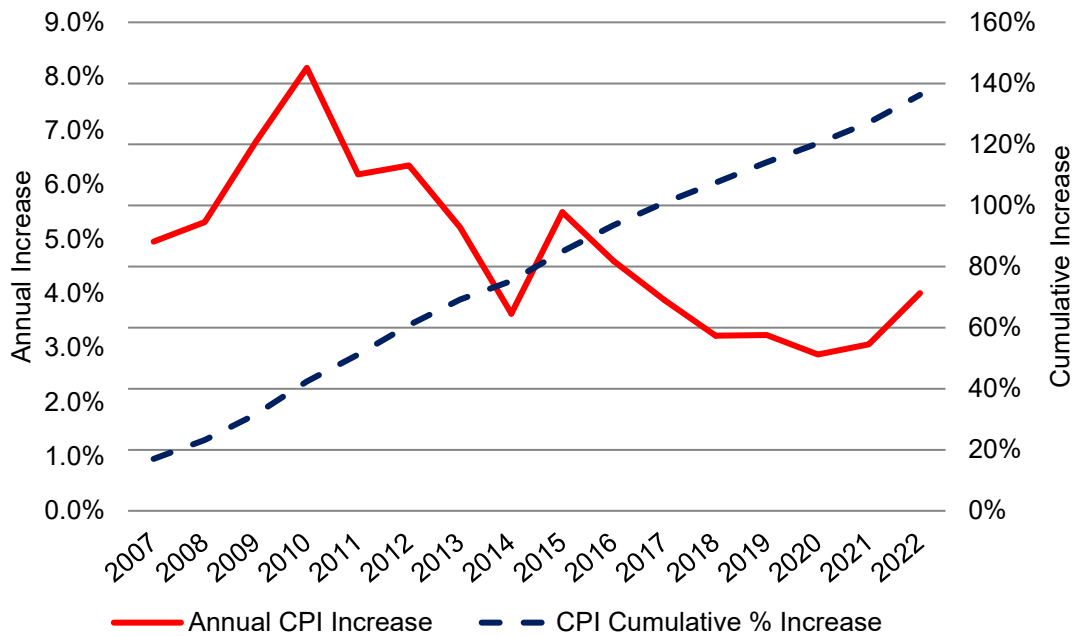
Table 1-1: Projected Annual Rate Revenue Increases

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Effective Date	July 1, 2022 <i>Proposed</i>	July 1, 2023 <i>Projected</i>	July 1, 2024 <i>Projected</i>	July 1, 2025 <i>Projected</i>	July 1, 2026 <i>Projected</i>
Water Increase	21.2%	4.0%	4.0%	4.0%	4.0%
Wastewater Increase	-13.7%	4.0%	4.0%	4.0%	4.0%
Drainage Increase	1.8%	4.0%	4.0%	4.0%	4.0%
Total Combined Increase	0.8%	4.0%	4.0%	4.0%	4.0%

The future rate increase projections shown in Table 1-1 for FY 2024 through FY 2027 are dependent on the above assumptions. Any changes to the assumptions, such as changes in future interest rates or expense inflation may have an impact on the overall financial forecast and rate revenue projections. These variables will be important considerations in DWSD's annual budgetary and rate setting process moving forward.

The level of projected annual rate adjustments identified herein are consistent with national trends and Stantec's industry experience. As demonstrated in Figure 1-2, the U.S. Consumer Price Index (CPI) Water & Sewerage Maintenance Series, which specifically measures the average national change in the cost of water and wastewater service to households, has risen at an average annual rate of approximately 5.00 percent during the past ten years. Moreover, many of Stantec's clients across the country are presently experiencing rate increases in the range of 3.0 percent to 8.0 percent per year.

Figure 1-2: US CPI - Water & Sewerage Maintenance Series



US CPI, Water and sewerage maintenance, Series Id: CUUR0000SEHG01

1.3 COST ALLOCATION

The purpose of a cost-of-service analysis is to proportionally distribute identified revenue requirements among the various systems and types of customers served, based on accepted industry practices and guidelines. Such practices and guidelines are documented by industry publications such as the American Water Works Association’s (AWWA) M1 Principles of Water, Rates, Fees, and Charges⁴, the Water Environment Federation’s (WEF) Manual of Practice No. 27⁵, the AWWA M22 Sizing Water Service Lines and Meters⁶, and the AWWA M29 Water Utility Capital Financing⁷.

Figure 1-3 below shows the cost-of-service allocation approach utilized in the Study. Total FY 2023 Operating Fund revenue requirements were first allocated between the water and combined sewer systems, and the combined sewer system costs were further allocated to wastewater and drainage. Water system costs were allocated to typical system components or functions, and wastewater costs

⁴ Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, AWWA M1, Seventh Edition, 2017.

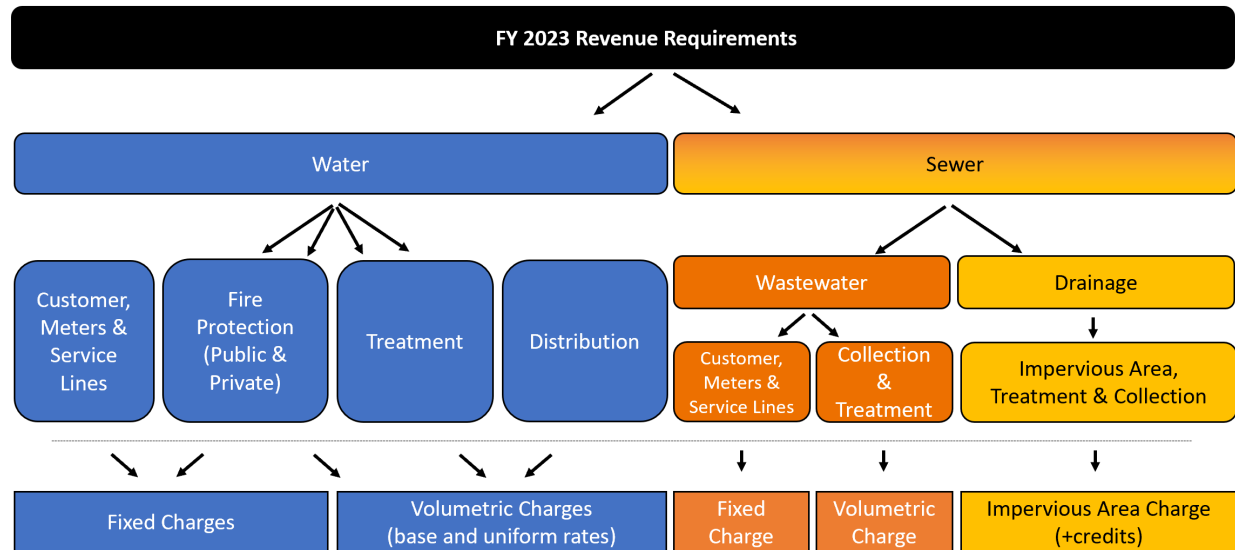
⁵ Financing and Charges for Wastewater Systems, WEF Manual of Practice No. 27, 2019.

⁶ Sizing Water Service Lines and Meters, AWWA M22, Third Edition, 2014.

⁷ Water Utility Capital Financing, AWWA M29, Fourth Edition, 2014.

were similarly allocated to wastewater functions. The bottom portion of the graphic shows how the cost allocation forms the cost basis for the development of water, wastewater, and drainage charges.

Figure 1-3: Cost Allocation Approach



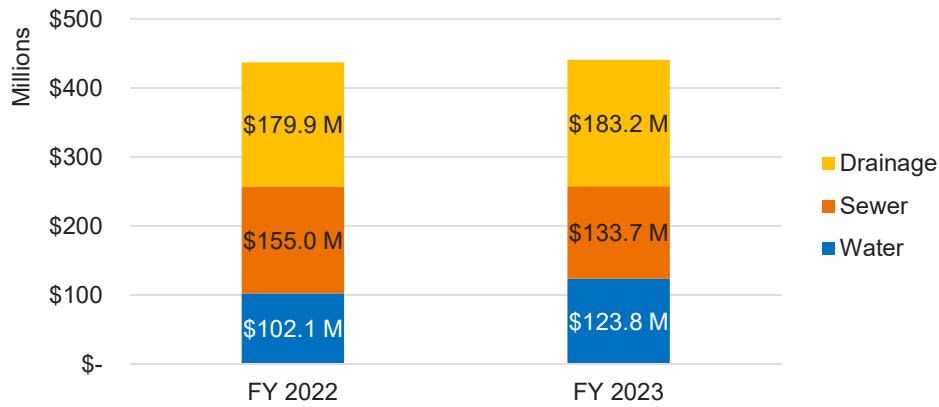
The Study followed the AWWA and WEF industry best practices by:

1. Allocating costs to water, wastewater, and drainage based on individual categories of costs and appropriate allocation criteria.
2. Allocating water and wastewater costs to individual functions or activities (such as supply, treatment, distribution, meters/services, etc.). This step is often called “functionalization” and it links costs with the functions utilities perform to meet customer demands.
3. Allocating water functional costs to the appropriate cost components (such as average use, maximum day demands, peak hour demands, customer service, etc.). This links costs with the customer usage and service characteristics that drive costs and is called the base/extra-capacity approach for cost allocation.⁸
4. Distributing each water cost component to customers in accordance with the demand and service characteristics placed on the system. This step identifies the units of service for customers based on meter size and billed volume.

The results of the cost allocation to water, wastewater, and drainage are depicted in Figure 1-4, showing the total revenue requirements by system in FY 2022 and FY 2023. The results demonstrate that current revenues are generally proportional to the rate revenue requirements from the cost-of-service analysis. FY 2023 rate revenues will reflect the cost-of-service allocation results, which represents a shift of about \$20 million from wastewater to water and a small increase in drainage requirements (before credits).

⁸ Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, AWWA M1, Seventh Edition, 2017.

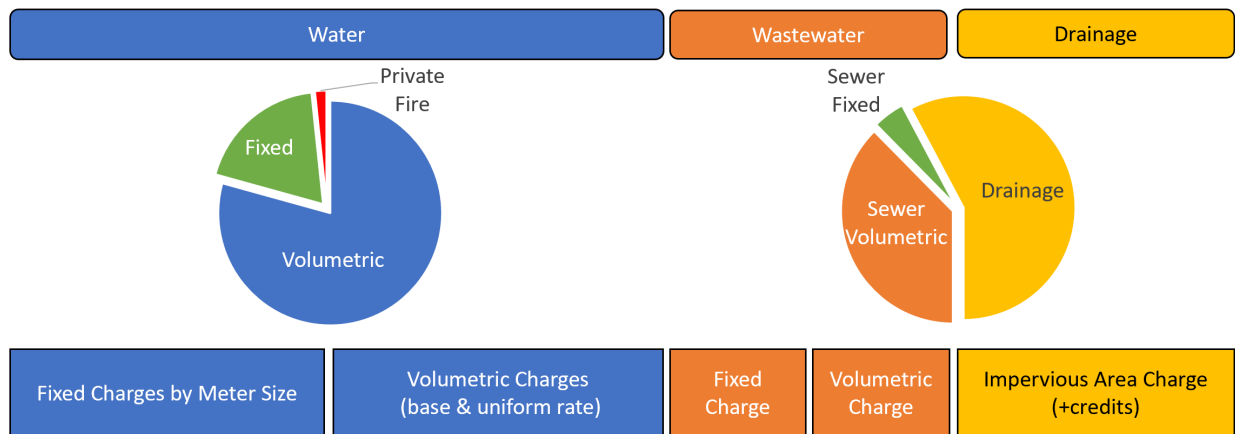
Figure 1-4: FY 2023 Rate Revenue Requirements vs. Current Revenue by System



1.4 RATE DESIGN

Stantec examined DWSD’s current water, wastewater, and drainage rates and developed recommended rate structure modifications that 1) proportionally recover cost of service and revenue requirements from each system, 2) conform to accepted national and local industry best practices, and 3) promote affordability, equity, and conservation. The cost allocation analysis connects the types of cost drivers with rate structure components as shown in Figure 1-5. The following sub-sections describe the rate structures in more detail.

Figure 1-5: Rate Design Approach

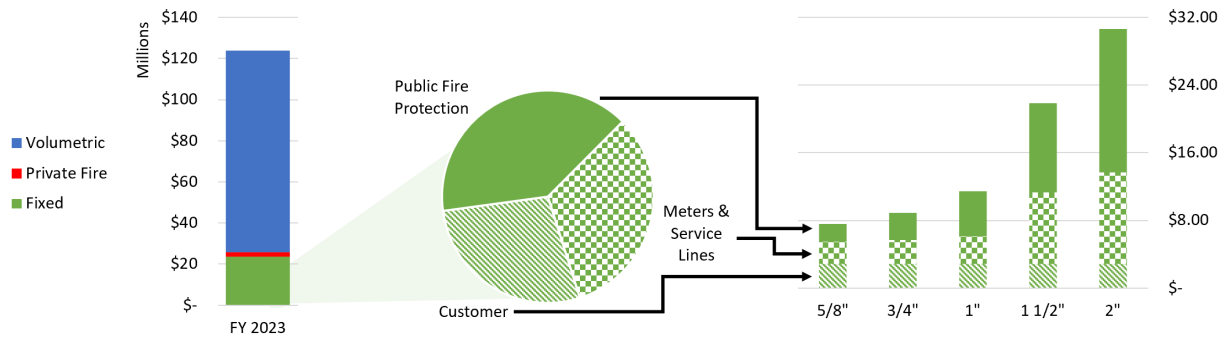


Water Fixed Charges – Water fixed charges are proposed to recover three types of costs through a monthly meter charge:

- Customer service costs are allocated uniformly to all meters.
- Meters and service line costs reflect replacement cost by meter size.
- A portion of public fire protection costs (capital, debt, and GLWA expenses) are scaled based on hydraulic capacity of each meter size.

Figure 1-6 shows the allocation of costs recovered in the proposed water fixed charge and the approach for allocating each cost to the monthly meter charge for meter sizes up to 2". Larger meter sizes are not shown; however, all meter sizes follow the same approach.

Figure 1-6: Water Fixed Charge Approach



Private fire costs are recovered in a separate fixed charge based on the size of each connection.

Water Volumetric Rates – Water volumetric rates recover remaining water costs in a tiered structure.

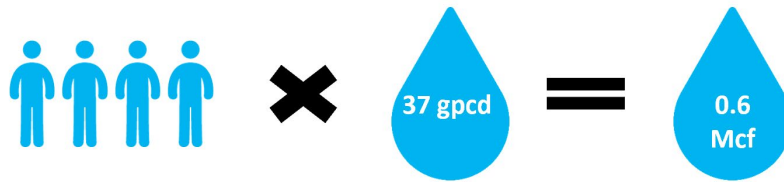
- Base tier threshold of 0.6 thousand cubic feet (Mcf) per month was calculated based on estimated indoor residential water use⁹ and substantiated based on a review of DWSD FY 2021 monthly billed volume distributions.
- Base tier rate was calculated by dividing average day costs by total usage volume, plus Tier 1 peaking costs¹⁰, divided by Tier 1 volume. The base tier structure applies to all customer classes for the first 0.6 Mcf of water use each month.
- New uniform tier rate for all use above 0.6 Mcf calculated based on average day costs divided by total volume, plus Tier 2 peaking costs¹⁰, divided by Tier 2 volume. The higher tier reflects a proportionally greater allocation of costs to water users who impose increased burden on the system due to higher demands.

⁹ Assumes four people per household and 36.7 gallons per capita per day based on *Residential End Uses of Water, Version 2*, The Water Research Foundation, 2016. Monthly usage calculates to be 4,040 gallons, or 0.6 Mcf.

¹⁰ Peaking cost allocation based on proportional change in monthly volume in each tier from the lowest month to highest month, based on DWSD FY 2021 billing data.

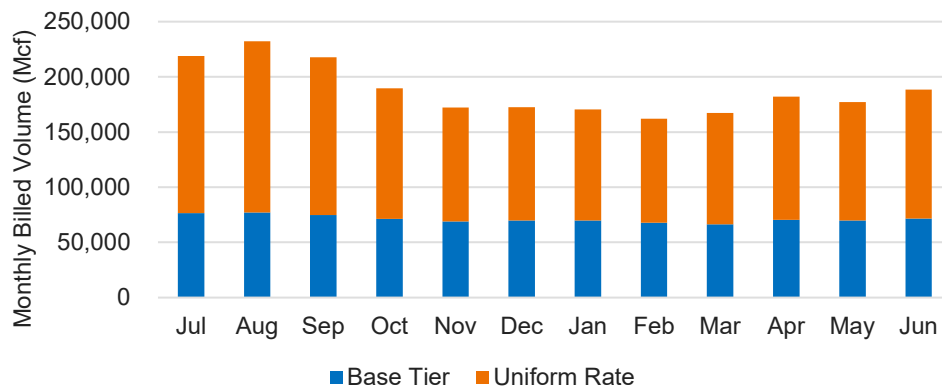
Figure 1-7 shows the calculation for the base tier size of 0.6 Mcf per month.

Figure 1-7: Base Tier Size Analysis

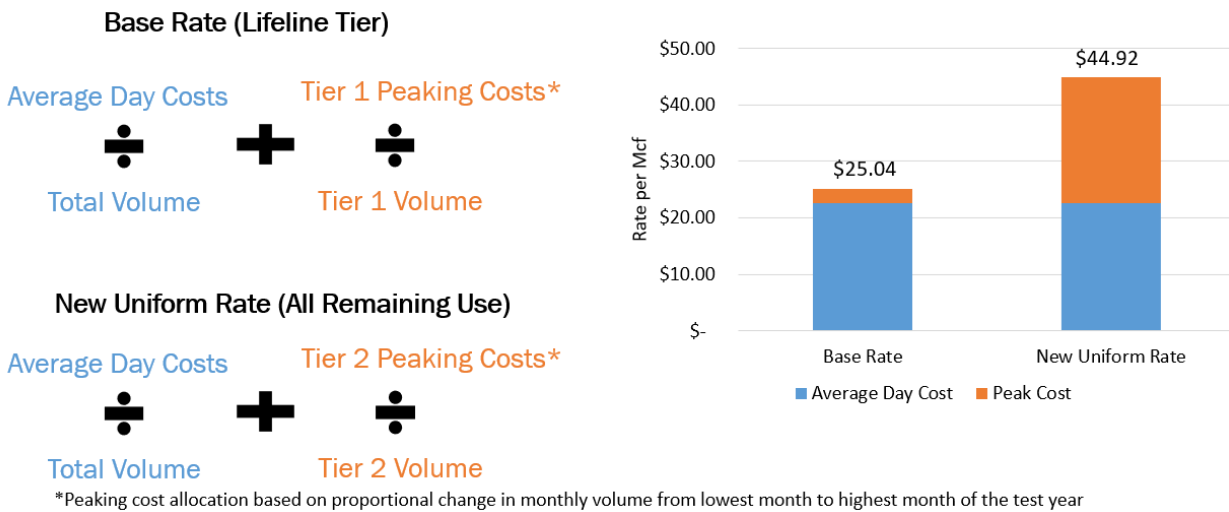


The following Figure 1-8 shows the resulting volume in each tier by month, based on DWSD's 2021 billing data. The chart demonstrates that there is minimal peaking in the base tier because the amount of water use in the base tier is consistent each month throughout the year.

Figure 1-8: Amount of Water Use that Falls in Each Tier



The following Figure 1-9 shows the calculation of the base rate and new uniform rate prices as well as the resulting rate per Mcf of the base tier and new uniform tier. The water system incurs additional costs to meet peak demands; therefore, allocating peak costs to tiers in this way shifts peak costs to the customers who contribute to increasing peak demands.

Figure 1-9: Water Volumetric Rates Pricing Analysis

Wastewater Fixed Charges and Volumetric Rates – Wastewater costs are recovered through a monthly customer charge and volumetric rate.

- Recover wastewater customer-related costs through a fixed monthly charge that applies equally to each customer bill.
- Proposed volumetric rate approach uses customer's monthly average winter consumption (AWC) or actual water use, whichever is lower, as basis for billing the volumetric rate.¹¹
 - AWC is based on average water use from January through March.
 - AWC is applied to all customer classifications.
 - This change requires modifications to DWSD's billing system and will be implemented when feasible (see interim wastewater volumetric approach).
- Interim wastewater volumetric rate approach applies monthly cap of 1.2 Mcf on individually metered residential units.¹²
 - Continue using billed monthly water use for all other customers and allow deduct or water only metering configurations for other customers at their expense.

¹¹ Winter months are typically representative of indoor water use only. Outdoor water use, such as irrigation, does not return to the sewer system. Therefore, using the lesser of actual water use or winter average water consumption is generally accepted as a more accurate method of determining wastewater flow for billing purposes.

¹² Sewer caps are appropriate for residential customers that have relatively homogeneous usage profiles, compared to the wide variability of usage in commercial customers that make sewer caps problematic. That said, commercial customers can and do often utilize separate meters to capture water only demands not returning to the wastewater system.

- Use until AWC can be implemented through modifications to the billing system (FY 2024).

Drainage Charges – Drainage charges are recovered through a monthly charge applied based on impervious area.

- No changes recommended to DWSD’s existing drainage rate structure.
- Update the drainage charge based on the current rate structure and cost-of-service results, customer credit program, Michigan Department of Transportation (MDOT) settlement, and latest Billable Impervious Area (BIA).

Water, Wastewater, and Drainage Rates and Charges

DWSD annually adopts a rate schedule for water, wastewater, and drainage rates as part of its budget process. Below are the current FY 2022 and proposed FY 2023 rates and charges.

The current and proposed monthly water meter charges are shown in Table 1-2.

Table 1-2: Summary of Current and Proposed Water Meter Charges

Meter Size	Current Meter Charge (per month)	Proposed Meter Charge (per month)
5/8"	\$7.86	\$7.59
3/4"	\$11.79	\$8.88
1"	\$19.65	\$11.47
1.5"	\$39.31	\$21.88
2"	\$62.89	\$30.62
3"	\$125.79	\$96.03
4"	\$196.54	\$145.08
6"	\$393.08	\$367.74
8"	\$628.93	\$492.14
10"	\$904.08	\$923.52
12"	\$1,218.55	\$1,425.61
14"	\$1,690.24	\$2,246.35
16"	\$2,240.56	\$2,984.63

The current and proposed water volumetric rates are shown in Table 1-3.

Table 1-3: Summary of Current and Proposed Water Volumetric Rates

Current Tier	Current Volumetric Rate (per Mcf)	Proposed Tier	Proposed Volumetric Rate (per Mcf)
All Use	\$26.60	Base Tier (0-0.6 Mcf)	\$25.04
		Uniform Tier (>0.6 Mcf)	\$44.92

The current and proposed private fireline charges are shown in Table 1-4.

Table 1-4: Summary of Current and Proposed Private Fireline Charges

Connection Size	Current Charge (per month)	Proposed Charge (per month)
4"	\$94.41	\$28.84
6"	\$196.69	\$83.78
8"	\$283.23	\$178.54
10"	\$456.32	\$321.07
12"	\$676.61	\$518.62

The current and proposed wastewater service charges are shown in Table 1-5.

Table 1-5: Summary of Current and Proposed Wastewater Service Charge

	Current Charge (per bill)	Proposed Charge (per bill)
All Customers	\$6.54	\$6.34

The current and proposed wastewater disposal rates are shown in Table 1-6.

Table 1-6: Summary of Current and Proposed Sewer Disposal Rates

	Current Volumetric Rate (per Mcf)	Proposed Volumetric Rate (per Mcf)
All Use	\$57.06	\$55.40

The current and proposed drainage charges are shown in Table 1-7.

Table 1-7: Summary of Current and Proposed Drainage Charges

	Current Charge (per month per impervious acreage)	Proposed Charge (per month per impervious acreage)
All Customers	\$677.00	\$678.28

Customer Bill Impacts

Table 1-8 presents a summary of the combined monthly impacts to single family residential customers with 5/8" meters at various levels of water use. These projections include the revenue requirement adjustments, customer class cost-of-service adjustments, and rate structure modifications recommended herein.

**Table 1-8: Single Family Combined Water, Wastewater, and Drainage Bill Comparisons
(5/8" Meter)**

Water Use (Mcf)	Percentage of Bills	Current Bill	Proposed Bill	\$ Change	% Change
0.0	11%	\$39.79	\$39.37	-\$0.42	-1.1%
0.1	19%	\$48.15	\$47.41	-\$0.74	-1.5%
0.2	31%	\$56.52	\$55.45	-\$1.07	-1.9%
0.3	43%	\$64.89	\$63.50	-\$1.39	-2.1%
0.4	54%	\$73.25	\$71.54	-\$1.71	-2.3%
0.5	64%	\$81.62	\$79.59	-\$2.03	-2.5%
0.6	72%	\$89.98	\$87.63	-\$2.35	-2.6%
0.7	78%	\$98.35	\$97.66	-\$0.69	-0.7%
0.8	83%	\$106.72	\$107.69	\$0.97	0.9%
0.9	86%	\$115.08	\$117.73	\$2.65	2.3%
1.0	89%	\$123.45	\$127.76	\$4.31	3.5%
1.1	91%	\$131.81	\$137.79	\$5.98	4.5%
1.2	92%	\$140.18	\$147.82	\$7.64	5.5%
1.3	94%	\$148.55	\$152.31	\$3.76	2.5%

Note:

1. Proposed bill reflects water, wastewater, and drainage FY 2023 revenue requirements.
2. Proposed bill reflects water rate structure changes and wastewater volumetric rate cap of 1.2 Mcf.
3. Assumes 0.05 billable impervious acres for drainage portion of bill.

Affordability of service is important to DWSD and effective August 1, 2022, customer assistance to qualifying customers is provided through GLWA's Water Rate Assistance Program (WRAP) funding and Federal Low Income Household Water Assistance Program (LIHWAP)¹³ funding. DWSD administers program funds through its pilot Lifeline Affordability Plan. The Lifeline Plan was created by DWSD to provide low-income customers with non-rate revenue funds from WRAP and LIHWAP to help cover their bills. While the shut-off moratorium ended in the State March 31, 2021, the City of Detroit and DWSD extended the moratorium through 2022¹⁴. The Lifeline Plan offers qualifying residential customers a fixed monthly bill for the first 4,500 gallons of water, pays off arrearages, and offers plumbing repairs at households using more than 4,500 gallons of water per month. In the Lifeline Plan, there are three

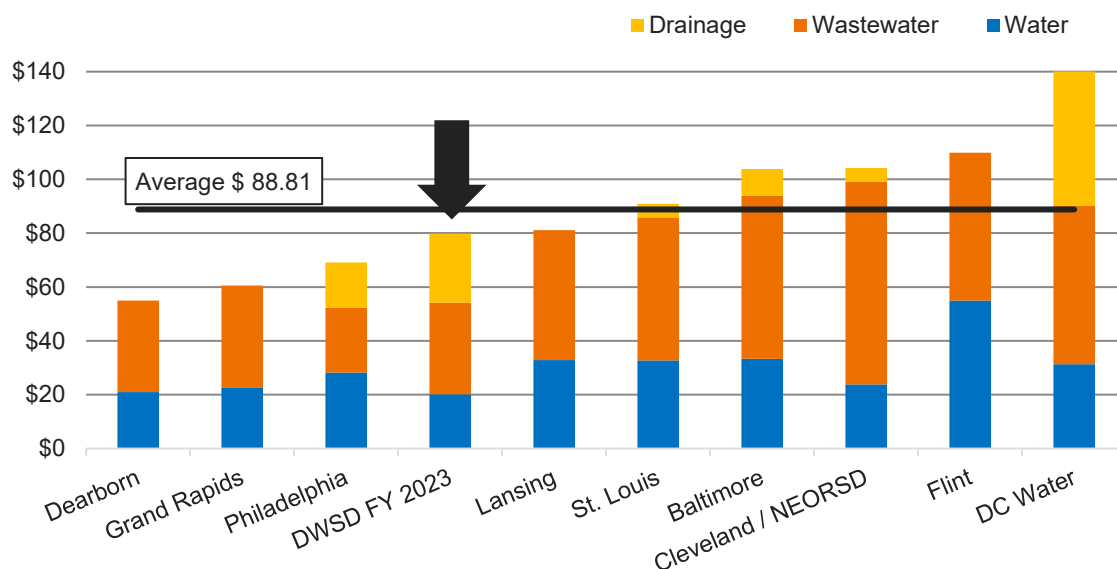
¹³ The LIHWAP program provides up to \$1,000 in assistance to low-income customers with disconnected services or those facing disconnection. Low Income Household Water Assistance Program, Michigan LIHWAP Profile Summary, RPT_LIHWAP_Profile Summary_MI_FY2022 (hhs.gov).

¹⁴ <https://detroitmi.gov/news/mayor-dwsd-extend-moratorium-residential-water-shutoffs-through-2022-and-announce-intention>

payment tiers: \$18/month for water, sewer, and drainage bill if household income is at or below 135% of Federal Poverty Level; \$43/month if household income is above 135% of FPL but at or below 150% of FPL; and \$56/month if household income is above 150% of FPL but at or below 200% of FPL. The gap amount between the payment tiers offered under the Lifeline Plan and the customer’s actual bill are paid with WRAP and LIHWAP assistance funding. DWSD continues to review the use of outside funding sources and is actively lobbying for continued funding under LIHWAP appropriation to assist its neighbors in need, as the current LIHWAP program will end in September 2023.

Stantec prepared a survey of monthly residential bills for local and national peers. Figure 1-10 shows the results of this survey, comparing current water, wastewater, and drainage monthly charges to DWSD’s proposed FY 2023 monthly charge for a typical residential customer. DWSD’s bill of \$79.59 per month is lower than the average bill of \$88.81 per month.

Figure 1-10: Monthly Residential Bill Comparison



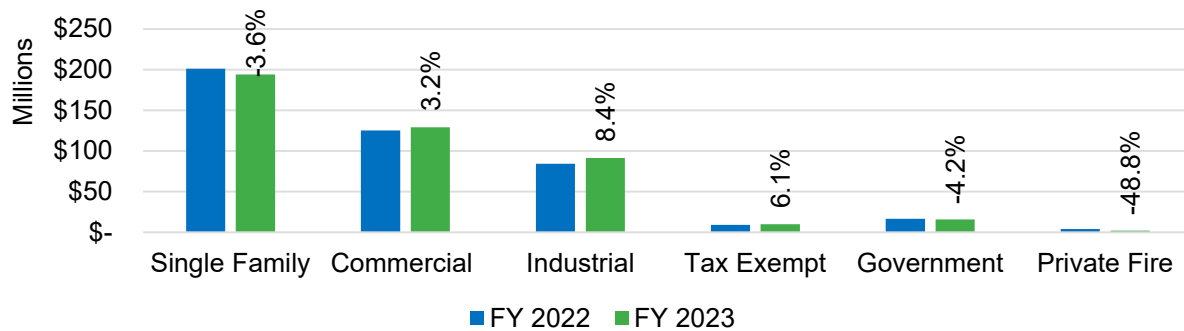
Note:

1. “DWSD FY 2023” reflects water, wastewater, and drainage FY 2023 revenue requirements and proposed rates.
2. Assumes 5/8” meter, 0.5 Mcf of water use, and 0.05 billable impervious acres.
3. Agencies without a drainage fee may capture costs in water/sewer charges or in non-utility sources (i.e., taxes).
4. Bills for other agencies are based on current (FY 2022) rates, and some will likely increase in FY 2023.

While only residential bill impacts are shown in Table 1-8 and Figure 1-10, non-residential customers will have varying impacts based on each customer’s meter size, monthly water volume, and impervious area. Figure 1-11 shows a summary of revenue impacts aggregated for various customer classifications based on FY 2023 rates (assuming AWC for wastewater billing) and customer billing data. Generally, the range

of impact is dependent upon the amount and distribution of monthly water use of individual customers within each classification as this will impact how much water is billed in each tier of the proposed water rate structure as well as how much volume is billed wastewater volumetric charges.

Figure 1-11: FY 2023 Estimated Change in Revenue by Customer Class



1.5 FINDINGS AND RECOMMENDATIONS

This Study developed proposed rates for DWSD's customers that are in proportion to the cost of providing service, consistent with industry practices, and are reasonable and transparent. The Study's findings and recommendations are summarized below:

1. FY 2023 rate adjustments reflect the results of the cost allocation analysis that rebalance revenue from each system. The total revenue increase needed from FY 2022 to FY 2023 is 0.8 percent.
2. FY 2023 cost allocation of revenue requirements results in a \$20 million shift in costs from wastewater to water from FY 2022 revenues based on a detailed allocation of operating and capital costs reflecting current and planned activities.
3. Water rate structure revised to apply base rate to water use that is consistent throughout the year and allocate peaking costs to the base rate and a new uniform rate in proportion to the contribution to the peak demands on the system from use in each tier.
4. Wastewater rate structure revised to bill volumetric rate based on lesser of actual water use or average winter consumption, calculated based on January through March water use by FY 2024.
5. Until average winter water usage can be incorporated into DWSD's billing system, apply a monthly sewer use cap of 1.2 Mcf for individually metered residential customers and bill actual water use for all other customers.
6. Continue to charge drainage rate per acre of impervious area with credits applied to customers who qualify.
7. Evaluate additional funding sources for customer assistance programs within legal limitations to minimize rate impacts on vulnerable customers.
8. Update rate revenue requirements annually and perform periodic rate studies (every 3 to 5 years) to address changes in cost distributions between services and customer characteristics.

2. BACKGROUND & OBJECTIVES

Stantec Consulting Services Inc. (Stantec) has conducted a comprehensive rate study (Study) for the Detroit Water and Sewerage District (DWSD or “the Utility”). This report outlines the background, objectives, approach, and results of the Study.

2.1 BACKGROUND

DWSD provides water, wastewater, and drainage services to a customer base of approximately 230,000 accounts. DWSD is an enterprise agency of the City of Detroit and is a customer of the Great Lakes Water Authority (GLWA). The City of Detroit by and through the Water and Sewerage Department is GLWA’s agent to perform certain services and functions in the City, including setting retail rates to meet revenue requirements, billing and collecting from Detroit retail customers, and enforcing the collection of fees and charges. GLWA leases the City’s water supply and sewerage disposal facilities serving the regional service area and makes an annual payment that is used to support capital infrastructure of its retail system. The Study focuses on DWSD’s costs, paid for by DWSD customers through water, sewer, and drainage rates.

A formal cost-of-service study has not been performed since bifurcation of the City of Detroit’s water and sewer system assets in January 2016. This Study also facilitates DWSD’s efforts to structure rates that adhere to proportionality¹⁵ and cost-of-service principles. This Study’s overall goal is to develop rates for DWSD’s customers that are in proportion to the cost of providing service, follow industry best practices, and are reasonable and transparent.

2.2 OBJECTIVES

Revenue Requirements – Develop a multi-year forecast for DWSD that determines the annual revenue needed to fund operating expenses, wholesale costs, existing liabilities, and infrastructure needs. Determine appropriate funding sources for capital projects and maintain financial policies and targets. Identify key factors affecting future rate increases and compare results to national trends.

Cost Allocation – Allocate test year revenue requirements to water and combined sewer systems based on cost center categories and proportional usage characteristics of each system. Allocate water revenue requirements to water system functions and customers based on system and use

¹⁵ *Bolt v City of Lansing*, a 1998 Michigan Supreme Court decision, identified what is a valid user fee versus a tax, suggesting that user fees should be regulatory, proportional, and voluntary.

characteristics. Allocate combined sewer revenue requirements to wastewater and drainage based on functional categories and components of combined sewage flow.

Rate Design – Review DWSD’s existing rate structure and develop modifications, as appropriate, based on accepted industry best practices and proportional allocation of costs based on cost-of-service analysis. Evaluate customer bill impacts, affordability programs currently available to DWSD customers, and possible future affordability programs. Perform bill comparisons to other agencies.

2.3 RESOURCES

In addition to relying on its knowledge and experience, Stantec relied on several industry resources in the conduct of this Study, notably including guidance and practices from the American Water Works Association (AWWA) and the Water Environment Federation (WEF) as reflected in the following resources:

- i. **Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, AWWA M1, Seventh Edition.** This manual is intended to help policymakers and rate analysts consider all relevant factors when evaluating/defining customer classes, performing cost of service allocations, and selecting/calculating specific rate structures. It is a comprehensive collection of guidance on a variety of issues associated with designing and developing water rates and charges.
- ii. **Financing and Charges for Wastewater Systems, WEF MOP 27, Fourth Edition.** This manual provides an overview of the current practices and procedures that should be considered for financing and establishing rates and charges for sanitary sewer collection and treatment systems. It is intended to provide guidance by illustrating various ways of analyzing and allocating the operating and capital costs associated with collecting and treating wastewater and developing rates and charges that fairly and reasonably reflect the cost of providing service to different customers.
- iii. **Sizing Water Service Lines and Meters, AWWA M22, Third Edition.** This manual provides demand and maximum expected flow estimates that can be used to determine the appropriate size of new service lines and meters.
- iv. **Water Utility Capital Financing, AWWA M29, Fourth Edition.** This manual provides support for obtaining funding and financing for water utility capital projects. It is intended as a resource for utilities with short- and long-term capital needs to obtain funding through both traditional and innovative funding sources.

It is important to note that these industry resources are meant to provide guidance to the cost-of-service and rate-making process. There is no single approach that fits a utility perfectly. WEF MOP 27 states (p 2), “As individual wastewater utilities address their financial management challenges, it is important that their practices for setting rates and charges be responsive to the unique circumstances and values of the communities they serve. Accordingly, this MOP offers industry-accepted guidance in addressing these challenges without prescribing specific methods. In many instances, acceptable methodological alternatives are presented.”

3. REVENUE REQUIREMENTS

3.1 DESCRIPTION

This section presents the financial management plan and corresponding plan of water, wastewater, and drainage rate adjustments developed for the Utility in the revenue requirements analysis conducted as part of this Study. The following sub-sections of the report present a description of the source data, assumptions, and results of the revenue requirements analysis, while Appendices A and B include detailed supporting schedules for the financial management plans identified herein for the water and sewer systems, respectively.

The revenue requirements analysis evaluated the adequacy of DWSD's current revenues and the levels of rate increases needed to meet projected financial requirements for DWSD's systems over the 10-year period of Fiscal Year (FY) 2023 through FY 2032. The process included a review of DWSD's operating expenses, non-operating expenses, GLWA wholesale treatment and pre-bifurcation debt expenses, bad debt, and capital expenses. The analysis also evaluated non-rate revenue sources of funding and identified a capital funding plan based for the projected capital cost requirements.

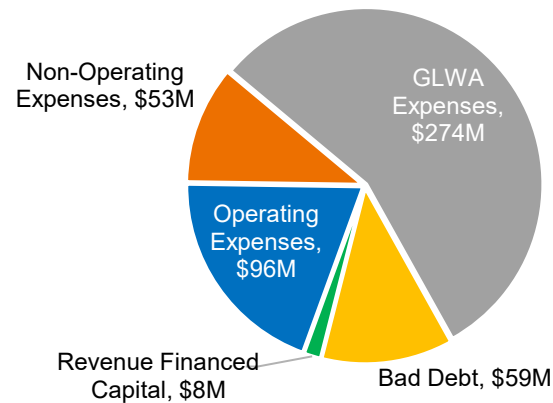
Stantec obtained DWSD's historical and budgeted financial information regarding the operation of its water and sewer systems, as well as historical customer counts and volume data by type of customer. Stantec also obtained the Utility's multi-year capital improvement program (CIP) and documented the Utility's current debt service obligations and covenants, or promises made to lenders, relative to net income coverage requirements and reserve levels. Stantec also consulted with DWSD regarding other assumptions and policies that would affect the performance of the Utility, such as trends in demands, customer growth, bad debt, debt service coverage and fund reserve levels, capital funding sources, earnings on invested funds, and escalation rates for operating costs.

These data and assumptions were entered into two separate versions of Stantec's proprietary Financial Analysis and Management System (FAMS) interactive modeling system, one for the water system and one for the combined sewer system. FAMS produced a 10-year projection of the sufficiency of the revenue provided by the existing rates for each system to meet current and projected financial requirements. These projections further determined the overall level of rate revenue increases necessary in each year of the projection period to satisfy each system's annual financial requirements.

Through this process, financial management plans and associated annual water, wastewater, and drainage rate revenue increases were developed to address current and projected DWSD costs. Based on the FY 2023 Adopted Budget, GLWA expenses (including wholesale treatment expenses and pre-bifurcation debt) are more than 55 percent of the total revenue requirement, while costs funded by customer rates that DWSD can "control" (operating expenses and revenue financed capital costs)

represent 21 percent of the total revenue requirement. Figure 3-1 shows a summary of FY 2023 revenue requirements for the DWSD combined water and sewer Revenue Fund by expense type.¹⁶

Figure 3-1: FY 2023 Revenue Requirement Summary



Note: Non-Operating Expenses include pension requirements, Water Retail Assistance Program (WRAP) expenses, and industrial waste control (IWC) costs.

3.2 SOURCE DATA

The following presents the key source data relied upon for conducting the revenue requirements analysis:

Beginning Fund Balances

The FY 2022 year ending cash balance provided by DWSD was used to establish beginning FY 2023 balances for the water and sewer models. Balances for the water and sewer systems were each comprised of the Revenue Fund, the Improvement and Extension (I&E) Fund, and the Construction Fund, which contains existing bond proceeds. The Revenue Fund balance reflects the results of operating and non-operating cash flow each year, while the I&E Fund and Construction Fund balances are applied to specific eligible capital projects, based on input from DWSD.

Revenues

The rate revenues utilized in the revenue requirements analysis reflect the water, wastewater, and drainage revenue requirements for FY 2023, based on the cost-of-service analysis. Non-rate revenues consist of other operating revenue, non-operating revenue, and interest income. The FY 2023 Budget was used to project all non-rate revenue amounts, excluding interest income, which was calculated

¹⁶ In addition to the Revenue Fund, DWSD has an Improvement & Extension (I&E) fund that supports major capital expenses and is funded by the GLWA lease payment and transfers from the Revenue Fund.

annually based on projected average fund balances and assumed interest rates. Lease revenue received from GLWA is reflected in the I&E Fund.

Other operating revenues include various miscellaneous fees, such as penalties, permit review fees, inspection fees, and other fees for activities completed by DWSD staff. Typically, late fees and disconnection fees are tools available to utilities to recover costs of service and avoid providing free service. The State of Michigan implemented a moratorium on water service shut-offs during the COVID-19 pandemic. While the shut-off moratorium ended in the State March 31, 2021, the City of Detroit and DWSD extended the moratorium through 2022¹⁷.

Stantec provided DWSD with an Excel spreadsheet tool that builds the cost basis for miscellaneous fees using labor and materials inputs. The benefit of cost-based fees is that the costs of service are being recovered from those benefitting from the service. Revenues collected for these services are used to offset the user rate revenue requirement. Stantec recommends that DWSD staff assess which fees require updated calculations based on cost, implement cost-based fees if appropriate, and evaluate the impact to the revenue requirements of the cost-based fees. At this time, no changes in these miscellaneous fees are projected in Stantec's forecast of other operating revenues.

Operating Expenditures

The Utility's operating expenditures include all operating and maintenance expenses, pension requirements, WRAP expenses, GLWA wholesale charges, and pre-bifurcation debt expenses. The revenue requirements analysis based the operating expenditure projections on the FY 2023 Adopted Budget, adjusted annually based on assumed cost escalation factors that were reviewed with DWSD.

Capital Improvement Program

DWSD provided a multi-year CIP, in project level detail, from FY 2023 through FY 2027. For the following five years of the analysis, FY 2028 through FY 2032, projected capital costs were estimated based on historical trends and considering current costs. The CIP has been adjusted using an execution factor to bring projections in line with historical CIP budget versus actual performance and DWSD staff estimates of approximately \$50 million for water and \$40 million for sewer and storm drainage projects per year.

In total, the CIP (including execution) from FY 2023 through FY 2032 is approximately \$509 million and \$418 million for the water and sewer systems, respectively. A list of projects and costs by year is included on Schedule 6 of Appendices A and B for the water and sewer systems, respectively.

¹⁷ <https://detroitmi.gov/news/mayor-dwsd-extend-moratorium-residential-water-shutoffs-through-2022-and-announce-intention>

3.3 ASSUMPTIONS

The following presents the key assumptions utilized in conducting the revenue requirement analysis.

Cost Escalation

Annual cost escalation factors for various types of operating and maintenance expenses were developed based on discussions with DWSD, a review of historical trends, and Stantec's industry experience. The specific escalation factors assumed for various categories of expenses can be found on Schedule 5 of Appendices A and B for the water and sewer systems, respectively. GLWA wholesale treatment costs are based on the FY 2023 Service Charges Proposal provided by GLWA and are assumed to escalate by 4.00 percent per year, beginning in FY 2024.¹⁸ Other operating costs escalation is based on assumptions as of this Study; however, the inflationary environment is expected to be volatile and DWSD should be vigilant in updating these assumptions going forward.

Interest Earnings

The analysis reflects assumed interest earning rates of 0.00 percent in FY 2023 based on the FY 2023 Adopted Budget, 0.25 percent in FY 2024, 0.50 percent in FY 2025, and 0.75 percent in FY 2026 and each year of the forecast period based on DWSD projections.

Customer and Volume Forecast

Customer and billed volume projections were based on DWSD estimates for FY 2023 through FY 2031 that reflect recent historical trends. Table 3-1 presents the assumed customer growth and assumed changes in volume by year through FY 2027. For FY 2028 through FY 2032, customer growth and volume changes are assumed to continue at the same levels as forecast for FY 2023 through FY 2027. The assumed growth in customers and changes in billed volume is used to forecast fixed charge revenue and volumetric rate revenue, respectively.

¹⁸ 4.00% escalation is applied to the GLWA wholesale charge inclusive of the fixed ownership charge.

Table 3-1: Water and Wastewater Projected Customer and Volume Growth

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Water					
Customer Growth	0.50%	0.50%	0.50%	0.50%	0.50%
Volume Growth	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%
Wastewater					
Customer Growth	0.25%	0.25%	0.25%	0.25%	0.25%
Volume Growth	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%
Drainage					
Customer / Impervious Area Growth	0.00%	0.00%	0.00%	0.00%	0.00%

Bad Debt

Due to the moratorium on shutoffs, DWSD's bad debt on water and combined sewer revenues in recent years (FY 2019 through FY 2021) has ranged from 6 percent to 12 percent for water and from 9 percent to 14 percent for the combined sewer system. Staff estimates that water and wastewater bad debt expense will be 10 percent as long as the current moratorium is in place, and drainage bad debt expense will be 18 percent, to result in a combined sewer bad debt of 14 percent. Bad debt expense is expected to be reduced to 8 percent for water and wastewater and 16 percent for drainage by FY 2027 in a response to the elimination of the moratorium on shutoffs and customer assistance programs. Current and future federal funding and customer assistance programs, and other factors, may impact the levels of bad debt.

Minimum Reserve Fund Balance Policy

Reserve balances for utilities are funds set aside for a specific cash flow requirement, financial need, project, task, or legal covenant. These balances are maintained to meet short-term cash flow requirements and 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's 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 ensure that a utility will have adequate funds available to meet its financial obligations during unusual periods (i.e., when revenues are unusually low and/or expenditures are unusually high). Second, it provides funds that can be used for emergency repairs or replacements to the system, which can occur because of natural disasters or unanticipated system failures.

The financial management plans presented in this report assume that the Utility will maintain a minimum Revenue Fund balance, or reserve, equal to three months of annual operating reserves. In addition, DWSD will maintain a reserve of six months of lease revenue in the I&E Fund. These levels of reserve

fund balances are consistent with 1) Stantec’s industry experience for similar systems, 2) the findings of reserve fund studies and guidelines prepared by the AWWA, and 3) a healthy level of reserves for a municipal utility system, per the evaluation criteria published by municipal utility rating agencies such as Fitch, Moody’s, and Standard & Poor’s. The recommended financial plan presented herein transfers funds to the I&E fund to pay for future capital projects when funds are available per GLWA’s master bond ordinance.

Future Borrowing and Capital Funding

Capital projects are assumed to be funded with cash, revenue bonds, and State Revolving Fund (SRF) loans. Project funding sources are determined based on eligibility of available funds and minimum fund balance reserves in each year of the projection period. Future revenue bonds are assumed to be issued for a 20-year term, at an interest rate of 5.00 percent. SRF loans are assumed to be issued for a 30-year term at an interest rate of 2.00 percent and reflect 8.00 percent principal forgiveness. Debt service payments from revenue bonds and SRF loans are assumed to be paid for using I&E revenues. The Utility’s actual future financing and funding decisions will reflect actual future conditions, but the projections in the revenue requirements analysis reflect realistic overall conditions and are appropriate for planning purposes. Given the current interest rate environment as of the date of this Study, DWSD should continue to monitor borrowing costs and update revenue requirement projections annually. A complete schedule of assumed future borrowing can be found in Schedules 11 and 12 of Appendices A and B for the water and sewer systems, respectively.

3.4 RESULTS

Based on the data, assumptions and policies presented herein, DWSD’s current water and sewer rates will not provide sufficient revenue to meet its ongoing debt service, discrete capital investment appropriately financed through revenue, operation and maintenance expenses, and reserve requirements over an extended multi-year projection period. The level of projected water, wastewater, and drainage adjustments to rate revenues needed to meet these requirements are shown in Table 3-2. The FY 2023 proposed rate adjustments reflect the results of the cost allocation study to rebalance the revenue needed from each system. The total amount of additional revenues generated by the rate increases shown in FY 2023 is 0.8 percent.

Table 3-2: Projected Annual Rate Revenue Increases

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Effective Date	July 1, 2022 <i>Proposed</i>	July 1, 2023 <i>Projected</i>	July 1, 2024 <i>Projected</i>	July 1, 2025 <i>Projected</i>	July 1, 2026 <i>Projected</i>
Water Increase	21.2%	4.0%	4.0%	4.0%	4.0%
Wastewater Increase	-13.7%	4.0%	4.0%	4.0%	4.0%
Drainage Increase	1.8%	4.0%	4.0%	4.0%	4.0%
Total Combined Increase	0.8%	4.0%	4.0%	4.0%	4.0%

It is important to note that the projections of future conditions underlying this analysis are estimates. There are multiple factors beyond the Utility’s control, such as: 1) bad debt and shut offs, 2) grant

funding, 3) GLWA wholesale treatment cost increases, and 4) interest rates and inflation. Moreover, the projections in this Study rely on data and guidance provided during 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 forecast and actual results because events and circumstances frequently do not occur as expected, and those differences may be material.

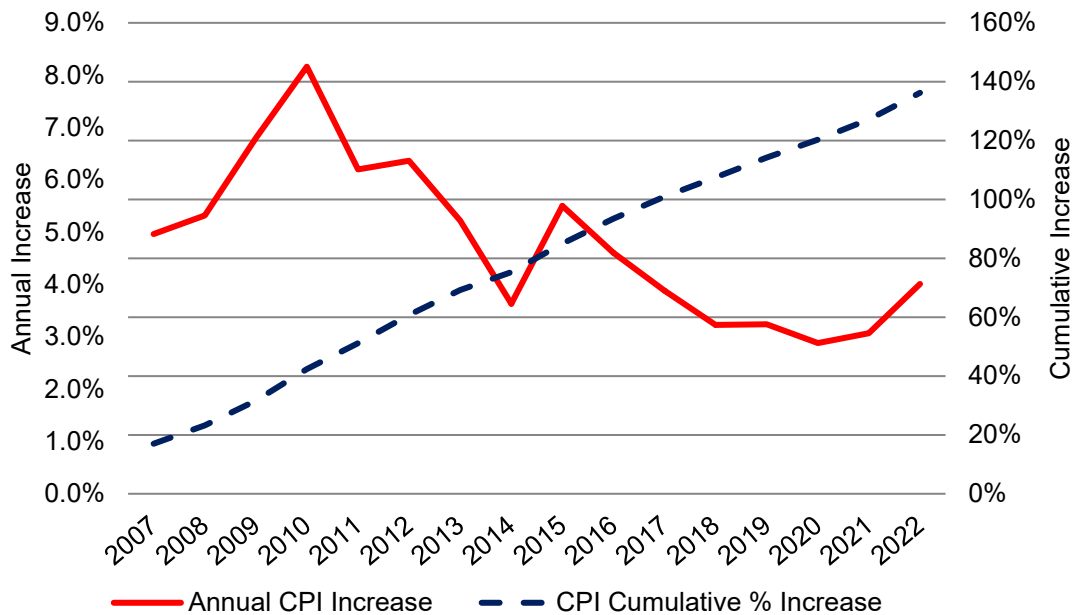
Any changes to the assumptions, such as a reduction in the bad debt expense that may occur as a result of resuming shutoffs or assistance programs, or changes in future interest rates or expense inflation may have an impact on the overall financial forecast and level of rate increase requirements. These variables will be important considerations in DWSD’s annual budgetary and rate setting process moving forward.

Appendices A and B include detailed schedules presenting all components of the financial management plan developed for the Utility.

Local and National Water and Sewer Cost Trends

The rate adjustments identified herein are consistent with national trends and Stantec’s industry experience. As demonstrated in Figure 3-2 the U.S. Consumer Price Index (CPI) Water & Sewerage Maintenance Series, which specifically measures the average national change in the cost of water and wastewater service to households, has risen at an average annual rate of approximately 5.0 percent during the past ten years. Moreover, many of Stantec’s clients across the country are presently experiencing rate increases in the range of 3.0 percent to 8.0 percent per year.

Figure 3-2: US CPI - Water & Sewerage Maintenance Series



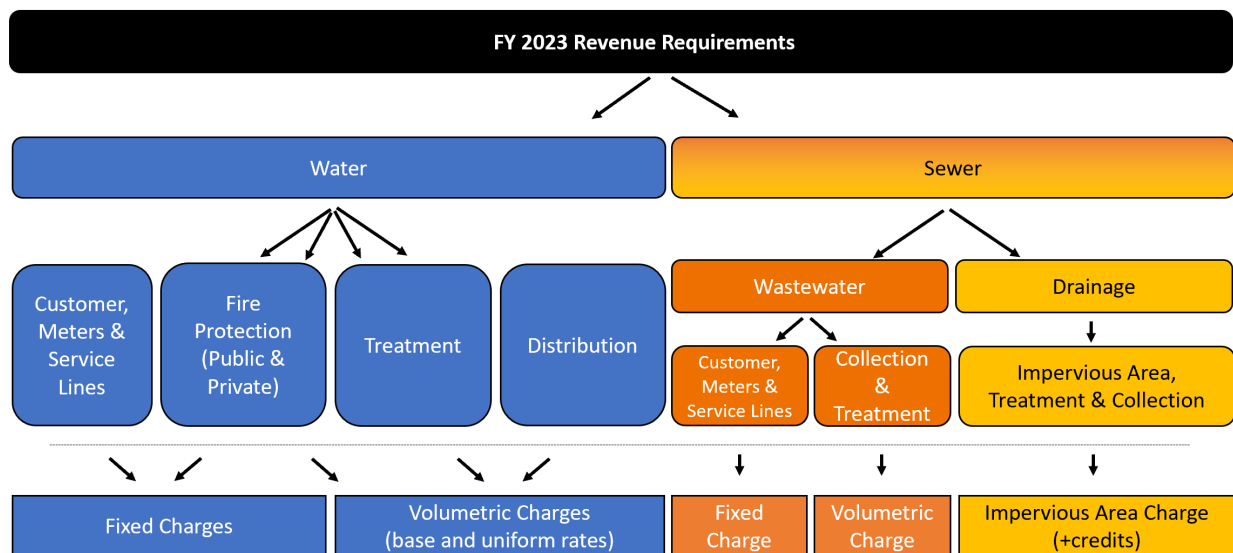
US CPI, Water and sewerage maintenance, Series Id: CUUR0000SEHG01

4. COST ALLOCATION

The purpose of a cost-of-service analysis is to proportionally distribute identified revenue requirements among the various systems and customers served, based on accepted industry best practices. Such practices are documented by water industry publications such as the American Water Works Association's (AWWA) M1 Principles of Water, Rates, Fees, and Charges¹⁹ and the Water Environment Federation's (WEF) Manual of Practice No. 27²⁰.

Figure 4-1 shows the cost-of-service allocation approach followed in this Study. Total FY 2023 Operating Fund revenue requirements were first allocated between the water and sewer systems, and sewer system costs were further allocated between wastewater and drainage. Water system costs were allocated to water functions, and wastewater costs were similarly allocated to wastewater functions. The bottom portion of the graphic shows how the cost allocation forms the cost basis for the development of water, wastewater, and drainage charges.

Figure 4-1: Cost of Service Approach



The Study followed AWWA and WEF industry practices and guidance by:

1. Allocating costs to water, wastewater, and drainage based on individual categories of costs and appropriate allocation criteria.

¹⁹ Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, AWWA M1, Seventh Edition, 2017,

²⁰ Financing and Charges for Wastewater Systems, WEF Manual of Practice No. 27, 2019

2. Allocating water and wastewater costs to individual functions or activities (such as supply, treatment, distribution, meters/services, etc.). This step is often called “functionalization” and it links costs with the functions utilities perform to meet customer demands.
3. Allocating water functional costs to the appropriate cost components (such as average use, maximum day demands, peak hour demands, customer service, etc.). This links costs with the customer usage and service characteristics that drive costs and is called the base/extra-capacity approach for cost allocation.²¹
4. Distributing water cost components to customers in accordance with the demand and service characteristics that customers place on the system. This step identifies the units of service for customers based on meter size and billed volume.

4.1 COST-OF-SERVICE APPROACH

Cost allocation studies reflect the analysis of conditions during a test year, selected to provide a normalized set of circumstances regarding key factors, including operating and capital costs, consumption patterns and revenues, weather influences, and other factors. As noted in Section 3, the revenue requirements analysis projected annual water and sewer system needs based on current conditions and budgets. The cost allocation analysis compiles the current needs and apportions them across DWSD’s systems using specific factors. Revenue requirements for FY 2023 were selected as the test year for the purposes of this cost allocation analysis. The following sections describe how the test year revenue requirements were allocated to systems, functions, cost components, and charge types.

Allocation to Water and Combined Sewer Systems

The allocation of operating expenses, non-operating expenses, and revenue financed capital reflect the specific activities involved in providing water and combined sewer service. Costs from the FY 2023 Budget were aggregated by cost center and allocated between water and sewer systems based on input and data provided from DWSD staff. DWSD’s detailed budget categories simplified the allocation process, allowing direct data-driven allocations in many cases. Expenses with general benefit and no direct link to a key functional category (i.e., indirect expenses) were allocated in proportion to the direct allocation of water and sewer operating costs. The resulting cost allocations by expense type (excluding bad debt) are shown in Table 4-1. Allocation factors and detailed cost allocations are shown in Schedule 2 and Schedule 3 of Appendix C, respectively.

²¹ Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, AWWA M1, Seventh Edition, 2017.

Table 4-1: FY 2023 Costs Allocated to Water and Sewer Systems (\$M)

	Water	Sewer	Total
Operating Expenses	\$43.4	\$53.1	\$96.5
Non-Operating Expenses	\$21.6	\$31.5	\$53.1
GLWA Expenses	\$56.4	\$217.3	\$273.7
Revenue Financed Capital	\$6.6	\$1.2	\$7.8
Total Revenue Requirement	\$128.0	\$303.1	\$431.1

Allocation of Combined Sewer System Costs to Wastewater and Drainage

Sewer revenue requirements were allocated to wastewater and drainage systems based on the drivers of sewer operating and capital costs. Dry weather treatment and collection costs were allocated to wastewater, while wet weather treatment and distribution costs were allocated to drainage. Direct costs in the Storm Drainage cost center were allocated 50 percent directly to drainage and 50 percent based on the weighted allocation of sewer operating expenses to account for the portion of permitting costs included in this cost center. Indirect or administrative departments were allocated based on the weighted allocation of operating costs to wastewater and drainage. The resulting cost allocations by expense type (excluding bad debt) are shown in Table 4-2. Allocation factors and detailed cost allocations are shown in Schedule 2 and Schedule 4a of Appendix C, respectively.

Table 4-2: FY 2023 Sewer System Costs Allocated to Wastewater and Drainage (\$M)

	Wastewater	Drainage	Total
Operating Expenses	\$32.8	\$20.4	\$53.2
Non-Operating Expenses	\$20.9	\$10.6	\$31.5
GLWA Expenses	\$87.5	\$129.8	\$217.3
Revenue Financed Capital	\$0.8	\$0.4	\$1.2
Total Revenue Requirement	\$141.9	\$161.2	\$303.1

4.2 ALLOCATION OF WASTEWATER SYSTEM COSTS

Wastewater revenue requirements were allocated to the following system functions: treatment, collection, meters & service lines, and customer. Meters & service line-related costs are primarily meter operations activities shared by the water and wastewater systems and were allocated based on the proportion of respective accounts. Wastewater accounts are billed based on water meter readings and are responsible for a proportional share.

As a wholesale customer of GLWA, DWSD does not directly monitor industries with higher than domestic strength wastewater;²² if DWSD were responsible for monitoring and charging customers based on wastewater strength characteristics, additional wastewater system functions would be required for cost allocation purposes. GLWA wholesale treatment costs were allocated directly to treatment, while DWSD operating and debt service costs were allocated to collection, meters and service lines, and customer functions. The wastewater system's share of WRAP expenses was allocated to functions based on the weighted allocation of operating costs. Table 4-3 shows the summary of cost allocations (excluding bad debt) to functions. Allocation factors and detailed cost allocations are shown in Schedule 2 and Schedule 5 of Appendix C, respectively.

Table 4-3: FY 2023 Wastewater Costs Allocated to Functions (\$M)

	Treatment	Collection	Meters & Service Lines	Customer	Total
FY 2023 Revenue Requirement (\$M)	\$85.1	\$41.3	\$8.2	\$7.3	\$141.9

Customer counts and billed sewer volume, currently based on billed monthly water use, are used to further allocate wastewater costs to customers. Industry guidelines recognize two primary approaches to allocating wastewater costs: the quantity/quality approach and the surcharge approach. Under the quantity/quality approach, wastewater is measured, and rates are based on the amount of pollutants discharged to the system. With the surcharge approach, all customers are assumed to contribute average domestic strength waste. Those monitored users discharging above a certain limit are assessed a high strength surcharge. DWSD, by way of GLWA's treatment cost recovery policies following the surcharge approach, recovers its wastewater costs uniformly across its customers. The units of service for wastewater cost allocations, therefore, are total accounts billed monthly and total billed volume.

Given DWSD's wastewater service characteristics, the functionalized revenue requirements are simply allocated to two cost components: fixed and volume. Meters & service lines- and customer-related costs are allocated as fixed costs, and treatment- and collection-related costs are allocated as volumetric costs. Table 4-4 presents the FY 2023 wastewater costs by cost component and current units of service.

Table 4-4: FY 2023 Wastewater Costs Allocated to Cost Components

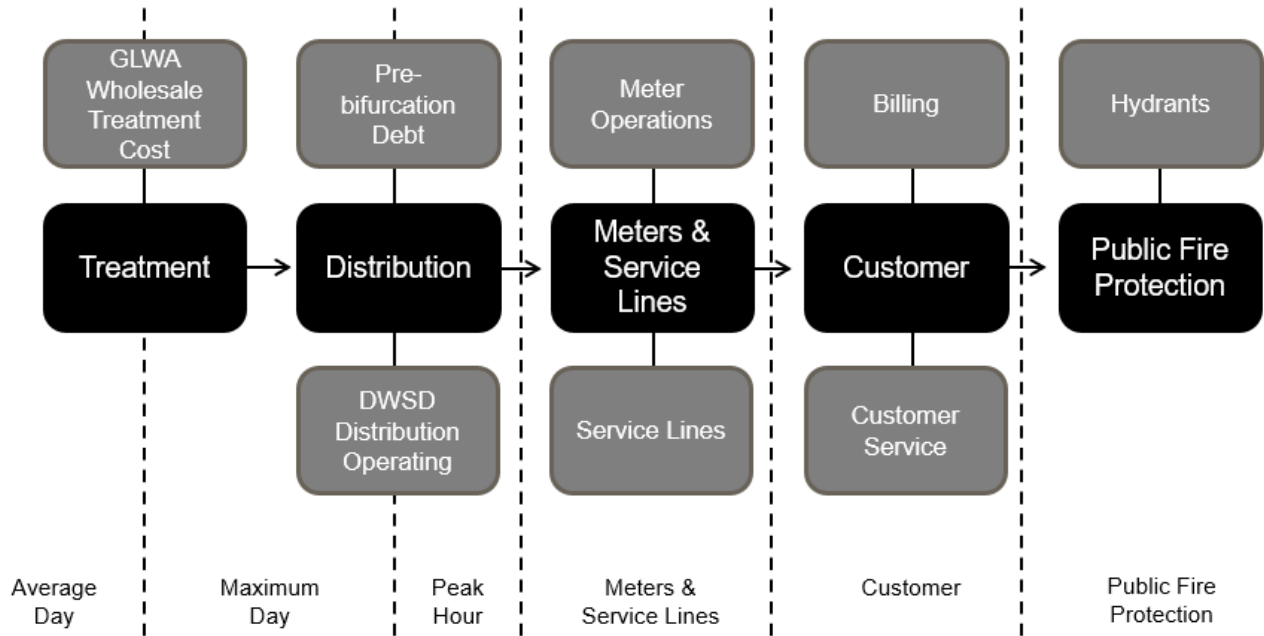
	Fixed	Volumetric	Total
FY 2023 Revenue Requirement (\$M)	\$15.5	\$126.4	\$141.9
Units of Service			
Wastewater Accounts	188,993		
FY 2023 Billed Usage (Mcf)		2,403,460	

²² GLWA imposes an industrial waste control charge to industrial customers. This cost is a pass-through for DWSD.

4.3 ALLOCATION OF WATER SYSTEM COSTS

Water revenue requirements were allocated following the AWWA M1 base extra capacity approach, as shown in Figure 4-2. This approach first allocates costs to system functions, then to cost components, and then to customers based on units of service. Figure 4-2 provides a sample of DWSD’s revenue requirements cost categories and allocation steps.

Figure 4-2: Water System Allocation Approach



As shown in Figure 4-2, GLWA wholesale water treatment costs were allocated directly to the treatment function. DWSD operating expenses such as meter operations, billing, and distribution operations were allocated based on their respective functions. Pre-bifurcation debt service was allocated to the distribution function because pre-bifurcation debt is related to distribution system assets. Expenses related to administration, finance support, and compliance were allocated in proportion to the direct allocation of water operating costs. Table 4-5 shows the summary of cost allocations (excluding bad debt) to water system functions. Allocation factors and detailed cost allocations are shown in Schedule 2 and Schedule 6 of Appendix C, respectively.

Table 4-5: FY 2023 Water Costs Allocated to Functions (\$M)

	Treatment	Distribution	Meters & Service Lines	Customer	Public Fire Protection	Total
FY 2023 Revenue Requirements (\$M)	\$23.0	\$89.0	\$8.5	\$6.8	\$0.7	\$128.0

Allocation of Functions to Cost Components

The next step in the process is the allocation of functional costs to cost components. This step links costs with customer usage and service characteristics that drive those costs and is known as the base/extra-capacity approach for cost allocation. Water system components include average day water demands, maximum day extra capacity demands, peak hour extra capacity demands, meters and service lines, customer, and fire protection. These costs components included in the analysis are standard for a water utility and reflect the different ways a utility provides service and incurs cost. Notably, the Utility makes significant investments in meeting the peak needs of customers where they occur, and when they occur. To serve their customers, utilities such as DWSD are required to plan, install, and maintain water capacity in a manner that provides service reliability. From a cost perspective, the Utility incurs peak-related costs year-round, even if customers only use that peak for short periods during the year. Certain water system functions are sized for and service multiple types of water demands. For these functions, ratios of daily and hourly water demands to measured average annual water demands were applied and used in the allocation process.

Retail system average annual demand (or usage) is based on FY 2021 billing data. Retail system maximum day and peak hour factors are based on a previous study completed for GLWA on units of service for its non-master metered customers²³. Total system maximum day and peak hour factors are calculated by adding fire flow requirements to retail requirements for average day demands and extra capacity units. GLWA does not have actual average and peaking factors for DWSD because DWSD is a non-master metered community. The information used for this Study are estimates derived from detailed studies conducted by GLWA, which provide the best data for purposes of this analysis.

Fire flow requirements were calculated in this Study based on a detailed review of the City of Detroit Fire Department calls for service data from 2017 through 2021. Actual maximum fire incidents per day and per hour were averaged for structure fires. Schedule 9 of Appendix C shows the maximum number of fires per day and maximum coincident fires, by year for FY 2017 through FY 2021, for residential and non-residential structure fires. The number of fire incidents was averaged over the five-year period. Durations in minutes and fire flow needs in gallons per minute (gpm) for single family and non-single family fires were obtained from Insurance Services Office (ISO) guidelines and ISO fire suppression rating schedules²⁴. Service line equivalencies for private fire connections were calculated using the cost of replacing a 5/8" meter and the cost of replacing a service line at the given diameter. The calculation of fireline equivalencies is shown in Schedule 15 of Appendix C.

²³ Units of Service for Non-Master Metered Customers of Great Lakes Water Authority and System Water Audit, Phase 1 Report and Recommendations, GLWA Project CS-039, Black & Veatch, December 8, 2017.

²⁴ Insurance Services Office, Inc, Guide for Determination of Needed Fire Flow, Chapter 7, 2014.

Using these data, maximum day and peak hour fire flow units were calculated. Table 4-6 shows the calculation of system units of service and maximum day and peak hour ratios.

Table 4-6: Calculated DWSD Peaking Ratios

	Average Day Units	Max Day Units	Peak Hour Units
Mcf per Day	7,089.8	9,506.7	11,245.9
DWSD Coincident Peaking Ratios	1.00	1.34	1.59
Calculated DWSD Fire Flow Requirements	-	794.1	2,887.7
Total with Fire Flow Requirements	7,089.8	10,300.9	14,133.6
Calculated DWSD Peaking Ratios	1.00	1.45	1.99

Table 4-7 shows the M1 approach to allocating functional costs to cost components based on the service provided by each function and associated peaking factors shown in Table 4-6. For example, the treatment function provides average day and maximum day demands. The base portion of those demands is 69%, while the extra maximum day demand portion makes up 31%. Total costs by costs component are determined in this step.

Table 4-7: Water System Functional Allocations to Cost Components

	Base Average Day	Extra Max Day	Extra Peak Hour	Meters & Service Lines	Customer	Public Fire Protection	Total (\$M)
Treatment	69%	31%					\$23.0
Distribution	50%	23%	27%				\$89.0
Meters & Service Lines				100%			\$8.5
Customer					100%		\$6.8
Public Fire Protection						100%	\$0.7
Total (\$M)	\$60.5	\$27.4	\$24.1	\$8.5	\$6.8	\$0.7	\$128.0

Distribution to Customers

All retail customers share in public fire protection-related costs; however, private fire protection customers have separate fire protection service connections and benefit from extra capacity provided by DWSD. In distributing costs to customers, utilities consider customer characteristics and demand patterns.

Customer billing data and data from the City of Detroit Fire Department was used to determine customer characteristics, such as number of customers by meter size, number of public hydrants, billed volume, and fire flow. Table 4-8 shows the units of service for the water system. These units are used to allocate water costs by components to charge types and ultimately customers. Schedule 9 and Schedule 10 of Appendix D show the calculation of DWSD Fire Flow Requirements and Equivalent Fire Units, respectively, used to calculate the public and private fire protection units of service, respectively.

Table 4-8: Water Units of Service

	Base Average Day (Mcf/Day)	Extra Max Day (Mcf/Day)	Extra Peak Hour (Mcf/Day)	Equivalent Meters/Service Lines	Bills per Year	Hydrants
Retail	7,090	2,417	1,739	243,907	2,299,762	-
Public Fire	-	743	1,959	-	-	29,948
Private Fire	-	51	135	15,642	21,017	-
Total Units	7,090	3,211	3,833	259,548	2,320,779	29,948

Table 4-9 shows the allocation of cost components from Table 4-7 allocated to service types based on the relative proportion of units of service shown in Table 4-8.

Table 4-9: Water System Allocation of Cost Components to Services (\$M)

	Base Average Day	Extra Max Day	Extra Peak Hour	Meters & Service Lines	Customer	Direct Fire Protection	Total
Retail	\$60.5	\$20.6	\$10.9	\$8.0	\$6.8	-	\$106.7
Public Fire	-	\$6.3	\$12.3	-	-	\$0.7	\$19.4
Private Fire	-	\$0.4	\$0.8	\$0.5	\$0.0	-	\$1.9

Fire Protection Costs

DWSD incurs costs for fire protection both for public and private fire services. All retail customers benefit from the extra capacity in DWSD's system that provides water needed for fire suppression in the community. Such extra capacity improves sufficiency and water pressure and facilitates irrigation. As shown in Table 4-8, private fire protection accounts represent a separate customer class in DWSD's system receiving additional protection. Such connections benefit from on-demand water service that is unlike public service provided to retail customers.

Total fire protection costs include direct costs that are identified by DWSD in its work order management records as maintenance and repair of public fire hydrants. Indirect fire protection costs are related to the extra capacity requirements in DWSD's water system required for fire protection service. Direct fire protection costs are allocated to public fire service because these costs are related to public hydrants. Indirect fire protection costs are calculated and allocated between public and private fire service based on units of service developed in this Study.

Following the base/extra-capacity method for allocating water costs as recommended in AWWA Manual M1, costs were allocated to public and private fire protection customers proportionally based on potential peak use of the system.²⁵ First, total maximum day and peak hour demands needed for fire suppression

²⁵ Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, AWWA M1, Seventh Edition, 2017, pages 162 – 163.

within DWSD's system were calculated using maximum fire incidents per day and per hour averaged over a five-year period with required durations and gallons per minute of fire flow given ISO guidelines. The resulting demands in MGD were converted to total fire flow requirements in Mcf.

Next, maximum day and peak hour extra capacity water demands were allocated between public and private fire by proportion of equivalent capacity units. Each hydrant is assumed to be installed on a 6" line. Equivalent private fire connections by line size were determined by calculating the flow capacity equivalents to a 6" fire line size. Once the shares of extra capacity demands were determined for public and private fire services, extra capacity costs were allocated to retail service for the public fire protection portion of costs and to private fire protection service for private fire service costs.

Additionally, costs were allocated to private fire accounts for maintenance of meters and service lines using DWSD's actual installation and materials costs for firelines by size, including the cost of a 5/8" meter used to detect flows through private fire connections. These costs and allocation factors are shown in Schedule 15 of Appendix C. Customer service-related costs were allocated to private fire protection accounts based on 12 annual bills (one per month) sent to each private fireline connection. Public fire service costs are recovered through the water fixed charges as described in Section 5.1.

4.4 ALLOCATION OF DRAINAGE SYSTEM COSTS

WEF's manual of stormwater charges²⁶ describes several reasonable methods for establishing property characteristics used to apply the stormwater charges, including impervious area by parcel, average impervious area, gross area factored by runoff coefficient, class intensity of development, and equivalent hydraulic area. Key considerations for selecting the appropriate method described in the manual are equity and availability of data. During FY 2022, DWSD completed an assessment of impervious acres, which is reported in Table 4-10 (along with the FY 2023 cost of service, excluding bad debt and cost of credits). Billable impervious acres (BIA) compile all types of properties within DWSD's drainage service area subject to stormwater charges (including Detroit Land Bank Authority parcels). The availability of impervious area by parcel provides DWSD the most equitable basis for applying drainage charges and recognizes that impervious area is widely recognized as the largest contributor to runoff.

Table 4-10: FY 2023 Drainage Costs & Units of Service

FY 2023	
Revenue Requirement (\$M)	\$161.2
Units of Service	
Billable Impervious Acres (BIA)	26,461

²⁶ Water Environment Federation, *User-Fee-Funded Stormwater Programs*, Second Edition, 2013.

4.5 NON-RATE REVENUE, BAD DEBT, AND DRAINAGE CREDITS

After allocating costs to water, wastewater, and drainage, offsetting non-rate revenues and bad debt were applied in proportion to the cost of service to determine the overall level of revenue requirement from fixed charges, volumetric rates, and drainage charges. Non-rate revenues include miscellaneous sources such as penalties and fees and reduce the revenue required from rates for each system.

Bad debt represents a percentage of retail rate revenues that is not collected by DWSD. Bad debt increases the revenue required from rates. Historically, bad debt varies by customer class, but in general, has been approximately 10% of water and wastewater rate revenues and 18% of drainage revenues. Some of the drainage system bad debt has resulted from the Michigan Department of Transportation (MDOT) disputing the amount of acres for which it was billed and DWSD's interpretation of language in a 1989 Consent Judgment. DWSD has recently reached a settlement of the dispute that will resolve the credits offered MDOT for highway impervious acres and result in an equitable and improved drainage cost recovery from this customer. Schedule 11 of Appendix C shows the detailed allocation of non-rate revenue and bad debt to each utility, function, and class.

Moreover, the drainage revenue requirements also reflect the amount of credits that will be applied to residential, highway drainage, and green credit customers in FY 2023. The drainage credit calculation, based on the calculated rate shown in the following section of this report and the latest BIA data, is shown in Schedule 4 of Appendix D.

4.6 RESULTS

The results of the cost allocation analysis for water, wastewater, and drainage are depicted in Figure 4-3. The results demonstrate that current revenues are generally proportional to the rate revenue requirements resulting from the cost-of-service analysis. FY 2023 rate revenues will reflect the cost-of-service allocation results, which represent a \$20 million shift from wastewater to water and a small increase in drainage costs (before credits).

Figure 4-3: Rate Revenue Requirements vs. Current Revenue by System

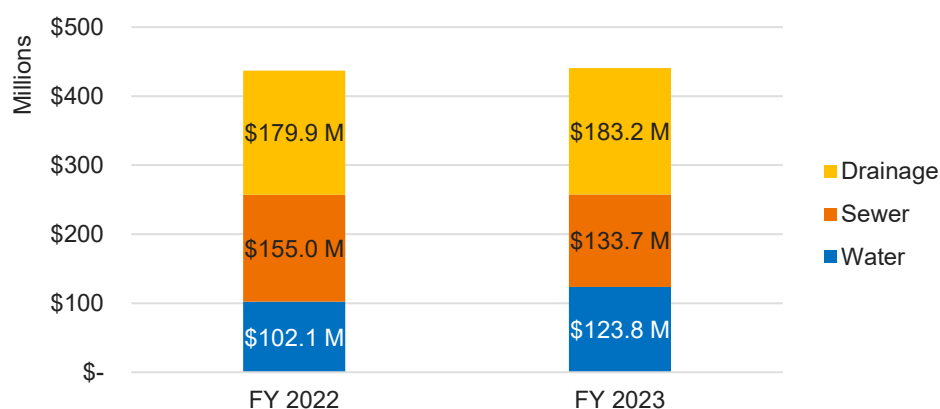


Figure 4-4 and Figure 4-5 show the wastewater and water cost allocation to rate components: wastewater fixed and volumetric charges and water fixed, volumetric, and private fireline charges.

Figure 4-4: Wastewater Rate Revenue Requirements vs. Current Revenue

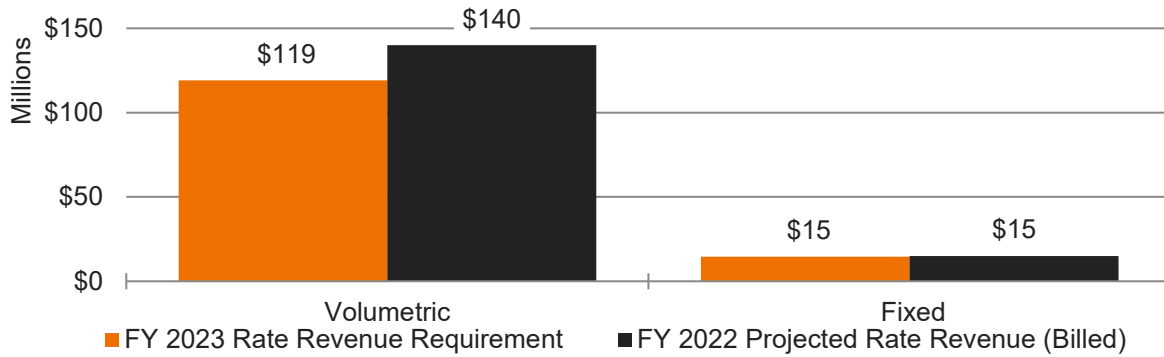
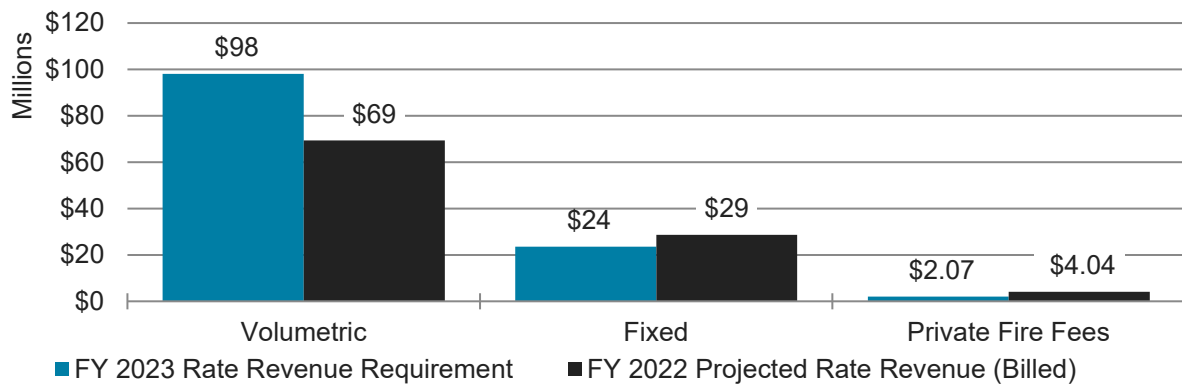


Figure 4-5: Water Rate Revenue Requirements vs. Current Revenue

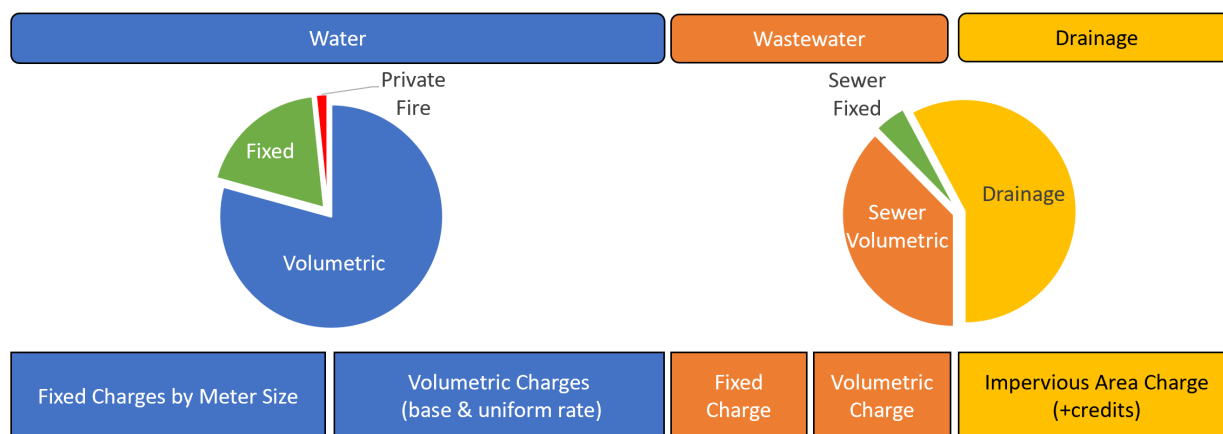


5. RATE DESIGN

Stantec examined DWSD's current water, wastewater, and drainage rates and developed recommended rate structure modifications that 1) proportionally recover cost of service and revenue requirements from each system, 2) conform to accepted national and local industry best practices, and 3) promote affordability, equity, and conservation.

The cost allocation analysis presented previously connects the specific types of system costs with rate structure components as shown in Figure 5-1.

Figure 5-1: Rate Design Approach



The following sub-sections describe the Study's recommended rate structures in more detail.

5.1 WATER FIXED CHARGES

Water fixed charges are recommended to recover three types of costs through a monthly meter charge:

- Customer service costs, which are allocated uniformly to all meters.
- Meters and service line costs, which reflect replacement cost by meter size.
- A portion of public fire protection costs (capital, debt, and GLWA expense) that are scaled based on hydraulic capacity of each meter size determined using AWWA M22 Sizing Water Service Lines and Meters²⁷.

Figure 5-2 shows the allocation of costs recovered in the recommended water fixed charge and the approach for allocating each cost to the monthly meter charge for meter sizes up to 2". Larger meter sizes are not shown; however, all meter sizes follow the same approach.

²⁷ Sizing Water Service Lines and Meters, AWWA M22, Third Edition, 2014.

Figure 5-2: Water Fixed Charge Approach

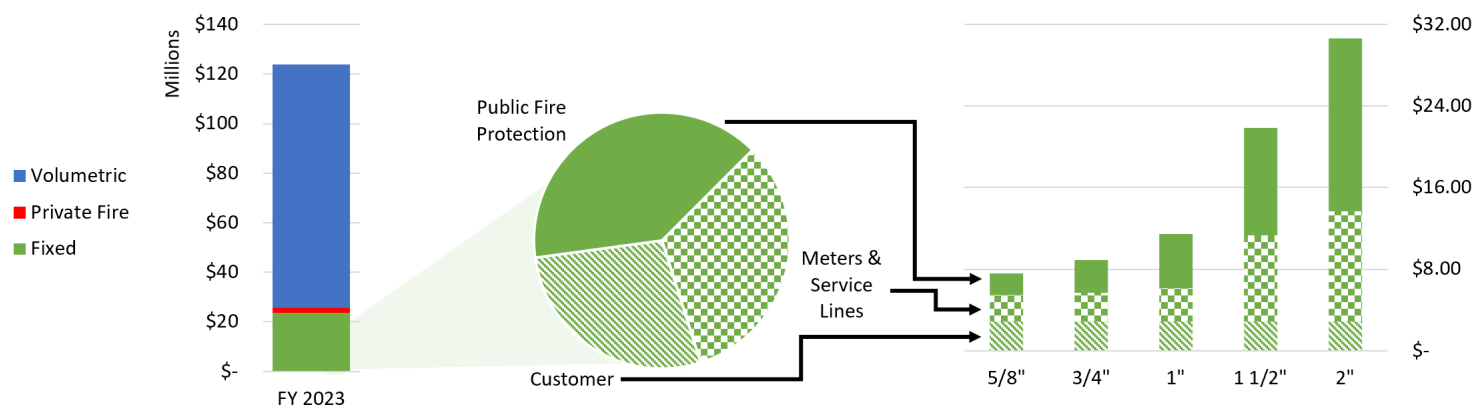


Table 5-1 shows the number of meters by meter size, meter equivalency factors by meter size and fixed charge cost type, and the calculation of the charge per equivalent unit by component.

Table 5-1: Meter Equivalency Factors by Cost Type

Meter Size	Meter Count	Customer	Meters & Service Lines	Public Fire Protection
Revenue Requirement		\$6,544,251	\$7,688,955	\$9,348,988
5/8"	137,605	1.00	1.00	1.00
3/4"	33,579	1.00	1.09	1.50
1"	11,024	1.00	1.27	2.50
1.5"	2,865	1.00	3.22	5.00
2"	2,720	1.00	4.12	8.00
3"	672	1.00	14.92	25.50
4"	539	1.00	17.07	46.00
6"	269	1.00	26.07	140.00
8"	85	1.00	37.16	185.00
10"	38	1.00	66.58	352.25
12"	4	1.00	98.00	550.40
14"	0	1.00	144.27	880.65
16"	1	1.00	212.37	1,144.85
Equivalent Meters		191,647	243,907	367,978
Charge per Equivalent per Month		\$2.85	\$2.63	\$2.12

The current and proposed monthly water meter charges are shown in Table 5-2.

Table 5-2: Summary of Current and Proposed Water Meter Charges

Meter Size	Current Meter Charge (per month)	Proposed Meter Charge (per month)
5/8"	\$7.86	\$7.59
3/4"	\$11.79	\$8.88
1"	\$19.65	\$11.47
1.5"	\$39.31	\$21.88
2"	\$62.89	\$30.62
3"	\$125.79	\$96.03
4"	\$196.54	\$145.08
6"	\$393.08	\$367.74
8"	\$628.93	\$492.14
10"	\$904.08	\$923.52
12"	\$1,218.55	\$1,425.61
14"	\$1,690.24	\$2,246.35
16"	\$2,240.56	\$2,984.63

Private fireline charges are calculated based on the private fireline revenue requirement from the cost allocation process and equivalent fireline connection size. A 6-inch fireline is considered the base size against which other sizes are compared. Equivalent connection size equivalencies are calculated based on the Hazen-Williams formula that relates the capacity of flow in a pipe to its inside diameter²⁸.

Table 5-3 shows the number of fireline connections by connection size and connection equivalency factors used for calculating private fireline charges by size.

Table 5-3: Summary of Connections & Equivalency Factors

Connection Size	Connection Count	Connection Equivalency (Hazen Williams)
4"	614	0.34
6"	607	1.00
8"	428	2.13
10"	40	3.83
12"	20	6.19

²⁸ The Hazen-Williams equation determines relative flow potential for service connections by raising the diameter of the pipe to the 2.63 power. Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, AWWA M1, Seventh Edition, 2017, page 163.

Table 5-4 shows the current and proposed private fireline charges based on the private fireline cost allocation and connection equivalency factors in Table 5-3.

Table 5-4: Summary of Current and Proposed Private Fireline Charges

Connection Size	Current Charge (per month)	Proposed Charge (per month)
4"	\$94.41	\$28.84
6"	\$196.69	\$83.78
8"	\$283.23	\$178.54
10"	\$456.32	\$321.07
12"	\$676.61	\$518.62

5.2 WATER VOLUMETRIC RATES

DWSD's current water volumetric rate is applied uniformly to all water use. Water rate structures vary widely in the industry; uniform volume rates are becoming less common as water conservation and affordability of water service become priority pricing objectives. As part of the Study, an alternative approach was evaluated that is based on cost of service principles that had the added benefit of improving the affordability of DWSD's water bills for lower volume users and providing a price incentive for conservation for higher volume users.

A two-tiered volumetric rate structure was determined to meet DWSD's objectives of a simple, equitable, and affordable water rate structure for retail water service to its customers. The tiered structure offers a lower rate per Mcf to all customers up to a certain threshold of monthly water use. Usage during the month that exceeds the threshold is charged at a higher rate. Such an approach incentivizes customers to monitor monthly water use and provides an incentive to reduce water use within the first-tier threshold. This structure also provides lower bills to all low volume water users, regardless of income.

A summary of the approach follows. Fundamentally, the recommended water volumetric rates will recover other water system costs not covered in the fixed charges from a two-tiered structure.

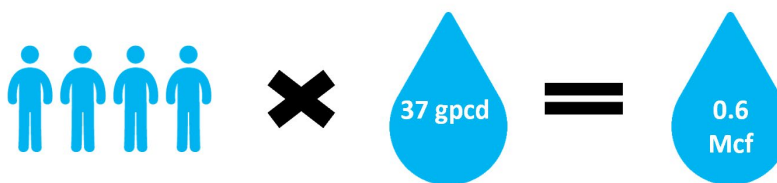
- Base tier threshold of 0.6 thousand cubic feet (Mcf) per month was calculated based on estimated indoor residential water use²⁹ and substantiated based on a review of DWSD FY 2021 monthly billed volume distributions.

²⁹ Assumes four people per household and 36.7 gallons per capita per day based on *Residential End Uses of Water, Version 2*, The Water Research Foundation, 2016. Monthly usage calculates to be 4,040 gallons, or 0.6 Mcf.

- Base tier rate was calculated by dividing average day costs by total usage volume, plus Tier 1 peaking costs³⁰, divided by Tier 1 volume. The base tier structure applies to all customers for the first 0.6 Mcf of water use each month.
- New uniform tier rate for all use above 0.6 Mcf calculated based on average day costs divided by total volume, plus Tier 2 peaking costs divided by Tier 2 volume. The higher tier reflects allocation of costs to the water users who impose increased burden on the system due to peak demand.

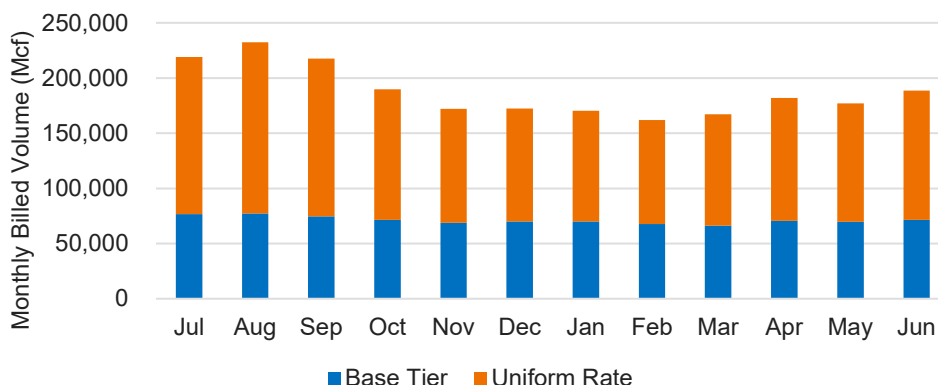
Figure 5-3 shows the calculation for the base tier size of 0.6 Mcf per month. Although this calculation is conceptually based on a residential profile of efficient indoor water use, it is applied to all retail customers.

Figure 5-3: Base Tier Size Analysis



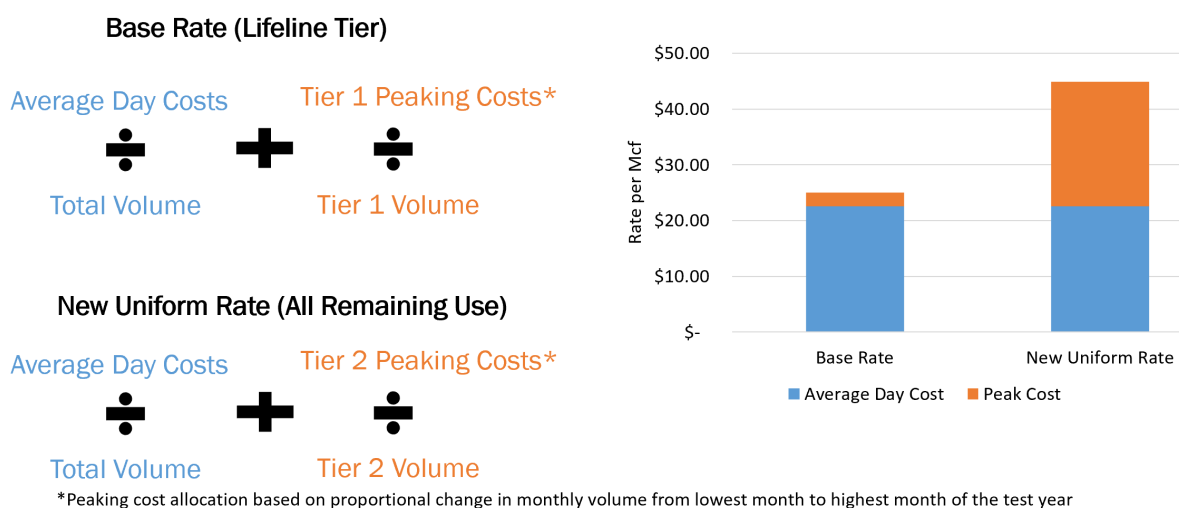
The following Figure 5-4 shows the resulting volume in each tier by month, based on 2021 billing data for all retail customers. The chart demonstrates that there is minimal peaking in the base tier because the amount of water use stays consistent throughout the year. The water system incurs additional costs to meet peak demands; therefore, allocating peak costs to proportionally to the tiers results in peak-related costs being paid by the customers who contribute to increasing peak demands.

Figure 5-4: Amount of Water Use that Falls in Each Tier



The following Figure 5-5 shows the calculation of the base rate and new uniform rate as well as the resulting rate per Mcf of the base tier and new uniform tier.

³⁰ Peaking cost allocation between the tiers reflects the proportional change in monthly volume from lowest month to highest month for each tier based on DWSD FY 2021 billing data.

Figure 5-5: Water Volumetric Rates Pricing Analysis

The current and proposed water volumetric rates are shown in Table 5-5.

Table 5-5: Summary of Current and Proposed Water Volumetric Rates

Current Tier	Current Volumetric Rate (per Mcf)	Proposed Tier	Proposed Volumetric Rate (per Mcf)
All Use	\$26.60	Base Tier (0-0.6 Mcf)	\$25.04
		Uniform Tier (>0.6 Mcf)	\$44.92

5.3 WASTEWATER FIXED CHARGES AND VOLUMETRIC RATES

Wastewater costs are recovered through a monthly customer charge and volumetric rate. Currently, the uniform volumetric rate is applied to each customer's monthly billed water usage to determine the volume component of the sewer bill. While this is not a unique practice within the wastewater industry, utilities will often make allowances for seasonal water demands such as outdoor irrigation that likely does not return to the wastewater system.

Alternative approaches to billing for total water use include average winter water consumption calculations for each customer that serve as the basis for sewer bills in the summer months. Implementation of a sewer cap on water usage for residential customers is another approach used in the industry. Applying a cap is appropriate for residential customers that have relatively homogeneous usage profiles, compared to the wide variability of usage in commercial customers that makes a uniform cap amount problematic. Moreover, many commercial customers will have separate metering configurations for water only demands. Regardless, both approaches better approximate actual water usage that returns through the wastewater system.

A summary of the recommended rate structure for wastewater is as follows.

1. Recover wastewater customer-related costs through a fixed monthly charge that applies equally to each customer bill.³¹
2. Proposed volumetric rate approach uses each customer's monthly average winter consumption (AWC) or actual water use, whichever is lower, as the basis for billing the volumetric rate.
 - a. AWC is based on average water use from January through March.
 - b. AWC is applied to all customer classifications.
3. Interim wastewater volumetric rate approach applies monthly cap of 1.2 Mcf on individually metered residential units.
 - a. Continue using billed monthly water use for all other customers.
 - b. Use until AWC can be implemented in billing system (FY 2024).

The current and proposed wastewater service charges are shown in Table 5-6.

Table 5-6: Summary of Current and Proposed Wastewater Service Charge

	Current Charge (per bill)	Proposed Charge (per bill)
All Customers	\$6.54	\$6.34

The current and proposed wastewater volumetric rates are shown in Table 5-7.

Table 5-7: Summary of Current and Proposed Sewer Volumetric Rates

	Current Volumetric Rate (per Mcf)	Proposed Volumetric Rate (per Mcf)
All Use	\$57.06	\$55.40

5.4 DRAINAGE CHARGES

The drainage charge was calculated based on the cost-of-service results, which incorporate credits, and the latest available billed impervious area (BIA) data. DWSD offers drainage charge or user fee credits to qualifying customers. The credits are ongoing reductions in the customer's drainage charge based on the demonstration of stormwater management practices that provide DWSD with a cost savings that DWSD would otherwise incur as part of their efforts to manage drainage runoff. Credits are a key component of DWSD's stormwater program as they provide the customer with the ability to voluntarily reduce or control

³¹ Wastewater customer costs include meters and service line-related costs, allocated proportionally to water and wastewater based on customer bills. While water meters and service line-related costs were scaled in fixed charges based on meter and service line replacement costs by water meter/service line size, DWSD currently charges sewer fixed costs per customer and does not scale based on water meter/service line size. DWSD may want to consider scaling wastewater fixed charges based on meter size in a future analysis.

their use of the stormwater system, which is a key component of user fees. Additionally, credits provide an incentive for customers to proactively manage stormwater on their property, thus encouraging effective stormwater management within DWSD and reducing the burden on the drainage system. The credit calculation is shown in Schedule 4 of Appendix D.

The current and proposed drainage charges per impervious acre are shown in Table 5-8.

Table 5-8: Summary of Current and Proposed Drainage Charges

	Current Charge (per month per impervious acreage)	Proposed Charge (per month per impervious acreage)
All Customers	\$677.00	\$678.28

Public Rights of Way (ROW)

Public rights-of-way (ROW) serve as vital components of the DWSD drainage system. ROW include streets, curbs and inlets, and other parcels of land that allow for buried drainage infrastructure. Without these key assets DWSD would be required to develop alternative infrastructure to convey runoff and therefore the ROW are considered integral to the drainage conveyance network. It is important to take these benefits into account as part of the drainage rate calculations. Stantec used two approaches to evaluate the net benefits associated with the role of public ROW in the management of drainage within DWSD.

The first approach is based on the cost of providing drainage service to ROW compared to the cost of acquiring the ROW easements. The first step in determining the cost of providing drainage service is to establish the drainage rate if ROW impervious area were included. DWSD has an estimated 15,872 acres of public ROW not currently included in its drainage charge calculation. The updated drainage charge per impervious acre was then applied to these total ROW acres to establish the cost of providing drainage service per year.

The benefit of ROW was evaluated based on the value of the easements needed to convey DWSD's stormwater. The calculation is based on a range of costs per square foot of vacant land within the City of Detroit,³² the miles of system in the public ROW, and a 6.00% rate of return. The resulting cost reflects a range of credits that could be applied to the ROW if a drainage charge was applied. The analysis found that the credits would be higher than the revenue received from the ROW, based on the above drainage cost evaluation. The detailed analysis is presented in Schedule 5 of Appendix D.

³² CDM Smith, *Expert Report of John A. Aldrich In the Matter of Binns et al. v City of Detroit DAART et al. v. City of Detroit Wayne County Circuit Court Case No. 21-009013-PZ (on referral from Michigan Court of Appeals Case No. 337609 and Case No. 339176)*, April 8, 2022.

The second approach evaluated the cost of public ROW to the drainage system by estimating the public ROW wet weather flow contributed to DWSD's system. Total ROW impervious area in DWSD's drainage area was estimated based on similar studies' experience in acres of impervious area contributing runoff. Cost per million gallons per day (MGD) of wet weather flow was applied to ROW's contributed flow to estimate the cost.

Benefits that public ROW provide to DWSD's drainage system were calculated again using wet weather flow. For conveyance benefits, estimates of impervious acres for which ROW convey stormwater runoff were calculated. Cost per MGD was applied to the wet weather flow conveyed by ROW. When benefits were compared to costs, the net benefit of ROW was positive, indicating the value provided by the public ROW exceeds the drainage costs attributable to the ROW. The detailed analysis is presented in Schedule 5 of Appendix D.

Based on both analyses, which demonstrate that the benefit of having ROW is higher than the cost, it is not recommended to add public ROW to the drainage charge system.

5.5 CUSTOMER BILL IMPACTS

Table 5-9 presents a summary of the monthly impacts to single family residential customers with 5/8" meters at various levels of water use. These projections include the revenue requirement adjustments, cost-of-service adjustments, and rate structure modifications recommended herein.

Table 5-9: Single Family Combined Water, Wastewater, and Drainage Bill (5/8" Meter)

Water Use (Mcf)	Percentage of Bills	Current Bill	Calculated Bill	\$ Change	% Change
0.0	11%	\$39.79	\$39.37	-\$0.42	-1.1%
0.1	19%	\$48.15	\$47.41	-\$0.74	-1.5%
0.2	31%	\$56.52	\$55.45	-\$1.07	-1.9%
0.3	43%	\$64.89	\$63.50	-\$1.39	-2.1%
0.4	54%	\$73.25	\$71.54	-\$1.71	-2.3%
0.5	64%	\$81.62	\$79.59	-\$2.03	-2.5%
0.6	72%	\$89.98	\$87.63	-\$2.35	-2.6%
0.7	78%	\$98.35	\$97.66	-\$0.69	-0.7%
0.8	83%	\$106.72	\$107.69	\$0.97	0.9%
0.9	86%	\$115.08	\$117.73	\$2.65	2.3%
1.0	89%	\$123.45	\$127.76	\$4.31	3.5%
1.1	91%	\$131.81	\$137.79	\$5.98	4.5%
1.2	92%	\$140.18	\$147.82	\$7.64	5.5%
1.3	94%	\$148.55	\$152.31	\$3.76	2.5%

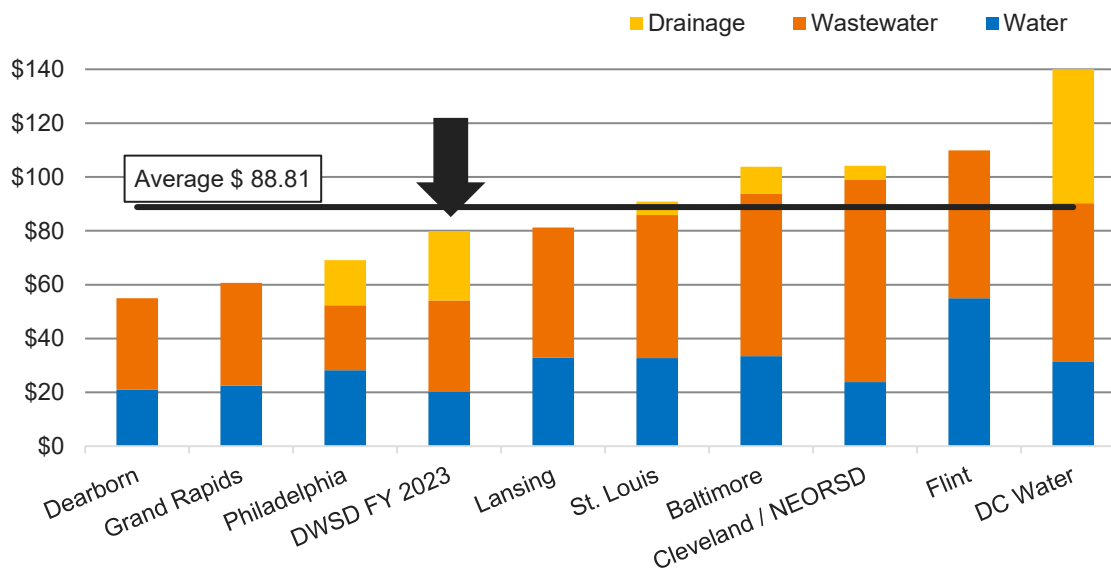
Note:

1. Proposed bill reflects water, wastewater, and drainage FY 2023 revenue requirements.
2. Proposed bill reflects water rate structure changes and wastewater volumetric rate cap of 1.2 Mcf.

- Assumes 0.05 billable impervious acres for drainage portion of bill.

Stantec prepared a survey of monthly residential bills for local and national peers. Figure 5-6 shows the results of this survey, comparing current water, wastewater, and drainage monthly charges to DWSD’s proposed FY 2023 monthly charge for a typical residential customer. DWSD’s bill of \$79.59 per month is lower than the average bill of \$88.81 per month.

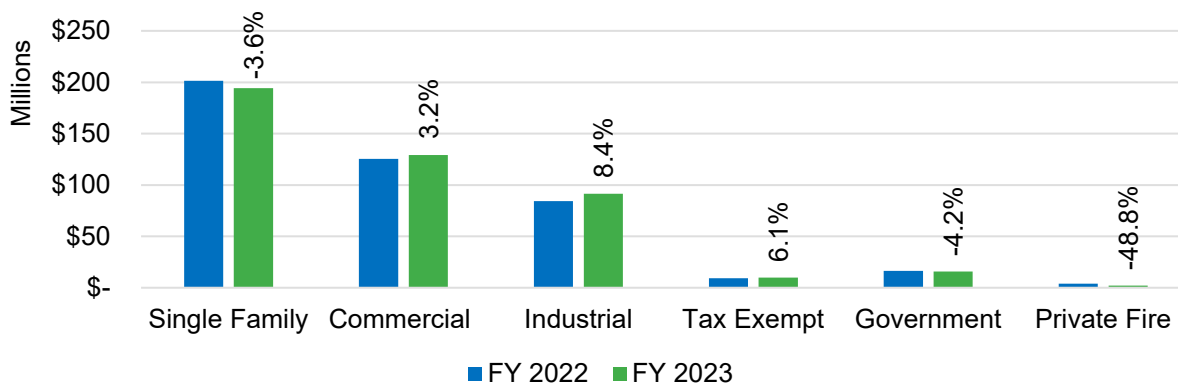
Figure 5-6: Monthly Residential Bill Comparison



Notes:

- “DWSD FY 2023” reflects water, wastewater, and drainage FY 2023 revenue requirements and proposed rates.
- Assumes 5/8” meter, 0.5 Mcf of water use, and 0.05 billable impervious acres.
- Agencies without a drainage fee may capture costs in water/sewer charges or in non-utility sources (i.e., taxes).
- Bills for other agencies are based on current (FY 2022) rates, and several will likely increase in FY 2023.

While only residential bill impacts are shown in Table 5-9 and Figure 5-6, non-residential customers will have varying impacts based on each customer’s meter size, monthly water volume, and impervious area. Figure 5-7 shows a summary of revenue impacts aggregated for various customer classifications based on FY 2023 rates (assuming AWC for wastewater billing) and customer billing data. Generally, the range of impact is dependent upon the amount and distribution of monthly water use of individual customers within each classification as this will impact how much water is billed in each tier of the proposed water rate structure as well as how much volume is billed wastewater volumetric charges.

Figure 5-7: FY 2023 Estimated Change in Revenue by Customer Class

5.6 AFFORDABILITY

Affordability of service is important to DWSD and effective August 1, 2022, customer assistance to qualifying customers is provided through GLWA's Water Rate Assistance Program (WRAP) funding and Federal Low Income Household Water Assistance Program (LIHWAP)³³ funding. DWSD administers program funds through its pilot Lifeline Affordability Plan. The Lifeline Plan was created by DWSD to provide low-income customers with non-rate revenue funds from WRAP and LIHWAP to help cover their bills. While the shut-off moratorium ended in the State March 31, 2021, the City of Detroit and DWSD extended the moratorium through 2022³⁴. The Lifeline Plan offers qualifying residential customers a fixed monthly bill for the first 4,500 gallons of water, pays off arrearages, and offers plumbing repairs at households using more than 4,500 gallons of water per month. In the Lifeline Plan, there are three payment tiers: \$18/month for water, sewer, and drainage bill if household income is at or below 135% of Federal Poverty Level; \$43/month if household income is above 135% of FPL but at or below 150% of FPL; and \$56/month if household income is above 150% of FPL but at or below 200% of FPL. The gap amount between the Lifeline Plan payment and actual bill are paid with WRAP and LIHWAP dollars. DWSD continues to review the use of outside funding sources and is actively lobbying for continued funding under LIHWAP appropriation to assist its neighbors in need, as current LIHWAP program will end in September 2023.

³³ The LIHWAP program and provides up to \$1,000 in assistance to low-income customers with disconnected services or those facing disconnection. Low Income Household Water Assistance Program, Michigan LIHWAP Profile Summary, RPT_LIHWAP_Profile Summary_MI_FY2022 (hhs.gov).

³⁴ <https://detroitmi.gov/news/mayor-dwsd-extend-moratorium-residential-water-shutoffs-through-2022-and-announce-intention>

6. FINDINGS & RECOMMENDATIONS

This Study developed proposed rates for DWSD's customers that are in proportion to the cost of providing service, consistent with industry practices, and are reasonable and transparent. The Study's findings and recommendations are summarized below:

1. FY 2023 rate adjustments reflect the results of the cost allocation analysis that rebalance revenue needed from each system. The total revenue increase needed from FY 2022 to FY 2023 is 0.8 percent.
2. FY 2023 cost allocation of revenue requirements results in a \$20 million shift in costs from wastewater to water from FY 2022 revenues based on a detailed allocation of operating and capital costs reflecting current and planned activities.
3. Water rate structure revised to apply base rate to water use that is consistent throughout the year and allocate peaking costs to the base rate and a new uniform rate in proportion to the contribution to the peak demands on the system from use in each tier.
4. Wastewater rate structure revised to bill volumetric rate based on the lesser of actual water use or average winter consumption, calculated based on January through March water use by FY 2024.
5. Until average winter water usage can be incorporated into DWSD's billing system, apply a monthly sewer use cap of 1.2 Mcf for individually metered residential customers and bill actual water use for all other customers.
6. Continue to charge drainage rates per acre of impervious area with credits applied to customers who qualify.
7. Evaluate additional funding sources for customer assistance programs within legal limitations to minimize rate impacts on vulnerable customers.
8. Update rate revenue requirements annually and perform periodic rate studies (every 3 to 5 years) to address changes in cost distributions between services and customer characteristics.

Disclaimer

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In preparing this report, Stantec utilized information and data obtained from the Detroit Water and Sewerage Department 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 Detroit Water and Sewerage Department 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 REVENUE REQUIREMENTS SUPPORTING SCHEDULES

Schedule 1: Assumptions

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
<u>Rate Increase Adoption Date</u>	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	7/1/2031
<u>Annual Growth</u> ¹										
Ending Number of Equivalent Meters	304,944	306,468	308,001	309,541	311,088	312,644	314,207	315,778	317,357	318,944
% Change in Equivalent Meters	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Total Usage (Mcf)	2,558,087	2,506,925	2,456,787	2,407,651	2,359,498	2,312,308	2,266,062	2,220,741	2,176,326	2,132,799
% Change in Usage	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%
<u>Capital Spending</u> ²										
Annual Capital Plan (Future Year Dollars)	\$ 49,493,280	\$ 50,094,304	\$ 51,709,998	\$ 57,287,974	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000
<u>Average Annual Interest Earnings Rate</u> ³										
On Fund Balances	0.00%	0.25%	0.50%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%
<u>Operating Budget Reserve</u> ⁴										
Target (Number of Months of Reserve)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
<u>Operating Budget Execution Percentage</u>										
Personnel Services	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Operations and Maintenance	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

¹ Current and projected equivalent meters and usage based on DWSD forecast model used to prepare FY 2023 Adopted Budget.

² Capital spending from FY 2023 through FY 2027 reflects 2023 5-Year CIP Plan BOWC Approved with annual execution factors. Future CIP reflects estimated levels of spending.

³ Annual interest earnings on fund balances reflect staff estimates. FY 2023 reflects FY 2023 Adopted Budget level of \$0 interest earnings.

⁴ Recommended Revenue Fund reserve level of three months of operating expenses.

Schedule 2: Beginning Balances

Water Beginning Balances as of June 30, 2022 ¹

	Revenue Fund	Bond Proceeds	Improvement & Extension
Available Fund Balance	\$ 26,487,000	\$ 45,113,000	\$ 77,764,000

¹ Unaudited cash balances provided by DWSD staff.

Schedule 3: Cash In

	FY 2023 ¹	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Rate Revenue Growth Assumptions										
1 % Change in Equivalent Meters	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
2 % Change in Usage	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%
Assumed Rate Revenue Increases										
3 Assumed Water Rate Increase	21.32%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Water Rate Revenue										
4 Base Rate Revenue	\$ 39,623,565	\$ 41,414,550	\$ 43,286,487	\$ 45,243,037	\$ 47,288,022	\$ 49,425,440	\$ 51,659,470	\$ 53,994,478	\$ 56,435,029	\$ 58,985,892
5 Usage Rate Revenue	84,142,818	85,758,361	87,404,921	89,083,096	90,793,491	92,536,726	94,313,431	96,124,249	97,969,835	99,850,856
6 Total Water Rate Revenue	\$ 123,766,383	\$ 127,172,910	\$ 130,691,409	\$ 134,326,132	\$ 138,081,513	\$ 141,962,167	\$ 145,972,902	\$ 150,118,728	\$ 154,404,864	\$ 158,836,748
Other Operating Revenue										
7 447220-Water Other Fees	\$ 2,900,760	\$ 2,900,760	\$ 2,900,760	\$ 2,900,760	\$ 2,900,760	\$ 2,900,760	\$ 2,900,760	\$ 2,900,760	\$ 2,900,760	\$ 2,900,760
8 474100-Miscellaneous Receipts	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
9 Total Other Operating Revenue	\$ 3,900,760	\$ 3,900,760	\$ 3,900,760	\$ 3,900,760	\$ 3,900,760	\$ 3,900,760	\$ 3,900,760	\$ 3,900,760	\$ 3,900,760	\$ 3,900,760
Non-Operating Revenue										
10 471903-Shared Services Revenue	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000
11 472150-Other Miscellaneous ²	12,316,300	3,675,508	4,453,309	4,422,197	4,247,403	4,106,706	4,075,594	4,044,482	4,013,370	3,982,258
12 Total Non-Operating Revenue	\$ 13,066,300	\$ 4,425,508	\$ 5,203,309	\$ 5,172,197	\$ 4,997,403	\$ 4,856,706	\$ 4,825,594	\$ 4,794,482	\$ 4,763,370	\$ 4,732,258
Interest Income										
13 Unrestricted	\$ -	\$ 214,878	\$ 378,345	\$ 533,284	\$ 531,165	\$ 531,165	\$ 531,165	\$ 531,165	\$ 531,165	\$ 531,165
14 Total Interest Income	\$ -	\$ 214,878	\$ 378,345	\$ 533,284	\$ 531,165	\$ 531,165	\$ 531,165	\$ 531,165	\$ 531,165	\$ 531,165
15 Total Cash Inflows	\$ 140,733,443	\$ 135,714,056	\$ 140,173,823	\$ 143,932,373	\$ 147,510,841	\$ 151,250,797	\$ 155,230,420	\$ 159,345,134	\$ 163,600,158	\$ 168,000,930

¹ FY 2023 based on results of cost allocation analysis.

² Other Miscellaneous forecast based on pension expenses reimbursable by GLWA.

Schedule 4: Cash Out

Object Description	Cost Center	FY 2023 ¹	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
1 601100-Salar-Full Time-Gen City	481001	\$ 296,981	\$ 304,406	\$ 312,016	\$ 319,816	\$ 327,812	\$ 336,007	\$ 344,407	\$ 353,017	\$ 361,843	\$ 370,889
2 601115-Salaries-Contractual	481001	132,175	135,479	138,866	142,338	145,896	149,544	153,282	157,114	161,042	165,068
3 602100-Wages-Full Time-Gen City	481001	16,481	16,893	17,315	17,748	18,192	18,646	19,112	19,590	20,080	20,582
4 603125-Emplr Pd Pension-GRS	481001	22,272	22,829	23,400	23,985	24,585	25,199	25,829	26,475	27,137	27,815
5 603200-Emplr Pd Ben-Medical	481001	54,480	56,659	58,926	61,283	63,734	66,284	68,935	71,692	74,560	77,542
6 603300-Employer Pd FICA	481001	34,091	35,455	36,873	38,348	39,882	41,477	43,136	44,862	46,656	48,523
7 603400-Unemployment	481001	4,379	4,489	4,601	4,716	4,834	4,955	5,078	5,205	5,336	5,469
8 603405-Workers' Compensation	481001	26,181	26,835	27,506	28,194	28,899	29,621	30,362	31,121	31,899	32,696
9 603900-Emp Benefits-Miscellaneous	481001	1,789	1,834	1,880	1,927	1,975	2,024	2,075	2,127	2,180	2,235
10 604100-Other Comp-Unused Sick Leave	481001	424	434	445	456	468	479	491	504	516	529
11 605100-Group Life Insurance	481001	1,130	1,175	1,222	1,271	1,322	1,375	1,430	1,487	1,547	1,608
12 605205-Eye Care-Active Civilian	481001	753	784	815	847	881	917	953	991	1,031	1,072
13 605500 - Income Protection	481001	1,224	1,273	1,324	1,377	1,432	1,490	1,549	1,611	1,676	1,743
14 605620-Dental Active	481001	2,872	2,987	3,107	3,231	3,360	3,495	3,634	3,780	3,931	4,088
15 605700-Health Care Reserve - Civilian	481001	8,947	9,304	9,677	10,064	10,466	10,885	11,320	11,773	12,244	12,734
16 620100-Office Supplies	481001	4,709	4,826	4,947	5,071	5,198	5,328	5,461	5,597	5,737	5,881
17 621900-Oper Supplies-Miscellaneous	481001	1,413	1,448	1,484	1,521	1,559	1,598	1,638	1,679	1,721	1,764
18 626300-Insurance Premium	481001	97,142	99,570	102,059	104,611	107,226	109,907	112,654	115,471	118,358	121,317
19 626500-Dues & Miscellaneous	481001	82,874	84,946	87,070	89,246	91,477	93,764	96,108	98,511	100,974	103,498
20 626600-Postage	481001	283	290	297	304	312	320	328	336	344	353
21 627230-Employee Parking	481001	4,520	4,633	4,749	4,868	4,990	5,114	5,242	5,373	5,508	5,645
22 628100-Travel	481001	7,204	7,385	7,569	7,758	7,952	8,151	8,355	8,564	8,778	8,997
23 601100-Salar-Full Time-Gen City	481601	29,053	29,779	30,524	31,287	32,069	32,871	33,693	34,535	35,398	36,283
24 603125-Emplr Pd Pension-GRS	481601	1,460	1,496	1,534	1,572	1,611	1,652	1,693	1,735	1,779	1,823
25 603200-Emplr Pd Ben-Medical	481601	3,579	3,722	3,871	4,025	4,187	4,354	4,528	4,709	4,898	5,094
26 603300-Employer Pd FICA	481601	2,213	2,302	2,394	2,489	2,589	2,693	2,800	2,912	3,029	3,150
27 603400-Unemployment	481601	283	290	297	304	312	320	328	336	344	353
28 603405-Workers' Compensation	481601	1,695	1,738	1,781	1,825	1,871	1,918	1,966	2,015	2,065	2,117
29 603900-Emp Benefits-Miscellaneous	481601	141	145	148	152	156	160	164	168	172	176
30 605100-Group Life Insurance	481601	47	49	51	53	55	57	60	62	64	67
31 605205-Eye Care-Active Civilian	481601	47	49	51	53	55	57	60	62	64	67
32 605500-Income Protection-LTD	481601	47	49	51	53	55	57	60	62	64	67
33 605620-Dental Active	481601	188	196	204	212	220	229	238	248	258	268
34 605700-Health Care Reserve - Civilian	481601	612	637	662	689	716	745	775	806	838	871
35 620100-Office Supplies	481601	4,709	4,826	4,947	5,071	5,198	5,328	5,461	5,597	5,737	5,881
36 621900-Oper Supplies-Miscellaneous	481601	1,413	1,448	1,484	1,521	1,559	1,598	1,638	1,679	1,721	1,764
37 626300-Insurance Premium	481601	91,727	94,020	96,370	98,779	101,249	103,780	106,375	109,034	111,760	114,554
38 626500-Dues & Miscellaneous	481601	4,332	4,440	4,551	4,665	4,782	4,901	5,024	5,149	5,278	5,410
39 626600-Postage	481601	283	290	297	304	312	320	328	336	344	353
40 628100-Travel	481601	26,652	27,318	28,001	28,701	29,418	30,154	30,908	31,680	32,472	33,284
41 601100-Salar-Full Time-Gen City	482401	325,590	333,729	342,073	350,624	359,390	368,375	377,584	387,024	396,699	406,617
42 603125-Emplr Pd Pension-GRS	482401	16,285	16,692	17,109	17,537	17,975	18,425	18,885	19,357	19,841	20,337
43 603200-Emplr Pd Ben-Medical	482401	39,760	41,351	43,005	44,725	46,514	48,374	50,309	52,322	54,415	56,591
44 603300-Employer Pd FICA	482401	24,903	25,899	26,935	28,012	29,133	30,298	31,510	32,771	34,081	35,445
45 603400-Unemployment	482401	3,172	3,252	3,333	3,416	3,502	3,589	3,679	3,771	3,865	3,962
46 603405-Workers' Compensation	482401	19,140	19,618	20,109	20,612	21,127	21,655	22,196	22,751	23,320	23,903
47 603900-Emp Benefits-Miscellaneous	482401	1,322	1,355	1,389	1,423	1,459	1,496	1,533	1,571	1,611	1,651
48 604100-Other Comp-Unused Sick Leave	482401	264	271	278	285	292	299	307	314	322	330
49 605100-Group Life Insurance	482401	846	880	915	952	990	1,029	1,070	1,113	1,158	1,204
50 605205-Eye Care-Active Civilian	482401	529	550	572	595	619	643	669	696	724	753
51 605500-Income Protection-LTD	482401	899	935	972	1,011	1,052	1,094	1,137	1,183	1,230	1,279
52 605620-Dental Active	482401	2,115	2,200	2,287	2,379	2,474	2,573	2,676	2,783	2,894	3,010
53 605700-Health Care Reserve - Civilian	482401	6,503	6,763	7,034	7,315	7,608	7,912	8,229	8,558	8,900	9,256
54 616100-Consultant Fees-Mgt Consult	482401	185,054	189,681	194,423	199,283	204,265	209,372	214,606	219,971	225,471	231,107
55 617900-Contract Svcs-Other-Misc	482401	105,745	108,389	111,099	113,876	116,723	119,641	122,632	125,698	128,840	132,061
56 620100-Office Supplies	482401	2,644	2,710	2,777	2,847	2,918	2,991	3,066	3,142	3,221	3,302
57 621900-Oper Supplies-Miscellaneous	482401	7,931	8,129	8,332	8,541	8,754	8,973	9,197	9,427	9,663	9,905
58 626500-Dues & Miscellaneous	482401	15,862	16,258	16,665	17,081	17,508	17,946	18,395	18,855	19,326	19,809
59 628100-Travel	482401	21,149	21,678	22,220	22,775	23,345	23,928	24,526	25,140	25,768	26,412
60 628501-Misc-License,Insp&Permit Fees	482401	79,309	81,292	83,324	85,407	87,542	89,731	91,974	94,273	96,630	99,046
61 628515-Shared Services Expense	482401	1,057,452	1,099,750	1,143,740	1,189,490	1,237,070	1,286,553	1,338,015	1,391,535	1,447,197	1,505,084
62 601100-Salar-Full Time-Gen City	482411	442,332	453,391	464,725	476,344	488,252	500,458	512,970	525,794	538,939	552,412
63 601115-Salaries-Contractual	482411	109,446	112,182	114,987	117,862	120,808	123,828	126,924	130,097	133,350	136,683
64 601300-Salar-Overtime-Gen City	482411	52,873	54,194	55,549	56,938	58,361	59,821	61,316	62,849	64,420	66,031
65 602100-Wages-Full Time-Gen City	482411	1,596,542	1,636,455	1,677,367	1,719,301	1,762,283	1,806,340	1,851,499	1,897,786	1,945,231	1,993,862
66 602400-Wages-Shift Prem-Gen City	482411	211,490	216,778	222,197	227,752	233,446	239,282	245,264	251,396	257,681	264,123
67 603125-Emplr Pd Pension-GRS	482411	107,437	110,123	112,876	115,698	118,591	121,555	124,594	127,709	130,902	134,174
68 603200-Emplr Pd Ben-Medical	482411	294,818	306,610	318,875	331,630	344,895	358,691	373,038	387,960	403,478	419,618
69 603300-Employer Pd FICA	482411	184,578	191,961	199,840	207,625	215,931	224,568	233,550	242,892	252,608	262,712
70 603400-Unemployment	482411	23,634	24,225	24,831	25,451	26,087	26,748	27,435	28,093	28,796	29,516
71 603405-Workers' Compensation	482411	141,593	145,133	148,761	152,480	156,292	160,199	164,204	168,309	172,517	176,830
72 603900-Emp Benefits-Miscellaneous	482411	9,676	9,918	10,166	10,420	10,680	10,947	11,221	11,501	11,789	12,084

Schedule 4: Cash Out

Object Description	Cost Center	FY 2023 ¹	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
73 604100-Other Comp-Unused Sick Leave	482411	2,168	2,222	2,278	2,334	2,393	2,453	2,514	2,577	2,641	2,707
74 605100-Group Life Insurance	482411	6,239	6,489	6,748	7,018	7,299	7,591	7,894	8,210	8,538	8,880
75 605205-Eye Care-Active Civilian	482411	3,860	4,014	4,175	4,342	4,515	4,696	4,884	5,079	5,282	5,494
76 605500-Income Protection-LTD	482411	6,503	6,763	7,034	7,315	7,608	7,912	8,229	8,558	8,900	9,256
77 605620-Dental Active	482411	15,703	16,331	16,985	17,664	18,370	19,105	19,870	20,664	21,491	22,351
78 605700-Health Care Reserve - Civilian	482411	48,273	50,204	52,212	54,300	56,472	58,731	61,080	63,524	66,065	68,707
79 620100-Office Supplies	482411	13,218	13,549	13,887	14,235	14,590	14,955	15,329	15,712	16,105	16,508
80 621900-Oper Supplies-Miscellaneous	482411	13,218	13,549	13,887	14,235	14,590	14,955	15,329	15,712	16,105	16,508
81 626500-Dues & Miscellaneous	482411	2,644	2,710	2,777	2,847	2,918	2,991	3,066	3,142	3,221	3,302
82 627105-Private Car Reimbursements	482411	13,218	13,549	13,887	14,235	14,590	14,955	15,329	15,712	16,105	16,508
83 628501-Misc-License,Insp&Permit Fees	482411	10,575	10,839	11,110	11,388	11,672	11,964	12,263	12,570	12,884	13,206
84 601100-Salar-Full Time-Gen City	482421	35,316	36,199	37,104	38,031	38,982	39,956	40,955	41,979	43,029	44,104
85 601115-Salaries-Contractual	482421	22,225	22,781	23,350	23,934	24,533	25,146	25,775	26,419	27,079	27,756
86 602100-Wages-Full Time-Gen City	482421	308,329	316,037	323,938	332,037	340,338	348,846	357,567	366,506	375,669	385,061
87 603125-Emplr Pd Pension-GRS	482421	18,270	18,727	19,195	19,675	20,167	20,671	21,188	21,717	22,260	22,817
88 603200-Emplr Pd Ben-Medical	482421	44,733	46,522	48,383	50,319	52,331	54,425	56,602	58,866	61,220	63,669
89 603300-Employer Pd FICA	482421	28,017	29,138	30,303	31,515	32,776	34,087	35,451	36,869	38,343	39,877
90 603400-Unemployment	482421	3,579	3,668	3,760	3,854	3,950	4,049	4,150	4,254	4,360	4,469
91 603405-Workers' Compensation	482421	21,472	22,009	22,559	23,123	23,701	24,294	24,901	25,523	26,161	26,815
92 603900-Emp Benefits-Miscellaneous	482421	1,460	1,496	1,534	1,572	1,611	1,652	1,693	1,735	1,779	1,823
93 604100-Other Comp-Unused Sick Leave	482421	330	338	346	355	364	373	382	392	402	412
94 605100-Group Life Insurance	482421	942	979	1,019	1,059	1,102	1,146	1,192	1,239	1,289	1,340
95 605205-Eye Care-Active Civilian	482421	565	588	611	636	661	687	715	744	773	804
96 605500-Income Protection-LTD	482421	989	1,028	1,070	1,112	1,157	1,203	1,251	1,301	1,353	1,407
97 605620-Dental Active	482421	2,354	2,449	2,546	2,648	2,754	2,864	2,979	3,098	3,222	3,351
98 605700-Health Care Reserve - Civilian	482421	7,299	7,591	7,894	8,210	8,538	8,880	9,235	9,604	9,989	10,388
99 617900-Contract Svcs-Other-Misc	482421	1,445,964	1,482,113	1,519,166	1,557,145	1,596,074	1,635,976	1,676,875	1,718,797	1,761,767	1,805,811
100 620100-Office Supplies	482421	2,354	2,413	2,474	2,535	2,599	2,667	2,730	2,798	2,869	2,940
101 622200-Repairs & Maint-Bldgs&Ground	482421	70,631	72,397	74,207	76,062	77,964	79,913	81,911	83,958	86,057	88,209
102 622300-Repairs & Maint-Equipment	482421	20,719	21,236	21,767	22,312	22,869	23,441	24,027	24,628	25,243	25,875
103 622400-Repairs & Maint-Facilities	482421	105,947	108,596	111,311	114,093	116,946	119,869	122,866	125,938	129,086	132,313
104 622900-Repairs & Maint-Misc	482421	120,073	123,075	126,152	129,306	132,538	135,852	139,248	142,729	146,298	149,955
105 626801-Utilities-Water	482421	527,004	540,179	553,683	567,525	581,713	596,256	611,163	626,442	642,103	658,155
106 626802-Utilities-Gas	482421	302,208	309,763	317,507	325,445	333,581	341,920	350,468	359,230	368,211	377,416
107 626803-Utilities-Steam	482421	69,595	71,335	73,119	74,947	76,820	78,741	80,709	82,727	84,795	86,915
108 626804-Utilities-Electricity	482421	789,328	809,062	829,288	850,020	871,271	893,053	915,379	938,263	961,720	985,763
109 628501-Misc-License,Insp&Permit Fees	482421	11,772	12,066	12,368	12,677	12,994	13,319	13,652	13,993	14,343	14,701
110 601100-Salar-Full Time-Gen City	482422	168,783	173,003	177,328	181,761	186,305	190,963	195,737	200,630	205,646	210,787
111 601300-Salar-Overtime-Gen City	482422	24,863	25,484	26,121	26,774	27,444	28,130	28,833	29,554	30,293	31,050
112 601400-Salar-Shift Prem-Gen City	482422	1,364	1,399	1,433	1,469	1,506	1,544	1,582	1,622	1,662	1,704
113 601500-Salaries-Holiday Premium	482422	27,895	28,592	29,307	30,040	30,791	31,560	32,349	33,158	33,987	34,837
114 617400 - Contract Svcs Info Technology	482422	20,214	20,719	21,237	21,768	22,312	22,870	23,442	24,028	24,628	25,244
115 602100-Wages-Full Time-Gen City	482422	369,656	378,897	388,370	398,079	408,031	418,232	428,687	439,404	450,390	461,649
116 603125-Emplr Pd Pension-GRS	482422	26,935	27,608	28,298	29,006	29,731	30,474	31,236	32,017	32,817	33,638
117 603200-Emplr Pd Ben-Medical	482422	72,415	75,312	78,324	81,457	84,715	88,104	91,628	95,293	99,105	103,069
118 603300-Employer Pd FICA	482422	45,329	47,142	49,028	50,989	53,028	55,150	57,356	59,650	62,036	64,517
119 603400-Unemployment	482422	5,811	5,957	6,106	6,258	6,415	6,575	6,739	6,908	7,081	7,258
120 603405-Workers' Compensation	482422	34,767	35,637	36,527	37,441	38,377	39,336	40,319	41,327	42,361	43,420
121 603900-Emp Benefits-Miscellaneous	482422	2,375	2,434	2,495	2,558	2,622	2,687	2,754	2,823	2,894	2,966
122 604100-Other Comp-Unused Sick Leave	482422	505	518	531	544	558	572	586	601	616	631
123 605100-Group Life Insurance	482422	1,516	1,577	1,640	1,705	1,774	1,844	1,918	1,995	2,075	2,158
124 605205-Eye Care-Active Civilian	482422	960	999	1,038	1,080	1,123	1,168	1,215	1,263	1,314	1,367
125 605500-Income Protection-LTD	482422	1,617	1,682	1,749	1,819	1,892	1,967	2,046	2,128	2,213	2,302
126 605620-Dental Active	482422	3,841	3,994	4,154	4,320	4,493	4,673	4,860	5,054	5,256	5,466
127 605700-Health Care Reserve - Civilian	482422	11,875	12,350	12,845	13,358	13,893	14,448	15,026	15,627	16,252	16,903
128 617900-Contract Svcs-Other-Misc	482422	1,243,084	1,274,161	1,306,015	1,338,666	1,372,132	1,406,436	1,441,597	1,477,636	1,514,577	1,552,442
129 620100-Office Supplies	482422	2,527	2,590	2,655	2,721	2,789	2,859	2,930	3,003	3,079	3,155
130 621300-Oper Supplies-Automotive	482422	12,633	12,949	13,273	13,605	13,945	14,294	14,651	15,017	15,393	15,777
131 621900-Oper Supplies-Miscellaneous	482422	2,527	2,590	2,655	2,721	2,789	2,859	2,930	3,003	3,079	3,155
132 622100-Repairs & Maint-Automotive	482422	156,655	160,572	164,586	168,701	172,918	177,241	181,672	186,214	190,869	195,641
133 623100-Uniforms, Laundry, Cleaning	482422	10,107	10,359	10,618	10,884	11,156	11,435	11,721	12,014	12,314	12,622
134 626435 - Rentals-Lease of Equipment	482422	151,602	155,392	159,277	163,259	167,340	171,524	175,812	180,207	184,712	189,330
135 626500-Dues & Miscellaneous	482422	5,559	5,698	5,840	5,986	6,136	6,290	6,446	6,608	6,773	6,942
136 628100-Travel	482422	5,053	5,180	5,309	5,442	5,578	5,717	5,860	6,007	6,157	6,311
137 628501-Misc-License,Insp&Permit Fees	482422	7,580	7,770	7,964	8,163	8,367	8,576	8,791	9,010	9,236	9,466
138 601100-Salar-Full Time-Gen City	482431	703,938	721,536	739,575	758,064	777,015	796,441	816,352	836,761	857,680	879,122
139 601300-Salar-Overtime-Gen City	482431	505,339	517,973	530,922	544,195	557,800	571,745	586,039	600,690	615,707	631,100
140 601400-Salar-Shift Prem-Gen City	482431	7,580	7,770	7,964	8,163	8,367	8,576	8,791	9,010	9,236	9,466
141 601500-Salaries-Holiday Premium	482431	131,590	134,880	138,252	141,708	145,251	148,882	152,604	156,420	160,330	164,338
142 602100-Wages-Full Time-Gen City	482431	3,133,710	3,212,053	3,292,354	3,374,663	3,459,030	3,545,505	3,634,143	3,724,997	3,818,122	3,913,575
143 603125-Emplr Pd Pension-GRS	482431	191,928	196,726	201,644	206,685	211,852	217,149	222,577	228,142	233,845	239,692
144 603200-Emplr Pd Ben-Medical	482431	547,687	569,594	592,378	616,073	640,716	666,345	692,998	720,718	749,547	779,529

Schedule 4: Cash Out

Object Description	Cost Center	FY 2023 ¹	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
145 603300-Employer Pd FICA	482431	342,923	356,640	370,906	385,742	401,172	417,219	433,907	451,264	469,314	488,087
146 603400-Unemployment	482431	43,965	45,064	46,190	47,345	48,529	49,742	50,985	52,260	53,567	54,906
147 603405-Workers' Compensation	482431	263,080	269,657	276,398	283,308	290,391	297,650	305,092	312,719	320,537	328,550
148 603900-Emp Benefits-Miscellaneous	482431	17,889	18,336	18,795	19,265	19,746	20,240	20,746	21,264	21,796	22,341
149 604100-Other Comp-Unused Sick Leave	482431	4,043	4,144	4,247	4,354	4,462	4,574	4,688	4,806	4,926	5,049
150 605100-Group Life Insurance	482431	11,623	12,088	12,571	13,074	13,597	14,141	14,707	15,295	15,907	16,543
151 605205-Eye Care-Active Civilian	482431	7,176	7,463	7,761	8,072	8,395	8,739	9,080	9,443	9,821	10,213
152 605500-Income Protection-LTD	482431	12,128	12,613	13,118	13,643	14,188	14,756	15,346	15,960	16,598	17,262
153 605620-Dental Active	482431	29,108	30,272	31,483	32,742	34,052	35,414	36,830	38,304	39,836	41,429
154 605700-Health Care Reserve - Civilian	482431	89,647	93,233	96,962	100,841	104,875	109,070	113,432	117,970	122,688	127,596
155 617900-Contract Svcs-Other-Misc	482431	1,263,348	1,294,932	1,327,305	1,360,488	1,394,500	1,429,363	1,465,097	1,501,724	1,539,267	1,577,749
156 620100-Office Supplies	482431	21,022	21,548	22,086	22,639	23,204	23,785	24,379	24,989	25,613	26,254
157 621400-Oper Supplies-Janitorial	482431	2,527	2,590	2,655	2,721	2,789	2,859	2,930	3,003	3,079	3,155
158 621600-Operating Supplies-Chemicals	482431	5,154	5,283	5,415	5,551	5,690	5,832	5,978	6,127	6,280	6,437
159 621900-Oper Supplies-Miscellaneous	482431	112,842	115,663	118,555	121,519	124,557	127,671	130,862	134,134	137,487	140,925
160 622300-Repairs & Maint-Equipment	482431	200,114	205,117	210,245	215,501	220,889	226,411	232,071	237,873	243,820	249,915
161 622900-Repairs & Maint-Misc	482431	467,439	479,125	491,103	503,381	515,965	528,864	542,086	555,638	569,529	583,767
162 626435-Rentals - Lease of Equipment	482431	25,267	25,899	26,546	27,210	27,890	28,587	29,302	30,034	30,785	31,555
163 626500-Dues & Miscellaneous	482431	2,021	2,072	2,124	2,177	2,231	2,287	2,344	2,403	2,463	2,524
164 627105-Private Car Reimbursements	482431	1,516	1,554	1,593	1,633	1,673	1,715	1,758	1,802	1,847	1,893
165 627195-Employee Uniform Expense	482431	63,167	64,747	66,365	68,024	69,725	71,468	73,255	75,086	76,963	78,887
166 627225-Other Oper Svc-Miscellaneous	482431	8,085	8,288	8,495	8,707	8,925	9,148	9,377	9,611	9,851	10,098
167 627230-Employee Parking	482431	505	518	531	544	558	572	586	601	616	631
168 628100-Travel	482431	4,548	4,662	4,778	4,898	5,020	5,146	5,274	5,406	5,541	5,680
169 628501-Misc-License,Insp&Permit Fees	482431	11,117	11,395	11,680	11,972	12,272	12,578	12,893	13,215	13,546	13,884
170 601100-Salar-Full Time-Gen City	482432	151,316	155,099	158,977	162,951	167,025	171,201	175,481	179,868	184,364	188,973
171 601300-Salar-Overtime-Gen City	482432	10,249	10,505	10,767	11,037	11,312	11,595	11,885	12,182	12,487	12,799
172 601400-Salar-Shift Prem-Gen City	482432	653	669	686	703	721	739	757	776	796	816
173 601500-Salaries-Holiday Premium	482432	34,363	35,222	36,102	37,005	37,930	38,878	39,850	40,846	41,868	42,914
174 602100-Wages-Full Time-Gen City	482432	1,189,984	1,219,734	1,250,227	1,281,483	1,313,520	1,346,358	1,380,017	1,414,517	1,449,880	1,486,127
175 603125-Emplr Pd Pension-GRS	482432	67,068	68,744	70,463	72,224	74,030	75,881	77,778	79,722	81,715	83,758
176 603200-Emplr Pd Ben-Medical	482432	169,452	176,230	183,280	190,611	198,235	206,165	214,411	222,988	231,907	241,183
177 603300-Employer Pd FICA	482432	106,102	110,346	114,760	119,351	124,125	129,090	134,253	139,623	145,208	151,017
178 603400-Unemployment	482432	13,564	13,903	14,251	14,607	14,972	15,346	15,730	16,124	16,527	16,940
179 603405-Workers' Compensation	482432	81,385	83,420	85,505	87,643	89,834	92,080	94,382	96,742	99,160	101,639
180 603900-Emp Benefits-Miscellaneous	482432	5,526	5,664	5,806	5,951	6,100	6,252	6,409	6,569	6,733	6,901
181 604100-Other Comp-Unused Sick Leave	482432	1,256	1,287	1,320	1,353	1,386	1,421	1,457	1,493	1,530	1,569
182 605100-Group Life Insurance	482432	3,617	3,762	3,912	4,069	4,232	4,401	4,577	4,760	4,950	5,148
183 605205-Eye Care-Active Civilian	482432	2,210	2,299	2,391	2,486	2,586	2,689	2,797	2,909	3,025	3,146
184 605500-Income Protection-LTD	482432	3,768	3,919	4,075	4,238	4,408	4,584	4,768	4,958	5,157	5,363
185 605620-Dental Active	482432	9,043	9,405	9,781	10,172	10,579	11,002	11,442	11,900	12,376	12,871
186 605700-Health Care Reserve - Civilian	482432	27,731	28,841	29,994	31,194	32,442	33,739	35,089	36,492	37,952	39,470
187 617400-Contract Svcs-Info Technology	482432	82,892	84,965	87,089	89,266	91,498	93,785	96,130	98,533	100,996	103,521
188 617900-Contract Svcs-Other-Misc	482432	500,369	512,878	525,700	538,843	552,314	566,122	580,275	594,782	609,651	624,892
189 620100-Office Supplies	482432	10,048	10,299	10,556	10,820	11,091	11,368	11,652	11,943	12,242	12,548
190 621900-Oper Supplies-Miscellaneous	482432	351,665	360,457	369,468	378,705	388,172	397,877	407,824	418,019	428,470	439,181
191 622900-Repairs & Maint-Misc	482432	150,714	154,481	158,343	162,302	166,360	170,519	174,782	179,151	183,630	188,221
192 626010 - Advertising	482432	30,143	30,896	31,669	32,460	33,272	34,104	34,956	35,830	36,726	37,644
193 626100 - Printing	482432	5,024	5,149	5,278	5,410	5,545	5,684	5,826	5,972	6,121	6,274
194 626500-Dues & Miscellaneous	482432	5,024	5,149	5,278	5,410	5,545	5,684	5,826	5,972	6,121	6,274
195 626600-Postage	482432	12,559	12,873	13,195	13,525	13,863	14,210	14,565	14,929	15,302	15,685
196 628100-Travel	482432	10,048	10,299	10,556	10,820	11,091	11,368	11,652	11,943	12,242	12,548
197 601100-Salar-Full Time-Gen City	482435	135,000	138,375	141,834	145,380	149,015	152,740	156,559	160,473	164,484	168,597
198 601200 - Wages-Full Time	482435	50,300	51,558	52,846	54,168	55,522	56,910	58,333	59,791	61,286	62,818
199 603125-Emplr Pd Pension-GRS	482435	9,300	9,533	9,771	10,015	10,265	10,522	10,785	11,055	11,331	11,614
200 603200-Emplr Pd Ben-Medical	482435	22,700	23,608	24,552	25,534	26,556	27,618	28,723	29,872	31,067	32,309
201 603300-Employer Pd FICA	482435	14,200	14,768	15,359	15,973	16,612	17,276	17,968	18,686	19,434	20,211
202 603400-Unemployment	482435	1,800	1,845	1,891	1,938	1,987	2,037	2,087	2,140	2,193	2,248
203 603405-Workers' Compensation	482435	10,900	11,173	11,452	11,738	12,032	12,332	12,641	12,957	13,281	13,613
204 603900-Emp Benefits-Miscellaneous	482435	700	718	735	754	773	792	812	832	853	874
205 604100-Other Comp-Unused Sick Leave	482435	200	205	210	215	221	226	232	238	244	250
206 605100-Group Life Insurance	482435	500	520	541	562	585	608	633	658	684	712
207 605205-Eye Care-Active Civilian	482435	300	312	324	337	351	365	380	395	411	427
208 605500-Income Protection-LTD	482435	500	520	541	562	585	608	633	658	684	712
209 605620-Dental Active	482435	1,200	1,248	1,298	1,350	1,404	1,460	1,518	1,579	1,642	1,708
210 605700-Health Care Reserve - Civilian	482435	3,700	3,848	4,002	4,162	4,328	4,502	4,682	4,869	5,064	5,266
211 620100 - Office Supplies	482435	5,000	5,125	5,253	5,384	5,519	5,657	5,798	5,943	6,092	6,244
212 621900-Oper Supplies-Miscellaneous	482435	20,000	20,500	21,013	21,538	22,076	22,628	23,194	23,774	24,368	24,977
213 626600 - Postage	482435	200	205	210	215	221	226	232	238	244	250
214 627195 - Employee Uniform Expense	482435	2,000	2,050	2,101	2,154	2,208	2,263	2,319	2,377	2,437	2,498
215 601100-Salar-Full Time-Gen City	482223	77,600	79,540	81,529	83,567	85,656	87,798	89,993	92,242	94,548	96,912
216 601300-Salar-Overtime-Gen City	482223	56,505	57,918	59,366	60,850	62,371	63,930	65,529	67,167	68,846	70,567

Schedule 4: Cash Out

Object Description	Cost Center	FY 2023 ¹	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
217 601400-Salar-Shift Prem-Gen City	482223	9,418	9,653	9,894	10,142	10,395	10,655	10,921	11,194	11,474	11,761
218 602100-Wages-Full Time-Gen City	482223	285,068	292,195	299,499	306,987	314,662	322,528	330,591	338,856	347,328	356,011
219 603125-Emplr Pd Pension-GRS	482223	18,129	18,582	19,046	19,523	20,011	20,511	21,024	21,549	22,088	22,640
220 603200-Emplr Pd Ben-Medical	482223	52,385	53,695	55,037	56,413	57,823	59,269	60,750	62,269	63,826	65,422
221 603300-Employer Pd FICA	482223	32,796	33,616	34,457	35,318	36,201	37,106	38,034	38,985	39,959	40,958
222 603400-Unemployment	482223	4,191	4,296	4,403	4,513	4,626	4,741	4,860	4,982	5,106	5,234
223 603405-Workers' Compensation	482223	25,168	25,797	26,442	27,103	27,781	28,476	29,187	29,917	30,665	31,432
224 603900-Emp Benefits-Miscellaneous	482223	1,719	1,762	1,806	1,851	1,897	1,945	1,993	2,043	2,094	2,146
225 604100-Other Comp-Unused Sick Leave	482223	377	386	396	406	416	426	437	448	459	470
226 605100-Group Life Insurance	482223	1,107	1,134	1,163	1,192	1,221	1,252	1,283	1,315	1,348	1,382
227 605205-Eye Care-Active Civilian	482223	683	700	717	735	754	772	792	812	832	853
228 605500-Income Protection-LTD	482223	1,154	1,182	1,212	1,242	1,273	1,305	1,338	1,371	1,406	1,441
229 605620-Dental Active	482223	2,778	2,848	2,919	2,992	3,067	3,143	3,222	3,302	3,385	3,470
230 605700-Health Care Reserve - Civilian	482223	8,570	8,784	9,004	9,229	9,460	9,696	9,938	10,187	10,442	10,703
231 616100-Consultant Fees-Mgt Consult	482223	211,894	217,191	222,621	228,187	233,891	239,738	245,732	251,875	258,172	264,626
232 617900 - Contract Svcs-Other-Misc	482223	47,088	48,265	49,471	50,708	51,976	53,275	54,607	55,972	57,372	58,806
233 620100-Office Supplies	482223	3,532	3,620	3,710	3,803	3,898	3,996	4,096	4,198	4,303	4,410
234 621900-Oper Supplies-Miscellaneous	482223	3,532	3,620	3,710	3,803	3,898	3,996	4,096	4,198	4,303	4,410
235 626100-Printing	482223	1,648	1,689	1,731	1,775	1,819	1,865	1,911	1,959	2,008	2,058
236 626500-Dues & Miscellaneous	482223	1,884	1,931	1,979	2,028	2,079	2,131	2,184	2,239	2,295	2,352
237 626600-Postage	482223	1,177	1,207	1,237	1,268	1,299	1,332	1,365	1,399	1,434	1,470
238 627105-Private Car Reimbursements	482223	4,709	4,826	4,947	5,071	5,198	5,328	5,461	5,597	5,737	5,881
239 628501-Misc-License,Insp&Permit Fees	482223	235	241	247	254	260	266	273	280	287	294
240 601100-Salar-Full Time-Gen City	483101	214,390	219,749	225,243	230,874	236,646	242,562	248,626	254,842	261,213	267,743
241 603125-Emplr Pd Pension-GRS	483101	10,689	10,956	11,230	11,511	11,799	12,093	12,396	12,706	13,023	13,349
242 603200-Emplr Pd Ben-Medical	483101	26,181	27,228	28,317	29,450	30,628	31,853	33,127	34,452	35,830	37,263
243 603300-Employer Pd FICA	483101	16,386	17,042	17,724	18,433	19,170	19,937	20,734	21,563	22,426	23,323
244 603400-Unemployment	483101	2,072	2,124	2,177	2,231	2,287	2,344	2,403	2,463	2,524	2,587
245 603405-Workers' Compensation	483101	12,572	12,887	13,209	13,539	13,878	14,224	14,580	14,945	15,318	15,701
246 603900-Emp Benefits-Miscellaneous	483101	848	869	890	913	936	959	983	1,008	1,033	1,059
247 604100-Other Comp-Unused Sick Leave	483101	188	193	198	203	208	213	218	224	229	235
248 605100-Group Life Insurance	483101	565	588	611	636	661	687	715	744	773	804
249 605205-Eye Care-Active Civilian	483101	330	343	357	371	386	401	417	434	451	469
250 605500-Income Protection-LTD	483101	612	637	662	689	716	745	775	806	838	871
251 605620-Dental Active	483101	1,413	1,469	1,528	1,589	1,653	1,719	1,787	1,859	1,933	2,011
252 605700-Health Care Reserve - Civilian	483101	4,285	4,456	4,635	4,820	5,013	5,213	5,422	5,639	5,864	6,099
253 613100-Legal	483101	400,244	410,250	420,506	431,019	441,799	452,839	464,160	475,764	487,658	499,850
254 620100-Office Supplies	483101	2,442	2,413	2,474	2,535	2,595	2,664	2,730	2,799	2,869	2,940
255 626500-Dues & Miscellaneous	483101	3,579	3,668	3,760	3,854	3,950	4,049	4,150	4,254	4,360	4,469
256 626600-Postage	483101	471	483	495	507	520	533	546	560	574	588
257 627105-Private Car Reimbursements	483101	283	290	297	304	312	320	328	336	344	353
258 627230-Employee Parking	483101	1,695	1,738	1,781	1,825	1,871	1,918	1,966	2,015	2,065	2,117
259 628100-Travel	483101	2,354	2,413	2,474	2,535	2,599	2,664	2,730	2,799	2,869	2,940
260 661100-Damage Claims	483101	235,438	235,438	235,438	235,438	235,438	235,438	235,438	235,438	235,438	235,438
261 601100-Salar-Full Time-Gen City	483201	357,536	366,474	375,636	385,027	394,652	404,519	414,632	424,998	435,622	446,513
262 603125-Emplr Pd Pension-GRS	483201	17,893	18,341	18,799	19,269	19,751	20,245	20,751	21,269	21,801	22,346
263 603200-Emplr Pd Ben-Medical	483201	43,650	45,396	47,212	49,100	51,064	53,107	55,231	57,441	59,738	62,128
264 603300-Employer Pd FICA	483201	27,358	28,452	29,590	30,774	32,005	33,285	34,616	36,001	37,441	38,939
265 603400-Unemployment	483201	3,484	3,572	3,661	3,752	3,846	3,942	4,041	4,142	4,245	4,352
266 603405-Workers' Compensation	483201	21,001	21,526	22,064	22,616	23,181	23,761	24,355	24,964	25,588	26,227
267 603900-Emp Benefits-Miscellaneous	483201	1,413	1,448	1,484	1,521	1,559	1,598	1,638	1,679	1,721	1,764
268 604100-Other Comp-Unused Sick Leave	483201	330	338	346	355	364	373	382	392	402	412
269 605100-Group Life Insurance	483201	942	979	1,019	1,059	1,102	1,146	1,192	1,239	1,289	1,340
270 605205-Eye Care-Active Civilian	483201	612	637	662	689	716	745	775	806	838	871
271 605500-Income Protection-LTD	483201	942	979	1,019	1,059	1,102	1,146	1,192	1,239	1,289	1,340
272 605620-Dental Active	483201	2,354	2,449	2,546	2,644	2,754	2,864	2,979	3,098	3,222	3,351
273 605700-Health Care Reserve - Civilian	483201	7,157	7,444	7,741	8,051	8,373	8,708	9,056	9,419	9,795	10,187
274 617900-Contract Svcs-Other-Misc	483201	25,898	26,546	27,209	27,889	28,587	29,301	30,034	30,785	31,554	32,343
275 620100-Office Supplies	483201	7,063	7,240	7,421	7,606	7,796	7,991	8,191	8,396	8,606	8,821
276 626100-Printing	483201	4,709	4,826	4,947	5,071	5,198	5,328	5,461	5,597	5,737	5,881
277 626500-Dues & Miscellaneous	483201	2,354	2,413	2,474	2,535	2,599	2,664	2,730	2,799	2,869	2,940
278 627110-Purchased Services - Other	483201	47,088	48,265	49,471	50,708	51,976	53,275	54,607	55,972	57,372	58,806
279 627225-Other Oper Svc-Miscellaneous	483201	14,126	14,479	14,841	15,212	15,593	15,983	16,382	16,792	17,211	17,642
280 627230-Employee Parking	483201	6,781	6,950	7,124	7,302	7,485	7,672	7,863	8,060	8,262	8,468
281 628100-Travel	483201	4,709	4,826	4,947	5,071	5,198	5,328	5,461	5,597	5,737	5,881
282 628200-Training	483201	104,346	106,955	109,628	112,369	115,178	118,058	121,009	124,035	127,135	130,314
283 628208-Training-Tuition Reimbursement	483201	37,670	38,612	39,577	40,566	41,581	42,620	43,686	44,778	45,897	47,045
284 601100-Salar-Full Time-Gen City	483301	926,818	949,989	973,739	998,082	1,023,034	1,048,610	1,074,425	1,100,480	1,126,785	1,153,340
285 601115-Salaries-Contractual	483301	37,009	37,934	38,882	39,854	40,851	41,872	42,919	43,992	45,091	46,219
286 602100-Wages-Full Time-Gen City	483301	102,785	105,354	107,988	110,688	113,455	116,292	119,199	122,179	125,233	128,364
287 603125-Emplr Pd Pension-GRS	483301	53,300	54,633	55,998	57,398	58,833	60,304	61,812	63,357	64,941	66,564
288 603200-Emplr Pd Ben-Medical	483301	130,331	135,545	140,967	146,605	152,469	158,568	164,911	171,507	178,368	185,502

Schedule 4: Cash Out

Object Description	Cost Center	FY 2023 ¹	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
289 603300-Employer Pd FICA	483301	81,610	84,874	88,269	91,800	95,472	99,291	103,262	107,393	111,689	116,156
290 603400-Unemployment	483301	10,454	10,715	10,983	11,258	11,539	11,828	12,123	12,427	12,737	13,056
291 603405-Workers' Compensation	483301	62,609	64,175	65,779	67,424	69,109	70,837	72,608	74,423	76,284	78,191
292 603900-Emp Benefits-Miscellaneous	483301	4,273	4,380	4,489	4,602	4,717	4,835	4,956	5,079	5,206	5,337
293 604100-Other Comp-Unused Sick Leave	483301	992	1,017	1,042	1,068	1,095	1,122	1,150	1,179	1,209	1,239
294 605100-Group Life Insurance	483301	2,785	2,897	3,012	3,133	3,258	3,389	3,524	3,665	3,812	3,964
295 605205-Eye Care-Active Civilian	483301	1,679	1,746	1,816	1,888	1,964	2,042	2,124	2,209	2,297	2,389
296 605500-Income Protection-LTD	483301	2,900	3,016	3,136	3,262	3,392	3,528	3,669	3,816	3,968	4,127
297 605620-Dental Active	483301	6,944	7,222	7,511	7,811	8,123	8,448	8,786	9,138	9,503	9,883
298 605700-Health Care Reserve - Civilian	483301	21,328	22,181	23,068	23,991	24,950	25,948	26,986	28,066	29,188	30,356
299 617400-Contract Svcs-Info Technology	483301	669,208	685,938	703,086	720,664	738,680	757,147	776,076	795,478	815,365	835,749
300 620100-Office Supplies	483301	5,723	5,866	6,013	6,163	6,317	6,475	6,637	6,803	6,973	7,147
301 622300-Repairs & Maint-Equipment	483301	80,503	82,516	84,579	86,693	88,861	91,082	93,359	95,693	98,085	100,538
302 622301-Hardware Maintenance	483301	220,907	226,430	232,091	237,893	243,840	249,936	256,185	262,589	269,154	275,883
303 622302-Software Maintenance	483301	2,031,202	2,081,982	2,134,032	2,187,383	2,242,067	2,298,119	2,355,572	2,414,461	2,474,823	2,536,693
304 626010-Advertising	483301	1,908	1,955	2,004	2,054	2,106	2,158	2,212	2,268	2,324	2,382
305 626100-Printing	483301	3,815	3,911	4,008	4,109	4,211	4,317	4,425	4,535	4,649	4,765
306 626415-Rentals- Office Equipment	483301	3,815	3,911	4,008	4,109	4,211	4,317	4,425	4,535	4,649	4,765
307 626435 - Rentals-Lease of Equipment	483301	5,723	5,866	6,013	6,163	6,317	6,475	6,637	6,803	6,973	7,147
308 626500-Dues & Miscellaneous	483301	3,815	3,911	4,008	4,109	4,211	4,317	4,425	4,535	4,649	4,765
309 626600-Postage	483301	6,105	6,257	6,414	6,574	6,738	6,907	7,079	7,256	7,438	7,624
310 626700-Telecommunications	483301	171,690	175,982	180,381	184,891	189,513	194,251	199,107	204,085	209,187	214,417
311 626702-Data Com Equip	483301	152,613	156,428	160,339	164,347	168,456	172,668	176,984	181,409	185,944	190,593
312 627105-Private Car Reimbursements	483301	229	235	241	247	253	259	265	272	279	286
313 627230-Employee Parking	483301	11,446	11,732	12,025	12,326	12,634	12,950	13,274	13,606	13,946	14,294
314 628100-Travel	483301	12,209	12,514	12,827	13,148	13,476	13,813	14,159	14,513	14,876	15,247
315 628515-Shared Services Expense	483301	486,225	505,674	525,901	546,937	568,814	591,567	615,230	639,839	665,432	692,050
316 601100-Salar-Full Time-Gen City	483411	360,549	369,563	378,802	388,272	397,979	407,928	418,127	428,580	439,294	450,277
317 601300-Salar-Overtime-Gen City	483411	35,269	36,150	37,054	37,980	38,930	39,903	40,901	41,923	42,971	44,046
318 601400-Salar-Shift Prem-Gen City	483411	3,108	3,185	3,265	3,347	3,430	3,516	3,604	3,694	3,787	3,881
319 601500-Salaries-Holiday Premium	483411	1,413	1,448	1,484	1,521	1,559	1,598	1,638	1,679	1,721	1,764
320 602100-Wages-Full Time-Gen City	483411	576,446	590,857	605,628	620,769	636,288	652,195	668,500	685,213	702,343	719,902
321 602130-Wages-Holiday Pay	483411	11,254	11,535	11,824	12,119	12,422	12,733	13,051	13,377	13,712	14,055
322 602300-Wages-Overtime-Gen City	483411	132,457	135,769	139,163	142,642	146,208	149,863	153,610	157,450	161,386	165,421
323 602400-Wages-Shift Prem-Gen City	483411	4,097	4,199	4,304	4,412	4,522	4,635	4,751	4,870	4,991	5,116
324 603125-Emplr Pd Pension-GRS	483411	46,805	47,975	49,175	50,404	51,664	52,956	54,279	55,636	57,027	58,453
325 603200-Emplr Pd Ben-Medical	483411	140,603	146,228	152,077	158,160	164,486	171,066	177,908	185,024	192,425	200,122
326 603300-Employer Pd FICA	483411	88,054	91,576	95,239	99,048	103,010	107,131	111,416	115,873	120,508	125,328
327 603400-Unemployment	483411	11,301	11,584	11,873	12,170	12,474	12,786	13,106	13,433	13,769	14,113
328 603405-Workers' Compensation	483411	67,524	69,212	70,942	72,715	74,533	76,397	78,307	80,264	82,271	84,328
329 603900-Emp Benefits-Miscellaneous	483411	4,567	4,682	4,799	4,919	5,042	5,168	5,297	5,429	5,565	5,704
330 604100-Other Comp-Unused Sick Leave	483411	1,036	1,062	1,088	1,116	1,143	1,172	1,201	1,231	1,261	1,294
331 605100-Group Life Insurance	483411	2,967	3,085	3,209	3,337	3,470	3,609	3,754	3,904	4,060	4,222
332 605205-Eye Care-Active Civilian	483411	1,836	1,910	1,986	2,066	2,148	2,234	2,324	2,417	2,513	2,614
333 605500-Income Protection-LTD	483411	3,108	3,232	3,361	3,496	3,636	3,781	3,932	4,090	4,253	4,423
334 605620-Dental Active	483411	7,487	7,786	8,098	8,422	8,759	9,109	9,473	9,852	10,246	10,656
335 605700-Health Care Reserve - Civilian	483411	23,026	23,947	24,905	25,901	26,937	28,014	29,135	30,300	31,512	32,773
336 617900-Contract Svcs-Other-Misc	483411	30,654	31,420	32,206	33,011	33,836	34,682	35,549	36,438	37,349	38,283
337 620100-Office Supplies	483411	21,169	21,719	22,262	22,819	23,389	23,974	24,573	25,188	25,817	26,463
338 621900-Oper Supplies-Miscellaneous	483411	37,670	38,612	39,577	40,566	41,581	42,620	43,686	44,778	45,897	47,045
339 622300-Repairs & Maint-Equipment	483411	1,224	1,255	1,286	1,318	1,351	1,385	1,420	1,455	1,492	1,529
340 626500-Dues & Miscellaneous	483411	2,354	2,413	2,474	2,535	2,599	2,664	2,730	2,799	2,869	2,940
341 627195 - Employee Uniform Expense	483411	30,607	31,372	32,156	32,960	33,784	34,629	35,495	36,382	37,292	38,224
342 628100-Travel	483411	4,709	4,826	4,947	5,071	5,198	5,328	5,461	5,597	5,737	5,881
343 602500 - Wages-Holiday Premium	483411	26,228	26,883	27,556	28,244	28,951	29,674	30,416	31,177	31,956	32,755
344 628501-Misc-License,Insp&Permit Fees	483411	753	772	792	811	832	852	874	896	918	941
345 628515-Shared Services Expense	483411	142,016	147,697	153,605	159,749	166,139	172,784	179,696	186,883	194,359	202,133
346 601100-Salar-Full Time-Gen City	483421	202,194	207,249	212,430	217,741	223,184	228,764	234,483	240,345	246,354	252,512
347 603125-Emplr Pd Pension-GRS	483421	10,077	10,329	10,587	10,850	11,123	11,401	11,686	11,978	12,274	12,584
348 603200-Emplr Pd Ben-Medical	483421	24,674	25,661	26,687	27,755	28,865	30,020	31,220	32,469	33,768	35,119
349 603300-Employer Pd FICA	483421	15,492	16,111	16,756	17,426	18,131	18,848	19,602	20,386	21,202	22,050
350 603400-Unemployment	483421	1,978	2,027	2,078	2,130	2,183	2,238	2,293	2,351	2,410	2,470
351 603405-Workers' Compensation	483421	11,866	12,163	12,467	12,778	13,098	13,425	13,761	14,105	14,458	14,819
352 603900-Emp Benefits-Miscellaneous	483421	800	821	841	862	884	906	928	952	975	1,000
353 604100-Other Comp-Unused Sick Leave	483421	188	193	198	203	208	213	218	224	229	235
354 605100-Group Life Insurance	483421	518	539	560	583	606	630	655	682	709	737
355 605205-Eye Care-Active Civilian	483421	330	343	357	371	386	401	417	434	451	469
356 605500-Income Protection-LTD	483421	518	539	560	583	606	630	655	682	709	737
357 605620-Dental Active	483421	1,318	1,371	1,426	1,483	1,542	1,604	1,668	1,735	1,804	1,877
358 605700-Health Care Reserve - Civilian	483421	4,050	4,212	4,380	4,555	4,737	4,927	5,124	5,329	5,542	5,764
359 616100-Consultant Fees-Mgt Consult	483421	450,157	461,411	472,946	484,770	496,889	509,311	522,044	535,095	548,472	562,184
360 617900-Contract Svcs-Other-Misc	483421	36,587	37,502	38,439	39,400	40,385	41,395	42,430	43,490	44,578	45,692

Schedule 4: Cash Out

Object Description	Cost Center	FY 2023 ¹	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
361 620100-Office Supplies	483421	7,063	7,240	7,421	7,606	7,796	7,991	8,191	8,396	8,606	8,821
362 621300-Oper Supplies-Automotive	483421	1,224	1,255	1,286	1,318	1,351	1,385	1,420	1,455	1,492	1,529
363 621900-Oper Supplies-Miscellaneous	483421	7,063	7,240	7,421	7,606	7,796	7,991	8,191	8,396	8,606	8,821
364 626010-Advertising	483421	11,772	12,066	12,368	12,677	12,994	13,319	13,652	13,993	14,343	14,701
365 626100-Printing	483421	47,088	48,265	49,471	50,708	51,976	53,275	54,607	55,972	57,372	58,806
366 626500-Dues & Miscellaneous	483421	2,354	2,413	2,474	2,535	2,599	2,664	2,730	2,799	2,869	2,940
367 626600-Postage	483421	23,544	24,132	24,736	25,354	25,988	26,638	27,304	27,986	28,686	29,403
368 627105-Private Car Reimbursements	483421	2,354	2,413	2,474	2,535	2,599	2,664	2,730	2,799	2,869	2,940
369 627195-Employee Uniform Expense	483421	7,063	7,240	7,421	7,606	7,796	7,991	8,191	8,396	8,606	8,821
370 627225-Other Oper Svc-Miscellaneous	483421	2,354	2,413	2,474	2,535	2,599	2,664	2,730	2,799	2,869	2,940
371 627230-Employee Parking	483421	3,390	3,475	3,562	3,651	3,742	3,836	3,932	4,030	4,131	4,234
372 628100-Travel	483421	942	965	989	1,014	1,040	1,066	1,092	1,119	1,147	1,176
373 601100-Salar-Full Time-Gen City	484001	346,753	355,421	364,307	373,415	382,750	392,319	402,127	412,180	422,484	433,046
374 601115-Salaries-Contractual	484001	61,214	62,744	64,313	65,921	67,569	69,258	70,989	72,764	74,583	76,448
375 603125-Emplr Pd Pension-GRS	484001	17,328	17,761	18,205	18,661	19,127	19,605	20,095	20,598	21,113	21,641
376 603200-Emplr Pd Ben-Medical	484001	42,379	44,074	45,837	47,670	49,577	51,560	53,623	55,768	57,998	60,318
377 603300-Employer Pd FICA	484001	26,510	27,571	28,674	29,820	31,013	32,254	33,544	34,886	36,281	37,732
378 603400-Unemployment	484001	3,437	3,523	3,611	3,702	3,794	3,889	3,986	4,086	4,188	4,293
379 603405-Workers' Compensation	484001	20,295	20,802	21,322	21,855	22,402	22,962	23,536	24,124	24,727	25,345
380 603900-Emp Benefits-Miscellaneous	484001	1,413	1,448	1,484	1,521	1,559	1,598	1,638	1,679	1,721	1,764
381 604100-Other Comp-Unused Sick Leave	484001	330	338	346	355	364	373	382	392	402	412
382 605100-Group Life Insurance	484001	895	930	968	1,006	1,047	1,088	1,132	1,177	1,224	1,273
383 605205-Eye Care-Active Civilian	484001	565	588	611	636	661	687	715	744	773	804
384 605500-Income Protection-LTD	484001	942	979	1,019	1,059	1,102	1,146	1,192	1,239	1,289	1,340
385 605620-Dental Active	484001	2,260	2,351	2,445	2,542	2,644	2,750	2,860	2,974	3,093	3,217
386 605700-Health Care Reserve - Civilian	484001	6,922	7,199	7,487	7,786	8,098	8,422	8,758	9,109	9,473	9,852
387 616100-Consultant Fees-Mgt Consult	484001	23,544	24,132	24,736	25,354	25,988	26,638	27,304	27,986	28,686	29,403
388 620100-Office Supplies	484001	14,126	14,479	14,841	15,212	15,593	15,983	16,382	16,792	17,211	17,642
389 621900-Oper Supplies-Miscellaneous	484001	895	917	940	963	988	1,012	1,038	1,063	1,090	1,117
390 626500-Dues & Miscellaneous	484001	1,036	1,062	1,088	1,116	1,143	1,172	1,201	1,231	1,262	1,294
391 627110-Purchased Services - Other	484001	1,412,626	1,447,942	1,484,140	1,521,244	1,559,275	1,598,257	1,638,213	1,679,168	1,721,148	1,764,176
392 627230-Employee Parking	484001	1,130	1,158	1,187	1,217	1,247	1,279	1,311	1,343	1,377	1,411
393 628100 - Travel	484001	2,590	2,655	2,721	2,789	2,859	2,930	3,003	3,078	3,155	3,234
394 628515-Shared Services Expense	484001	16,481	17,140	17,825	18,538	19,280	20,051	20,853	21,687	22,555	23,457
395 601100-Salar-Full Time-Gen City	484111	433,205	444,035	455,136	466,515	478,178	490,132	502,385	514,945	527,819	541,014
396 602100-Wages-Full Time-Gen City	484111	95,729	98,122	100,575	103,090	105,667	108,309	111,016	113,792	116,636	119,552
397 603125-Emplr Pd Pension-GRS	484111	29,524	30,262	31,019	31,794	32,589	33,404	34,239	35,095	35,972	36,871
398 603200-Emplr Pd Ben-Medical	484111	72,091	74,975	77,974	81,093	84,336	87,710	91,218	94,867	98,662	102,608
399 603300-Employer Pd FICA	484111	45,157	46,963	48,842	50,795	52,827	54,940	57,138	59,423	61,800	64,272
400 603400-Unemployment	484111	5,937	6,085	6,237	6,393	6,553	6,717	6,885	7,057	7,233	7,413
401 603405-Workers' Compensation	484111	34,656	35,523	36,411	37,321	38,254	39,211	40,191	41,196	42,225	43,281
402 603900-Emp Benefits-Miscellaneous	484111	2,354	2,413	2,474	2,535	2,599	2,664	2,730	2,799	2,869	2,940
403 604100-Other Comp-Unused Sick Leave	484111	518	531	544	558	572	586	601	616	631	647
404 605100-Group Life Insurance	484111	1,554	1,616	1,681	1,748	1,818	1,891	1,966	2,045	2,127	2,212
405 605205-Eye Care-Active Civilian	484111	942	979	1,019	1,059	1,102	1,146	1,192	1,239	1,289	1,340
406 605500-Income Protection-LTD	484111	1,601	1,665	1,732	1,801	1,873	1,948	2,026	2,107	2,191	2,279
407 605620-Dental Active	484111	3,814	3,967	4,125	4,290	4,462	4,640	4,826	5,019	5,220	5,429
408 605700-Health Care Reserve - Civilian	484111	11,772	12,243	12,732	13,242	13,771	14,322	14,895	15,491	16,111	16,755
409 616100-Consultant Fees-Mgt Consult	484111	47,088	48,265	49,471	50,708	51,976	53,275	54,607	55,972	57,372	58,806
410 620100-Office Supplies	484111	7,063	7,240	7,421	7,606	7,796	7,991	8,191	8,396	8,606	8,821
411 621900-Oper Supplies-Miscellaneous	484111	1,884	1,931	1,979	2,028	2,079	2,131	2,184	2,239	2,295	2,352
412 626500-Dues & Miscellaneous	484111	753	772	792	811	832	852	874	896	918	941
413 626600-Postage	484111	942	965	989	1,014	1,040	1,066	1,092	1,119	1,147	1,176
414 627230-Employee Parking	484111	5,651	5,792	5,937	6,085	6,237	6,393	6,553	6,717	6,885	7,057
415 628100-Travel	484111	3,767	3,861	3,958	4,057	4,158	4,262	4,369	4,478	4,590	4,704
416 601100-Salar-Full Time-Gen City	484121	383,575	393,164	402,994	413,068	423,395	433,980	444,829	455,950	467,349	479,033
417 601300-Salar-Overtime-Gen City	484121	9,418	9,653	9,894	10,142	10,395	10,655	10,921	11,194	11,474	11,761
418 601400-Salar-Shift Prem-Gen City	484121	11,772	12,066	12,368	12,677	12,994	13,319	13,652	13,993	14,343	14,701
419 602100-Wages-Full Time-Gen City	484121	564,674	578,791	593,260	608,092	623,294	638,876	654,848	671,220	688,000	705,200
420 602300-Wages-Overtime-Gen City	484121	9,418	9,653	9,894	10,142	10,395	10,655	10,921	11,194	11,474	11,761
421 603125-Emplr Pd Pension-GRS	484121	47,417	48,603	49,818	51,063	52,340	53,648	54,989	56,364	57,773	59,218
422 603200-Emplr Pd Ben-Medical	484121	119,602	124,386	129,362	134,536	139,918	145,515	151,335	157,389	163,684	170,231
423 603300-Employer Pd FICA	484121	74,869	77,864	80,979	84,218	87,586	91,090	94,733	98,523	102,464	106,562
424 603400-Unemployment	484121	9,606	9,846	10,092	10,344	10,603	10,868	11,140	11,418	11,704	11,996
425 603405-Workers' Compensation	484121	57,447	58,883	60,355	61,864	63,411	64,996	66,621	68,286	69,993	71,743
426 603900-Emp Benefits-Miscellaneous	484121	3,908	4,006	4,106	4,209	4,314	4,422	4,532	4,644	4,762	4,881
427 604100-Other Comp-Unused Sick Leave	484121	895	917	940	963	988	1,012	1,038	1,063	1,090	1,117
428 605100-Group Life Insurance	484121	2,543	2,644	2,750	2,860	2,975	3,094	3,217	3,346	3,480	3,619
429 605205-Eye Care-Active Civilian	484121	1,554	1,616	1,681	1,748	1,818	1,891	1,966	2,045	2,127	2,212
430 605500-Income Protection-LTD	484121	2,637	2,742	2,852	2,966	3,085	3,208	3,337	3,470	3,609	3,753
431 605620-Dental Active	484121	6,404	6,660	6,926	7,204	7,492	7,791	8,103	8,427	8,764	9,115
432 605700-Health Care Reserve - Civilian	484121	19,588	20,372	21,187	22,034	22,916	23,832	24,786	25,777	26,808	27,880

Schedule 4: Cash Out

Object Description	Cost Center	FY 2023 ¹	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
433 616100-Consultant Fees-Mgt Consult	484121	47,088	48,265	49,471	50,708	51,976	53,275	54,607	55,972	57,372	58,806
434 617900-Contract Svcs-Other-Misc	484121	113,010	115,835	118,731	121,699	124,742	127,861	131,057	134,333	137,692	141,134
435 620100-Office Supplies	484121	2,354	2,413	2,474	2,535	2,599	2,664	2,730	2,799	2,869	2,940
436 621900-Oper Supplies-Miscellaneous	484121	5,651	5,792	5,937	6,085	6,237	6,393	6,553	6,717	6,885	7,057
437 626500-Dues & Miscellaneous	484121	2,354	2,413	2,474	2,535	2,599	2,664	2,730	2,799	2,869	2,940
438 627105-Private Car Reimbursements	484121	942	965	989	1,014	1,040	1,066	1,092	1,119	1,147	1,176
439 627225 - Other Operational Services - Misc	484121	942	965	989	1,014	1,040	1,066	1,092	1,119	1,147	1,176
440 627230-Employee Parking	484121	471	483	495	507	520	533	546	560	574	588
441 628100-Travel	484121	4,709	4,826	4,947	5,071	5,198	5,328	5,461	5,597	5,737	5,881
442 601100-Salar-Full Time-Gen City	484131	128,125	131,328	134,612	137,977	141,426	144,962	148,586	152,301	156,108	160,011
443 603125-Emplr Pd Pension-GRS	484131	6,404	6,564	6,728	6,896	7,069	7,245	7,427	7,612	7,803	7,998
444 603200-Emplr Pd Ben-Medical	484131	15,680	16,307	16,960	17,638	18,344	19,077	19,840	20,634	21,459	22,318
445 603300-Employer Pd FICA	484131	9,794	10,186	10,593	11,017	11,458	11,916	12,393	12,889	13,404	13,940
446 603400-Unemployment	484131	1,271	1,303	1,336	1,369	1,403	1,438	1,474	1,511	1,549	1,588
447 603405-Workers' Compensation	484131	7,534	7,722	7,915	8,113	8,316	8,524	8,737	8,956	9,179	9,409
448 603900-Emp Benefits-Miscellaneous	484131	518	531	544	558	572	586	601	616	631	647
449 604100-Other Comp-Unused Sick Leave	484131	141	145	148	152	156	160	164	168	172	176
450 605100-Group Life Insurance	484131	330	343	357	371	386	401	417	434	451	469
451 605205-Eye Care-Active Civilian	484131	188	196	204	212	220	229	238	248	258	268
452 605500-Income Protection-LTD	484131	330	343	357	371	386	401	417	434	451	469
453 605620-Dental Active	484131	800	833	866	900	936	974	1,013	1,053	1,096	1,139
454 605700-Health Care Reserve - Civilian	484131	2,543	2,644	2,750	2,860	2,975	3,094	3,217	3,346	3,480	3,619
455 616100 - Consultant Fees Mgt Consultant	484131	105,947	108,596	111,311	114,093	116,946	119,869	122,866	125,938	129,086	132,313
456 627225-Other Oper Svc-Miscellaneous	484131	824,032	844,633	865,748	887,392	909,577	932,316	955,624	979,515	1,004,003	1,029,103
457 628100-Travel	484131	2,166	2,220	2,276	2,333	2,391	2,451	2,512	2,575	2,639	2,705
458 628515-Shared Services Expense	484131	117,719	122,428	127,325	132,418	137,714	143,223	148,952	154,910	161,106	167,551
459 601100-Salar-Full Time-Gen City	484151	86,971	89,145	91,374	93,658	95,999	98,399	100,859	103,381	105,965	108,614
460 601115-Salaries-Contractual	484151	43,509	44,597	45,712	46,854	48,026	49,226	50,457	51,718	53,011	54,337
461 603125-Emplr Pd Pension-GRS	484151	6,545	6,709	6,877	7,048	7,225	7,405	7,590	7,780	7,975	8,174
462 603200-Emplr Pd Ben-Medical	484151	15,963	16,601	17,265	17,956	18,674	19,421	20,198	21,006	21,846	22,720
463 603300-Employer Pd FICA	484151	9,983	10,382	10,797	11,229	11,678	12,145	12,631	13,136	13,662	14,208
464 603400-Unemployment	484151	1,271	1,303	1,336	1,369	1,403	1,438	1,474	1,511	1,549	1,588
465 603405-Workers' Compensation	484151	7,675	7,867	8,064	8,265	8,472	8,684	8,901	9,123	9,352	9,585
466 603900-Emp Benefits-Miscellaneous	484151	518	531	544	558	572	586	601	616	631	647
467 604100-Other Comp-Unused Sick Leave	484151	141	145	148	152	156	160	164	168	172	176
468 605100-Group Life Insurance	484151	330	343	357	371	386	401	417	434	451	469
469 605205-Eye Care-Active Civilian	484151	188	196	204	212	220	229	238	248	258	268
470 605500-Income Protection-LTD	484151	330	343	357	371	386	401	417	434	451	469
471 605620-Dental Active	484151	848	881	917	953	992	1,031	1,072	1,115	1,160	1,206
472 605700-Health Care Reserve - Civilian	484151	2,637	2,742	2,852	2,966	3,085	3,208	3,337	3,470	3,609	3,753
473 626010-Advertising	484151	283	290	297	304	312	320	328	336	344	353
474 627105-Private Car Reimbursements	484151	47	48	49	51	52	53	55	56	57	59
475 601100-Salar-Full Time-Gen City	484161	121,755	124,799	127,919	131,117	134,395	137,755	141,199	144,729	148,347	152,056
476 602100-Wages-Full Time-Gen City	484161	161,902	165,950	170,098	174,351	178,710	183,177	187,757	192,451	197,262	202,194
477 603125-Emplr Pd Pension-GRS	484161	14,200	14,555	14,919	15,292	15,675	16,068	16,468	16,880	17,302	17,734
478 603200-Emplr Pd Ben-Medical	484161	34,654	36,040	37,481	38,981	40,540	42,161	43,848	45,602	47,426	49,323
479 603300-Employer Pd FICA	484161	21,710	22,578	23,481	24,420	25,397	26,413	27,470	28,568	29,711	30,900
480 603400-Unemployment	484161	2,805	2,875	2,947	3,021	3,096	3,174	3,253	3,334	3,418	3,503
481 603405-Workers' Compensation	484161	16,655	17,071	17,498	17,935	18,384	18,843	19,314	19,797	20,292	20,800
482 603900-Emp Benefits-Miscellaneous	484161	1,140	1,168	1,197	1,227	1,258	1,289	1,322	1,355	1,388	1,423
483 604100-Other Comp-Unused Sick Leave	484161	263	270	276	283	290	298	305	313	320	328
484 605100-Group Life Insurance	484161	760	790	822	855	889	924	961	1,000	1,040	1,081
485 605205-Eye Care-Active Civilian	484161	468	486	506	526	547	569	592	615	640	665
486 605500-Income Protection-LTD	484161	760	790	822	855	889	924	961	1,000	1,040	1,081
487 605620-Dental Active	484161	1,841	1,914	1,991	2,071	2,153	2,240	2,329	2,422	2,519	2,620
488 605700-Health Care Reserve - Civilian	484161	5,668	5,895	6,131	6,376	6,631	6,897	7,172	7,459	7,758	8,068
489 617900-Contract Svcs-Other-Misc	484161	794,755	814,624	834,990	855,865	877,261	899,193	921,673	944,714	968,332	992,540
490 617903 - Contract Svcs-Pers Servs Contract-Pd On P/R	484161	31,849	32,645	33,461	34,298	35,155	36,034	36,935	37,858	38,804	39,775
491 620100 - Office Supplies	484161	1,461	1,497	1,535	1,573	1,613	1,653	1,694	1,737	1,780	1,825
492 626600 - Postage	484161	1,461	1,497	1,535	1,573	1,613	1,653	1,694	1,737	1,780	1,825
493 627230-Employee Parking	484161	2,104	2,156	2,210	2,266	2,322	2,380	2,440	2,501	2,563	2,627
494 628100-Travel	484161	2,045	2,096	2,149	2,203	2,258	2,314	2,372	2,431	2,492	2,554
495 601100 - Salaries-Full Time	484171	47,088	48,265	49,471	50,708	51,976	53,275	54,607	55,972	57,372	58,806
496 603125 - Pensions DBP/DCA	484171	2,354	2,413	2,474	2,535	2,599	2,664	2,730	2,799	2,869	2,940
497 603200 - Empl Ben-Hospitalization	484171	5,792	6,023	6,264	6,515	6,776	7,047	7,328	7,622	7,926	8,243
498 603300 - Empl Ben-Social Security	484171	3,626	3,771	3,922	4,078	4,242	4,411	4,588	4,771	4,962	5,161
499 603400 - Unemployment	484171	471	483	495	507	520	533	546	560	574	588
500 603405 - Workers Compensation	484171	2,778	2,848	2,919	2,992	3,067	3,143	3,222	3,302	3,385	3,470
501 603900 - Empl Ben-Miscellaneous	484171	188	193	198	203	208	213	218	224	229	235
502 604100 - Other Comp-Unused Sick Leave	484171	94	97	99	101	104	107	109	112	115	118
503 605100 - Group Life Insurance	484171	141	147	153	159	165	172	179	186	193	201
504 605500 - Income Protection	484171	141	147	153	159	165	172	179	186	193	201

Schedule 4: Cash Out

Object Description	Cost Center	FY 2023 ¹	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
505 605620 - Dental Active	484171	330	343	357	371	386	401	417	434	451	469
506 605700 - Health Care Reserve	484171	942	979	1,019	1,059	1,102	1,146	1,192	1,239	1,289	1,340
507 611200 - Audit	484171	211,894	217,191	222,621	228,187	233,891	239,738	245,732	251,875	258,172	264,626
508 626500 - Dues & Miscellaneous	484171	471	483	495	507	520	533	546	560	574	588
509 627230 - Employee Parking	484171	1,695	1,738	1,781	1,825	1,871	1,918	1,966	2,015	2,065	2,117
510 628100 - Travel	484171	2,354	2,413	2,474	2,535	2,599	2,664	2,730	2,799	2,869	2,940
511 601100-Salar-Full Time-Gen City	485111	147,380	151,065	154,841	158,713	162,680	166,747	170,916	175,189	179,569	184,058
512 602100-Wages-Full Time-Gen City	485111	903,947	926,545	949,709	973,452	997,788	1,022,733	1,048,301	1,074,508	1,101,371	1,128,905
513 603125-Emplr Pd Pension-GRS	485111	52,565	53,879	55,226	56,607	58,022	59,472	60,959	62,483	64,045	65,646
514 603200-Emplr Pd Ben-Medical	485111	128,476	133,615	138,959	144,518	150,298	156,310	162,563	169,065	175,828	182,861
515 603300-Employer Pd FICA	485111	80,440	83,657	87,004	90,484	94,103	97,867	101,782	105,853	110,087	114,491
516 603400-Unemployment	485111	10,314	10,572	10,836	11,107	11,385	11,670	11,961	12,260	12,567	12,881
517 603405-Workers' Compensation	485111	61,710	63,253	64,835	66,455	68,117	69,820	71,565	73,354	75,188	77,068
518 603900-Emp Benefits-Miscellaneous	485111	4,208	4,313	4,421	4,531	4,644	4,760	4,879	5,001	5,128	5,255
519 604100-Other Comp-Unused Sick Leave	485111	964	988	1,013	1,038	1,064	1,091	1,118	1,146	1,175	1,204
520 605100-Group Life Insurance	485111	2,717	2,826	2,939	3,057	3,179	3,306	3,438	3,576	3,719	3,868
521 605205-Eye Care-Active Civilian	485111	1,665	1,732	1,801	1,873	1,948	2,026	2,107	2,192	2,279	2,370
522 605500-Income Protection-LTD	485111	2,834	2,948	3,066	3,188	3,316	3,448	3,586	3,730	3,879	4,034
523 605620-Dental Active	485111	6,837	7,111	7,395	7,691	7,999	8,319	8,651	8,997	9,357	9,732
524 605700-Health Care Reserve - Civilian	485111	21,038	21,879	22,754	23,664	24,611	25,596	26,619	27,684	28,791	29,943
525 617900-Contract Svcs-Other-Misc	485111	21,914	22,462	23,024	23,599	24,189	24,794	25,414	26,049	26,700	27,368
526 626100-Printing	485111	2,922	2,995	3,070	3,147	3,225	3,306	3,389	3,473	3,560	3,649
527 626500-Dues & Miscellaneous	485111	1,169	1,198	1,228	1,259	1,290	1,322	1,355	1,389	1,424	1,460
528 626600-Postage	485111	4,675	4,792	4,912	5,034	5,160	5,289	5,422	5,557	5,696	5,838
529 627230-Employee Parking	485111	1,052	1,078	1,105	1,133	1,161	1,190	1,220	1,250	1,282	1,314
530 603121 - Pension Reimbursement - Operating (GLWA's portion) ²	487111	6,048,000	-	-	-	-	-	-	-	-	-
531 603121-Pension Reimbursement - Operating ²	487111	4,272,000	-	-	-	-	-	-	-	-	-
532 628512-GLWA Charge	487111	22,985,900	24,674,808	26,431,280	28,258,011	30,157,789	32,133,588	34,188,474	36,325,516	38,548,057	40,854,057
533 628513-Other GLWA Allocations ²	487111	3,809,200	1,977,778	1,977,778	1,977,778	1,977,778	1,977,778	1,977,778	1,977,778	1,977,778	1,977,778
534 628514-Other Retail Allocations ²	487111	5,392,800	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000
535 651180-Note Payment ²	487111	875,500	875,508	1,653,309	1,622,197	1,447,403	1,306,706	1,275,594	1,244,482	1,213,370	1,182,258
536 651180-Note Payment ²	487111	618,200	618,193	1,167,396	1,145,428	1,022,006	922,660	900,692	878,724	856,756	834,788
537 711700-Bad Debts ³	487111	12,766,714	12,766,714	13,107,367	13,459,217	11,058,151	11,358,582	11,669,034	11,989,893	12,321,559	12,664,450
538 720300-Water Retail Assistance Program	487111	614,460	856,400	873,400	890,900	908,800	927,100	946,000	965,300	985,200	1,005,600
539 Total Operating and Non-Operating Expenses		\$ 100,714,413	\$ 89,064,143	\$ 93,700,879	\$ 97,072,943	\$ 97,554,836	\$ 100,908,263	\$ 104,574,846	\$ 108,371,946	\$ 112,304,615	\$ 114,066,270
Total Expenses by Category											
540 Personal Services		\$ 23,225,402	\$ 23,864,436	\$ 24,521,782	\$ 25,197,990	\$ 25,893,631	\$ 26,609,290	\$ 27,345,573	\$ 28,103,106	\$ 28,882,532	\$ 29,684,518
541 Operations & Maintenance		77,489,011	65,199,707	69,179,098	71,874,953	71,661,205	74,298,973	77,229,273	80,268,840	83,422,083	84,381,751
542 Total Expenses		\$ 100,714,413	\$ 89,064,143	\$ 93,700,879	\$ 97,072,943	\$ 97,554,836	\$ 100,908,263	\$ 104,574,846	\$ 108,371,946	\$ 112,304,615	\$ 114,066,270
Expense Execution Factors											
543 Personal Services		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
544 Operations & Maintenance		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Expenses at Execution											
545 Personal Services		\$ 23,225,402	\$ 23,864,436	\$ 24,521,782	\$ 25,197,990	\$ 25,893,631	\$ 26,609,290	\$ 27,345,573	\$ 28,103,106	\$ 28,882,532	\$ 29,684,518
546 Operations & Maintenance		77,489,011	65,199,707	69,179,098	71,874,953	71,661,205	74,298,973	77,229,273	80,268,840	83,422,083	84,381,751
547 Total Expenses at Execution		\$ 100,714,413	\$ 89,064,143	\$ 93,700,879	\$ 97,072,943	\$ 97,554,836	\$ 100,908,263	\$ 104,574,846	\$ 108,371,946	\$ 112,304,615	\$ 114,066,270
Debt Service											
548 Obligation to GLWA		\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800
549 Model Calculated New Subordinate Debt Service		-	-	133,480	596,160	1,157,649	1,963,203	3,194,792	4,152,914	5,111,036	6,069,158
550 Total Debt Service		\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 33,438,800	\$ 36,654,781
Transfer to I&E Fund											
551 Transfer to I&E Fund from Operations		\$ 6,580,230	\$ 13,211,113	\$ 13,034,144	\$ 13,420,630	\$ 16,517,205	\$ 16,903,734	\$ 17,216,775	\$ 17,534,389	\$ 17,856,743	\$ 18,279,880
552 Total Cash-Funded Capital		\$ 6,580,230	\$ 13,211,113	\$ 13,034,144	\$ 13,420,630	\$ 16,517,205	\$ 16,903,734	\$ 17,216,775	\$ 17,534,389	\$ 17,856,743	\$ 18,279,880
553 Total Cash Outflows		\$ 140,733,443	\$ 135,714,056	\$ 140,173,823	\$ 143,932,373	\$ 147,510,841	\$ 151,250,797	\$ 155,230,421	\$ 159,345,135	\$ 163,600,158	\$ 168,000,931

¹ FY 2023 based on FY 2023 Approved Budget.

² Forecast based on future pension obligations.

³ Bad debt calculated as 10% of water rate revenue through FY 2026; 8% of water rate revenue in FY 2027 through FY 2032.

Schedule 5: Cost Escalation Factors

Object #	Object Description	Inflation Factor	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
601100	Salar-Full Time-Gen City	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
601200	Wages-Full Time	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
601300	Salar-Overtime-Gen City	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
601400	Salar-Shift Prem-Gen City	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
601500	Salaries-Holiday Premium	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
602100	Wages-Full Time-Gen City	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
602130	Wages-Holiday Pay	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
602300	Wages-Overtime-Gen City	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
602400	Wages-Shift Prem-Gen City	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
603121	Pension Reimbursement - Operating	Retirement	-100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
603125	Emplr Pd Pension-GRS	Retirement	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
603200	Emplr Pd Ben-Medical	Health Insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
603300	Employer Pd FICA	Health Insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
603400	Unemployment	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
603405	Workers' Compensation	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
603900	Emp Benefits-Miscellaneous	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
604100	Other Comp-Unused Sick Leave	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
605100	Group Life Insurance	Health Insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
605205	Eye Care-Active Civilian	Health Insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
605500	Income Protection	Health Insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
605620	Dental Active	Health Insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
605700	Health Care Reserve - Civilian	Health Insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
611200	Auditing	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
613100	Legal	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
616100	Consultant Fees-Mgt Consult	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
617400	Contract Svcs-Info Technology	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
617900	Contract Svcs-Other-Misc	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
617903	Contract Svcs-Pers Servs Contract-Pd On P/R	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
620100	Office Supplies	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
621300	Oper Supplies-Automotive	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
621400	Oper Supplies-Janitorial	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
621600	Operating Supplies-Chemicals	Fuel, Utilities, Chemicals	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
621900	Oper Supplies-Miscellaneous	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622100	Repairs & Maint-Automotive	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622200	Repairs & Maint-Bldgs&Ground	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622300	Repairs & Maint-Equipment	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622301	Hardware Maintenance	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622302	Software Maintenance	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622400	Repairs & Maint-Facilities	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622900	Repairs & Maint-Misc	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
623100	Uniforms, Laundry, Cleaning	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626010	Advertising	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626100	Printing	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626300	Insurance Premium	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626415	Rentals- Office Equipment	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626435	Rentals - Lease of Equipment	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626500	Dues & Miscellaneous	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626600	Postage	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626700	Telecommunications	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626702	Data Com Equip	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626801	Utilities-Water	Fuel, Utilities, Chemicals	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626802	Utilities-Gas	Fuel, Utilities, Chemicals	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626803	Utilities-Steam	Fuel, Utilities, Chemicals	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626804	Utilities-Electricity	Fuel, Utilities, Chemicals	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
627105	Private Car Reimbursements	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
627110	Purchased Services - Other	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
627195	Employee Uniform Expense	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
627225	Other Oper Svc-Miscellaneous	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
627230	Employee Parking	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
628100	Travel	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
628200	Training	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
628208	Training-Tuition Reimbursement	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
628501	Misc-License,Insp&Permit Fees	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
628512	GLWA Charge	N/A									
628513	Other GLWA Allocations	N/A									
628514	Other Retail Allocations	N/A									
628515	Shared Services Expense	GLWA	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
651180	Note Payment	N/A									
661100	Damage Claims	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
711700	Bad Debts	N/A									
720300	Water Retail Assistance Program	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Schedule 6. Capital Improvement Program

Capital Improvement Projects ¹	Funding Source	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total Cost
1 WS-711 Water Main Replacement- Incl Jefferson Streetscape	New DWRP Funded	\$ 1,814,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,814,000
2 WS-712 Water Main Replacement-Cornerstone Village	Prior Bond Proceeds	1,000,000	-	-	-	-	-	-	-	-	-	1,000,000
3 WS-713 Water Main Replacement-Jefferson/Chalmers	New DWRP Funded	7,250,000	2,000,000	-	-	-	-	-	-	-	-	9,250,000
4 WS-715 Pilot Areas-Riverdale, Minock, Miller & Rosedale	New DWRP Funded	5,000,000	100,000	-	-	-	-	-	-	-	-	5,100,000
5 WS-720 Watermain Replacement-Various Streets	Prior Bond Proceeds	6,000,000	3,000,000	2,700,000	-	-	-	-	-	-	-	11,700,000
6 WS-721 Lead Service Line Replacement	100% Forgiveness or Grant	5,000,000	4,000,000	-	-	-	-	-	-	-	-	9,000,000
7 WS-723 Lead Service Line Replacement for Settlements	100% Forgiveness or Grant	600,000	-	-	-	-	-	-	-	-	-	600,000
8 WS-725 Watermain Replacement-Medical Ctr. Cultural Ctr &Midtown 30,000LF	Prior Bond Proceeds	4,000,000	5,000,000	5,000,000	-	-	-	-	-	-	-	14,000,000
9 WS-732 Water Main Replacement, Various Locations - Detroit West	New DWRP Funded	-	2,750,000	5,000,000	4,000,000	-	-	-	-	-	-	11,750,000
10 WS-732 Water Main Replacement, Various Locations - Detroit East	New DWRP Funded	-	2,250,000	5,000,000	4,000,000	-	-	-	-	-	-	11,250,000
11 WS-717 Repair & Replacement of Water Mains (WS-702B)	Operations	2,500,000	3,000,000	3,000,000	-	-	-	-	-	-	-	8,500,000
12 WS-719 Repair of Water Mains (WS-708/WS-702A) incl r	Operations	9,179,000	6,000,000	4,000,000	291,000	-	-	-	-	-	-	19,470,000
13 DWS-904 Repair of Lawns (break repair)	Operations	200,000	425,000	-	-	-	-	-	-	-	-	625,000
14 DWS-919 (replace DWS-902)	Operations	2,500,000	5,100,000	2,720,000	-	-	-	-	-	-	-	10,320,000
15 PC-808 West Warren (Constance at Rouge Park/Tireman Sawyer PH III)	Prior Bond Proceeds	1,300,000	4,000,000	864,000	565,000	-	-	-	-	-	-	6,729,000
16 CS-1921 Watermain/Sewer Design	I&E Funded	1,000,000	1,000,000	-	-	-	-	-	-	-	-	2,000,000
17 CS-1923 Third Party Inspection (Water & Sewer)	I&E Funded	750,000	1,500,000	-	-	-	-	-	-	-	-	2,250,000
18 CS-1947 Condition Assessment Sherwood Forest,	I&E Funded	250,000	-	-	-	-	-	-	-	-	-	250,000
19 CS-1812 Professional Engineering and Construction Services for CIPMO	I&E Funded	4,000,000	-	-	-	-	-	-	-	-	-	4,000,000
20 Construction Program Management Allowances	I&E Funded	-	1,000,000	750,000	750,000	750,000	-	-	-	-	-	3,250,000
21 Watermain Program Allowances	I&E Funded	-	9,000,000	13,000,000	22,000,000	30,000,000	-	-	-	-	-	74,000,000
22 PC-803B Meter Installation	I&E Funded	700,000	700,000	-	-	-	-	-	-	-	-	1,400,000
23 Water Meter Replacement Program	I&E Funded	850,000	850,000	850,000	850,000	850,000	-	-	-	-	-	4,250,000
24 Fire Hydrant Replacement Program	I&E Funded	250,000	250,000	250,000	250,000	250,000	-	-	-	-	-	1,250,000
25 CS-1925 Itron Migration -MIU Replacement	I&E Funded	350,000	14,890,000	3,000,000	-	-	-	-	-	-	-	18,240,000
26 CS-1926 Itron Migration Project Management	I&E Funded	560,000	1,115,000	-	-	-	-	-	-	-	-	1,675,000
27 Vehicle, Heavy Equipment, and Equipment Purchases	I&E Funded	981,000	500,000	750,000	1,200,000	750,000	-	-	-	-	-	4,181,000
28 Information Technology	I&E Funded	2,688,000	500,000	500,000	500,000	500,000	-	-	-	-	-	4,688,000
29 Facility Improvement Allowance	I&E Funded	1,463,000	500,000	500,000	500,000	1,000,000	-	-	-	-	-	3,963,000
30 Unspecified Future Spending: Cash	I&E / Operating Fund	-	-	-	-	-	16,666,667	16,666,667	16,666,667	16,666,667	16,666,667	83,333,333
31 Unspecified Future Spending: Bond	New Bond Funded	-	-	-	-	-	16,666,667	16,666,667	16,666,667	16,666,667	16,666,667	83,333,333
32 Unspecified Future Spending: SRF	New DWRP Funded	-	-	-	-	-	16,666,667	16,666,667	16,666,667	16,666,667	16,666,667	83,333,333
33 WS-734 Emergency Watermain Break Repair	I&E Funded	450,000	-	-	-	-	-	-	-	-	-	450,000
34 Total CIP Budget (in current dollars)		\$ 60,635,000	\$ 69,430,000	\$ 47,884,000	\$ 34,906,000	\$ 34,100,000	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 496,955,000
35 Annual CIP Execution Percentage ²		82%	72%	108%	164%	147%	100%	100%	100%	100%	100%	
36 Final CIP Funding Level		\$ 49,493,280	\$ 50,094,304	\$ 51,709,998	\$ 57,287,974	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 508,585,556

¹ Capital spending from FY 2023 through FY 2027 reflects 2023 5-Year CIP Plan BOWC Approved. Future CIP reflects estimated levels of spending.

² Annual CIP Execution Percentages are based on expected annual spending in each year of forecast.

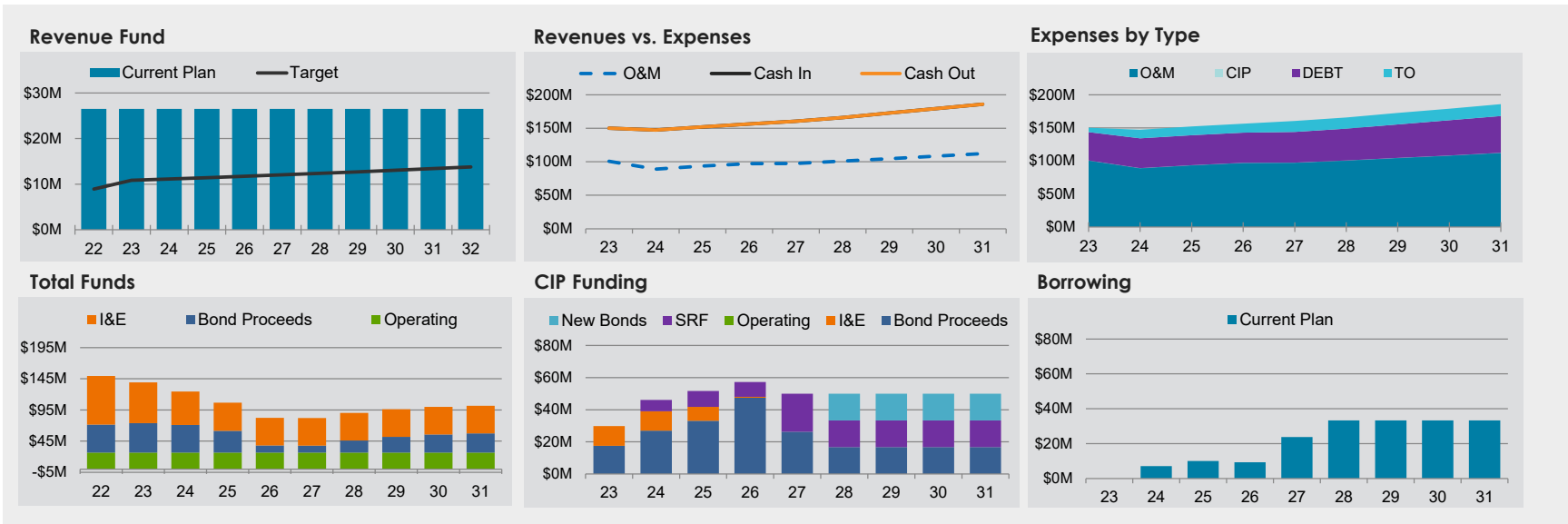


DWSD WATER FUND

Financial Analysis & Management System | By Stantec



	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2027	FY 2032
Water Rate Plan ¹	21.32%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	Cumulative	
All-In DSC	1.15	1.11	1.11	1.11	1.16	1.13	1.07	1.03	0.99	0.99	16.99%	42.33%



¹ FY 2023 rates reflect results of cost allocation and rate design analyses. Total water, wastewater, and drainage rate revenue increase of 0.8% in FY 2023.

Schedule 8: Pro Forma

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Operating Revenue										
1 Water Rate Revenue	\$ 123,766,383	\$ 127,172,910	\$ 130,691,409	\$ 134,326,132	\$ 138,081,513	\$ 141,962,167	\$ 145,972,902	\$ 150,118,728	\$ 154,404,864	\$ 158,836,748
2 <i>Weighted Average Rate Increase</i>	<i>21.32%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>
3 Total Rate Revenue	\$ 123,766,383	\$ 127,172,910	\$ 130,691,409	\$ 134,326,132	\$ 138,081,513	\$ 141,962,167	\$ 145,972,902	\$ 150,118,728	\$ 154,404,864	\$ 158,836,748
4 Plus: Other Operating Revenue	3,900,760	3,900,760	3,900,760	3,900,760	3,900,760	3,900,760	3,900,760	3,900,760	3,900,760	3,900,760
5 Equals: Total Operating Revenue	\$ 127,667,143	\$ 131,073,670	\$ 134,592,169	\$ 138,226,892	\$ 141,982,273	\$ 145,862,927	\$ 149,873,662	\$ 154,019,488	\$ 158,305,624	\$ 162,737,508
Less: Operating Expenses										
6 Personal Services	\$ (23,225,402)	\$ (23,864,436)	\$ (24,521,782)	\$ (25,197,990)	\$ (25,893,631)	\$ (26,609,290)	\$ (27,345,573)	\$ (28,103,106)	\$ (28,882,532)	\$ (29,684,518)
7 Operations & Maintenance Costs	(77,489,011)	(65,199,707)	(69,179,098)	(71,874,953)	(71,661,205)	(74,298,973)	(77,229,273)	(80,268,840)	(83,422,083)	(84,381,751)
8 Equals: Net Operating Income	\$ 26,952,730	\$ 42,009,527	\$ 40,891,289	\$ 41,153,949	\$ 44,427,437	\$ 44,954,663	\$ 45,298,816	\$ 45,647,542	\$ 46,001,009	\$ 48,671,238
Plus: Non-Operating Income/(Expense)										
9 Non-Operating Revenue	\$ 13,066,300	\$ 4,425,508	\$ 5,203,309	\$ 5,172,197	\$ 4,997,403	\$ 4,856,706	\$ 4,825,594	\$ 4,794,482	\$ 4,763,370	\$ 4,732,258
10 Interest Income	-	214,878	378,345	533,284	531,165	531,165	531,165	531,165	531,165	531,165
11 Equals: Net Income Available For Debt Service	\$ 40,019,030	\$ 46,649,913	\$ 46,472,944	\$ 46,859,430	\$ 49,956,005	\$ 50,342,534	\$ 50,655,575	\$ 50,973,189	\$ 51,295,544	\$ 53,934,661
Adjusted Debt Service Coverage										
12 Revenue	\$ 128,417,143	\$ 132,038,548	\$ 135,720,514	\$ 139,510,176	\$ 143,263,438	\$ 147,144,092	\$ 151,154,827	\$ 155,300,653	\$ 159,586,789	\$ 164,018,673
13 Less: Operating Expenses	(79,084,253)	(81,936,264)	(85,228,996)	(88,636,640)	(89,398,849)	(92,974,019)	(96,674,782)	(100,505,662)	(104,471,511)	(106,265,846)
14 Net Revenue	49,332,890	50,102,284	50,491,517	50,873,536	53,864,589	54,170,073	54,480,045	54,794,991	55,115,277	57,752,827
15 Total Debt Service	\$ 42,866,000	\$ 45,049,100	\$ 45,350,480	\$ 45,807,210	\$ 46,365,249	\$ 48,098,129	\$ 50,816,742	\$ 53,250,838	\$ 55,699,335	\$ 58,154,781
16 <i>Debt Service Coverage</i>	<i>1.15</i>	<i>1.11</i>	<i>1.11</i>	<i>1.11</i>	<i>1.16</i>	<i>1.13</i>	<i>1.07</i>	<i>1.03</i>	<i>0.99</i>	<i>0.99</i>
17 Available for Other Requirements	\$ 6,466,890	\$ 5,053,184	\$ 5,141,037	\$ 5,066,326	\$ 7,499,340	\$ 6,071,944	\$ 3,663,303	\$ 1,544,152	\$ (584,057)	\$ (401,954)
18 Less: Pension Obligation	(8,699,400)	(2,595,971)	(3,145,174)	(3,123,206)	(2,999,784)	(2,900,438)	(2,878,470)	(2,856,502)	(2,834,534)	(2,812,566)
19 Less: WRAP Deposit	(614,460)	(856,400)	(873,400)	(890,900)	(908,800)	(927,100)	(946,000)	(965,300)	(985,200)	(1,005,600)
20 Available for I&E Deposit	(2,846,970)	1,600,813	1,122,464	1,052,221	3,590,756	2,244,406	(161,167)	(2,277,650)	(4,403,791)	(4,220,120)
21 Net Effective Lease Payment to I&E	\$ 19,653,030	\$ 22,500,000	\$ 22,500,000	\$ 22,500,000	\$ 22,500,000	\$ 22,500,000	\$ 22,338,833	\$ 20,222,350	\$ 18,096,209	\$ 18,279,880
Cash Flow Test										
22 Net Income Available For Debt Service	\$ 40,019,030	\$ 46,649,913	\$ 46,472,944	\$ 46,859,430	\$ 49,956,005	\$ 50,342,534	\$ 50,655,575	\$ 50,973,189	\$ 51,295,544	\$ 53,934,661
23 Less: Non-Operating Expenditures										
24 Payment to GLWA	(33,438,800)	(33,438,800)	(33,438,800)	(33,438,800)	(33,438,800)	(33,438,800)	(33,438,800)	(33,438,800)	(33,438,800)	(33,438,800)
25 Transfer to I&E	(6,580,230)	(13,211,113)	(13,034,144)	(13,420,630)	(16,517,205)	(16,903,734)	(17,216,775)	(17,534,389)	(17,856,743)	(18,279,880)
26 Debt Service Paid from Operating Fund	-	-	-	-	-	-	-	-	-	(2,215,981)
27 Net Cash Flow	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unrestricted Reserve Fund Test										
28 Balance At Beginning Of Fiscal Year	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000
29 Cash Flow Surplus/(Deficit)	-	-	-	-	-	-	-	-	-	-
30 Balance At End Of Fiscal Year	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000
31 Minimum Working Capital Reserve Target	10,832,910	11,123,685	11,422,587	11,729,853	12,045,727	12,370,462	12,704,318	13,047,563	13,400,474	13,763,335
32 Excess/(Deficiency) Of Working Capital To Target	\$ 15,654,090	\$ 15,363,315	\$ 15,064,412	\$ 14,757,147	\$ 14,441,273	\$ 14,116,538	\$ 13,782,682	\$ 13,439,436	\$ 13,086,526	\$ 12,723,665

Schedule 9: Capital Project Funding Summary

Final Capital Projects Funding Sources	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
I&E	\$ 17,529,280	\$ 26,994,304	\$ 33,145,998	\$ 47,434,900	\$ 26,264,691	\$ 16,666,667	\$ 16,666,667	\$ 16,666,667	\$ 16,666,667	\$ 16,666,667
Construction	12,300,000	12,000,000	8,564,000	565,000	-	-	-	-	-	-
Forgiveness/Grant	5,600,000	4,000,000	-	-	-	-	-	-	-	-
Subordinate Debt Proceeds	14,064,000	7,100,000	10,000,000	9,288,074	23,735,309	16,666,667	16,666,667	16,666,667	16,666,667	16,666,667
Senior-Lien Debt Proceeds	-	-	-	-	-	16,666,667	16,666,667	16,666,667	16,666,667	16,666,667
Total Projects Paid	\$ 49,493,280	\$ 50,094,304	\$ 51,709,998	\$ 57,287,974	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000	\$ 50,000,000

Schedule 10: Funding Summary by Fund

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
I&E										
Balance At Beginning Of Fiscal Year	\$ 45,113,000	\$ 47,236,750	\$ 44,457,734	\$ 35,132,680	\$ 11,423,935	\$ 11,335,027	\$ 19,528,070	\$ 25,367,967	\$ 29,127,245	\$ 30,780,602
GLWA Lease Revenue	22,500,000	22,500,000	22,500,000	22,500,000	22,500,000	22,500,000	22,500,000	22,500,000	22,500,000	22,500,000
Transfer from Operations	6,580,230	13,211,113	13,034,144	13,420,630	16,517,205	16,903,734	17,216,775	17,534,389	17,856,743	18,279,880
Payment of Post-Bifurcation Debt	(9,427,200)	(11,610,300)	(11,911,680)	(12,368,410)	(12,926,449)	(14,659,329)	(17,377,942)	(19,812,038)	(22,260,535)	(22,500,000)
Subtotal	\$ 64,766,030	\$ 71,337,563	\$ 68,080,198	\$ 58,684,900	\$ 37,514,691	\$ 36,079,432	\$ 41,866,903	\$ 45,590,318	\$ 47,223,453	\$ 49,060,482
Less: Restricted Funds	(11,250,000)	(11,250,000)	(11,250,000)	(11,250,000)	(11,250,000)	(11,250,000)	(11,250,000)	(11,250,000)	(11,250,000)	(11,250,000)
Total Amount Available For Projects	\$ 53,516,030	\$ 60,087,563	\$ 56,830,198	\$ 47,434,900	\$ 26,264,691	\$ 24,829,432	\$ 30,616,903	\$ 34,340,318	\$ 35,973,453	\$ 37,810,482
Amount Paid For Projects	(17,529,280)	(26,994,304)	(33,145,998)	(47,434,900)	(26,264,691)	(16,666,667)	(16,666,667)	(16,666,667)	(16,666,667)	(16,666,667)
Subtotal	\$ 35,986,750	\$ 33,093,259	\$ 23,684,200	\$ -	\$ -	\$ 8,162,766	\$ 13,950,236	\$ 17,673,651	\$ 19,306,787	\$ 21,143,815
Add Back: Restricted Funds	11,250,000	11,250,000	11,250,000	11,250,000	11,250,000	11,250,000	11,250,000	11,250,000	11,250,000	11,250,000
Plus: Interest Earnings	-	114,475	198,480	173,935	85,027	115,304	167,731	203,594	223,815	236,904
Less: Interest Allocated To Cash Flow	-	-	-	-	-	-	-	-	-	-
Balance At End Of Fiscal Year	\$ 47,236,750	\$ 44,457,734	\$ 35,132,680	\$ 11,423,935	\$ 11,335,027	\$ 19,528,070	\$ 25,367,967	\$ 29,127,245	\$ 30,780,602	\$ 32,630,719
Construction										
Balance At Beginning Of Fiscal Year	\$ 77,764,000	\$ 65,464,000	\$ 53,464,000	\$ 44,900,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000
Amount Paid For Projects	(12,300,000)	(12,000,000)	(8,564,000)	(565,000)	-	-	-	-	-	-
Subtotal	\$ 65,464,000	\$ 53,464,000	\$ 44,900,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000
Add Back: Restricted Funds	-	-	-	-	-	-	-	-	-	-
Plus: Interest Earnings	-	148,660	245,910	334,631	332,513	332,513	332,513	332,513	332,513	332,513
Less: Interest Allocated To Cash Flow	-	(148,660)	(245,910)	(334,631)	(332,513)	(332,513)	(332,513)	(332,513)	(332,513)	(332,513)
Balance At End Of Fiscal Year	\$ 65,464,000	\$ 53,464,000	\$ 44,900,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000	\$ 44,335,000
Forgiveness/Grant										
Balance At Beginning Of Fiscal Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Revenues	5,600,000	4,000,000	-	-	-	-	-	-	-	-
Less: Annual Expenses	-	-	-	-	-	-	-	-	-	-
Less: Payment Of Debt Service	-	-	-	-	-	-	-	-	-	-
Subtotal	\$ 5,600,000	\$ 4,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Less: Restricted Funds	-	-	-	-	-	-	-	-	-	-
Total Amount Available For Projects	\$ 5,600,000	\$ 4,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Amount Paid For Projects	(5,600,000)	(4,000,000)	-	-	-	-	-	-	-	-
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Add Back: Restricted Funds	-	-	-	-	-	-	-	-	-	-
Plus: Interest Earnings	-	-	-	-	-	-	-	-	-	-
Less: Interest Allocated To Cash Flow	-	-	-	-	-	-	-	-	-	-
Balance At End Of Fiscal Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Fund										
Balance At Beginning Of Fiscal Year	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000
Net Cash Flow	6,580,230	13,211,113	13,034,144	13,420,630	16,517,205	16,903,734	17,216,775	17,534,389	17,856,744	18,279,880
Transfer to I&E	(6,580,230)	(13,211,113)	(13,034,144)	(13,420,630)	(16,517,205)	(16,903,734)	(17,216,775)	(17,534,389)	(17,856,743)	(18,279,880)
Less: Payment Of Debt Service	-	-	-	-	-	-	-	-	-	-
Subtotal	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000
Less: Restricted Funds	(10,832,910)	(11,123,685)	(11,422,587)	(11,729,853)	(12,045,727)	(12,370,462)	(12,704,318)	(13,047,563)	(13,400,474)	(13,763,335)
Subtotal	\$ 15,654,090	\$ 15,363,315	\$ 15,064,412	\$ 14,757,147	\$ 14,441,273	\$ 14,116,538	\$ 13,782,682	\$ 13,439,436	\$ 13,086,526	\$ 12,723,665
Add Back: Restricted Funds	10,832,910	11,123,685	11,422,587	11,729,853	12,045,727	12,370,462	12,704,318	13,047,563	13,400,474	13,763,335
Plus: Interest Earnings	-	66,218	132,435	198,652	198,652	198,653	198,653	198,652	198,652	198,653
Less: Interest Allocated To Cash Flow	-	(66,218)	(132,435)	(198,652)	(198,652)	(198,653)	(198,653)	(198,652)	(198,653)	(198,653)
Balance At End Of Fiscal Year	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000	\$ 26,487,000
Restricted Reserves										
Balance At Beginning Of Fiscal Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,491,948	\$ 2,995,086	\$ 4,509,498	\$ 6,035,267
Additional Funds:	-	-	-	-	-	-	-	-	-	-
Debt Service Reserve On New Debt	-	-	-	-	-	1,486,374	1,486,374	1,486,374	1,486,374	1,486,374
Other Additional Funds	-	-	-	-	-	-	-	-	-	-
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,486,374	\$ 2,978,323	\$ 4,481,461	\$ 5,995,872	\$ 7,521,642
Plus: Interest Earnings	-	-	-	-	-	5,574	16,764	28,037	39,395	50,838
Less: Interest Allocated To Cash Flow	-	-	-	-	-	-	-	-	-	-
Balance At End Of Fiscal Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,491,948	\$ 2,995,086	\$ 4,509,498	\$ 6,035,267	\$ 7,572,480

Schedule 11: Senior Lien Borrowing Projections

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Term (Years)	20	20	20	20	20	20	20	20	20	20
Interest Rate	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Sources of Funds										
Par Amount	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18,523,511	\$ 18,523,511	\$ 18,523,511	\$ 18,523,511	\$ 18,523,511
Uses of Funds										
Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,666,667	\$ 16,666,667	\$ 16,666,667	\$ 16,666,667	\$ 16,666,667
Cost of Issuance	-	-	-	-	-	370,470	370,470	370,470	370,470	370,470
Debt Service Reserve	-	-	-	-	-	1,486,374	1,486,374	1,486,374	1,486,374	1,486,374
Total Uses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18,523,511	\$ 18,523,511	\$ 18,523,511	\$ 18,523,511	\$ 18,523,511
1 Year Interest	-	-	-	-	-	926,176	926,176	926,176	926,176	926,176
Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,486,374	\$ 1,486,374	\$ 1,486,374	\$ 1,486,374	\$ 1,486,374
Total Debt Service	-	-	-	-	-	29,727,489	29,727,489	29,727,489	29,727,489	29,727,489
Cumulative New Annual Senior Lien Debt Service¹	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 926,176	\$ 2,412,550	\$ 3,898,924	\$ 5,385,299	\$ 6,871,673

¹ Reflects interest-only payment due in year of issuance.

Schedule 12: Subordinate Borrowing Projections

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Term (Years)	20	20	20	20	20	20	20	20	20	20
Interest Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Sources of Funds										
Par Amount	\$ -	\$ 6,674,000	\$ 9,400,000	\$ 8,730,789	\$ 22,311,190	\$ 15,666,667	\$ 15,666,667	\$ 15,666,667	\$ 15,666,667	\$ 15,666,667
Uses of Funds										
Proceeds	\$ -	\$ 7,100,000	\$ 10,000,000	\$ 9,288,074	\$ 23,735,309	\$ 16,666,667	\$ 16,666,667	\$ 16,666,667	\$ 16,666,667	\$ 16,666,667
Cost of Issuance	0.00% of Par	-	-	-	-	-	-	-	-	-
Loan Repayment Res.	0.00% of Capital Cost	-	-	-	-	-	-	-	-	-
Loan Service Fee	2.00% of Capital Cost	- 142,000	200,000	185,761	474,706	333,333	333,333	333,333	333,333	333,333
Capitalized Interest	0 Years Interest	-	-	-	-	-	-	-	-	-
Debt Service Reserve	0 Year(s) of Debt Service	-	-	-	-	-	-	-	-	-
Principal Forgiveness	8.00%	- (568,000)	(800,000)	(743,046)	(1,898,825)	(1,333,333)	(1,333,333)	(1,333,333)	(1,333,333)	(1,333,333)
Total Uses	\$ -	\$ 6,674,000	\$ 9,400,000	\$ 8,730,789	\$ 22,311,190	\$ 15,666,667	\$ 15,666,667	\$ 15,666,667	\$ 15,666,667	\$ 15,666,667
1 Year Interest	-	133,480	188,000	174,616	446,224	313,333	313,333	313,333	313,333	313,333
Annual Debt Service	\$ -	\$ 408,160	\$ 574,873	\$ 533,946	\$ 1,364,479	\$ 958,122	\$ 958,122	\$ 958,122	\$ 958,122	\$ 958,122
Total Debt Service	-	8,163,199	11,497,463	10,678,928	27,289,584	19,162,438	19,162,438	19,162,438	19,162,438	19,162,438
Cumulative New Annual Subordinate Debt Service¹	\$ -	\$ -	\$ 133,480	\$ 596,160	\$ 1,157,649	\$ 1,963,203	\$ 3,194,792	\$ 4,152,914	\$ 5,111,036	\$ 6,069,158

¹ Debt service repayment delayed two years.

APPENDIX B: SEWER REVENUE REQUIREMENTS SUPPORTING SCHEDULES

Schedule 1: Assumptions

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
<u>Rate Increase Adoption Date</u>	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	7/1/2031
<u>Annual Growth</u> ¹										
<u>Sewer</u>										
Ending Number of Equivalent Meters	192,009	192,489	192,970	193,452	193,936	194,421	194,907	195,394	195,883	196,372
% Change in Equivalent Meters	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Total Usage (Mcf)	2,204,817	2,160,720	2,117,506	2,075,156	2,033,653	1,992,980	1,953,120	1,914,058	1,875,777	1,838,261
% Change in Usage	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%
<u>Drainage</u>										
Ending # of Accounts	260,330	260,330	260,330	260,330	260,330	260,330	260,330	260,330	260,330	260,330
% Change in Accounts	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
<u>Capital Spending</u> ²										
Annual Capital Plan (Future Year Dollars)	\$ 41,764,440	\$ 44,879,253	\$ 45,867,216	\$ 45,577,479	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000
<u>Average Annual Interest Earnings Rate</u> ³										
On Fund Balances	0.00%	0.25%	0.50%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%
<u>Operating Budget Reserve</u> ⁴										
Target (Number of Months of Reserve)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
<u>Operating Budget Execution Percentage</u>										
Personnel Services	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Operations and Maintenance	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

¹ Current and projected equivalent meters and usage based on DWSD forecast model used to prepare FY 2023 Adopted Budget.

² Capital spending from FY 2023 through FY 2027 reflects 2023 5-Year CIP Plan BOWC Approved with annual execution factors. Future CIP reflects estimated levels of spending.

³ Annual interest earnings on fund balances reflect staff estimates. FY 2023 reflects FY 2023 Adopted Budget level of \$0 interest earnings.

⁴ Recommended Revenue Fund reserve level of three months of operating expenses.

Schedule 2: Beginning Balances

Beginning Balances as of June 30, 2022 ¹

	Revenue Fund	Bond Proceeds	Improvement & Extension
Available Fund Balance	\$ 33,201,000	\$ 29,070,000	\$ 46,088,000

¹ Unaudited cash balances provided by DWSD staff.

Schedule 3: Cash In

	FY 2023 ¹	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	
Rate Revenue Growth Assumptions											
Wastewater											
1	% Change in Equivalent Meters	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	
2	% Change in Usage	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	-2.00%	
Drainage											
3	% Change in Accounts	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Assumed Rate Revenue Increases											
4	Assumed Wastewater Rate Increase	-13.81%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	
5	Assumed Drainage Rate Increase	-0.10%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	
Wastewater Rate Revenue											
6	Base Rate Revenue	\$ 12,954,746	\$ 13,506,618	\$ 14,082,000	\$ 14,681,893	\$ 15,307,342	\$ 15,959,435	\$ 16,639,307	\$ 17,348,141	\$ 18,087,172	\$ 18,857,685
7	Usage Rate Revenue	120,750,400	123,068,807	125,431,729	127,840,018	130,294,546	132,796,201	135,345,888	137,944,529	140,593,064	143,292,451
8	Total Wastewater Rate Revenue	\$ 133,705,146	\$ 136,575,426	\$ 139,513,729	\$ 142,521,911	\$ 145,601,888	\$ 148,755,636	\$ 151,985,195	\$ 155,292,670	\$ 158,680,236	\$ 162,150,137
Drainage Rate Revenue											
9	Base Rate Revenue	\$ 183,174,561	\$ 190,501,544	\$ 198,121,605	\$ 206,046,470	\$ 214,288,328	\$ 222,859,861	\$ 231,774,256	\$ 241,045,226	\$ 250,687,035	\$ 260,714,517
10	Total Drainage Rate Revenue	\$ 183,174,561	\$ 190,501,544	\$ 198,121,605	\$ 206,046,470	\$ 214,288,328	\$ 222,859,861	\$ 231,774,256	\$ 241,045,226	\$ 250,687,035	\$ 260,714,517
Other Operating Revenue											
11	447236-City of Detroit IWC Charges	\$ 1,616,300	\$ 1,616,300	\$ 1,616,300	\$ 1,616,300	\$ 1,616,300	\$ 1,616,300	\$ 1,616,300	\$ 1,616,300	\$ 1,616,300	\$ 1,616,300
12	472117-Late Payment Fee	7,538,700	7,538,700	7,538,700	7,538,700	7,538,700	7,538,700	7,538,700	7,538,700	7,538,700	7,538,700
13	474100-Miscellaneous Receipts	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
14	Total Other Operating Revenue	\$ 9,255,000	\$ 9,255,000	\$ 9,255,000	\$ 9,255,000	\$ 9,255,000	\$ 9,255,000	\$ 9,255,000	\$ 9,255,000	\$ 9,255,000	\$ 9,255,000
Non-Operating Revenue											
15	471903-Shared Services Revenue	\$ 1,750,000	\$ 1,750,000	\$ 1,750,000	\$ 1,750,000	\$ 1,750,000	\$ 1,750,000	\$ 1,750,000	\$ 1,750,000	\$ 1,750,000	\$ 1,750,000
16	472150-Other Miscellaneous ²	22,520,700	6,969,296	8,718,818	8,648,837	8,255,669	7,939,197	7,869,216	7,799,235	7,729,254	7,659,273
17	Total Non-Operating Revenue	\$ 24,270,700	\$ 8,719,296	\$ 10,468,818	\$ 10,398,837	\$ 10,005,669	\$ 9,689,197	\$ 9,619,216	\$ 9,549,235	\$ 9,479,254	\$ 9,409,273
Interest Income											
18	Unrestricted	\$ -	\$ 235,966	\$ 413,833	\$ 572,993	\$ 572,992	\$ 632,318	\$ 742,517	\$ 834,501	\$ 906,669	\$ 958,435
19	Total Interest Income	\$ -	\$ 235,966	\$ 413,833	\$ 572,993	\$ 572,992	\$ 632,318	\$ 742,517	\$ 834,501	\$ 906,669	\$ 958,435
20	Total Cash Inflows	\$ 350,405,407	\$ 345,287,231	\$ 357,772,985	\$ 368,795,210	\$ 379,723,877	\$ 391,192,012	\$ 403,376,183	\$ 415,976,633	\$ 429,008,195	\$ 442,487,362

¹ FY 2023 based on results of cost allocation analysis.

² Other Miscellaneous forecast based on pension expenses reimbursable by GLWA.

Schedule 4: Cash Out

Object Description	Cost Center	FY 2023 ¹	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
1 601100-Salar-Full Time-Gen City	491001	\$ 333,719	\$ 342,062	\$ 350,613	\$ 359,379	\$ 368,363	\$ 377,572	\$ 387,012	\$ 396,687	\$ 406,604	\$ 416,769
2 601115 - Salaries-Contractual	491001	148,525	152,238	156,044	159,945	163,944	168,043	172,244	176,550	180,964	185,488
3 602100-Wages-Full Time-Gen City	491001	18,519	18,982	19,457	19,943	20,442	20,953	21,477	22,014	22,564	23,128
4 603125-Emplr Pd Pension-GRS	491001	25,028	25,653	26,295	26,952	27,626	28,316	29,024	29,750	30,494	31,256
5 603200-Emplr Pd Ben-Medical	491001	61,220	63,669	66,215	68,864	71,618	74,483	77,462	80,561	83,783	87,135
6 603300-Employer Pd FICA	491001	38,309	39,266	40,248	41,254	42,286	43,343	44,426	45,537	46,675	47,842
7 603400-Unemployment	491001	4,921	5,044	5,170	5,299	5,432	5,568	5,707	5,849	5,996	6,145
8 603405-Workers' Compensation	491001	29,419	30,155	30,909	31,681	32,473	33,285	34,117	34,970	35,845	36,741
9 603900-Emp Benefits-Miscellaneous	491001	2,011	2,061	2,112	2,165	2,219	2,275	2,332	2,390	2,450	2,511
10 604100-Other Comp-Unused Sick Leave	491001	476	488	500	513	526	539	552	566	580	595
11 605100-Group Life Insurance	491001	1,270	1,321	1,374	1,428	1,486	1,545	1,607	1,671	1,738	1,807
12 605205-Eye Care-Active Civilian	491001	847	880	916	952	990	1,030	1,071	1,114	1,159	1,205
13 605500-Income Protection-LTD	491001	1,376	1,431	1,488	1,548	1,609	1,674	1,741	1,810	1,883	1,958
14 605620-Dental Active	491001	3,228	3,357	3,491	3,631	3,776	3,927	4,084	4,247	4,417	4,594
15 605700-Health Care Reserve - Civilian	491001	10,053	10,305	10,562	10,826	11,097	11,374	11,659	11,950	12,249	12,555
16 620100-Office Supplies	491001	5,291	5,424	5,559	5,698	5,841	5,987	6,136	6,290	6,447	6,608
17 621900-Oper Supplies-Miscellaneous	491001	1,587	1,627	1,668	1,709	1,752	1,796	1,841	1,887	1,934	1,982
18 626300-Insurance Premium	491001	109,158	111,887	114,685	117,552	120,490	123,503	126,590	129,755	132,999	136,324
19 626500-Dues & Miscellaneous	491001	93,126	95,454	97,840	100,286	102,794	105,363	107,998	110,697	113,465	116,302
20 626600-Postage	491001	317	325	334	342	350	359	368	377	387	396
21 627230-Employee Parking	491001	5,080	5,207	5,334	5,470	5,607	5,747	5,891	6,038	6,189	6,344
22 628100-Travel	491001	8,096	8,298	8,505	8,718	8,936	9,159	9,388	9,623	9,864	10,110
23 601100-Salar-Full Time-Gen City	491601	32,647	33,463	34,300	35,157	36,036	36,937	37,861	38,807	39,777	40,772
24 603125-Emplr Pd Pension-GRS	491601	1,640	1,681	1,723	1,766	1,811	1,856	1,902	1,950	1,999	2,048
25 603200-Emplr Pd Ben-Medical	491601	4,021	4,182	4,349	4,523	4,704	4,893	5,088	5,290	5,503	5,724
26 603300-Employer Pd FICA	491601	2,487	2,549	2,613	2,678	2,745	2,814	2,884	2,956	3,030	3,106
27 603400-Unemployment	491601	317	325	334	342	350	359	368	377	387	396
28 603405-Workers' Compensation	491601	1,905	1,952	2,001	2,051	2,103	2,155	2,209	2,264	2,321	2,379
29 603900-Emp Benefits-Miscellaneous	491601	159	163	167	171	175	180	184	189	193	198
30 605100-Group Life Insurance	491601	53	55	57	60	62	64	67	70	72	75
31 605205-Eye Care-Active Civilian	491601	53	55	57	60	62	64	67	70	72	75
32 605500-Income Protection-LTD	491601	53	55	57	60	62	64	67	70	72	75
33 605620-Dental Active	491601	212	220	229	238	248	258	268	279	290	301
34 605700-Health Care Reserve - Civilian	491601	688	705	723	741	759	778	798	818	838	859
35 620100-Office Supplies	491601	5,291	5,424	5,559	5,698	5,841	5,987	6,136	6,290	6,447	6,608
36 621900-Oper Supplies-Miscellaneous	491601	1,587	1,627	1,668	1,709	1,752	1,796	1,841	1,887	1,934	1,982
37 626300-Insurance Premium	491601	103,073	105,650	108,292	110,999	113,774	116,618	119,534	122,522	125,585	128,725
38 626500-Dues & Miscellaneous	491601	4,868	4,990	5,114	5,242	5,373	5,508	5,645	5,786	5,931	6,079
39 626600-Postage	491601	317	325	334	342	350	359	368	377	387	396
40 628100-Travel	491601	29,948	30,697	31,465	32,251	33,057	33,884	34,731	35,599	36,489	37,400
41 601100-Salar-Full Time-Gen City	492223	252,000	258,300	264,757	271,376	278,161	285,115	292,242	299,549	307,037	314,713
42 601300-Salar-Overtime-Gen City	492223	183,495	188,082	192,784	197,604	202,544	207,608	212,798	218,118	223,571	229,160
43 601400-Salar-Shift Prem-Gen City	492223	30,582	31,347	32,131	32,934	33,757	34,601	35,466	36,353	37,262	38,193
44 602100-Wages-Full Time-Gen City	492223	925,732	948,875	972,597	996,912	1,021,835	1,047,381	1,073,565	1,100,405	1,127,915	1,156,113
45 603125-Emplr Pd Pension-GRS	492223	58,871	60,343	61,852	63,398	64,983	66,607	68,273	69,979	71,729	73,522
46 603200-Emplr Pd Ben-Medical	492223	170,115	176,920	183,997	191,356	199,011	206,971	215,250	223,860	232,814	242,127
47 603300-Employer Pd FICA	492223	106,504	109,166	111,895	114,693	117,560	120,499	123,511	126,599	129,764	133,008
48 603400-Unemployment	492223	13,609	13,949	14,298	14,656	15,022	15,398	15,783	16,177	16,582	16,996
49 603405-Workers' Compensation	492223	81,732	83,775	85,869	88,016	90,217	92,472	94,784	97,153	99,582	102,072
50 603900-Emp Benefits-Miscellaneous	492223	5,581	5,721	5,864	6,010	6,161	6,315	6,473	6,634	6,800	6,970
51 604100-Other Comp-Unused Sick Leave	492223	1,223	1,254	1,285	1,317	1,350	1,384	1,419	1,454	1,490	1,528
52 605100-Group Life Insurance	492223	3,593	3,737	3,887	4,042	4,204	4,372	4,547	4,729	4,918	5,115
53 605205-Eye Care-Active Civilian	492223	2,217	2,306	2,398	2,494	2,594	2,698	2,806	2,918	3,034	3,156
54 605500-Income Protection-LTD	492223	3,746	3,896	4,052	4,214	4,383	4,558	4,740	4,930	5,127	5,332
55 605620-Dental Active	492223	9,022	9,383	9,758	10,148	10,554	10,976	11,416	11,872	12,347	12,841
56 605700-Health Care Reserve - Civilian	492223	27,830	28,526	29,239	29,970	30,719	31,487	32,274	33,081	33,908	34,756
57 616100-Consultant Fees-Mgt Consult	492223	688,106	705,309	722,941	741,015	759,540	778,529	797,992	817,942	838,390	859,350
58 617900 - Contract Svcs-Other-Misc	492223	152,912	156,735	160,654	164,670	168,787	173,006	177,332	181,765	186,309	190,967
59 620100-Office Supplies	492223	11,468	11,755	12,049	12,350	12,659	12,975	13,300	13,632	13,973	14,323
60 621900-Oper Supplies-Miscellaneous	492223	11,468	11,755	12,049	12,350	12,659	12,975	13,300	13,632	13,973	14,323
61 626100-Printing	492223	5,352	5,486	5,623	5,763	5,908	6,055	6,207	6,362	6,521	6,684
62 626500-Dues & Miscellaneous	492223	6,116	6,269	6,426	6,587	6,751	6,920	7,093	7,271	7,452	7,639
63 626600-Postage	492223	3,823	3,918	4,016	4,117	4,220	4,325	4,433	4,544	4,658	4,774
64 627105-Private Car Reimbursements	492223	15,291	15,674	16,065	16,467	16,879	17,301	17,733	18,176	18,631	19,097
65 628501-Misc-License,Insp&Permit Fees	492223	765	784	803	823	844	865	887	909	932	955
66 601100-Salar-Full Time-Gen City	492401	290,210	297,466	304,902	312,525	320,338	328,346	336,555	344,969	353,593	362,433
67 603125-Emplr Pd Pension-GRS	492401	14,515	14,878	15,250	15,631	16,022	16,423	16,833	17,254	17,685	18,128
68 603200-Emplr Pd Ben-Medical	492401	35,440	36,857	38,332	39,865	41,460	43,118	44,843	46,636	48,502	50,442
69 603300-Employer Pd FICA	492401	22,197	22,752	23,321	23,904	24,501	25,114	25,742	26,385	27,045	27,721
70 603400-Unemployment	492401	2,828	2,898	2,971	3,045	3,121	3,199	3,279	3,361	3,445	3,531
71 603405-Workers' Compensation	492401	17,060	17,487	17,924	18,372	18,831	19,302	19,784	20,279	20,786	21,306
72 603900-Emp Benefits-Miscellaneous	492401	1,178	1,208	1,238	1,269	1,300	1,333	1,366	1,400	1,436	1,471
73 604100-Other Comp-Unused Sick Leave	492401	236	242	248	254	260	267	273	280	287	294
74 605100-Group Life Insurance	492401	754	784	816	848	882	917	954	992	1,032	1,073
75 605205-Eye Care-Active Civilian	492401	471	490	510	530	551	573	596	620	645	671
76 605500-Income Protection-LTD	492401	801	833	867	901	937	975	1,014	1,054	1,096	1,140

Schedule 4: Cash Out

77	605620-Dental Active	492401	1,885	1,960	2,039	2,120	2,205	2,294	2,385	2,481	2,580	2,683
78	605700-Health Care Reserve - Civilian	492401	5,797	5,942	6,090	6,242	6,398	6,558	6,722	6,890	7,063	7,239
79	616100-Consultant Fees-Mgt Consult	492401	164,946	169,069	173,296	177,629	182,069	186,621	191,287	196,069	200,970	205,995
80	617900-Contract Svcs-Other-Misc	492401	94,255	96,611	99,026	101,502	104,040	106,641	109,307	112,039	114,840	117,711
81	620100-Office Supplies	492401	2,356	2,415	2,476	2,538	2,601	2,666	2,733	2,801	2,871	2,943
82	621900-Oper Supplies-Miscellaneous	492401	7,069	7,265	7,427	7,613	7,803	7,998	8,198	8,403	8,613	8,828
83	626500-Dues & Miscellaneous	492401	14,138	14,492	14,854	15,225	15,606	15,996	16,396	16,806	17,226	17,657
84	628100-Travel	492401	18,851	19,322	19,805	20,300	20,808	21,328	21,861	22,408	22,968	23,542
85	628501-Misc-License,Insp&Permit Fees	492401	70,691	72,458	74,270	76,127	78,030	79,980	81,980	84,029	86,130	88,283
86	628515-Shared Services Expense	492401	942,548	970,824	999,949	1,029,947	1,060,846	1,092,671	1,125,451	1,159,215	1,193,991	1,229,811
87	601100-Salar-Full Time-Gen City	492411	394,268	404,124	414,227	424,583	435,198	446,078	457,230	468,660	480,377	492,386
88	601115 - Salaries-Contractual	492411	97,554	99,993	102,492	105,055	107,681	110,373	113,132	115,961	118,860	121,831
89	601300-Salar-Overtime-Gen City	492411	47,127	48,306	49,513	50,751	52,020	53,320	54,653	56,020	57,420	58,856
90	602100-Wages-Full Time-Gen City	492411	1,423,058	1,458,635	1,495,101	1,532,478	1,570,790	1,610,060	1,650,311	1,691,569	1,733,858	1,777,205
91	602400-Wages-Shift Prem-Gen City	492411	188,510	193,222	198,053	203,004	208,079	213,281	218,613	224,079	229,681	235,423
92	603125-Emplr Pd Pension-GRS	492411	95,763	98,157	100,611	103,126	105,704	108,347	111,056	113,832	116,678	119,595
93	603200-Emplr Pd Ben-Medical	492411	262,782	273,294	284,225	295,594	307,418	319,715	332,503	345,804	359,636	374,021
94	603300-Employer Pd FICA	492411	164,522	168,635	172,851	177,172	181,601	186,141	190,795	195,565	200,454	205,465
95	603400-Unemployment	492411	21,066	21,593	22,132	22,686	23,253	23,834	24,430	25,041	25,667	26,308
96	603405-Workers' Compensation	492411	126,207	129,362	132,596	135,911	139,309	142,792	146,362	150,021	153,771	157,615
97	603900-Emp Benefits-Miscellaneous	492411	8,624	8,840	9,061	9,287	9,520	9,758	10,002	10,252	10,508	10,771
98	604100-Other Comp-Unused Sick Leave	492411	1,932	1,981	2,030	2,081	2,133	2,186	2,241	2,297	2,354	2,413
99	605100-Group Life Insurance	492411	5,561	5,783	6,015	6,255	6,506	6,766	7,036	7,318	7,611	7,915
100	605205-Eye Care-Active Civilian	492411	3,440	3,578	3,721	3,870	4,025	4,186	4,353	4,527	4,708	4,897
101	605500-Income Protection-LTD	492411	5,797	6,029	6,270	6,520	6,781	7,053	7,335	7,628	7,933	8,250
102	605620-Dental Active	492411	13,997	14,557	15,139	15,745	16,374	17,029	17,710	18,419	19,156	19,922
103	605700-Health Care Reserve - Civilian	492411	43,027	44,103	45,206	46,336	47,494	48,681	49,898	51,146	52,425	53,735
104	620100-Office Supplies	492411	11,782	12,076	12,378	12,688	13,005	13,330	13,663	14,005	14,355	14,714
105	621900-Oper Supplies-Miscellaneous	492411	11,782	12,076	12,378	12,688	13,005	13,330	13,663	14,005	14,355	14,714
106	626500-Dues & Miscellaneous	492411	2,356	2,415	2,476	2,538	2,601	2,666	2,733	2,801	2,871	2,943
107	627105-Private Car Reimbursements	492411	11,782	12,076	12,378	12,688	13,005	13,330	13,663	14,005	14,355	14,714
108	628501-Misc-License,Insp&Permit Fees	492411	9,425	9,661	9,903	10,150	10,404	10,664	10,931	11,204	11,484	11,771
109	601100-Salar-Full Time-Gen City	492421	39,684	40,676	41,693	42,736	43,804	44,899	46,022	47,172	48,352	49,560
110	601115 - Salaries-Contractual	492421	24,975	25,599	26,239	26,895	27,567	28,257	28,963	29,687	30,429	31,190
111	602100-Wages-Full Time-Gen City	492421	346,471	355,133	364,011	373,111	382,439	392,000	401,800	411,845	422,141	432,695
112	603125-Emplr Pd Pension-GRS	492421	20,530	21,043	21,569	22,109	22,661	23,228	23,809	24,404	25,014	25,639
113	603200-Emplr Pd Ben-Medical	492421	50,267	52,278	54,369	56,543	58,805	61,157	63,604	66,148	68,794	71,545
114	603300-Employer Pd FICA	492421	31,483	32,270	33,077	33,904	34,751	35,620	36,511	37,423	38,359	39,318
115	603400-Unemployment	492421	4,021	4,122	4,225	4,331	4,439	4,550	4,664	4,780	4,900	5,022
116	603405-Workers' Compensation	492421	24,128	24,731	25,350	25,983	26,633	27,299	27,981	28,681	29,398	30,133
117	603900-Emp Benefits-Miscellaneous	492421	1,640	1,681	1,723	1,766	1,811	1,856	1,902	1,950	1,999	2,048
118	604100-Other Comp-Unused Sick Leave	492421	370	380	389	399	409	419	430	440	451	463
119	605100-Group Life Insurance	492421	1,058	1,101	1,145	1,190	1,238	1,288	1,339	1,393	1,448	1,506
120	605205-Eye Care-Active Civilian	492421	635	660	687	714	743	773	803	836	869	904
121	605500-Income Protection-LTD	492421	1,111	1,156	1,202	1,250	1,300	1,352	1,406	1,462	1,521	1,582
122	605620-Dental Active	492421	2,646	2,751	2,862	2,976	3,095	3,219	3,348	3,481	3,621	3,766
123	605700-Health Care Reserve - Civilian	492421	8,201	8,406	8,617	8,832	9,053	9,279	9,511	9,749	9,993	10,242
124	617900-Contract Svcs-Other-Misc	492421	1,624,836	1,665,457	1,707,093	1,749,771	1,793,515	1,838,353	1,884,312	1,931,419	1,979,705	2,029,198
125	620100-Office Supplies	492421	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
126	622200-Repairs & Maint-Bldgs&Ground	492421	79,369	81,353	83,387	85,471	87,608	89,798	92,043	94,344	96,703	99,121
127	622300-Repairs & Maint-Equipment	492421	23,281	23,864	24,460	25,072	25,698	26,341	26,999	27,674	28,366	29,075
128	622400-Repairs & Maint-Facilities	492421	119,053	122,029	125,080	128,207	131,412	134,698	138,065	141,517	145,055	148,681
129	622900-Repairs & Maint-Misc	492421	134,927	138,300	141,757	145,301	148,934	152,657	156,474	160,386	164,395	168,505
130	626801-Utilities-Water	492421	592,196	607,001	622,176	637,731	653,674	670,016	686,766	703,935	721,534	739,572
131	626802-Utilities-Gas	492421	339,592	348,082	356,784	365,704	374,846	384,217	393,823	403,668	413,760	424,104
132	626803-Utilities-Steam	492421	78,205	80,160	82,164	84,218	86,323	88,481	90,693	92,961	95,285	97,667
133	626804-Utilities-Electricity	492421	886,972	909,146	931,875	955,171	979,051	1,003,527	1,028,615	1,054,331	1,080,689	1,107,706
134	628501-Misc-License,Insp&Permit Fees	492421	13,228	13,559	13,898	14,245	14,601	14,966	15,341	15,724	16,117	16,520
135	601100-Salar-Full Time-Gen City	492422	165,217	169,347	173,581	177,920	182,368	186,927	191,601	196,391	201,300	206,333
136	601300-Salar-Overtime-Gen City	492422	24,337	24,946	25,569	26,209	26,864	27,535	28,224	28,929	29,653	30,394
137	601400-Salar-Shift Prem-Gen City	492422	1,336	1,369	1,403	1,438	1,474	1,511	1,549	1,588	1,627	1,668
138	601500-Salaries-Holiday Premium	492422	27,305	27,988	28,688	29,405	30,140	30,893	31,666	32,457	33,269	34,101
139	602100-Wages-Full Time-Gen City	492422	361,844	370,890	380,163	389,667	399,408	409,394	419,628	430,119	440,872	451,894
140	603125-Emplr Pd Pension-GRS	492422	26,365	27,025	27,700	28,393	29,102	29,830	30,576	31,340	32,124	32,927
141	603200-Emplr Pd Ben-Medical	492422	70,885	73,720	76,669	79,736	82,925	86,242	89,692	93,280	97,011	100,891
142	603300-Employer Pd FICA	492422	44,371	45,480	46,617	47,783	48,977	50,202	51,457	52,743	54,062	55,413
143	603400-Unemployment	492422	5,689	5,831	5,977	6,126	6,279	6,436	6,597	6,762	6,931	7,104
144	603405-Workers' Compensation	492422	34,033	34,883	35,756	36,649	37,566	38,505	39,467	40,454	41,465	42,502
145	603900-Emp Benefits-Miscellaneous	492422	2,325	2,383	2,443	2,504	2,566	2,630	2,696	2,764	2,833	2,903
146	604100-Other Comp-Unused Sick Leave	492422	495	507	520	533	546	560	574	588	603	618
147	605100-Group Life Insurance	492422	1,484	1,543	1,605	1,669	1,736	1,805	1,878	1,953	2,031	2,112
148	605205-Eye Care-Active Civilian	492422	940	977	1,017	1,057	1,099	1,143	1,189	1,237	1,286	1,338
149	605500-Income Protection-LTD	492422	1,583	1,646	1,712	1,781	1,852	1,926	2,003	2,083	2,166	2,253
150	605620-Dental Active	492422	3,759	3,910	4,066	4,229	4,398	4,574	4,757	4,947	5,145	5,351
151	605700-Health Care Reserve - Civilian	492422	11,625	11,915	12,213	12,518	12,831	13,152	13,481	13,818	14,163	14,517
152	617400 - Contract Svcs-Info Technology	492422	19,786	20,281	20,788	21,308	21,841	22,387	22,946	23,520	24,108	24,711

Schedule 4: Cash Out

153	617900-Contract Svcs-Other-Misc	492422	1,216,816	1,247,236	1,278,417	1,310,378	1,343,137	1,376,715	1,411,133	1,446,412	1,482,572	1,519,636
154	620100-Office Supplies	492422	2,473	2,535	2,599	2,663	2,730	2,798	2,868	2,940	3,013	3,089
155	621300-Oper Supplies-Automotive	492422	12,367	12,676	12,993	13,317	13,650	13,992	14,341	14,700	15,067	15,444
156	621900-Oper Supplies-Miscellaneous	492422	2,473	2,535	2,599	2,663	2,730	2,798	2,868	2,940	3,013	3,089
157	622100-Repairs & Maint-Automotive	492422	153,345	157,178	161,108	165,136	169,264	173,496	177,833	182,279	186,836	191,507
158	623100-Uniforms, Laundry, Cleaning	492422	9,893	10,141	10,394	10,654	10,920	11,193	11,473	11,760	12,054	12,355
159	626435 - Rentals-Lease of Equipment	492422	148,398	152,108	155,911	159,809	163,804	167,899	172,096	176,399	180,809	185,329
160	626500-Dues & Miscellaneous	492422	5,441	5,577	5,717	5,860	6,006	6,156	6,310	6,468	6,630	6,795
161	628100-Travel	492422	4,947	5,070	5,197	5,327	5,460	5,597	5,737	5,880	6,027	6,178
162	628501-Misc-License,Insp&Permit Fees	492422	7,420	7,605	7,796	7,990	8,190	8,395	8,605	8,820	9,040	9,266
163	601100-Salar-Full Time-Gen City	492431	689,062	706,289	723,946	742,045	760,596	779,611	799,101	819,079	839,556	860,544
164	601300-Salar-Overtime-Gen City	492431	494,661	507,027	519,703	532,695	546,013	559,663	573,655	587,996	602,696	617,763
165	601400-Salar-Shift Prem-Gen City	492431	7,420	7,605	7,796	7,990	8,190	8,395	8,605	8,820	9,040	9,266
166	601500-Salaries-Holiday Premium	492431	128,810	132,030	135,331	138,714	142,182	145,736	149,380	153,114	156,942	160,866
167	602100-Wages-Full Time-Gen City	492431	3,067,490	3,144,177	3,222,781	3,303,351	3,385,935	3,470,583	3,557,348	3,646,281	3,737,438	3,830,874
168	603125-Empplr Pd Pension-GRS	492431	187,872	192,569	197,383	202,318	207,376	212,560	217,874	223,321	228,904	234,627
169	603200-Empplr Pd Ben-Medical	492431	536,113	557,558	579,860	603,054	627,177	652,264	678,354	705,488	733,708	763,056
170	603300-Employer Pd FICA	492431	335,677	344,069	352,670	361,487	370,524	379,787	389,282	399,014	408,990	419,216
171	603400-Unemployment	492431	43,035	44,111	45,214	46,345	47,503	48,691	49,908	51,156	52,435	53,745
172	603405-Workers' Compensation	492431	257,520	263,958	270,557	277,321	284,254	291,361	298,645	306,111	313,764	321,608
173	603900-Emp Benefits-Miscellaneous	492431	17,511	17,949	18,397	18,857	19,329	19,812	20,307	20,815	21,335	21,869
174	604100-Other Comp-Unused Sick Leave	492431	3,957	4,056	4,158	4,262	4,368	4,477	4,589	4,704	4,822	4,942
175	605100-Group Life Insurance	492431	11,377	11,832	12,306	12,798	13,310	13,842	14,396	14,972	15,570	16,193
176	605205-Eye Care-Active Civilian	492431	7,024	7,305	7,597	7,901	8,217	8,546	8,888	9,243	9,613	9,998
177	605500-Income Protection-LTD	492431	11,872	12,347	12,841	13,354	13,888	14,444	15,022	15,623	16,247	16,897
178	605620-Dental Active	492431	28,492	29,632	30,817	32,050	33,332	34,665	36,052	37,494	38,994	40,554
179	605700-Health Care Reserve - Civilian	492431	87,753	89,947	92,195	94,500	96,863	99,284	101,766	104,311	106,918	109,591
180	617900-Contract Svcs-Other-Misc	492431	1,236,652	1,267,652	1,299,257	1,331,739	1,365,032	1,399,158	1,434,137	1,469,990	1,506,740	1,544,409
181	620100-Office Supplies	492431	20,578	21,092	21,620	22,160	22,714	23,282	23,864	24,461	25,072	25,699
182	621400-Oper Supplies-Janitorial	492431	2,473	2,535	2,599	2,663	2,730	2,798	2,868	2,940	3,013	3,089
183	621600-Operating Supplies-Chemicals	492431	5,046	5,172	5,301	5,433	5,569	5,709	5,851	5,998	6,147	6,301
184	621900-Oper Supplies-Miscellaneous	492431	110,458	113,219	116,050	118,951	121,925	124,973	128,097	131,300	134,582	137,947
185	622300-Repairs & Maint-Equipment	492431	195,886	200,783	205,802	210,947	216,221	221,627	227,167	232,846	238,668	244,634
186	622900-Repairs & Maint-Misc	492431	457,561	469,000	480,725	492,743	505,062	517,688	530,631	543,896	557,494	571,431
187	626435-Rentals - Lease of Equipment	492431	24,733	25,351	25,985	26,635	27,301	27,983	28,683	29,400	30,135	30,888
188	626500-Dues & Miscellaneous	492431	1,979	2,028	2,079	2,131	2,184	2,239	2,295	2,352	2,411	2,471
189	627105-Private Car Reimbursements	492431	1,484	1,521	1,559	1,598	1,638	1,679	1,721	1,764	1,808	1,853
190	627195-Employee Uniform Expense	492431	61,833	63,378	64,963	66,587	68,252	69,958	71,707	73,500	75,337	77,220
191	627225-Other Oper Svc-Miscellaneous	492431	7,915	8,112	8,315	8,523	8,736	8,955	9,178	9,408	9,643	9,884
192	627230-Employee Parking	492431	495	507	520	533	546	560	574	588	603	618
193	628100-Travel	492431	4,452	4,563	4,677	4,794	4,914	5,037	5,163	5,292	5,424	5,560
194	628501-Misc-License,Insp&Permit Fees	492431	10,883	11,155	11,433	11,719	12,012	12,313	12,620	12,936	13,259	13,591
195	601100-Salar-Full Time-Gen City	492432	149,884	153,631	157,471	161,408	165,443	169,580	173,819	178,164	182,619	187,184
196	601300-Salar-Overtime-Gen City	492432	10,151	10,405	10,665	10,932	11,205	11,485	11,773	12,067	12,369	12,678
197	601400-Salar-Shift Prem-Gen City	492432	647	663	680	697	714	732	750	769	788	808
198	601500-Salaries-Holiday Premium	492432	34,037	34,888	35,760	36,654	37,571	38,510	39,473	40,460	41,471	42,508
199	602100-Wages-Full Time-Gen City	492432	1,178,716	1,208,184	1,238,388	1,269,348	1,301,082	1,333,609	1,366,949	1,401,123	1,436,151	1,472,055
200	603125-Empplr Pd Pension-GRS	492432	66,432	68,093	69,796	71,540	73,329	75,162	77,041	78,967	80,941	82,965
201	603200-Empplr Pd Ben-Medical	492432	167,848	174,562	181,544	188,806	196,358	204,212	212,381	220,876	229,711	238,900
202	603300-Employer Pd FICA	492432	105,098	107,725	110,418	113,179	116,008	118,908	121,881	124,928	128,051	131,253
203	603400-Unemployment	492432	13,436	13,772	14,116	14,469	14,831	15,201	15,581	15,971	16,370	16,779
204	603405-Workers' Compensation	492432	80,615	82,630	84,696	86,813	88,984	91,208	93,488	95,826	98,221	100,677
205	603900-Emp Benefits-Miscellaneous	492432	5,474	5,611	5,751	5,895	6,042	6,193	6,348	6,507	6,669	6,836
206	604100-Other Comp-Unused Sick Leave	492432	1,244	1,275	1,307	1,340	1,373	1,408	1,443	1,479	1,516	1,554
207	605100-Group Life Insurance	492432	3,583	3,726	3,875	4,030	4,191	4,359	4,533	4,715	4,903	5,100
208	605205-Eye Care-Active Civilian	492432	2,190	2,277	2,368	2,463	2,561	2,664	2,770	2,881	2,997	3,116
209	605500-Income Protection-LTD	492432	3,732	3,881	4,037	4,198	4,366	4,541	4,722	4,911	5,108	5,312
210	605620-Dental Active	492432	8,957	9,315	9,688	10,076	10,479	10,898	11,334	11,787	12,259	12,749
211	605700-Health Care Reserve - Civilian	492432	27,469	28,155	28,859	29,581	30,320	31,078	31,855	32,652	33,468	34,305
212	617400-Contract Svcs-Info Technology	492432	82,108	84,160	86,264	88,421	90,631	92,897	95,220	97,600	100,040	102,541
213	617900-Contract Svcs-Other-Misc	492432	495,631	508,022	520,722	533,740	547,084	560,761	574,780	589,149	603,878	618,975
214	620100-Office Supplies	492432	9,932	10,201	10,456	10,718	10,986	11,260	11,542	11,830	12,126	12,429
215	621900-Oper Supplies-Miscellaneous	492432	348,335	357,043	365,969	375,119	384,497	394,109	403,962	414,061	424,412	435,023
216	622900-Repairs & Maint-Misc	492432	149,286	153,019	156,844	160,765	164,784	168,904	173,126	177,455	181,891	186,438
217	626010 - Advertising	492432	29,857	30,604	31,369	32,153	32,957	33,781	34,625	35,491	36,378	37,288
218	626100 - Printing	492432	4,976	5,101	5,228	5,359	5,493	5,630	5,771	5,915	6,063	6,215
219	626500-Dues & Miscellaneous	492432	4,976	5,101	5,228	5,359	5,493	5,630	5,771	5,915	6,063	6,215
220	626600-Postage	492432	12,441	12,752	13,070	13,397	13,732	14,075	14,427	14,788	15,158	15,537
221	628100-Travel	492432	9,952	10,201	10,456	10,718	10,986	11,260	11,542	11,830	12,126	12,429
222	601100-Salar-Full Time-Gen City	493101	240,910	246,933	253,107	259,434	265,920	272,568	279,382	286,367	293,526	300,864
223	603125-Empplr Pd Pension-GRS	493101	12,011	12,311	12,619	12,935	13,258	13,589	13,929	14,277	14,634	15,000
224	603200-Empplr Pd Ben-Medical	493101	29,419	30,596	31,820	33,093	34,416	35,793	37,225	38,714	40,262	41,873
225	603300-Employer Pd FICA	493101	18,414	18,874	19,346	19,829	20,325	20,833	21,354	21,888	22,435	22,996
226	603400-Unemployment	493101	2,328	2,386	2,446	2,507	2,570	2,634	2,700	2,767	2,837	2,908
227	603405-Workers' Compensation	493101	14,128	14,481	14,843	15,214	15,594	15,984	16,384	16,793	17,213	17,643

Schedule 4: Cash Out

228	603900-Emp Benefits-Miscellaneous	493101	952	976	1,001	1,026	1,051	1,078	1,105	1,132	1,160	1,189
229	604100-Other Comp-Unused Sick Leave	493101	212	217	222	228	234	239	245	252	258	264
230	605100-Group Life Insurance	493101	635	660	687	714	743	773	803	836	869	904
231	605205-Eye Care-Active Civilian	493101	370	385	401	417	433	451	469	487	507	527
232	605500-Income Protection-LTD	493101	688	715	744	774	805	837	870	905	941	979
233	605620-Dental Active	493101	1,587	1,651	1,717	1,786	1,857	1,931	2,009	2,089	2,172	2,259
234	605700-Health Care Reserve - Civilian	493101	4,815	4,935	5,059	5,185	5,315	5,448	5,584	5,724	5,867	6,013
235	613100-Legal	493101	449,756	461,000	472,525	484,338	496,446	508,858	521,579	534,619	547,984	561,684
236	620100-Office Supplies	493101	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
237	626500-Dues & Miscellaneous	493101	4,021	4,122	4,225	4,331	4,439	4,550	4,664	4,780	4,900	5,022
238	626600-Postage	493101	529	542	556	570	584	599	614	629	645	661
239	627105-Private Car Reimbursements	493101	317	325	334	342	350	359	368	377	387	396
240	627230-Employee Parking	493101	1,905	1,952	2,001	2,051	2,103	2,155	2,209	2,264	2,321	2,379
241	628100-Travel	493101	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
242	661100-Damage Claims	493101	264,562	271,176	277,956	284,905	292,027	299,328	306,811	314,481	322,344	330,402
243	601100-Salar-Full Time-Gen City	493201	401,764	411,808	422,104	432,656	443,473	454,559	465,923	477,572	489,511	501,749
244	603125-Emplr Pd Pension-GRS	493201	20,107	20,609	21,125	21,653	22,194	22,749	23,318	23,901	24,498	25,111
245	603200-Emplr Pd Ben-Medical	493201	49,050	51,012	53,052	55,174	57,381	59,677	62,064	64,546	67,128	69,813
246	603300-Employer Pd FICA	493201	30,742	31,511	32,298	33,106	33,934	34,782	35,651	36,543	37,456	38,393
247	603400-Unemployment	493201	3,916	4,013	4,114	4,217	4,322	4,430	4,541	4,654	4,771	4,890
248	603405-Workers' Compensation	493201	23,599	24,189	24,794	25,413	26,049	26,700	27,368	28,052	28,753	29,472
249	603900-Emp Benefits-Miscellaneous	493201	1,587	1,627	1,668	1,709	1,752	1,796	1,841	1,887	1,934	1,982
250	604100-Other Comp-Unused Sick Leave	493201	370	380	389	399	409	419	430	440	451	463
251	605100-Group Life Insurance	493201	1,058	1,101	1,145	1,190	1,238	1,288	1,339	1,393	1,448	1,506
252	605205-Eye Care-Active Civilian	493201	688	715	744	774	805	837	870	905	941	979
253	605500-Income Protection-LTD	493201	1,058	1,101	1,145	1,190	1,238	1,288	1,339	1,393	1,448	1,506
254	605620-Dental Active	493201	2,646	2,751	2,862	2,976	3,095	3,219	3,348	3,481	3,621	3,766
255	605700-Health Care Reserve - Civilian	493201	8,043	8,244	8,450	8,661	8,878	9,100	9,327	9,560	9,799	10,044
256	617900-Contract Svcs-Other-Misc	493201	29,102	29,829	30,575	31,340	32,123	32,926	33,749	34,593	35,458	36,344
257	620100-Office Supplies	493201	7,937	8,135	8,339	8,547	8,761	8,980	9,204	9,434	9,670	9,912
258	626100-Printing	493201	5,291	5,424	5,559	5,698	5,841	5,987	6,136	6,290	6,447	6,608
259	626500-Dues & Miscellaneous	493201	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
260	627110-Purchased Services - Other	493201	52,912	54,235	55,591	56,981	58,405	59,866	61,362	62,896	64,469	66,080
261	627225-Other Oper Svc-Miscellaneous	493201	15,874	16,271	16,677	17,094	17,522	17,960	18,409	18,869	19,341	19,824
262	627230-Employee Parking	493201	7,619	7,810	8,005	8,205	8,410	8,621	8,836	9,057	9,283	9,516
263	628100-Travel	493201	5,291	5,424	5,559	5,698	5,841	5,987	6,136	6,290	6,447	6,608
264	628200-Training	493201	117,254	120,185	123,190	126,270	129,427	132,662	135,979	139,378	142,863	146,434
265	628208-Training-Tuition Reimbursement	493201	42,330	43,388	44,473	45,585	46,724	47,892	49,090	50,317	51,575	52,864
266	601100-Salar-Full Time-Gen City	493301	1,502,382	1,539,941	1,578,440	1,617,901	1,658,348	1,699,807	1,742,302	1,785,860	1,830,506	1,876,269
267	601115 - Salaries-Contractual	493301	59,991	61,491	63,028	64,604	66,219	67,875	69,572	71,311	73,094	74,921
268	602100-Wages-Full Time-Gen City	493301	166,615	170,781	175,050	179,426	183,912	188,510	193,223	198,053	203,004	208,080
269	603125-Emplr Pd Pension-GRS	493301	86,400	88,560	90,774	93,043	95,369	97,754	100,197	102,702	105,270	107,902
270	603200-Emplr Pd Ben-Medical	493301	211,269	219,719	228,508	237,648	247,154	257,040	267,322	278,015	289,136	300,701
271	603300-Employer Pd FICA	493301	132,290	135,597	138,987	142,462	146,024	149,674	153,416	157,252	161,183	165,212
272	603400-Unemployment	493301	16,946	17,370	17,804	18,249	18,705	19,173	19,652	20,143	20,647	21,163
273	603405-Workers' Compensation	493301	101,491	104,028	106,628	109,294	112,027	114,827	117,698	120,640	123,656	126,748
274	603900-Emp Benefits-Miscellaneous	493301	6,927	7,100	7,278	7,459	7,646	7,837	8,033	8,234	8,440	8,651
275	604100-Other Comp-Unused Sick Leave	493301	1,608	1,648	1,689	1,732	1,775	1,819	1,865	1,911	1,959	2,008
276	605100-Group Life Insurance	493301	4,515	4,695	4,883	5,079	5,282	5,493	5,713	5,941	6,179	6,426
277	605205-Eye Care-Active Civilian	493301	2,721	2,830	2,943	3,061	3,183	3,311	3,443	3,581	3,724	3,873
278	605500-Income Protection-LTD	493301	4,700	4,888	5,084	5,287	5,499	5,719	5,947	6,185	6,433	6,690
279	605620-Dental Active	493301	11,256	11,706	12,175	12,662	13,168	13,695	14,243	14,812	15,405	16,021
280	605700-Health Care Reserve - Civilian	493301	34,572	35,437	36,323	37,231	38,161	39,115	40,093	41,096	42,123	43,176
281	617400-Contract Svcs-Info Technology	493301	1,084,792	1,111,912	1,139,710	1,168,203	1,197,408	1,227,343	1,258,026	1,289,477	1,321,714	1,354,757
282	620100-Office Supplies	493301	9,277	9,509	9,747	9,990	10,240	10,496	10,758	11,027	11,303	11,586
283	622300-Repairs & Maint-Equipment	493301	130,497	133,759	137,103	140,531	144,044	147,645	151,336	155,120	158,998	162,972
284	622301-Hardware Maintenance	493301	358,093	367,045	376,221	385,627	395,267	405,149	415,278	425,660	436,301	447,209
285	622302-Software Maintenance	493301	3,292,598	3,374,913	3,459,286	3,545,768	3,634,412	3,725,272	3,818,404	3,913,864	4,011,711	4,112,004
286	626010-Advertising	493301	3,092	3,170	3,249	3,330	3,413	3,499	3,586	3,676	3,768	3,862
287	626100-Printing	493301	6,185	6,339	6,498	6,660	6,827	6,997	7,172	7,352	7,535	7,724
288	626415-Rentals- Office Equipment	493301	6,185	6,339	6,498	6,660	6,827	6,997	7,172	7,352	7,535	7,724
289	626435 - Rentals-Lease of Equipment	493301	9,277	9,509	9,747	9,990	10,240	10,496	10,758	11,027	11,303	11,586
290	626500-Dues & Miscellaneous	493301	6,185	6,339	6,498	6,660	6,827	6,997	7,172	7,352	7,535	7,724
291	626600-Postage	493301	9,895	10,143	10,396	10,656	10,923	11,196	11,476	11,763	12,057	12,358
292	626700-Telecommunications	493301	278,310	285,268	292,400	299,710	307,203	314,883	322,755	330,824	339,094	347,572
293	626702-Data Com Equip	493301	247,387	253,572	259,911	266,409	273,069	279,896	286,893	294,065	301,417	308,953
294	627105-Private Car Reimbursements	493301	371	380	390	400	410	420	430	441	452	463
295	627230-Employee Parking	493301	18,554	19,018	19,493	19,981	20,480	20,992	21,517	22,055	22,606	23,171
296	628100-Travel	493301	19,791	20,286	20,793	21,313	21,846	22,392	22,951	23,525	24,113	24,716
297	628515-Shared Services Expense	493301	788,175	811,820	836,175	861,260	887,098	913,711	941,122	969,356	998,437	1,028,390
298	601100-Salar-Full Time-Gen City	493411	405,151	415,280	425,662	436,303	447,211	458,391	469,851	481,597	493,637	505,978
299	601300-Salar-Overtime-Gen City	493411	39,631	40,622	41,638	42,679	43,746	44,839	45,960	47,109	48,287	49,494
300	601400-Salar-Shift Prem-Gen City	493411	3,492	3,580	3,669	3,761	3,855	3,951	4,050	4,151	4,255	4,361
301	601500-Salaries-Holiday Premium	493411	1,587	1,627	1,668	1,709	1,752	1,796	1,841	1,887	1,934	1,982
302	602100-Wages-Full Time-Gen City	493411	647,754	663,948	680,547	697,561	715,000	732,875	751,197	769,976	789,226	808,957

Schedule 4: Cash Out

303	602130-Wages-Holiday Pay	493411	12,646	12,962	13,286	13,618	13,959	14,308	14,666	15,032	15,408	15,793
304	602300-Wages-OverTime-Gen City	493411	148,843	152,564	156,378	160,287	164,295	168,402	172,612	176,927	181,350	185,884
305	602400-Wages-Shift Prem-Gen City	493411	4,603	4,718	4,836	4,957	5,081	5,208	5,339	5,472	5,609	5,749
306	602500 - Wages-Holiday Premium	493411	29,472	30,209	30,964	31,738	32,532	33,345	34,179	35,033	35,909	36,807
307	603125-Empir Pd Pension-GRS	493411	52,595	53,910	55,258	56,639	58,055	59,506	60,994	62,519	64,082	65,684
308	603200-Empir Pd Ben-Medical	493411	157,997	164,316	170,889	177,725	184,834	192,227	199,916	207,913	216,229	224,878
309	603300-Employer Pd FICA	493411	98,946	101,420	103,955	106,554	109,218	111,949	114,747	117,616	120,556	123,570
310	603400-Unemployment	493411	12,699	13,016	13,342	13,675	14,017	14,368	14,727	15,095	15,472	15,859
311	603405-Workers' Compensation	493411	75,876	77,773	79,718	81,711	83,753	85,847	87,993	90,193	92,448	94,759
312	603900-Emp Benefits-Miscellaneous	493411	5,133	5,261	5,392	5,527	5,665	5,807	5,952	6,101	6,253	6,410
313	604100-Other Comp-Unused Sick Leave	493411	1,164	1,193	1,223	1,254	1,285	1,317	1,350	1,384	1,418	1,454
314	605100-Group Life Insurance	493411	3,333	3,467	3,605	3,750	3,900	4,056	4,218	4,387	4,562	4,745
315	605205-Eye Care-Active Civilian	493411	2,064	2,146	2,232	2,321	2,414	2,511	2,611	2,716	2,824	2,937
316	605500-Income Protection-LTD	493411	3,492	3,632	3,777	3,928	4,085	4,249	4,419	4,596	4,779	4,971
317	605620-Dental Active	493411	8,413	8,750	9,100	9,464	9,842	10,236	10,645	11,071	11,514	11,974
318	605700-Health Care Reserve - Civilian	493411	25,874	26,521	27,184	27,864	28,560	29,274	30,006	30,756	31,525	32,313
319	617900-Contract Svcs-Other-Misc	493411	34,446	35,307	36,190	37,095	38,022	38,973	39,947	40,945	41,969	43,018
320	620100-Office Supplies	493411	23,811	24,406	25,016	25,641	26,282	26,940	27,613	28,303	29,011	29,736
321	621900-Oper Supplies-Miscellaneous	493411	42,330	43,388	44,473	45,585	46,724	47,892	49,090	50,317	51,575	52,864
322	622300-Repairs & Maint-Equipment	493411	1,376	1,410	1,445	1,481	1,519	1,557	1,595	1,635	1,676	1,718
323	626500-Dues & Miscellaneous	493411	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
324	627195 - Employee Uniform Expense	493411	34,393	35,253	36,134	37,038	37,964	38,913	39,885	40,883	41,905	42,952
325	628100-Travel	493411	5,291	5,424	5,559	5,698	5,841	5,987	6,136	6,290	6,447	6,608
326	628501-Misc-License,Insp&Permit Fees	493411	847	868	889	912	934	958	982	1,006	1,031	1,057
327	628515-Shared Services Expense	493411	159,584	164,372	169,303	174,382	179,613	185,002	190,552	196,268	202,156	208,221
328	601100-Salar-Full Time-Gen City	493421	227,206	232,886	238,708	244,676	250,793	257,063	263,489	270,077	276,829	283,749
329	603125-Empir Pd Pension-GRS	493421	11,323	11,606	11,897	12,194	12,499	12,811	13,132	13,460	13,796	14,141
330	603200-Empir Pd Ben-Medical	493421	27,726	28,835	29,989	31,188	32,436	33,733	35,082	36,486	37,945	39,463
331	603300-Employer Pd FICA	493421	17,408	17,843	18,289	18,747	19,215	19,696	20,188	20,693	21,210	21,740
332	603400-Unemployment	493421	2,222	2,235	2,248	2,261	2,274	2,287	2,300	2,313	2,326	2,339
333	603405-Workers' Compensation	493421	13,334	13,667	14,009	14,359	14,718	15,086	15,463	15,850	16,246	16,652
334	603900-Emp Benefits-Miscellaneous	493421	900	922	945	969	993	1,018	1,043	1,069	1,096	1,123
335	604100-Other Comp-Unused Sick Leave	493421	212	217	222	228	234	239	245	252	258	264
336	605100-Group Life Insurance	493421	582	605	630	655	681	708	736	766	797	828
337	605205-Eye Care-Active Civilian	493421	370	385	401	417	433	451	469	487	507	527
338	605500-Income Protection-LTD	493421	582	605	630	655	681	708	736	766	797	828
339	605620-Dental Active	493421	1,482	1,541	1,602	1,667	1,733	1,803	1,875	1,950	2,028	2,109
340	605700-Health Care Reserve - Civilian	493421	4,550	4,664	4,781	4,900	5,023	5,148	5,277	5,409	5,544	5,683
341	616100-Consultant Fees-Mgt Consult	493421	505,843	518,489	531,451	544,738	558,356	572,315	586,623	601,289	616,321	631,729
342	617900-Contract Svcs-Other-Misc	493421	41,113	42,141	43,194	44,274	45,381	46,516	47,678	48,870	50,092	51,344
343	620100-Office Supplies	493421	7,937	8,135	8,339	8,547	8,761	8,980	9,204	9,434	9,670	9,912
344	621300-Oper Supplies-Automotive	493421	1,376	1,410	1,445	1,481	1,519	1,557	1,595	1,635	1,676	1,718
345	621900-Oper Supplies-Miscellaneous	493421	7,937	8,135	8,339	8,547	8,761	8,980	9,204	9,434	9,670	9,912
346	626010-Advertising	493421	13,228	13,559	13,898	14,245	14,601	14,966	15,341	15,724	16,117	16,520
347	626100-Printing	493421	52,912	54,235	55,591	56,981	58,405	59,866	61,362	62,896	64,469	66,080
348	626500-Dues & Miscellaneous	493421	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
349	626600-Postage	493421	26,456	27,118	27,796	28,490	29,203	29,933	30,681	31,448	32,234	33,040
350	627105-Private Car Reimbursements	493421	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
351	627195-Employee Uniform Expense	493421	7,937	8,135	8,339	8,547	8,761	8,980	9,204	9,434	9,670	9,912
352	627225-Other Oper Svc-Miscellaneous	493421	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
353	627230-Employee Parking	493421	3,810	3,905	4,003	4,103	4,205	4,310	4,418	4,529	4,642	4,758
354	628100-Travel	493421	1,058	1,085	1,112	1,140	1,168	1,197	1,227	1,258	1,289	1,322
355	601100-Salar-Full Time-Gen City	494001	458,434	469,894	481,642	493,683	506,025	518,676	531,642	544,934	558,557	572,521
356	603125-Empir Pd Pension-GRS	494001	19,472	19,959	20,458	20,969	21,493	22,031	22,581	23,146	23,724	24,318
357	603200-Empir Pd Ben-Medical	494001	47,621	49,526	51,507	53,567	55,710	57,938	60,256	62,666	65,173	67,780
358	603300-Employer Pd FICA	494001	29,790	30,534	31,298	32,080	32,882	33,704	34,547	35,411	36,296	37,203
359	603400-Unemployment	494001	3,863	3,959	4,058	4,160	4,264	4,370	4,479	4,591	4,706	4,824
360	603405-Workers' Compensation	494001	22,805	23,375	23,960	24,559	25,173	25,802	26,447	27,108	27,786	28,481
361	603900-Emp Benefits-Miscellaneous	494001	1,587	1,627	1,668	1,709	1,752	1,796	1,841	1,887	1,934	1,982
362	604100-Other Comp-Unused Sick Leave	494001	370	380	389	399	409	419	430	440	451	463
363	605100-Group Life Insurance	494001	1,005	1,046	1,087	1,131	1,176	1,223	1,272	1,323	1,376	1,431
364	605205-Eye Care-Active Civilian	494001	635	660	687	714	743	773	803	836	869	904
365	605500-Income Protection-LTD	494001	1,058	1,101	1,145	1,190	1,238	1,288	1,339	1,393	1,448	1,506
366	605620-Dental Active	494001	2,540	2,641	2,747	2,857	2,971	3,090	3,214	3,342	3,476	3,615
367	605700-Health Care Reserve - Civilian	494001	7,778	7,973	8,172	8,376	8,586	8,800	9,020	9,246	9,477	9,714
368	616100-Consultant Fees-Mgt Consult	494001	26,456	27,118	27,796	28,490	29,203	29,933	30,681	31,448	32,234	33,040
369	620100-Office Supplies	494001	15,874	16,271	16,677	17,094	17,522	17,960	18,409	18,869	19,341	19,824
370	621300-Oper Supplies-Miscellaneous	494001	1,005	1,030	1,056	1,083	1,110	1,137	1,166	1,195	1,225	1,256
371	626500-Dues & Miscellaneous	494001	1,164	1,193	1,223	1,254	1,285	1,317	1,350	1,384	1,418	1,454
372	627110-Purchased Services - Other	494001	1,587,374	1,627,058	1,667,735	1,709,428	1,752,164	1,795,958	1,840,867	1,886,889	1,934,061	1,982,413
373	627230-Employee Parking	494001	1,270	1,302	1,334	1,368	1,402	1,437	1,473	1,510	1,547	1,586
374	628100-Travel	494001	2,910	2,983	3,058	3,134	3,212	3,293	3,375	3,459	3,546	3,634
375	628515-Shared Services Expense	494001	18,519	19,075	19,647	20,237	20,844	21,469	22,113	22,776	23,460	24,164
376	601100-Salar-Full Time-Gen City	494111	486,795	498,965	511,439	524,225	537,330	550,764	564,533	578,646	593,112	607,940
377	602100-Wages-Full Time-Gen City	494111	107,571	110,260	113,017	115,842	118,738	121,707	124,749	127,868	131,065	134,341
378	603125-Empir Pd Pension-GRS	494111	33,176	34,006	34,856	35,727	36,620	37,536	38,474	39,436	40,422	41,432

Schedule 4: Cash Out

379	603200-Empir Pd Ben-Medical	494111	81,009	84,249	87,619	91,124	94,769	98,560	102,502	106,602	110,866	115,301
380	603300-Employer Pd FICA	494111	50,743	52,012	53,312	54,645	56,011	57,411	58,846	60,318	61,825	63,371
381	603400-Unemployment	494111	6,508	6,871	6,838	7,009	7,184	7,363	7,548	7,736	7,930	8,128
382	603405-Workers' Compensation	494111	38,944	39,917	40,915	41,938	42,986	44,061	45,163	46,292	47,449	48,635
383	603900-Emp Benefits-Miscellaneous	494111	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
384	604100-Other Comp-Unused Sick Leave	494111	582	597	612	627	642	659	675	692	709	727
385	605100-Group Life Insurance	494111	1,746	1,816	1,889	1,964	2,043	2,124	2,209	2,298	2,390	2,485
386	605205-Eye Care-Active Civilian	494111	1,058	1,101	1,145	1,190	1,238	1,288	1,339	1,393	1,448	1,506
387	605500-Income Protection-LTD	494111	1,799	1,871	1,946	2,024	2,105	2,189	2,276	2,367	2,462	2,561
388	605620-Dental Active	494111	4,286	4,457	4,636	4,821	5,014	5,214	5,423	5,640	5,866	6,100
389	605700-Health Care Reserve - Civilian	494111	13,228	13,559	13,898	14,245	14,601	14,966	15,341	15,724	16,117	16,520
390	616100-Consultant Fees-Mgt Consult	494111	52,912	54,235	55,591	56,981	58,405	59,866	61,362	62,896	64,469	66,080
391	620100-Office Supplies	494111	7,937	8,135	8,339	8,547	8,761	8,980	9,204	9,434	9,670	9,912
392	621900-Oper Supplies-Miscellaneous	494111	2,116	2,169	2,224	2,279	2,336	2,395	2,454	2,516	2,579	2,643
393	626500-Dues & Miscellaneous	494111	847	868	889	912	934	958	982	1,006	1,031	1,057
394	626600-Postage	494111	1,058	1,085	1,112	1,140	1,168	1,197	1,227	1,258	1,289	1,322
395	627230-Employee Parking	494111	6,349	6,508	6,671	6,838	7,009	7,184	7,363	7,548	7,736	7,930
396	628100-Travel	494111	4,233	4,339	4,447	4,558	4,672	4,789	4,909	5,032	5,157	5,286
397	601100-Salar-Full Time-Gen City	494121	431,025	441,801	452,846	464,167	475,771	487,665	499,857	512,353	525,162	538,291
398	601300-Salar-Overtime-Gen City	494121	10,582	10,847	11,118	11,396	11,681	11,973	12,272	12,579	12,894	13,216
399	601400-Salar-Shift Prem-Gen City	494121	13,228	13,559	13,898	14,245	14,601	14,966	15,341	15,724	16,117	16,520
400	602100-Wages-Full Time-Gen City	494121	634,526	650,389	666,649	683,315	700,398	717,908	735,856	754,252	773,109	792,436
401	602300-Wages-Overtime-Gen City	494121	10,582	10,847	11,118	11,396	11,681	11,973	12,272	12,579	12,894	13,216
402	603125-Empir Pd Pension-GRS	494121	53,283	54,615	55,980	57,380	58,814	60,285	61,792	63,337	64,920	66,543
403	603200-Empir Pd Ben-Medical	494121	134,398	139,774	145,365	151,179	157,226	163,515	170,056	176,858	183,932	191,290
404	603300-Employer Pd FICA	494121	84,131	86,234	88,390	90,600	92,865	95,186	97,566	100,005	102,505	105,068
405	603400-Unemployment	494121	10,794	11,064	11,341	11,624	11,915	12,213	12,518	12,831	13,152	13,480
406	603405-Workers' Compensation	494121	64,553	66,167	67,821	69,517	71,255	73,036	74,862	76,733	78,652	80,618
407	603900-Emp Benefits-Miscellaneous	494121	4,392	4,502	4,614	4,729	4,848	4,969	5,093	5,220	5,351	5,485
408	604100-Other Comp-Unused Sick Leave	494121	1,005	1,030	1,056	1,083	1,110	1,137	1,166	1,195	1,225	1,256
409	605100-Group Life Insurance	494121	2,857	2,972	3,090	3,214	3,343	3,476	3,615	3,760	3,910	4,067
410	605205-Eye Care-Active Civilian	494121	1,746	1,816	1,889	1,964	2,043	2,124	2,209	2,298	2,390	2,485
411	605500-Income Protection-LTD	494121	2,963	3,082	3,205	3,333	3,466	3,605	3,749	3,899	4,055	4,217
412	605620-Dental Active	494121	7,196	7,484	7,783	8,095	8,418	8,755	9,105	9,470	9,848	10,242
413	605700-Health Care Reserve - Civilian	494121	22,012	22,562	23,126	23,704	24,297	24,904	25,527	26,165	26,819	27,489
414	616100-Consultant Fees-Mgt Consult	494121	52,912	54,235	55,591	56,981	58,405	59,866	61,362	62,896	64,469	66,080
415	617900-Contract Svcs-Other-Misc	494121	126,990	130,165	133,419	136,754	140,173	143,677	147,269	150,951	154,725	158,593
416	620100-Office Supplies	494121	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
417	621900-Oper Supplies-Miscellaneous	494121	6,349	6,508	6,671	6,838	7,009	7,184	7,363	7,548	7,736	7,930
418	626500-Dues & Miscellaneous	494121	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
419	627105-Private Car Reimbursements	494121	1,058	1,085	1,112	1,140	1,168	1,197	1,227	1,258	1,289	1,322
420	627225 - Other Oper Svc-Miscellaneous	494121	1,058	1,085	1,112	1,140	1,168	1,197	1,227	1,258	1,289	1,322
421	627230-Employee Parking	494121	529	542	556	570	584	599	614	629	645	661
422	628100-Travel	494121	5,291	5,424	5,559	5,698	5,841	5,987	6,136	6,290	6,447	6,608
423	601100-Salar-Full Time-Gen City	494131	143,975	147,574	151,264	155,045	158,921	162,894	166,967	171,141	175,419	179,805
424	603125-Empir Pd Pension-GRS	494131	7,196	7,376	7,560	7,749	7,943	8,142	8,345	8,554	8,768	8,987
425	603200-Empir Pd Ben-Medical	494131	17,620	18,325	19,058	19,820	20,613	21,437	22,295	23,187	24,114	25,079
426	603300-Employer Pd FICA	494131	11,006	11,281	11,563	11,852	12,148	12,452	12,763	13,082	13,409	13,745
427	603400-Unemployment	494131	1,429	1,464	1,501	1,538	1,577	1,616	1,657	1,698	1,741	1,784
428	603405-Workers' Compensation	494131	8,466	8,678	8,895	9,117	9,345	9,578	9,816	10,063	10,315	10,573
429	603900-Emp Benefits-Miscellaneous	494131	582	597	612	627	642	659	675	692	709	727
430	604100-Other Comp-Unused Sick Leave	494131	159	163	167	171	175	180	184	189	193	198
431	605100-Group Life Insurance	494131	370	385	401	417	433	451	469	487	507	527
432	605205-Eye Care-Active Civilian	494131	212	220	229	238	248	258	268	279	290	301
433	605500-Income Protection-LTD	494131	370	385	401	417	433	451	469	487	507	527
434	605620-Dental Active	494131	900	935	973	1,012	1,052	1,094	1,138	1,184	1,231	1,280
435	605700-Health Care Reserve - Civilian	494131	2,857	2,929	3,002	3,077	3,154	3,233	3,314	3,396	3,481	3,568
436	616100 - Consultant Fees-Mgt Consult	494131	119,053	122,029	125,080	128,207	131,412	134,698	138,065	141,517	145,055	148,681
437	627225-Other Oper Svc-Miscellaneous	494131	925,968	949,117	972,845	997,166	1,022,096	1,047,648	1,073,839	1,100,685	1,128,202	1,156,407
438	628100-Travel	494131	2,434	2,495	2,557	2,621	2,687	2,754	2,823	2,893	2,966	3,040
439	628515-Shared Services Expense	494131	132,281	136,250	140,337	144,547	148,884	153,350	157,951	162,689	167,570	172,597
440	601100-Salar-Full Time-Gen City	494151	97,729	100,173	102,677	105,244	107,875	110,572	113,336	116,169	119,074	122,051
441	601115 - Salaries-Contractual	494151	48,891	50,113	51,366	52,650	53,967	55,316	56,699	58,116	59,569	61,058
442	603125-Empir Pd Pension-GRS	494151	7,359	7,539	7,727	7,920	8,118	8,321	8,529	8,743	8,961	9,185
443	603200-Empir Pd Ben-Medical	494151	17,937	18,655	19,401	20,177	20,984	21,824	22,696	23,604	24,548	25,530
444	603300-Employer Pd FICA	494151	11,217	11,498	11,785	12,080	12,382	12,692	13,009	13,334	13,667	14,009
445	603400-Unemployment	494151	1,429	1,464	1,501	1,538	1,577	1,616	1,657	1,698	1,741	1,784
446	603405-Workers' Compensation	494151	8,625	8,840	9,061	9,288	9,520	9,758	10,002	10,252	10,508	10,771
447	603900-Emp Benefits-Miscellaneous	494151	582	597	612	627	642	659	675	692	709	727
448	604100-Other Comp-Unused Sick Leave	494151	159	163	167	171	175	180	184	189	193	198
449	605100-Group Life Insurance	494151	370	385	401	417	433	451	469	487	507	527
450	605205-Eye Care-Active Civilian	494151	212	220	229	238	248	258	268	279	290	301
451	605500-Income Protection-LTD	494151	370	385	401	417	433	451	469	487	507	527
452	605620-Dental Active	494151	952	991	1,030	1,071	1,114	1,159	1,205	1,253	1,303	1,356
453	605700-Health Care Reserve - Civilian	494151	2,963	3,037	3,113	3,191	3,271	3,352	3,436	3,522	3,610	3,701
454	626010-Advertising	494151	317	325	334	342	350	359	368	377	387	396

Schedule 4: Cash Out

455	627105-Private Car Reimbursements	494151	53	54	56	57	58	60	61	63	64	66
456	601100-Salar-Full Time-Gen City	494161	294,945	302,318	309,876	317,623	325,564	333,703	342,045	350,597	359,361	368,345
457	602100-Wages-Full Time-Gen City	494161	392,198	402,003	412,053	422,354	432,913	443,736	454,829	466,200	477,855	489,801
458	603125-Emplr Pd Pension-GRS	494161	34,400	35,260	36,141	37,045	37,971	38,920	39,893	40,890	41,913	42,960
459	603200-Emplr Pd Ben-Medical	494161	83,946	87,304	90,796	94,428	98,205	102,134	106,219	110,468	114,886	119,482
460	603300-Employer Pd FICA	494161	52,590	53,905	55,253	56,634	58,050	59,501	60,989	62,513	64,076	65,678
461	603400-Unemployment	494161	6,795	6,965	7,139	7,317	7,500	7,688	7,880	8,077	8,279	8,486
462	603405-Workers' Compensation	494161	40,345	41,354	42,388	43,447	44,534	45,647	46,788	47,958	49,157	50,386
463	603900-Emp Benefits-Miscellaneous	494161	2,760	2,829	2,900	2,973	3,047	3,123	3,201	3,281	3,363	3,447
464	604100-Other Comp-Unused Sick Leave	494161	637	653	669	686	703	721	739	757	776	796
465	605100-Group Life Insurance	494161	1,840	1,914	1,990	2,070	2,153	2,239	2,329	2,422	2,519	2,619
466	605205-Eye Care-Active Civilian	494161	1,132	1,178	1,225	1,274	1,325	1,378	1,433	1,490	1,550	1,612
467	605500-Income Protection-LTD	494161	1,840	1,914	1,990	2,070	2,153	2,239	2,329	2,422	2,519	2,619
468	605620-Dental Active	494161	4,459	4,638	4,823	5,016	5,217	5,425	5,642	5,868	6,103	6,347
469	605700-Health Care Reserve - Civilian	494161	13,732	14,075	14,427	14,787	15,157	15,536	15,924	16,322	16,731	17,149
470	617900-Contract Svcs-Other-Misc	494161	1,925,245	1,973,376	2,022,710	2,073,278	2,125,110	2,178,238	2,232,694	2,288,511	2,345,724	2,404,367
471	617903 - Contract Svcs-Pers Servs Contr	494161	77,151	79,080	81,057	83,084	85,161	87,290	89,472	91,709	94,001	96,351
472	620100 - Office Supplies	494161	3,539	3,628	3,718	3,811	3,906	4,004	4,104	4,207	4,312	4,420
473	626600 - Postage	494161	3,539	3,628	3,718	3,811	3,906	4,004	4,104	4,207	4,312	4,420
474	627230-Employee Parking	494161	5,096	5,224	5,354	5,488	5,625	5,766	5,910	6,058	6,209	6,365
475	628100-Travel	494161	4,955	5,079	5,206	5,336	5,469	5,606	5,746	5,890	6,037	6,188
476	601100 - Salaries-Full Time	494171	52,912	54,235	55,591	56,981	58,405	59,866	61,362	62,896	64,469	66,080
477	603125 - Pensions DBP/DCP	494171	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
478	603200 - Emplr Ben-Hospitalization	494171	6,508	6,769	7,039	7,321	7,614	7,918	8,235	8,564	8,907	9,263
479	603300 - Emplr Ben-Social Security	494171	4,074	4,176	4,281	4,388	4,497	4,610	4,725	4,843	4,964	5,088
480	603400 - Unemployment	494171	529	542	556	570	584	599	614	629	645	661
481	603405 - Workers Compensation	494171	3,122	3,200	3,280	3,362	3,446	3,532	3,620	3,711	3,804	3,899
482	603900 - Emplr Ben-Miscellaneous	494171	212	217	222	228	234	239	245	252	258	264
483	604100 - Other Comp-Unused Sick Leave	494171	53	54	56	57	58	60	61	63	64	66
484	605100 - Group Life Insurance	494171	159	165	172	179	186	193	201	209	217	226
485	605205 - Eye Care-Active	494171	53	55	57	60	62	64	67	70	72	75
486	605500 - Income Protection	494171	159	165	172	179	186	193	201	209	217	226
487	605620 - Dental Active	494171	370	385	401	417	433	451	469	487	507	527
488	605700 - Health Care Reserve	494171	1,058	1,085	1,112	1,140	1,168	1,197	1,227	1,258	1,289	1,322
489	611200 - Auditing	494171	238,106	244,059	250,160	256,414	262,825	269,395	276,130	283,033	290,109	297,362
490	626500 - Dues & Miscellaneous	494171	529	542	556	570	584	599	614	629	645	661
491	627230 - Employee Parking	494171	1,905	1,952	2,001	2,051	2,103	2,155	2,209	2,264	2,321	2,379
492	628100 - Travel	494171	2,646	2,712	2,780	2,849	2,920	2,993	3,068	3,145	3,223	3,304
493	601100-Salar-Full Time-Gen City	495111	357,020	365,945	375,094	384,471	394,083	403,935	414,033	424,384	434,994	445,869
494	602100-Wages-Full Time-Gen City	495111	2,189,753	2,244,497	2,300,610	2,358,125	2,417,078	2,477,505	2,539,443	2,602,929	2,668,002	2,734,702
495	603125-Emplr Pd Pension-GRS	495111	127,335	130,518	133,781	137,126	140,554	144,068	147,670	151,361	155,145	159,024
496	603200-Emplr Pd Ben-Medical	495111	311,224	323,673	336,620	350,085	364,088	378,652	393,798	409,550	425,932	442,969
497	603300-Employer Pd FICA	495111	194,860	199,732	204,725	209,843	215,089	220,466	225,978	231,628	237,418	243,354
498	603400-Unemployment	495111	24,986	25,610	26,251	26,907	27,580	28,269	28,976	29,700	30,443	31,204
499	603405-Workers' Compensation	495111	149,490	153,227	157,057	160,984	165,009	169,134	173,362	177,696	182,139	186,692
500	603900-Emp Benefits-Miscellaneous	495111	10,192	10,447	10,708	10,976	11,251	11,532	11,820	12,116	12,419	12,729
501	604100-Other Comp-Unused Sick Leave	495111	2,336	2,394	2,454	2,515	2,578	2,643	2,709	2,777	2,846	2,917
502	605100-Group Life Insurance	495111	6,583	6,846	7,120	7,405	7,701	8,009	8,329	8,662	9,009	9,369
503	605205-Eye Care-Active Civilian	495111	4,035	4,196	4,364	4,538	4,720	4,909	5,105	5,309	5,522	5,742
504	605500-Income Protection-LTD	495111	6,866	7,140	7,426	7,723	8,032	8,353	8,687	9,035	9,396	9,772
505	605620-Dental Active	495111	16,563	17,225	17,914	18,631	19,376	20,151	20,957	21,795	22,667	23,574
506	605700-Health Care Reserve - Civilian	495111	50,962	52,236	53,542	54,881	56,253	57,659	59,101	60,578	62,093	63,645
507	617900-Contract Svcs-Other-Misc	495111	53,086	54,413	55,773	57,168	58,597	60,062	61,563	63,102	64,680	66,297
508	626100-Printing	495111	7,078	7,255	7,436	7,622	7,813	8,008	8,208	8,414	8,624	8,840
509	626500-Dues & Miscellaneous	495111	2,831	2,902	2,975	3,049	3,125	3,203	3,283	3,365	3,450	3,536
510	626600-Postage	495111	11,325	11,608	11,898	12,196	12,501	12,813	13,133	13,462	13,798	14,143
511	627230-Employee Parking	495111	2,548	2,612	2,677	2,744	2,813	2,883	2,955	3,029	3,105	3,182
512	603121 - Pension Reimbursement - Operating	497111	10,824,000	-	-	-	-	-	-	-	-	-
513	603121 - Pension Reimbursement - Operating	497111	2,856,000	-	-	-	-	-	-	-	-	-
514	628500-Miscellaneous Expense	497111	1,616,300	1,616,300	1,616,300	1,616,300	1,616,300	1,616,300	1,616,300	1,616,300	1,616,300	1,616,300
515	628512-GLWA Charge	497111	191,042,200	198,904,500	207,081,300	215,585,200	224,429,200	233,627,000	243,192,700	253,141,000	263,487,300	274,247,400
516	628514 - Other Retail Allocations ²	497111	2,546,600	1,319,290	1,319,290	1,319,290	1,319,290	1,319,290	1,319,290	1,319,290	1,319,290	1,319,290
517	628514 - Other Retail Allocations ²	497111	9,651,400	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
518	628514-Other Retail Allocations ²	497111	1,969,300	1,969,296	3,718,818	3,648,837	3,255,669	2,939,197	2,869,216	2,799,235	2,729,254	2,659,273
519	651180 - Note Payments (DWSD's portion) ²	497111	520,200	520,206	982,358	963,872	860,013	776,414	757,928	739,442	720,956	702,470
520	711700-Bad Debts ³	497111	47,267,436	48,873,320	50,538,762	52,266,056	46,674,684	48,298,429	49,983,097	51,731,050	53,544,745	55,426,734
521	720300-Water Retail Assistance Program	497111	1,492,740	1,226,600	1,250,400	1,274,700	1,299,500	1,324,700	1,350,500	1,376,800	1,403,600	1,431,000
522	Total Operating and Non-Operating Expenses		\$ 322,932,537	\$ 313,956,922	\$ 327,452,203	\$ 339,074,306	\$ 343,348,310	\$ 355,328,160	\$ 368,089,684	\$ 381,339,348	\$ 395,096,142	\$ 409,379,690
Total Expenses by Category												
523	Personal Services		\$ 28,040,970	\$ 28,784,177	\$ 29,547,652	\$ 30,331,968	\$ 31,137,717	\$ 31,965,507	\$ 32,815,967	\$ 33,689,741	\$ 34,587,494	\$ 35,509,911
524	Operations & Maintenance		294,891,567	285,172,745	297,904,552	308,742,339	312,210,593	323,362,652	335,273,717	347,649,607	360,508,649	373,869,779
525	Total Expenses		\$ 322,932,537	\$ 313,956,922	\$ 327,452,203	\$ 339,074,306	\$ 343,348,310	\$ 355,328,160	\$ 368,089,684	\$ 381,339,348	\$ 395,096,142	\$ 409,379,690

Schedule 4: Cash Out

<u>Expense Execution Factors</u>																					
526	Personal Services		100%	100%	100%	100%	100%	100%	100%	100%	100%										
527	Operations & Maintenance		100%	100%	100%	100%	100%	100%	100%	100%	100%										
<u>Total Expenses at Execution</u>																					
528	Personal Services	\$	28,040,970	\$	28,784,177	\$	29,547,652	\$	30,331,968	\$	31,137,717	\$	31,965,507	\$	32,815,967	\$	33,689,741	\$	34,587,494	\$	35,509,911
529	Operations & Maintenance		294,891,567		285,172,745		297,904,552		308,742,339		312,210,593		323,362,652		335,273,717		347,649,607		360,508,649		373,869,779
530	Total Expenses at Execution	\$	322,932,537	\$	313,956,922	\$	327,452,203	\$	339,074,306	\$	343,348,310	\$	355,328,160	\$	368,089,684	\$	381,339,348	\$	395,096,142	\$	409,379,690
<u>Debt Service</u>																					
531	Obligation to GLWA	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500
	Total Debt Service	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500	\$	26,271,500
<u>Transfer to I&E Fund</u>																					
532	Transfer to I&E Fund from Operations	\$	1,201,370	\$	5,058,810	\$	4,049,281	\$	3,449,404	\$	10,104,068	\$	9,592,352	\$	9,014,999	\$	8,365,785	\$	7,640,552	\$	6,836,172
533	Total Cash-Funded Capital	\$	1,201,370	\$	5,058,810	\$	4,049,281	\$	3,449,404	\$	10,104,068	\$	9,592,352	\$	9,014,999	\$	8,365,785	\$	7,640,552	\$	6,836,172
534	Total Cash Outflows	\$	350,405,407	\$	345,287,231	\$	357,772,984	\$	368,795,210	\$	379,723,878	\$	391,192,012	\$	403,376,183	\$	415,976,633	\$	429,008,194	\$	442,487,362

¹ FY 2023 based on FY 2023 Preliminary Budget allocated to sewer.

² Forecast based on future pension obligations.

³ Bad debt calculated as 10% of sewer rate revenue and 18% of drainage rate revenue through FY 2026; 8% of sewer rate revenue and 16% of drainage rate revenue in FY 2027 through FY 2032.

Schedule 5: Cost Escalation Factors

Object #	Object Description	Inflation Factor	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
601100	Salar-Full Time-Gen City	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
601300	Salar-Overtime-Gen City	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
601400	Salar-Shift Prem-Gen City	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
601500	Salaries-Holiday Premium	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
602100	Wages-Full Time-Gen City	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
602300	Wages-Overtime-Gen City	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
602400	Wages-Shift Prem-Gen City	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
602500	Wages- Holiday Premium	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
603121	Pension Reimbursement - Operating	Retirement	-100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
603125	Empir Pd Pension-GRS	Retirement	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
603200	Empir Pd Ben-Medical	Health Insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
603300	Employer Pd FICA	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
603400	Unemployment	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
603405	Workers' Compensation	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
603900	Emp Benefits-Miscellaneous	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
604100	Other Comp-Unused Sick Leave	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
605100	Group Life Insurance	Health Insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
605205	Eye Care-Active Civilian	Health Insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
605500	Income Protection-LTD	Health Insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
605620	Dental Active	Health Insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
605700	Health Care Reserve - Civilian	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
611200	Auditing	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
613100	Legal	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
616100	Consultant Fees-Mgt Consult	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
617400	- Contract Svcs-Info Technology	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
617900	Contract Svcs-Other-Misc	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
617903	Contract Svcs-Pers Servs Contract-Pd On P/R	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
620100	Office Supplies	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
621300	Oper Supplies-Automotive	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
621400	Oper Supplies-Janitorial	Fuel, Utilities, Chemicals	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
621600	Operating Supplies-Chemicals	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
621900	Oper Supplies-Miscellaneous	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622100	Repairs & Maint-Automotive	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622200	Repairs & Maint-Bldgs&Ground	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622300	Repairs & Maint-Equipment	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622301	Hardware Maintenance	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622302	Software Maintenance	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622400	Repairs & Maint-Facilities	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
622900	Repairs & Maint-Misc	Fuel, Utilities, Chemicals	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
623100	Uniforms, Laundry, Cleaning	Repair & Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626010	Advertising	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626100	Printing	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626300	Insurance Premium	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626415	Rentals- Office Equipment	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626435	Rentals - Lease of Equipment	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626500	Dues & Miscellaneous	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626600	Postage	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626700	Telecommunications	Fuel, Utilities, Chemicals	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626702	Data Com Equip	Fuel, Utilities, Chemicals	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626801	Utilities-Water	Fuel, Utilities, Chemicals	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626802	Utilities-Gas	Fuel, Utilities, Chemicals	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626803	Utilities-Steam	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
626804	Utilities-Electricity	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
627105	Private Car Reimbursements	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
627110	Purchased Services - Other	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
627195	Employee Uniform Expense	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
627225	Other Oper Svc-Miscellaneous	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
627230	Employee Parking	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
628100	Travel	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
628200	Training	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
628208	Training-Tuition Reimbursement	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
628500	Miscellaneous Expense	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
628501	Misc-License,Insp&Permit Fees	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
628512	GLWA Charge	N/A									
628514	- Other Retail Allocations	N/A									
628515	Shared Services Expense	GLWA	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
651180	- Note Payments (DWSD's portion)	N/A									
661100	Damage Claims	Admin Services	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
711700	Bad Debts	N/A									
720300	Water Retail Assistance Program	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Schedule 6: Capital Improvement Program

Capital Improvement Projects ¹		Funding Source	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total Cost
1	DWS-917 Sewer Improvement in Riverdale	New DWRFF Funded	\$ 3,900,000	\$ 3,800,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,700,000
2	DWS-918 Sewer Improvements in Rosedale	New DWRFF Funded	3,000,000	-	-	-	-	-	-	-	-	-	3,000,000
3	DWS-920 Inspection and Rehabilitation of Sewers City Wide(Replace DWS-903)	Prior Bond Proceeds	8,000,000	4,000,000	-	-	-	-	-	-	-	-	12,000,000
4	DWS-921 Electrical Monitoring Upgrades at Belle Isle,Woodmere, Fischer Sewage Pump Stations	I&E Funded	200,000	200,000	-	-	-	-	-	-	-	-	400,000
5	DWS-926 Sewer Condition Assessments - West Village, Southwest Detroit, Michigan-Martin	I&E Funded	2,500,000	2,500,000	-	-	-	-	-	-	-	-	5,000,000
6	DWS-931 Roofing Upgrades at Sewage Pump Stations	I&E Funded	325,000	275,000	-	-	-	-	-	-	-	-	600,000
7	DWS-932 Large Sewer Improvements: Riverdale & Rosedale	I&E Funded	4,000,000	-	-	-	-	-	-	-	-	-	4,000,000
8	DWS-937 Sewer Replacement	I&E Funded	7,600,000	8,000,000	-	-	-	-	-	-	-	-	15,600,000
9	DWS-938 Sewer Condition assessments throughout City (DWS-909)	I&E Funded	4,000,000	-	-	-	-	-	-	-	-	-	4,000,000
10	DWS-939 Sewer Condition Assessments High Priority	I&E Funded	2,250,000	2,250,000	-	-	-	-	-	-	-	-	4,500,000
11	Sewer Program Allowances	I&E Funded	2,000,000	12,000,000	35,000,000	35,000,000	35,000,000	-	-	-	-	-	119,000,000
12	CS-1812 Professional Engineering and Construction Services for CIP Management Org.	I&E Funded	4,000,000	-	-	-	-	-	-	-	-	-	4,000,000
13	DWS-904 Repair of Lawns (break repair)	Operations	75,000	75,000	-	-	-	-	-	-	-	-	150,000
14	DWS-919 (replace DWS-902)	Operations	900,000	900,000	480,000	-	-	-	-	-	-	-	2,280,000
15	Repair and Maintenance Allowance	Operations	-	1,000,000	1,000,000	1,000,000	1,000,000	-	-	-	-	-	4,000,000
16	CS-1921 Watermain/Sewer Design	I&E Funded	1,000,000	1,000,000	-	-	-	-	-	-	-	-	2,000,000
17	CS-1923 Third Party Inspection (Water & Sewer)	I&E Funded	750,000	750,000	-	-	-	-	-	-	-	-	1,500,000
18	CSO Improvement Program-Cost Sharing with GLWA	I&E Funded	1,000,000	500,000	500,000	500,000	500,000	-	-	-	-	-	3,000,000
19	PC-808 Far West Stormwater Improvements	100% Forgiveness or Grant	6,425,000	4,903,000	6,539,000	8,399,000	3,635,000	-	-	-	-	-	29,901,000
20	PC-808 Far West Warren Sewer Rehabilitation	Prior Bond Proceeds	2,648,000	996,000	996,000	-	-	-	-	-	-	-	4,640,000
21	PC-801A Oakman Blvd	I&E Funded	70,000	70,000	-	-	-	-	-	-	-	-	140,000
22	PC-800 O'Shea Park	I&E Funded	14,000	-	-	-	-	-	-	-	-	-	14,000
23	PC-806 Charles H. Wright Academy	I&E Funded	110,000	38,000	-	-	-	-	-	-	-	-	148,000
24	St. Paul (CPP)	I&E Funded	154,000	-	-	-	-	-	-	-	-	-	154,000
25	DWS-935 Green Stormwater Infrastructure Maintenance	I&E Funded	180,000	200,000	220,000	-	-	-	-	-	-	-	600,000
26	CS-1884 Green Infrastructure Program Management	I&E Funded	2,500,000	2,750,000	2,500,000	1,500,000	250,000	-	-	-	-	-	9,500,000
27	Vehicle, Heavy Equipment, and Equipment Purchases	I&E Funded	981,000	500,000	750,000	1,200,000	750,000	-	-	-	-	-	4,181,000
28	Information Technology	I&E Funded	2,688,000	500,000	500,000	500,000	500,000	-	-	-	-	-	4,688,000
29	Facility Improvement Allowance	I&E Funded	1,463,000	500,000	500,000	500,000	1,000,000	-	-	-	-	-	3,963,000
30	Unspecified Future Spending: I&E/Cash	I&E / Operating Fund	-	-	-	-	-	13,333,333	13,333,333	13,333,333	13,333,333	13,333,333	66,666,667
31	Unspecified Future Spending: Bond	New Bond Funded	-	-	-	-	-	13,333,333	13,333,333	13,333,333	13,333,333	13,333,333	66,666,667
32	Unspecified Future Spending: SRF	New DWRFF Funded	-	-	-	-	-	13,333,333	13,333,333	13,333,333	13,333,333	13,333,333	66,666,667
33	DWS-965 Sinkhole Repairs	Operations	2,200,000	1,700,000	-	-	-	-	-	-	-	-	3,900,000
34	Oakman Boulevard Stormwater Optimization Improvements	I&E Funded	-	900,000	-	-	-	-	-	-	-	-	900,000
35	Artesian Project Enhancements	I&E Funded	400,000	-	-	-	-	-	-	-	-	-	400,000
36	Brightmoor GSI Construction	I&E Funded	-	1,050,000	50,000	-	-	-	-	-	-	-	1,100,000
37	Bentler-Westbrook Construction	I&E Funded	-	525,000	65,000	-	-	-	-	-	-	-	590,000
38	Minock Park Greening Construction	I&E Funded	300,000	290,000	-	-	-	-	-	-	-	-	590,000
39	Minock Park	I&E Funded	-	515,000	55,000	-	-	-	-	-	-	-	570,000
40	Green Infrastructure Program	I&E Funded	-	-	-	4,000,000	8,000,000	-	-	-	-	-	12,000,000
41	Total CIP Budget (in current dollars)		\$ 65,633,000	\$ 52,687,000	\$ 49,155,000	\$ 52,599,000	\$ 50,635,000	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 470,709,000
42	Annual CIP Execution Percentage ²		64%	85%	93%	87%	79%	100%	100%	100%	100%	100%	
43	Final CIP Funding Level		\$ 41,764,440	\$ 44,879,253	\$ 45,867,216	\$ 45,577,479	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 447,331,388

¹ Capital spending from FY 2023 through FY 2027 reflects 2023 5-Year CIP Plan BOWC Approved. Future CIP reflects estimated levels of spending.

² Annual CIP Execution Percentages are based on expected annual spending in each year of forecast.

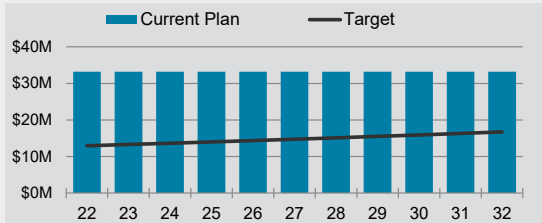


DWSD SEWER FUND

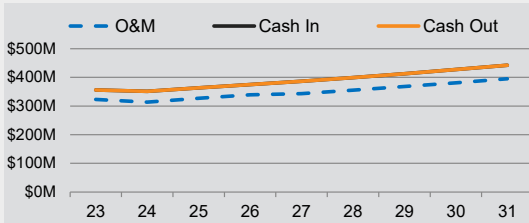


	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Cumulative	
Wastewater Rate Plan ¹	-13.81%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	16.99%	42.33%
Drainage Rate Plan ¹	-0.10%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	16.99%	42.33%
All-In DSC	1.09	1.07	1.05	1.02	1.21	1.15	1.08	1.01	0.94	0.88		

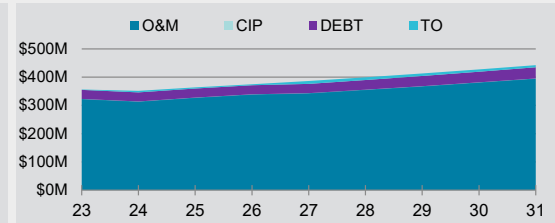
Revenue Fund



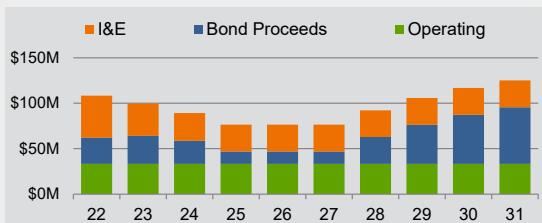
Revenues vs. Expenses



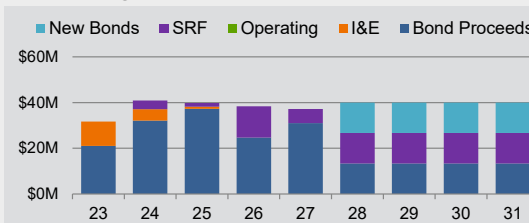
Expenses by Type



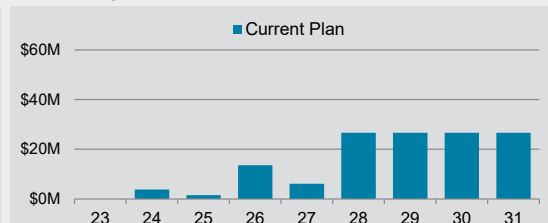
Total Funds



CIP Funding



Borrowing



¹ FY 2023 rates reflect results of cost allocation and rate design analyses. Total water, wastewater, and drainage rate revenue increase of 0.8% in FY 2023.

Schedule 8: Pro Forma

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Operating Revenue										
1 Sewer Rate Revenue	\$ 133,705,146	\$ 136,575,426	\$ 139,513,729	\$ 142,521,911	\$ 145,601,888	\$ 148,755,636	\$ 151,985,195	\$ 155,292,670	\$ 158,680,236	\$ 162,150,137
2 Drainage Rate Revenue	183,174,561	190,501,544	198,121,605	206,046,470	214,288,328	222,859,861	231,774,256	241,045,226	250,687,035	260,714,517
3 Subtotal	\$ 316,879,707	\$ 327,076,969	\$ 337,635,334	\$ 348,568,380	\$ 359,890,216	\$ 371,615,497	\$ 383,759,451	\$ 396,337,897	\$ 409,367,271	\$ 422,864,653
4 Weighted Average Rate Increase	-6.39%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
5 Total Rate Revenue	\$ 316,879,707	\$ 327,076,969	\$ 337,635,334	\$ 348,568,380	\$ 359,890,216	\$ 371,615,497	\$ 383,759,451	\$ 396,337,897	\$ 409,367,271	\$ 422,864,653
6 Plus: Other Operating Revenue	9,255,000	9,255,000	9,255,000	9,255,000	9,255,000	9,255,000	9,255,000	9,255,000	9,255,000	9,255,000
7 Equals: Total Operating Revenue	\$ 326,134,707	\$ 336,331,969	\$ 346,890,334	\$ 357,823,380	\$ 369,145,216	\$ 380,870,497	\$ 393,014,451	\$ 405,592,897	\$ 418,622,271	\$ 432,119,653
Less: Operating Expenses										
8 Personal Services	\$ (28,040,970)	\$ (28,784,177)	\$ (29,547,652)	\$ (30,331,968)	\$ (31,137,717)	\$ (31,965,507)	\$ (32,815,967)	\$ (33,689,741)	\$ (34,587,494)	\$ (35,509,911)
9 Operations & Maintenance Costs	(294,891,567)	(285,172,745)	(297,904,552)	(308,742,339)	(312,210,593)	(323,362,652)	(335,273,717)	(347,649,607)	(360,508,649)	(373,869,779)
10 Equals: Net Operating Income	\$ 3,202,170	\$ 22,375,047	\$ 19,438,131	\$ 18,749,074	\$ 25,796,906	\$ 25,542,338	\$ 24,924,766	\$ 24,253,549	\$ 23,526,129	\$ 22,739,963
Plus: Non-Operating Income/(Expense)										
11 Non-Operating Revenue	\$ 24,270,700	\$ 8,719,296	\$ 10,468,818	\$ 10,398,837	\$ 10,005,669	\$ 9,689,197	\$ 9,619,216	\$ 9,549,235	\$ 9,479,254	\$ 9,409,273
12 Interest Income	-	235,966	413,833	572,993	572,992	632,318	742,517	834,501	906,669	958,435
13 Equals: Net Income Available For Debt Service	\$ 27,472,870	\$ 31,330,310	\$ 30,320,782	\$ 29,720,904	\$ 36,375,567	\$ 35,863,852	\$ 35,286,499	\$ 34,637,285	\$ 33,912,052	\$ 33,107,671
Adjusted Debt Service Coverage										
14 Revenue	\$ 327,884,707	\$ 338,317,935	\$ 349,054,167	\$ 360,146,373	\$ 371,468,209	\$ 383,252,815	\$ 395,506,967	\$ 408,177,398	\$ 421,278,940	\$ 434,828,088
15 Less: Operating Expenses	(293,072,297)	(303,921,529)	(315,181,337)	(326,867,607)	(331,613,838)	(343,968,559)	(356,792,750)	(370,104,580)	(383,923,042)	(398,267,656)
16 Net Revenue	34,812,410	34,396,407	33,872,830	33,278,766	39,854,371	39,284,257	38,714,217	38,072,818	37,355,899	36,560,432
17 Total Debt Service	\$ 31,998,350	\$ 32,245,450	\$ 32,329,990	\$ 32,506,134	\$ 32,829,001	\$ 34,210,374	\$ 35,887,028	\$ 37,840,825	\$ 39,797,122	\$ 41,751,670
18 Debt Service Coverage	1.09	1.07	1.05	1.02	1.21	1.15	1.08	1.01	0.94	0.88
19 Available for Other Requirements	\$ 2,814,060	\$ 2,150,957	\$ 1,542,840	\$ 772,632	\$ 7,025,370	\$ 5,073,882	\$ 2,827,189	\$ 231,992	\$ (2,441,224)	\$ (5,191,238)
20 Less: Pension Obligation	(5,846,800)	(1,839,497)	(2,301,648)	(2,283,162)	(2,179,303)	(2,095,704)	(2,077,218)	(2,058,732)	(2,040,246)	(2,021,760)
21 Less: WRAP Deposit	(1,492,740)	(1,226,600)	(1,250,400)	(1,274,700)	(1,299,500)	(1,324,700)	(1,350,500)	(1,376,800)	(1,403,600)	(1,431,000)
22 Available for I&E Deposit	(4,525,480)	(915,140)	(2,009,208)	(2,785,230)	3,546,566	1,653,478	(600,529)	(3,203,540)	(5,885,070)	(8,643,998)
23 Net Effective Lease Payment to I&E	\$ 22,974,520	\$ 26,584,860	\$ 25,490,792	\$ 24,714,770	\$ 27,500,000	\$ 27,500,000	\$ 26,899,471	\$ 24,296,460	\$ 21,614,930	\$ 18,856,002
Cash Flow Test										
24 Net Income Available For Debt Service	\$ 27,472,870	\$ 31,330,310	\$ 30,320,782	\$ 29,720,904	\$ 36,375,567	\$ 35,863,852	\$ 35,286,499	\$ 34,637,285	\$ 33,912,052	\$ 33,107,671
25 Less: Non-Operating Expenditures										
26 Payment to GLWA	(26,271,500)	(26,271,500)	(26,271,500)	(26,271,500)	(26,271,500)	(26,271,500)	(26,271,500)	(26,271,500)	(26,271,500)	(26,271,500)
27 Transfer to I&E	(1,201,370)	(5,058,810)	(4,049,281)	(3,449,404)	(10,104,068)	(9,592,352)	(9,014,999)	(8,365,785)	(7,640,552)	(6,836,172)
28 Debt Service Paid from Operating Fund	-	-	-	-	-	-	-	-	-	-
29 Net Cash Flow	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unrestricted Reserve Fund Test										
30 Balance At Beginning Of Fiscal Year	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000
31 Cash Flow Surplus/(Deficit)	-	-	-	-	-	-	-	-	-	-
32 Balance At End Of Fiscal Year	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000
33 Minimum Working Capital Reserve Target	13,286,590	13,631,852	13,986,244	14,350,013	14,723,414	15,106,708	15,500,163	15,904,058	16,318,674	16,744,306
34 Excess/(Deficiency) Of Working Capital To Target	\$ 19,914,410	\$ 19,569,148	\$ 19,214,756	\$ 18,850,987	\$ 18,477,586	\$ 18,094,292	\$ 17,700,836	\$ 17,296,942	\$ 16,882,326	\$ 16,456,694

Schedule 9: Capital Project Funding Summary

Final Capital Projects Funding Sources	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
I&E	\$ 21,046,704	\$ 32,093,541	\$ 37,229,925	\$ 24,714,770	\$ 31,046,567	\$ 13,333,333	\$ 13,333,333	\$ 13,333,333	\$ 13,333,333	\$ 13,333,333
Construction	10,648,000	4,996,000	996,000	-	-	-	-	-	-	-
Grant Fund	3,169,736	3,989,712	6,078,433	7,256,076	2,856,150	-	-	-	-	-
Subordinate Debt Proceeds	6,900,000	3,800,000	1,562,858	13,606,633	6,097,283	13,333,333	13,333,333	13,333,333	13,333,333	13,333,333
Senior-Lien Debt Proceeds	-	-	-	-	-	13,333,333	13,333,333	13,333,333	13,333,333	13,333,333
Total Projects Paid	\$ 41,764,440	\$ 44,879,253	\$ 45,867,216	\$ 45,577,479	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000

Schedule 10: Funding Summary by Fund

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
I&E										
Balance At Beginning Of Fiscal Year	\$ 29,070,000	\$ 30,997,816	\$ 25,489,134	\$ 13,750,000	\$ 13,750,000	\$ 13,750,000	\$ 29,570,144	\$ 43,136,282	\$ 54,099,408	\$ 62,381,004
GLWA Lease Revenue	27,500,000	27,500,000	27,500,000	27,500,000	27,500,000	27,500,000	27,500,000	27,500,000	27,500,000	27,500,000
Transfer from Operations	1,201,370	5,058,810	4,049,281	3,449,404	10,104,068	9,592,352	9,014,999	8,365,785	7,640,552	6,836,172
Payment of Post-Bifurcation Debt	(5,726,850)	(5,973,950)	(6,058,490)	(6,234,634)	(6,557,501)	(7,938,874)	(9,615,528)	(11,569,325)	(13,525,622)	(15,480,170)
Subtotal	\$ 52,044,520	\$ 57,582,675	\$ 50,979,925	\$ 38,464,770	\$ 44,796,567	\$ 42,903,478	\$ 56,469,615	\$ 67,432,741	\$ 75,714,338	\$ 81,237,007
Less: Restricted Funds	(13,750,000)	(13,750,000)	(13,750,000)	(13,750,000)	(13,750,000)	(13,750,000)	(13,750,000)	(13,750,000)	(13,750,000)	(13,750,000)
Total Amount Available For Projects	\$ 38,294,520	\$ 43,832,675	\$ 37,229,925	\$ 24,714,770	\$ 31,046,567	\$ 29,153,478	\$ 42,719,615	\$ 53,682,741	\$ 61,964,338	\$ 67,487,007
Amount Paid For Projects	(21,046,704)	(32,093,541)	(37,229,925)	(24,714,770)	(31,046,567)	(13,333,333)	(13,333,333)	(13,333,333)	(13,333,333)	(13,333,333)
Subtotal	\$ 17,247,816	\$ 11,739,134	\$ -	\$ -	\$ -	\$ 15,820,144	\$ 29,386,282	\$ 40,349,408	\$ 48,631,004	\$ 54,153,673
Add Back: Restricted Funds	13,750,000	13,750,000	13,750,000	13,750,000	13,750,000	13,750,000	13,750,000	13,750,000	13,750,000	13,750,000
Plus: Interest Earnings	-	70,609	98,098	103,125	103,125	162,451	272,649	364,634	436,802	488,568
Less: Interest Allocated To Cash Flow	-	(70,609)	(98,098)	(103,125)	(103,125)	(162,451)	(272,649)	(364,634)	(436,802)	(488,568)
Balance At End Of Fiscal Year	\$ 30,997,816	\$ 25,489,134	\$ 13,750,000	\$ 13,750,000	\$ 13,750,000	\$ 29,570,144	\$ 43,136,282	\$ 54,099,408	\$ 62,381,004	\$ 67,903,673
Construction										
Balance At Beginning Of Fiscal Year	\$ 46,088,000	\$ 35,440,000	\$ 30,444,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000
Amount Paid For Projects	(10,648,000)	(4,996,000)	(996,000)	-	-	-	-	-	-	-
Subtotal	\$ 35,440,000	\$ 30,444,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000
Add Back: Restricted Funds	-	-	-	-	-	-	-	-	-	-
Plus: Interest Earnings	-	82,355	149,730	220,860	220,860	220,860	220,860	220,860	220,860	220,860
Less: Interest Allocated To Cash Flow	-	(82,355)	(149,730)	(220,860)	(220,860)	(220,860)	(220,860)	(220,860)	(220,860)	(220,860)
Balance At End Of Fiscal Year	\$ 35,440,000	\$ 30,444,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000	\$ 29,448,000
Grant Fund										
Balance At Beginning Of Fiscal Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Revenues	3,169,736	3,989,712	6,078,433	7,256,076	2,856,150	-	-	-	-	-
Less: Annual Expenses	-	-	-	-	-	-	-	-	-	-
Less: Payment Of Debt Service	-	-	-	-	-	-	-	-	-	-
Subtotal	\$ 3,169,736	\$ 3,989,712	\$ 6,078,433	\$ 7,256,076	\$ 2,856,150	\$ -	\$ -	\$ -	\$ -	\$ -
Less: Restricted Funds	-	-	-	-	-	-	-	-	-	-
Total Amount Available For Projects	\$ 3,169,736	\$ 3,989,712	\$ 6,078,433	\$ 7,256,076	\$ 2,856,150	\$ -	\$ -	\$ -	\$ -	\$ -
Amount Paid For Projects	(3,169,736)	(3,989,712)	(6,078,433)	(7,256,076)	(2,856,150)	-	-	-	-	-
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Add Back: Restricted Funds	-	-	-	-	-	-	-	-	-	-
Plus: Interest Earnings	-	-	-	-	-	-	-	-	-	-
Less: Interest Allocated To Cash Flow	-	-	-	-	-	-	-	-	-	-
Balance At End Of Fiscal Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Fund										
Balance At Beginning Of Fiscal Year	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000
Net Cash Flow	1,201,370	5,058,810	4,049,282	3,449,404	10,104,067	9,592,352	9,014,999	8,365,785	7,640,552	6,836,171
Transfer to I&E	(1,201,370)	(5,058,810)	(4,049,281)	(3,449,404)	(10,104,068)	(9,592,352)	(9,014,999)	(8,365,785)	(7,640,552)	(6,836,172)
Less: Payment Of Debt Service	-	-	-	-	-	-	-	-	-	-
Subtotal	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000
Less: Restricted Funds	(13,286,590)	(13,631,852)	(13,986,244)	(14,350,013)	(14,723,414)	(15,106,708)	(15,500,163)	(15,904,058)	(16,318,674)	(16,744,306)
Subtotal	\$ 19,914,410	\$ 19,569,148	\$ 19,214,757	\$ 18,850,987	\$ 18,477,586	\$ 18,094,292	\$ 17,700,836	\$ 17,296,942	\$ 16,882,326	\$ 16,456,694
Add Back: Restricted Funds	13,286,590	13,631,852	13,986,244	14,350,013	14,723,414	15,106,708	15,500,163	15,904,058	16,318,674	16,744,306
Plus: Interest Earnings	-	83,002	166,005	249,008	249,007	249,007	249,007	249,007	249,007	249,007
Less: Interest Allocated To Cash Flow	-	(83,002)	(166,005)	(249,008)	(249,007)	(249,007)	(249,007)	(249,007)	(249,007)	(249,007)
Balance At End Of Fiscal Year	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000	\$ 33,201,000
Restricted Reserves										
Balance At Beginning Of Fiscal Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,193,559	\$ 2,396,069	\$ 3,607,598	\$ 4,828,214
Additional Funds:	-	-	-	-	-	-	-	-	-	-
Debt Service Reserve On New Debt	-	-	-	-	-	1,189,100	1,189,100	1,189,100	1,189,100	1,189,100
Other Additional Funds	-	-	-	-	-	-	-	-	-	-
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,189,100	\$ 2,382,658	\$ 3,585,169	\$ 4,796,698	\$ 6,017,314
Plus: Interest Earnings	-	-	-	-	-	4,459	13,411	22,430	31,516	40,671
Less: Interest Allocated To Cash Flow	-	-	-	-	-	-	-	-	-	-
Balance At End Of Fiscal Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,193,559	\$ 2,396,069	\$ 3,607,598	\$ 4,828,214	\$ 6,057,984

Schedule 11: Senior Lien Borrowing

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	
Term (Years)	20	20	20	20	20	20	20	20	20	20	
Interest Rate	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	
Sources of Funds											
Par Amount	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,818,809	\$ 14,818,809	\$ 14,818,809	\$ 14,818,809	\$ 14,818,809
Uses of Funds											
Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,333,333	\$ 13,333,333	\$ 13,333,333	\$ 13,333,333	\$ 13,333,333
Cost of Issuance							296,376	296,376	296,376	296,376	296,376
Debt Service Reserve							1,189,100	1,189,100	1,189,100	1,189,100	1,189,100
Total Uses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,818,809	\$ 14,818,809	\$ 14,818,809	\$ 14,818,809	\$ 14,818,809
1 Year Interest	-	-	-	-	-	-	740,940	740,940	740,940	740,940	740,940
Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,189,100	\$ 1,189,100	\$ 1,189,100	\$ 1,189,100	\$ 1,189,100
Total Debt Service	-	-	-	-	-	-	23,781,991	23,781,991	23,781,991	23,781,991	23,781,991
Cumulative New Annual Senior Lien Debt Service¹	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 740,940	\$ 1,930,040	\$ 3,119,140	\$ 4,308,239	\$ 5,497,339

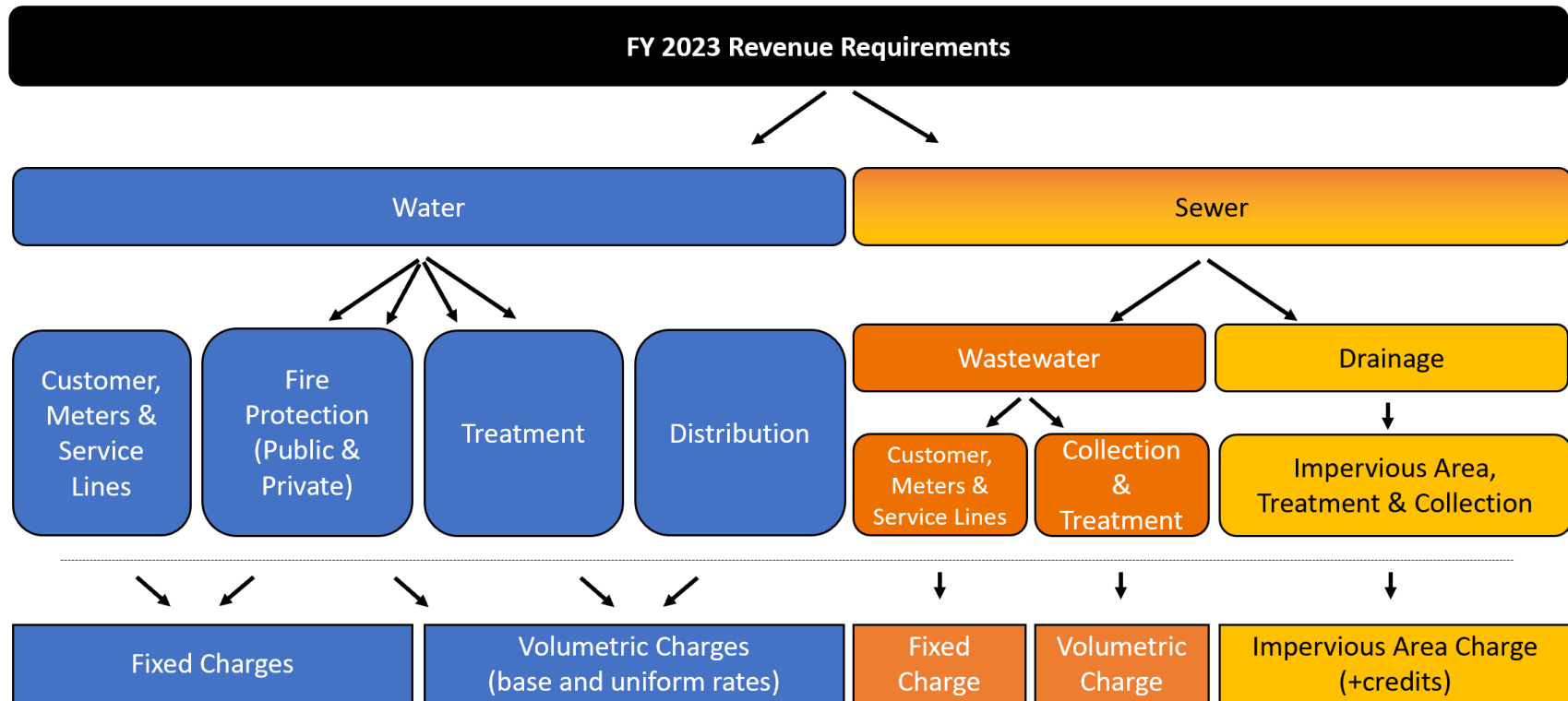
¹ Reflects interest-only payment due in year of issuance.

Schedule 12: Subordinate Borrowing

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Term (Years)	20	20	20	20	20	20	20	20	20	20
Interest Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Sources of Funds										
Par Amount	\$ -	\$ 3,572,000	\$ 1,469,086	\$ 12,790,235	\$ 5,731,446	\$ 12,533,333	\$ 12,533,333	\$ 12,533,333	\$ 12,533,333	\$ 12,533,333
Uses of Funds										
Proceeds	\$ -	\$ 3,800,000	\$ 1,562,858	\$ 13,606,633	\$ 6,097,283	\$ 13,333,333	\$ 13,333,333	\$ 13,333,333	\$ 13,333,333	\$ 13,333,333
Cost of Issuance	0.00% of Par	-	-	-	-	-	-	-	-	-
Loan Repayment Res.	0.00% of Capital Cost	-	-	-	-	-	-	-	-	-
Loan Service Fee	2.00% of Capital Cost	-	76,000	31,257	272,133	121,946	266,667	266,667	266,667	266,667
Capitalized Interest	0 Years Interest	-	-	-	-	-	-	-	-	-
Debt Service Reserve	0 Year(s) of Debt Service	-	-	-	-	-	-	-	-	-
Principal Forgiveness	8.00%	-	(304,000)	(125,029)	(1,088,531)	(487,783)	(1,066,667)	(1,066,667)	(1,066,667)	(1,066,667)
Total Uses		\$ -	\$ 3,572,000	\$ 1,469,086	\$ 12,790,235	\$ 5,731,446	\$ 12,533,333	\$ 12,533,333	\$ 12,533,333	\$ 12,533,333
1 Year Interest		-	71,440	29,382	255,805	114,629	250,667	250,667	250,667	250,667
Annual Debt Service		\$ -	\$ 218,452	\$ 89,844	\$ 782,209	\$ 350,516	\$ 766,498	\$ 766,498	\$ 766,498	\$ 766,498
Total Debt Service		-	4,369,036	1,796,890	15,644,176	7,010,329	15,329,951	15,329,951	15,329,951	15,329,951
Cumulative New Annual Subordinate Debt Service ¹		\$ -	\$ -	\$ 71,440	\$ 247,834	\$ 564,101	\$ 1,205,134	\$ 1,691,688	\$ 2,458,186	\$ 3,224,683

¹ Debt service repayment delayed two years.

APPENDIX C: COST ALLOCATION SUPPORTING SCHEDULES



Schedule 2: Allocation Factors

System Cost Allocation Factors	Note	Factors	
		Water	Sewer
Water Only		100.0%	0.0%
FY 2020 Accounts (Water & Sewer)	1	50.2%	49.8%
FY 2020 Accounts	1	29.2%	70.8%
Maintenance Hours	2	50.5%	49.5%
5-Year CIP (FY22-26)	3	52.9%	47.1%
FY 23-26 M&R	4	84.6%	15.4%
Information Technology	5	38.2%	61.8%
Storm Drainage / Permitting CC	6	23.5%	76.5%
Weighted Expense	7	47.1%	52.9%
FY 2023 Revenue Requirement	8	29.2%	70.8%

Sewer Cost Allocation Factors	Note	Factors	
		Wastewater	Drainage
Wastewater Only		100.0%	0.0%
Drainage Only		0.0%	100.0%
FY 2020 Accounts	1	40.9%	59.1%
Information Technology	5	53.2%	46.8%
Storm Drainage / Permitting CC	6	32.7%	67.3%
Wet Weather Percent of Flow	9	69.1%	30.9%
Peak Flow Ratios	10	15.0%	85.0%
Weighted GLWA Expense	11	43.7%	56.3%
Weighted Expense	12	65.4%	34.6%
FY 2023 Revenue Requirement	8	44.3%	55.7%

Wastewater Cost Allocation Factors	Note	Factors			
		Treatment	Collection	Meters & Service Lines	Customer
Treatment Only		100.0%	0.0%	0.0%	0.0%
Collection Only		0.0%	100.0%	0.0%	0.0%
Meters & Service Lines Only		0.0%	0.0%	100.0%	0.0%
Customer Only		0.0%	0.0%	0.0%	100.0%
Weighted Internal	13	0.0%	70.2%	15.8%	14.0%

Water Cost Allocation Factors	Note	Factors				
		Treatment	Distribution	Meters & Service Lines	Customer	Fire Protection
Treatment Only		100.0%	0.0%	0.0%	0.0%	0.0%
Distribution Only		0.0%	100.0%	0.0%	0.0%	0.0%
Meters & Service Lines Only		0.0%	0.0%	100.0%	0.0%	0.0%
Customer Only		0.0%	0.0%	0.0%	100.0%	0.0%
Maintenance & Repair	14	0.0%	91.3%	0.0%	0.0%	8.7%
Weighted Internal	15	0.0%	76.2%	13.2%	10.7%	0.0%

- (1) Reflect FY 2020 billed accounts of 181,807 for water, 180,085 for wastewater, and 260,330 for drainage. Combined sewer (wastewater and drainage accounts of 440,415).
- (2) Maintenance Hours allocation shown in Schedule 13.
- (3) 5-Year CIP allocation based on 2022 5-Year CIP Plan, shown in Schedule 14.
- (4) FY 2023 M&R allocation based on FY 2023 projects funded through operations, shown in Schedule 14.
- (5) Information Technology allocation based on 50% Weighted Expense allocation and 50% FY 2020 Accounts direct allocation.
- (6) Storm Drainage / Permitting Cost Center allocation based on 50% Weighted Expense allocation and 50% Drainage direct allocation
- (7) Weighted Expense based on results of direct allocations to Water/Sewer, shown in Schedule 3.
- (8) FY 2023 Revenue Requirement allocation based on initial revenue requirement of \$110,999,669 to water, \$119,409,132 to wastewater, and \$150,203,140 to drainage shown in Schedule 11. Combined sewer (wastewater and drainage) revenue requirement of \$269,612,271.
- (9) Wet Weather Percent of Flow allocation shown in Schedule 12.
- (10) Peak Flow Ratios based on assumed design capacity based on CDM 2021 Flow report.
- (11) Weighted GLWA allocation shown in Schedule 12.
- (12) Weighted Expense based on results of direct allocations to Wastewater/Drainage, shown in Schedule 4a.
- (13) Weighted Internal based on results of direct allocations to Collection/Meters & Service Lines/Customer (DWSD functions), shown in Schedule 5.
- (14) Based on total FTEs in maintenance and repair and FTEs needed for hydrant activities per maintenance hours on Schedule 13.
- (15) Weighted Internal based on results of direct allocations to Distribution/Meters & Service Lines/Customer (DWSD functions), shown in Schedule 6.

Schedule 3: Revenue Requirements Allocation to Water & Sewer

Apprn. Description	Center	Cost Center Description	FY 2023 Expense for COSA	Allocation Factor	Allocations		\$ Water	\$ Sewer
					Water	Sewer		
Operating Expenses								
Administration	1001	Chief Exec Officer	\$ 1,703,900	Weighted Expense	47.1%	52.9%	\$ 802,324	\$ 901,576
Administration	1601	BOWC	\$ 357,800	Weighted Expense	47.1%	52.9%	\$ 168,479	\$ 189,321
Operations	2401	Deputy Director Administration	\$ 3,624,700	5-Year CIP (FY22-26)	52.9%	47.1%	\$ 1,916,474	\$ 1,708,226
Operations	2411	Field Engineering	\$ 6,260,400	5-Year CIP (FY22-26)	52.9%	47.1%	\$ 3,310,037	\$ 2,950,363
Operations	2421	Facility Oper	\$ 8,413,000	Weighted Expense	47.1%	52.9%	\$ 3,961,474	\$ 4,451,526
Operations	2422	Fleet Operations	\$ 4,785,000	Maintenance Hours	50.5%	49.5%	\$ 2,418,049	\$ 2,366,951
Operations	2431	Maint & Repair	\$ 16,290,100	Maintenance Hours	50.5%	49.5%	\$ 8,232,028	\$ 8,058,072
Operations	2432	Meter Operations	\$ 6,042,800	FY 2020 Accounts (Water & Sewer)	50.2%	49.8%	\$ 3,035,773	\$ 3,007,027
Operations	2435	Lead Service	\$ 278,500	Water Only	100.0%	0.0%	\$ 278,500	\$ -
Compliance	3101	General Counsel	\$ 1,989,800	Weighted Expense	47.1%	52.9%	\$ 936,948	\$ 1,052,852
Compliance	3201	Org Development	\$ 1,570,300	Weighted Expense	47.1%	52.9%	\$ 739,416	\$ 830,884
Compliance	3301	Info Technology	\$ 13,925,300	Information Technology	38.2%	61.8%	\$ 5,312,953	\$ 8,612,347
Compliance	3411	Compliance-Security	\$ 3,865,800	Weighted Expense	47.1%	52.9%	\$ 1,820,310	\$ 2,045,490
Compliance	3421	Compliance-Public Affairs	\$ 1,862,400	Weighted Expense	47.1%	52.9%	\$ 876,958	\$ 985,442
Finance	4001	Chief Financial Officer	\$ 4,255,200	Weighted Expense	47.1%	52.9%	\$ 2,003,669	\$ 2,251,531
Finance	4111	Finance	\$ 1,711,400	Weighted Expense	47.1%	52.9%	\$ 805,856	\$ 905,544
Finance	4121	Procurement	\$ 3,191,600	Weighted Expense	47.1%	52.9%	\$ 1,502,846	\$ 1,688,754
Finance	4131	Treasury	\$ 2,598,400	Weighted Expense	47.1%	52.9%	\$ 1,223,522	\$ 1,374,878
Finance	4151	Budget	\$ 376,400	Weighted Expense	47.1%	52.9%	\$ 177,237	\$ 199,163
Finance	4161	Billing & Collect	\$ 4,169,400	FY 2020 Accounts	29.2%	70.8%	\$ 1,218,255	\$ 2,951,145
Finance	4170	Internal Aud	\$ 595,400	Weighted Expense	47.1%	52.9%	\$ 280,359	\$ 315,041
Customer Svc	5111	Customer Service	\$ 4,985,900	FY 2020 Accounts	29.2%	70.8%	\$ 1,456,827	\$ 3,529,073
Operations	2223	Storm Drainage	\$ 3,624,500	Storm Drainage / Permitting CC	23.5%	76.5%	\$ 853,344	\$ 2,771,156
			\$ 96,478,000				\$ 43,331,639	\$ 53,146,361
Non-Operating Expenses								
Non-Operating	7111	Water Pension Expense	\$ 21,015,700	Water Only	100.0%	0.0%	\$ 21,015,700	\$ -
Non-Operating	7111	Sewer Pension Expense	\$ 28,367,500	Sewer Only	0.0%	100.0%	\$ -	\$ 28,367,500
Non-Operating	7111	Water Retail Assistance Program	\$ 2,107,200	FY 2023 Revenue Requirement	29.2%	70.8%	\$ 614,460	\$ 1,492,740
Non-Operating	7111	IWC Charges	\$ 1,616,300	Sewer Only	0.0%	100.0%	\$ -	\$ 1,616,300
			\$ 53,106,700				\$ 21,630,160	\$ 31,476,540
GLWA Expenses								
Non-Operating	487111	GLWA Water Charge	\$ 22,985,900	Water Only	100.0%	0.0%	\$ 22,985,900	\$ -
Water - Pre-Bifurcation Debt	Debt	Water Pre-Bifurcation Debt	\$ 33,438,800	Water Only	100.0%	0.0%	\$ 33,438,800	\$ -
Non-Operating	497111	GLWA Sewer Charge	\$ 191,042,200	Sewer Only	0.0%	100.0%	\$ -	\$ 191,042,200
Sewer - Pre-Bifurcation Debt	Debt	Sewer Pre-Bifurcation Debt	\$ 26,271,500	Sewer Only	0.0%	100.0%	\$ -	\$ 26,271,500
			\$ 273,738,400				\$ 56,424,700	\$ 217,313,700
Revenue Financed Capital								
Transfer to I&E from Revenue Fund	Capital		\$ 7,781,600	FY 23-26 M&R	84.6%	15.4%	\$ 6,580,230	\$ 1,201,370
			\$ 7,781,600				\$ 6,580,230	\$ 1,201,370
			\$ 431,104,700				\$ 127,966,729	\$ 303,137,971
<i>Weighted direct allocation</i>							47.1%	52.9%

Schedule 4a: Sewer Cost Allocation to Wastewater & Drainage

Apprn. Description	Center	Cost Center Description	FY 2023 Sewer Expense for COSA	Allocation Factor	Allocations	\$	\$
					Wastewater Drainage	Wastewater	Drainage
Operating Expenses							
Administration	1001	Chief Exec Officer	\$ 901,576	Weighted Expense	65.4%	34.6%	\$ 589,938 \$ 311,638
Administration	1601	BOWC	\$ 189,321	Weighted Expense	65.4%	34.6%	\$ 123,880 \$ 65,441
Operations	2401	Deputy Director Administration	\$ 1,708,226	Wet Weather Percent of Flow	69.1%	30.9%	\$ 1,180,176 \$ 528,051
Operations	2411	Field Engineering	\$ 2,950,363	Wet Weather Percent of Flow	69.1%	30.9%	\$ 2,038,340 \$ 912,022
Operations	2421	Facility Oper	\$ 4,451,526	Weighted Expense	65.4%	34.6%	\$ 2,912,814 \$ 1,538,711
Operations	2422	Fleet Operations	\$ 2,366,951	Wet Weather Percent of Flow	69.1%	30.9%	\$ 1,635,274 \$ 731,677
Operations	2431	Maint & Repair	\$ 8,058,072	Wet Weather Percent of Flow	69.1%	30.9%	\$ 5,567,143 \$ 2,490,929
Operations	2432	Meter Operations	\$ 3,007,027	Wastewater Only	100.0%	0.0%	\$ 3,007,027 \$ -
Compliance	3101	General Counsel	\$ 1,052,852	Weighted Expense	65.4%	34.6%	\$ 688,924 \$ 363,928
Compliance	3201	Org Development	\$ 830,884	Weighted Expense	65.4%	34.6%	\$ 543,682 \$ 287,203
Compliance	3301	Info Technology	\$ 8,612,347	Information Technology	53.2%	46.8%	\$ 4,578,492 \$ 4,033,855
Compliance	3411	Compliance-Security	\$ 2,045,490	Weighted Expense	65.4%	34.6%	\$ 1,338,447 \$ 707,043
Compliance	3421	Compliance-Public Affairs	\$ 985,442	Weighted Expense	65.4%	34.6%	\$ 644,815 \$ 340,627
Finance	4001	Chief Financial Officer	\$ 2,251,531	Weighted Expense	65.4%	34.6%	\$ 1,473,268 \$ 778,263
Finance	4111	Finance	\$ 905,544	Weighted Expense	65.4%	34.6%	\$ 592,534 \$ 313,010
Finance	4121	Procurement	\$ 1,688,754	Weighted Expense	65.4%	34.6%	\$ 1,105,021 \$ 583,734
Finance	4131	Treasury	\$ 1,374,878	Weighted Expense	65.4%	34.6%	\$ 899,638 \$ 475,239
Finance	4151	Budget	\$ 199,163	Weighted Expense	65.4%	34.6%	\$ 130,320 \$ 68,842
Finance	4161	Billing & Collect	\$ 2,951,145	FY 2020 Accounts	40.9%	59.1%	\$ 1,206,719 \$ 1,744,427
Finance	4170	Internal Aud	\$ 315,041	Weighted Expense	65.4%	34.6%	\$ 206,144 \$ 108,897
Customer Svc	5111	Customer Service	\$ 3,529,073	FY 2020 Accounts	40.9%	59.1%	\$ 1,443,032 \$ 2,086,040
Operations	2223	Storm Drainage	\$ 2,771,156	Storm Drainage / Permitting CC	32.7%	67.3%	\$ 906,640 \$ 1,864,516
			\$ 53,146,361				\$ 32,812,269 \$ 20,334,093
Non-Operating Expenses							
Non-Operating	7111	Sewer Pension Expense	\$ 28,367,500	Weighted Expense	65.4%	34.6%	\$ 18,562,009 \$ 9,805,491
Non-Operating	7111	Water Retail Assistance Program	\$ 1,492,740	FY 2023 Revenue Requirement	44.3%	55.7%	\$ 661,123 \$ 831,618
Non-Operating	7111	IWC Charges	\$ 1,616,300	Wastewater Only	100.0%	0.0%	\$ 1,616,300 \$ -
			\$ 31,476,540				\$ 20,839,432 \$ 10,637,109
GLWA Expenses							
Non-Operating	497111	GLWA Sewer Charge	\$ 191,042,200	Weighted GLWA Expense	43.7%	56.3%	\$ 83,526,519 \$ 107,515,681
Sewer - Pre-Bifurcation Debt	Debt	Sewer Pre-Bifurcation Debt	\$ 26,271,500	Peak Flow Ratios	15.0%	85.0%	\$ 3,940,725 \$ 22,330,775
			\$ 217,313,700				\$ 87,467,244 \$ 129,846,456
Revenue Financed Capital							
Transfer to I&E from Revenue Fund			\$ 1,201,370	Weighted Expense	65.4%	34.6%	\$ 786,105 \$ 415,265
			\$ 1,201,370				\$ 786,105 \$ 415,265
			\$ 303,137,971				\$ 141,905,050 \$ 161,232,922
						65.4%	34.6%

Schedule 4b: Sewer Revenue Cost Allocation to Wastewater & Drainage

Apprn. Description	Cost Center	Object Description	FY 2023 Sewer Revenue for COSA	Allocation Factor	Allocations		\$ Wastewater	\$ Drainage
					Wastewater	Drainage		
SDWSD-R Operating Revenue	497211	City of Detroit IWC Charges	\$ 1,616,300	Wastewater Only	100.0%	0.0%	\$ 1,616,300	\$ -
SDWSD-R Operating Revenue	497211	Shared Services Revenue	\$ 1,750,000	Weighted Expense	65.4%	34.6%	\$ 1,145,096	\$ 604,904
SDWSD-R Operating Revenue	497211	Late Payment Fee	\$ 7,538,700	Weighted Expense	65.4%	34.6%	\$ 4,932,878	\$ 2,605,822
SDWSD-R Operating Revenue	497211	472150-Other Miscellaneous	\$ 22,520,700	Weighted Expense	65.4%	34.6%	\$ 14,736,210	\$ 7,784,490
SDWSD-R Operating Revenue	497211	Miscellaneous Receipts	\$ 100,000	Weighted Expense	65.4%	34.6%	\$ 65,434	\$ 34,566
			\$ 33,525,700				\$ 22,495,918	\$ 11,029,782

Schedule 5: Wastewater Cost Allocation to Functions

Apprn. Description	Cost Center	Cost Center Description	FY 2023 Wastewater Expense for COSA	Allocation Factor	Allocations				\$ Treatment	\$ Collection	\$ Meters & Service Lines	\$ Customer
					Treatment	Collection	Meters & Service Lines	Customer				
Operating Expenses												
Administration	1001	Chief Exec Officer	\$ 589,938	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 414,211	\$ 93,413	\$ 82,314
Administration	1601	BOWC	\$ 123,890	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 86,980	\$ 19,616	\$ 17,285
Operations	2401	Deputy Director Administration	\$ 1,180,176	Collection Only	0.0%	100.0%	0.0%	0.0%	\$ -	\$ 1,180,176	\$ -	\$ -
Operations	2411	Field Engineering	\$ 2,038,340	Collection Only	0.0%	100.0%	0.0%	0.0%	\$ -	\$ 2,038,340	\$ -	\$ -
Operations	2421	Facility Oper	\$ 2,912,814	Collection Only	0.0%	100.0%	0.0%	0.0%	\$ -	\$ 2,912,814	\$ -	\$ -
Operations	2422	Fleet Operations	\$ 1,635,274	Collection Only	0.0%	100.0%	0.0%	0.0%	\$ -	\$ 1,635,274	\$ -	\$ -
Operations	2431	Maint & Repair	\$ 5,567,143	Collection Only	0.0%	100.0%	0.0%	0.0%	\$ -	\$ 5,567,143	\$ -	\$ -
Operations	2432	Meter Operations	\$ 3,007,027	Meters & Service Lines Only	0.0%	0.0%	100.0%	0.0%	\$ -	\$ -	\$ 3,007,027	\$ -
Compliance	3101	General Counsel	\$ 688,924	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 483,712	\$ 109,087	\$ 96,126
Compliance	3201	Org Development	\$ 543,682	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 381,733	\$ 86,088	\$ 75,860
Compliance	3301	Info Technology	\$ 4,578,492	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 3,214,680	\$ 724,975	\$ 638,838
Compliance	3411	Compliance-Security	\$ 1,338,447	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 939,759	\$ 211,934	\$ 186,754
Compliance	3421	Compliance-Public Affairs	\$ 644,815	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 452,741	\$ 102,102	\$ 89,971
Finance	4001	Chief Financial Officer	\$ 1,473,268	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 1,034,421	\$ 233,283	\$ 205,565
Finance	4111	Finance	\$ 592,534	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 416,034	\$ 93,824	\$ 82,676
Finance	4121	Procurement	\$ 1,105,021	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 775,864	\$ 174,973	\$ 154,184
Finance	4131	Treasury	\$ 899,638	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 631,660	\$ 142,452	\$ 125,527
Finance	4151	Budget	\$ 130,320	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 91,501	\$ 20,635	\$ 18,184
Finance	4161	Billing & Collect	\$ 1,206,719	Customer Only	0.0%	0.0%	0.0%	100.0%	\$ -	\$ -	\$ -	\$ 1,206,719
Finance	4170	Internal Aud	\$ 206,144	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 144,739	\$ 32,642	\$ 28,763
Customer Svc	5111	Customer Service	\$ 1,443,032	Customer Only	0.0%	0.0%	0.0%	100.0%	\$ -	\$ -	\$ -	\$ 1,443,032
Operations	2223	Storm Drainage	\$ 906,640	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 636,576	\$ 143,561	\$ 126,504
			\$ 32,812,269					\$ -	\$ 23,038,357	\$ 5,195,610	\$ 4,578,301	
Non-Operating Expenses												
Non-Operating	7111	Sewer Pension Expense	\$ 18,562,009	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 13,032,875	\$ 2,939,174	\$ 2,589,960
Non-Operating	7111	Water Retail Assistance Program	\$ 661,123	Weighted Internal	0.0%	70.2%	15.8%	14.0%	\$ -	\$ 464,192	\$ 104,685	\$ 92,247
SDWSD-R Non Operating	7111	SDWSD-R Non-Operating Exp	\$ 1,616,300	Treatment Only	100.0%	0.0%	0.0%	0.0%	\$ 1,616,300	\$ -	\$ -	\$ -
			\$ 20,839,432					\$ 1,616,300	\$ 13,497,067	\$ 3,043,858	\$ 2,682,207	
GLWA Expenses												
Non-Operating	497111	GLWA Sewer Charge	\$ 83,526,519	Treatment Only	100.0%	0.0%	0.0%	0.0%	\$ 83,526,519	\$ -	\$ -	\$ -
Sewer - Pre-Bifurcation Debt	Debt	Sewer Pre-Bifurcation Debt	\$ 3,940,725	Collection Only	0.0%	100.0%	0.0%	0.0%	\$ -	\$ 3,940,725	\$ -	\$ -
			\$ 87,467,244					\$ 83,526,519	\$ 3,940,725	\$ -	\$ -	
Revenue Financed Capital												
Transfer to I&E from Revenue Fund			\$ 786,105	Collection Only	0.0%	100.0%	0.0%	0.0%	\$ -	\$ 786,105	\$ -	\$ -
			\$ 786,105					\$ -	\$ 786,105	\$ -	\$ -	
			\$ 141,905,050					\$ 85,142,819	\$ 41,262,254	\$ 8,239,469	\$ 7,260,507	
<i>Weighted internal allocation</i>								<i>0.0%</i>	<i>70.2%</i>	<i>15.8%</i>	<i>14.0%</i>	

Schedule 6: Water Cost Allocation to Functions

Apprn. Description	Cost Center	Cost Center Description	FY 2023 Water Expense for COSA	Allocation Factor	Allocations						\$	\$	\$	\$	\$
					Treatment	Distribution	Meters & Service Lines	Customer	Fire	Protection					
Operating Expenses															
Administration	1001	Chief Exec Officer	\$ 802,324	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 610,981	\$ 105,882	\$ 85,461	\$ -	
Administration	1601	BOWC	\$ 168,479	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 128,299	\$ 22,234	\$ 17,946	\$ -	
Operations	2401	Deputy Director Administration	\$ 1,916,474	Distribution Only	0.0%	100.0%	0.0%	0.0%	0.0%	\$ -	\$ 1,916,474	\$ -	\$ -	\$ -	
Operations	2411	Field Engineering	\$ 3,310,037	Distribution Only	0.0%	100.0%	0.0%	0.0%	0.0%	\$ -	\$ 3,310,037	\$ -	\$ -	\$ -	
Operations	2421	Facility Oper	\$ 3,961,474	Distribution Only	0.0%	100.0%	0.0%	0.0%	0.0%	\$ -	\$ 3,961,474	\$ -	\$ -	\$ -	
Operations	2422	Fleet Operations	\$ 2,418,049	Distribution Only	0.0%	100.0%	0.0%	0.0%	0.0%	\$ -	\$ 2,418,049	\$ -	\$ -	\$ -	
Operations	2431	Maint & Repair	\$ 8,232,028	Maintenance & Repair	0.0%	91.3%	0.0%	0.0%	8.7%	\$ -	\$ 7,518,671	\$ -	\$ -	\$ 713,357	
Operations	2432	Meter Operations	\$ 3,035,773	Meters & Service Lines Only	0.0%	0.0%	100.0%	0.0%	0.0%	\$ -	\$ -	\$ 3,035,773	\$ -	\$ -	
Operations	2435	Lead Service	\$ 278,500	Meters & Service Lines Only	0.0%	0.0%	100.0%	0.0%	0.0%	\$ -	\$ -	\$ 278,500	\$ -	\$ -	
Compliance	3101	General Counsel	\$ 936,948	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 713,499	\$ 123,648	\$ 99,801	\$ -	
Compliance	3201	Org Development	\$ 739,416	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 563,075	\$ 97,580	\$ 78,761	\$ -	
Compliance	3301	Info Technology	\$ 5,312,953	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 4,045,887	\$ 701,144	\$ 565,921	\$ -	
Compliance	3411	Compliance-Security	\$ 1,820,310	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 1,386,191	\$ 240,224	\$ 193,895	\$ -	
Compliance	3421	Compliance-Public Affairs	\$ 876,958	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 667,816	\$ 115,731	\$ 93,411	\$ -	
Finance	4001	Chief Financial Officer	\$ 2,003,669	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 1,525,821	\$ 264,422	\$ 213,425	\$ -	
Finance	4111	Finance	\$ 805,856	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 613,671	\$ 106,348	\$ 85,838	\$ -	
Finance	4121	Procurement	\$ 1,502,846	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 1,144,438	\$ 198,329	\$ 160,079	\$ -	
Finance	4131	Treasury	\$ 1,223,522	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 931,729	\$ 161,467	\$ 130,326	\$ -	
Finance	4151	Budget	\$ 177,237	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 134,969	\$ 23,390	\$ 18,879	\$ -	
Finance	4161	Billing & Collect	\$ 1,218,255	Customer Only	0.0%	0.0%	0.0%	100.0%	0.0%	\$ -	\$ -	\$ -	\$ 1,218,255	\$ -	
Finance	4170	Internal Aud	\$ 280,359	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 213,497	\$ 36,999	\$ 29,863	\$ -	
Customer Svc	5111	Customer Service	\$ 1,456,827	Customer Only	0.0%	0.0%	0.0%	100.0%	0.0%	\$ -	\$ -	\$ -	\$ 1,456,827	\$ -	
Operations	2223	Storm Drainage	\$ 853,344	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 649,833	\$ 112,615	\$ 90,896	\$ -	
			\$ 43,331,639							\$ -	\$ 32,454,412	\$ 5,624,285	\$ 4,539,585	\$ 713,357	
Non-Operating Expenses															
Non-Operating	7111	Water Pension Expense	\$ 21,015,700	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 16,003,747	\$ 2,773,417	\$ 2,238,536	\$ -	
Non-Operating	7111	Water Retail Assistance Program	\$ 614,460	Weighted Internal	0.0%	76.2%	13.2%	10.7%	0.0%	\$ -	\$ 467,919	\$ 81,090	\$ 65,451	\$ -	
			\$ 21,630,160							\$ -	\$ 16,471,666	\$ 2,854,507	\$ 2,303,986	\$ -	
GLWA Expenses															
Non-Operating	487111	GLWA Water Charge	\$ 22,985,900	Treatment Only	100.0%	0.0%	0.0%	0.0%	0.0%	\$ 22,985,900	\$ -	\$ -	\$ -	\$ -	
Water - Pre-Bifurcation Debt	Debt	Water Pre-Bifurcation Debt	\$ 33,438,800	Distribution Only	0.0%	100.0%	0.0%	0.0%	0.0%	\$ -	\$ 33,438,800	\$ -	\$ -	\$ -	
			\$ 56,424,700							\$ 22,985,900	\$ 33,438,800	\$ -	\$ -	\$ -	
Revenue Financed Capital															
Transfer to I&E from Revenue Fund			\$ 6,580,230	Distribution Only	0.0%	100.0%	0.0%	0.0%	0.0%	\$ -	\$ 6,580,230	\$ -	\$ -	\$ -	
			\$ 6,580,230							\$ -	\$ 6,580,230	\$ -	\$ -	\$ -	
			\$ 127,966,729							\$ 22,985,900	\$ 88,945,108	\$ 8,478,792	\$ 6,843,571	\$ 713,357	
<i>Weighted internal allocation</i>										0.0%	76.2%	13.2%	10.7%	2.8%	

Schedule 7: Water Cost Allocation to Cost Components

	Base Average Day	Extra Max Day	Extra Peak Hour	Meters & Service Lines	Customer	Fire Protection	Total
Treatment	69%	31%					\$22,985,900
Distribution	50%	23%	27%				\$88,945,108
Meters & Service Lines				100%			\$8,478,792
Customer					100%		\$6,843,571
Fire Protection						100%	\$713,357
Total	\$60,438,125	\$27,372,918	\$24,119,965	\$8,478,792	\$6,843,571	\$713,357	

	Average Units	Max Day Units	Peak Hour Units
Model Units (FY 2023)	7,089.8	9,506.7	11,245.9
DWSD Coincident Peaking Ratios ¹	1.00	1.34	1.59
Calculated DWSD Fire Flow Requirements	-	794.1	2,887.7
Total with Fire Flow Requirements ²	7,089.8	10,300.9	14,133.6
Calculated DWSD Peaking Ratios	1.00	1.45	1.99

(1) Peaking factors based on Black & Veatch Phase 1 Report.

(2) DWSD Fire Flow Requirements calculation shown in Schedule 9.

Schedule 8: Water Allocation to Class

	Base Average Day	Extra Max Day	Extra Peak Hour	Meters & Service Lines	Customer	Direct Fire Protection
Cost	\$60,438,125	\$27,372,918	\$24,119,965	\$8,478,792	\$6,843,571	\$713,357

Units	Mcf/day	Mcf/day	Mcf/day	Equivalent Meters/Services	Bills	Hydrants
Retail ¹	7,090	2,417	1,739	243,907	2,299,762	-
Public Fire ²	-	743	1,959			29,948
Private Fire ²	-	51	135	15,642	21,017	-
Total Units	7,090	3,211	3,833	259,548	2,320,779	29,948

Cost per Unit	\$23.36	\$8,524.63	\$6,293.18	\$32.67	\$2.95	\$23.82
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Allocation to Class							Total Class Cost
Retail	\$60,438,125	\$20,603,357	\$10,944,675	\$7,967,815	\$6,781,596	\$0	\$106,735,568
Public Fire	\$0	\$6,334,399	\$12,328,353	\$0	\$0	\$713,357	\$19,376,109
Private Fire	\$0	\$435,162	\$846,937	\$510,977	\$61,975	\$0	\$1,855,051

(1) Retail average day, max day, and peak hour units shown in Schedule 7. Retail equivalent meters and bills based FY 2021 actual billing data adjusted for FY 2022 & FY 2023 growth.

(2) Public and Private Fire max day and peak hour units calculation shown in Schedule 9. Bills and hydrants shown in Schedule 10.

Schedule 9: DWSD Fire Flow Requirements

Fire Type	FY 2017-21 Max Fires/Day¹	FY 2017-21 Max Fire/Hour²	Duration (min)	Gallons/Minute (gpm)	Peak Day Demand (MGD)	Peak Hour Demand (MGD)
Single Family ³	27	8	120	1,500	4.9	17.3
Non-Single Family ⁴	2	1	180	3,000	1.1	4.3
Total Fire (MGD)					5.9	21.6
Total Fire (Mcf)					794.1	2,887.7
Extra Capacity						2,093.6

- (1) Maximum fires/day based on average of 2017-2021 maximum fire incidents in a single day for structure fires.
- (2) Maximum fires/hour based on average of 2017-2021 maximum fire incidents in a single hour on maximum day for structure fires.
- (3) Per ISO Guidelines (Chapter 7) needed fire flow is 1,500 gpm and duration for 2 hours when distance between residential dwellings is 0-10 feet. Detroit ordinance minimum setbacks are 4 feet on a side / 14 ft combined total.
- (4) Needed Fire Flow Duration for commercial properties based on ISO Fire Suppression Rating Schedule.

Duration of Fires

Customer Type	> 2:00	> 1:00	< 1:00
Residential	795	4,144	6,845
Non-Single Family	182	698	1,420

Count of Fires

Customer Type	2017	2018	2019	2020	2021	5-Yr Average
Residential Max Day	40	26	23	27	20	27
Non-Single Family Max Day	7	9	8	7	6	7
Coincident Max Day	43	27	25	30	20	29
Max Day	7/5/2017	5/29/2018	7/5/2019	7/5/2020	10/31/2020	
Residential on Max Day	40	26	23	27	20	27
Non-Single Family Max Day	3	1	2	3	0	2
Coincident Peak Fires on Max Day	12	5	9	9	6	
Residential at Peak Hour	11	5	8	8	6	8
Non-Single Family at Peak Hour	1	0	1	1	0	1

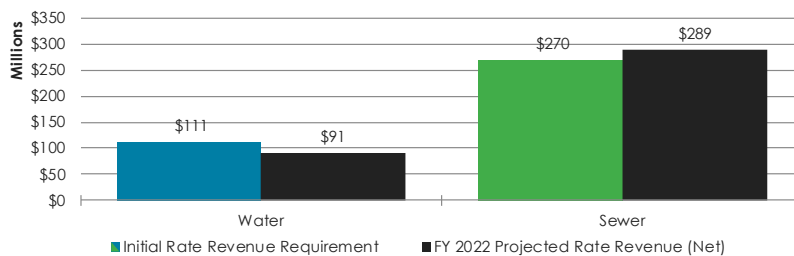
Schedule 10: Equivalent Fire Units

Fire Type	6" Equivalency for Capacity¹	5/8" Equivalency for Meters & Services²	Private Fire Connections³	Public Fire⁴
4" Fireline	0.34	5.81	629	
6" Fireline	1.00	9.18	622	
8" Fireline	2.13	11.77	439	
10" Fireline	3.83	16.33	41	
12" Fireline	6.19	21.72	20	
Hydrants	1.00			29,948
Total Bills			21,017	N/A
Total Equivalent Capacity Units			2,057	29,948
Total 5/8" Equivalents for Meters & Services			15,642	N/A

- (1) Assumes hydrants are on 6" line and uses Hazen Williams formula to calculate flow capacity.
- (2) Based on line costs per DWSD staff by size and cost of 5/8" meter used for flow detection.
- (3) Private fire meters based on FY 2021 actual billing data adjusted for FY 2022 & FY 2023 growth.
- (4) Current total fire hydrants as of April 11, 2022 based on data per Detroit Fire Department.

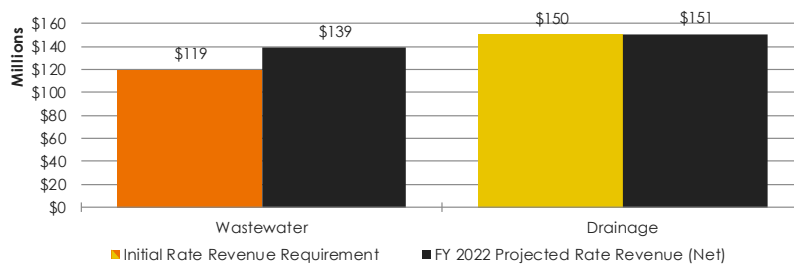
Schedule 11: Cost Allocation Analysis Summary

Revenue Requirements Allocation to Water and Sewer



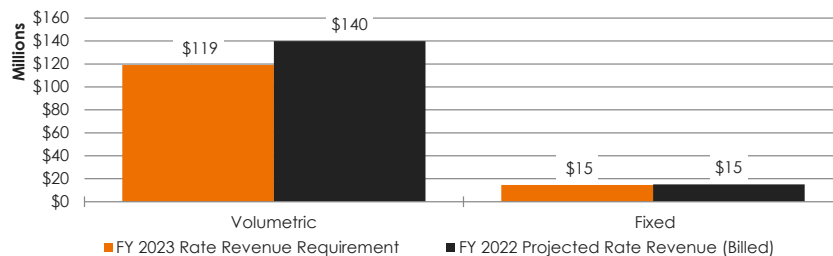
	Water	Sewer		
FY 2023 Total Expenses	\$ 127,966,729	\$ 303,137,971		
Less: Non-Rate Revenues ¹	(16,967,060)	(33,525,700)	(Budget)	
Initial Rate Revenue Requirement	\$ 110,999,669	\$ 269,612,271	\$ 380,611,940	
Drainage Credit Adjustment		32,201,061		
Bad Debt Estimate ²	10%			
Bad Debt Adjustment	12,766,714	47,267,436	<i>Total Including Credits</i>	<i>Total Before Credits</i>
FY 2023 Rate Revenue Requirement	\$ 123,766,383	\$ 349,080,768	\$ 472,847,151	\$ 440,646,090
% of Total	26%	74%		
FY 2022 Projected Rate Revenue (Billed) ³	\$ 102,094,900	\$ 380,231,033	\$ 482,325,933	\$ 436,954,000
FY 2022 Projected Drainage Credit		45,371,933		
FY 2022 Projected Rate Revenue (Net)	91,495,334	288,908,716	380,404,050	
% Cost Recovery	82%	109%	102.00%	
% Change Needed	21.3%	-6.7%	0.1%	0.8%

Sewer Allocation to Wastewater and Drainage



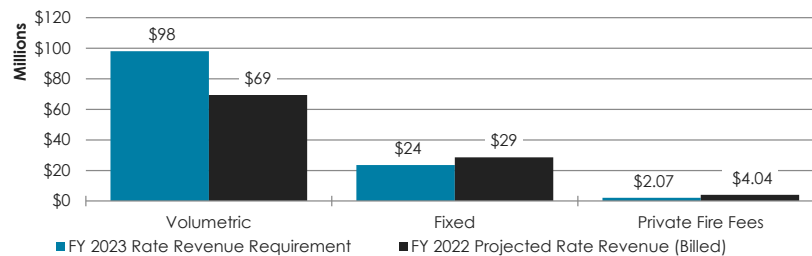
	Wastewater	Drainage		
FY 2023 Total Expenses	\$ 141,905,050	\$ 161,232,922		
Less: Non-Rate Revenues ⁴	(22,495,918)	(11,029,782)	(Direct & Indirect)	
Initial Rate Revenue Requirement	\$ 119,409,132	\$ 150,203,140	\$ 269,612,271	
Drainage Credit Estimate ⁵		15%		
Drainage Credit Adjustment		32,201,061		
Bad Debt Estimate ²	10%	18%		
Bad Debt Adjustment	14,296,015	32,971,421		
FY 2023 Rate Revenue Requirement	\$ 133,705,146	\$ 215,375,622	\$ 349,080,768	
% of Total	38%	62%		
FY 2022 Projected Rate Revenue (Billed) ³	\$ 154,972,300	\$ 225,258,733	\$ 380,231,033	
FY 2022 Projected Drainage Credit		45,371,933		
FY 2022 Projected Bad Debt		29,527,654		
FY 2022 Projected Rate Revenue (Net)	138,549,570	150,359,146	288,908,716	
% Cost Recovery	116%	105%	109%	
% Change Needed	-13.8%	-0.1%	-6.7%	

Wastewater Allocation to Rate Components



	Volumetric	Fixed	
FY 2023 Total Expenses	\$ 126,405,074	\$ 15,499,976	
Less: Non-Rate Revenues ⁵	(20,038,739)	(2,457,180)	(Indirect)
Initial Rate Revenue Requirement	\$ 106,366,335	\$ 13,042,796	\$ 119,409,132
Bad Debt Adjustment ⁶	12,734,492	1,561,522	
FY 2023 Rate Revenue Requirement	\$ 119,100,828	\$ 14,604,319	\$ 133,705,146
FY 2022 Projected Rate Revenue (Billed)³	\$ 139,941,000	\$ 15,031,300	\$ 154,972,300
FY 2022 Projected Rate Revenue (Net)	125,111,167	13,438,403	138,549,570
% Cost Recovery	117%	103%	116%

Water Allocation to Rate Components



	Volumetric	Fixed	Private Fire Fees	
FY 2023 Total Expenses	\$101,674,212	\$24,437,465	\$1,855,051	
Less: Non-Rate Revenues ⁷	(13,679,244)	(3,287,816)	0	(Indirect Retail)
Initial Rate Revenue Requirement	\$ 87,994,968	\$ 21,149,650	\$ 1,855,051	\$ 110,999,669
Bad Debt Adjustment ⁸	10,120,810	2,432,544	213,360	
FY 2023 Rate Revenue Requirement	\$ 98,115,778	\$ 23,582,193	\$ 2,068,412	\$ 123,766,383
FY 2022 Projected Rate Revenue (Billed)³	\$ 69,433,800	\$ 28,619,200	\$ 4,041,900	\$ 102,094,900
FY 2022 Projected Rate Revenue (Net)	62,225,133	25,647,934	3,622,267	91,495,334
% Cost Recovery	71%	121%	195%	82%

- (1) Non-Rate Revenues allocated to Water/Sewer based on FY 2023 Budget.
- (2) Bad Debt Estimate as a percentage of retail revenues based on DWSD calculation.
- (3) FY 2022 Projected Rate Revenue based on Revenue Sufficiency Analysis.
- (4) Non-Rate Revenues allocated to Wastewater/Drainage based on Schedule 4b.
- (5) Wastewater Non-Rate Revenues indirectly allocated to Volumetric/Fixed based on FY 2023 Total Expenses.
- (6) Wastewater bad debt indirectly allocated to Volumetric/Fixed based on Initial Rate Revenue Requirement.
- (7) Water Non-Rate Revenues indirectly allocated to Volumetric/Fixed based on FY 2023 Total Expenses.
- (8) Water bad debt indirectly allocated to Volumetric/Fixed/Private Fire Fees based on Initial Rate Revenue Requirement.

	GLWA System				Detroit Plus			
	Sanitary (MGD)	DWII (MGD)	WWI (MGD)	Wet Weather %	Sanitary (MGD)	DWII (MGD)	WWI (MGD)	Wet Weather %
FY2017	185.32	296.11	207.66	30.1%	51.18	214.69	133.41	33.4%
FY2018	194.47	243.52	220.70	33.5%	58.48	170.11	151.62	39.9%
FY2019	191.30	273.71	232.20	33.3%	57.08	186.22	154.51	38.8%
FY2020	180.75	269.35	182.29	28.8%	52.26	179.65	117.23	33.6%
FY2021	184.59	217.44	162.54	28.8%	52.28	156.02	114.79	35.5%
			5-Year Avg	30.9%				

Source: CDM Smith, Flow Balance Analysis & Results for Fiscal Year 2020 (2017-2020), Flow Balance Analysis & Results for Fiscal Year 2021 (2021), Attachment 3 & Attachment 4.

Wholesale Revenue Req't	FY 2022		FY 2023		Capital	O&M	Capital	O&M	FY17-21 Avg	
	Costs ¹	Relative %	Costs ²	Allocation ³	Allocation ³	Drainage % ⁴	Drainage % ⁵	Wet	Weather	Flow
Treatment	99,348,800	52.7%	100,602,099					30.9%		31,098,339
Collection / Conveyance	39,383,000	20.9%	39,879,822	56.5%	43.5%	85.0%	30.9%	61.5%		24,517,545
CSO Facilities	49,930,600	26.5%	50,560,481					100.0%		50,560,481
Total Revenue Req't	188,662,400		191,042,403							106,176,365
										56.3%

- (1) FY 2022 Costs by category based on GLWA FY 2022 Calc Sheets.
- (2) FY 2023 Costs based on GLWA FY 2023 Calc Sheets (total), allocated to categories based on FY 2022 Relative %.
- (3) Capital Allocation based on GLWA report of costs by type.
- (4) Capital allocated to drainage based on hydraulic capacity.
- (5) O&M costs allocated to drainage based on calculation in Schedule 12.

Schedule 13: Maintenance Hours Allocation

Code	Description	Annual labor hours to complete work		Allocation	
				Water	Sewer
INVBBA	CLEAN CATCH BASIN	15000			100%
BR	REPAIR CATCH BASINS	16000			100%
INVCB	INVESTIGATE CAVE IN	800	Weighted		
GVR	REPAIR GATE VALVE	600		100%	
HGV	HYDRANT GATE VALVE	400		100%	
HMAJ	HYDRANT DIG UP/NOT OPERABLE	120		100%	
HMAJ	HYDRANT MAJOR/SCREW IN	4000		100%	
HMIN	HYDRANT MINOR OR FROZEN	4500		100%	
INVLP	LOW PRESSURE	1000		100%	
INVCBC	MISSING BASIN COVER	300			100%
INVMHC	MISSING MANHOLE COVER	250	Weighted		
MHR	MANHOLE REPAIR (MOSTLY CONTRACTED OUT)	135	Weighted		
INVREST	RESTORATION	166	Weighted		
REST	RESTORATION	4676	Weighted		
DEMO	DEMO DISCONNECT	3200		100%	
WSK	SERVICE KILL	4800		100%	
INVSL	SERVICE LEAK	1500		100%	
SL	SERVICE LEAK	11200		100%	
SL	SERVICE LEAK - TURN OFF VACANT MR	4600		100%	
SNL	STOP BOX DIG UP-LOCATE OR RECONDITION	9600		100%	
SNL	SERVICE REQUEST 1554 RECONDITION- T-OFF	800		100%	
INVSO	SEWER ODOR	400			100%
SR	SEWER REPAIR				
INWWIB	WATER IN BASEMENT	9000			100%
INWMB	INVESTIGATE WATER MAIN BREAK	5250		100%	
WMB	REPAIR WATER MAIN BREAK (40% IN HOUSE)	14400		100%	
INWQ	WATER QUALITY	563		100%	
WATER SERVICE	REPLACE LEAD SERVICE	1280		100%	
MISS DIG	MISS DIG LOCATES	63750	Weighted		
EMER SEWER		6480			100%
CCTV Sewer Mains	PM Activities	9600			100%
Clean Sewer Mains	PM Activities	9600			100%
Total allocated hours				67,813	66,380
<i>Allocation</i>				<i>50.5%</i>	<i>49.5%</i>

Schedule 14: Capital Improvement Plan Allocation

DWSD Water 5 Year CIP (\$1,000)

Description		Status	Source of Funds	2021-22	2022-23	2023-24	2024-25	2025-26	2022-2026 CIP Total	FY 2023-FY 2026 Revenue Funded
WS-703	Water Main Replacement (33,820 LF)	C	I&E	-	-	-	-	-	-	
WS-704	Water Main Replacement -along Outerdrive	C	Bond	-	-	-	-	-	-	
WS-705	Water Main Replacement-2-sections	C	Bond	-	-	-	-	-	-	
WS-706	Water Main Replacement Wayne Co. Roads	C	Bond	-	-	-	-	-	-	
WS-707	Water Main Replacement- (20,000LF)	C	Loan (DWRf)	-	-	-	-	-	-	
WS-710	Water Main Replacement-Incl Wayne Co Roads	A	Loan (DWRf)	200	-	-	-	-	200	
WS-711	Water Main Replacement- Incl Jefferson Streetscape	A	Loan (DWRf)	4,200	1,814	-	-	-	6,014	
WS-712	Water Main Replacement-Cornerstone Village	A	I&E/Bond	7,630	3,690	-	-	-	11,320	
WS-713	Water Main Replacement-Jefferson/Chalmers	N	DWRf	7,500	7,250	-	-	-	14,750	
WS-714	Water Main Replacement-MDOT Streetscape	C	DWRf	-	-	-	-	-	-	
WS-715	Pilot Areas-Riverdale, Minock, Miller & Rosedale	N	DWRf/I&E	6,900	7,000	2,100	-	-	16,000	
WS-718	WM New Center Commons & Virginia Park	P	DWRf/I&E	2,300	-	-	-	-	2,300	
DWS-907	Watermain & Sewer Rehab- North Rosedale Park	A	I&E/Bond	5,000	-	-	-	-	5,000	
WS-720	Watermain Replacement-Various Streets	N	I&E/Bond	3,100	6,000	3,000	-	-	12,100	
WS-721	Lead Service Line Replacement	N	I&E/Bond	6,000	5,000	-	-	-	11,000	
WS-723	Lead Service Line Replacement for Settlements	N	Grant/Legal Settlements	800	200	-	-	-	1,000	
WS-725	Watermain Replacement-Medical Ctr, Cultural Ctr & Midtown 30,000LF	N	DWRf/Bond	-	4,000	5,000	5,000	-	14,000	
WS-702	Repair & Replacement of Water Mains	A	I&E	-	-	-	-	-	-	
WS-708	Repair of Water Mains	A	I&E	-	-	-	-	-	-	
WS-717	Repair & Replacement of Water Mains (WS-702B)	N	I&E	3,500	2,500	3,000	3,000	3,000	15,000	8,500
WS-719	Repair of Water Mains (WS-708/WS-702A) incl r	N	I&E	5,000	3,500	2,000	2,000	2,000	14,500	7,500
DWS-902	Repair of Pavement (break repair)	A	I&E	1,920	-	-	-	-	1,920	
DWS-904	Repair of Lawns (break repair)	A	I&E	1,500	-	-	-	-	1,500	
DWS-919	(replace DWS-902)	N	I&E	5,100	5,100	5,100	2,720	2,720	20,740	12,920
PC-808	West Warren (Constance at Rouge Park/Tireman Sawyer PH III)	P	Bond	4,000	4,200	-	-	-	8,200	
CS-1909	A-Condition Assessments-High Priority Neighborhoods	P	I&E	250	-	-	-	-	250	
CS-1921	Watermain/Sewer Design	P	I&E	1,000	1,000	1,000	-	-	3,000	
CS-1923	Third Party Inspection (Water & Sewer)	N	I&E	750	750	750	-	-	2,250	
CS-1947	Condition Assessment Sherwood Forest,	N	I&E	250	250	-	-	-	500	
CS-1812	Professional Engineering and Construction Services for CIPMO	A	I&E/Bond	2,795	-	-	-	-	2,795	
Construction Program Management Allowances		N	I&E	-	-	1,000	750	750	2,500	
Watermain Program Allowances		N	I&E	-	-	8,000	10,000	10,000	28,000	
PC-803B	Meter Installation	A	I&E	700	700	-	-	-	1,400	
Water Meter Replacement Program		A	I&E	451	750	750	750	750	3,451	
Fire Hydrant Replacement Program		A	I&E	250	250	250	250	250	1,250	
CS-1925	Iron Migration -MIU Replacement	A	I&E/Bond	1,800	9,900	1,750	-	-	13,450	
CS-1926	Iron Migration Project Management	A	I&E	325	560	1,115	-	-	2,000	
Vehicle, Heavy Equipment, and Equipment Purchases		A	I&E	682	750	500	500	500	2,932	
Information Technology		A	I&E	1,965	1,618	500	500	500	5,082	
Facility Improvement Allowance		A	I&E	3,761	1,000	500	500	500	6,261	
TOTALS				79,628	67,782	36,315	25,970	13,250	230,665	28,920

Water % of Total

52.9%

84.6%

Highlighted cells reflect expenses assumed to continue in FY 2026.

Schedule 14: Capital Improvement Plan Allocation

DWSD Sewer 5 Year CIP (\$1,000)

Description	Status	Source of Funds	2021-22	2022-23	2023-24	2024-25	2025-26	2022-2026 CIP Total
DWS-903 Inspection and Rehabilitation of Sewers City Wide	A	I&E/ Bond	7,000	-	-	-	-	7,000
DWS-907 North Rosedale Park	A	Bond	3,000	-	-	-	-	3,000
DWS-908 Cornerstone Village Sewer Rehab	A	Bond	2,693	-	-	-	-	2,693
DWS-909 Sewer Condition assessments throughout City	C	I&E	-	-	-	-	-	-
DWS-910- Sewer Condition Assessments High Priority	C	I&E	-	-	-	-	-	-
DWS-916 Sewer Improvements in High Priority Neighborhoods	A	SRF	2,600	-	-	-	-	2,600
DWS-917 Sewer Improvement in Riverdale	N	SRF	5,000	4,800	300	-	-	10,100
DWS-918 Sewer Improvements in Rosedale	N	SRF	4,450	450	-	-	-	4,900
DWS-920 Inspection and Rehabilitation of Sewers City Wide(Replace DWS-903)	N	I&E	3,000	8,000	4,000	-	-	15,000
DWS-921 Electrical Monitoring Upgrades at Belle Isle,Woodmere, Fischer Sewage	P	I&E	200	200	200	-	-	600
DWS-926 Sewer Condition Assessments - West Village,Southwest Detroit, Michiga	P	I&E	-	2,500	2,500	-	-	5,000
DWS-931 Roofing Upgrades at Sewage PumpStations	P	I&E	325	325	275	-	-	925
DWS-932 Large Sewer Improvements: Riverdale & Rosedale	P	I&E/Bond	4,400	400	-	-	-	4,800
DWS-933 Corktown Sewer	C	I&E	-	-	-	-	-	-
DWS-937 Sewer Replacement	N	SRF/I&E	8,000	7,600	-	-	-	15,600
DWS-938 Sewer Condition assessments throughout City (DWS-909)	N	SRF/I&E	2,250	2,250	-	-	-	4,500
DWS-939 Sewer Condition Assessments High Priority	N	SRF/I&E	2,250	2,250	-	-	-	4,500
Sewer Program Allowances	N	I&E	-	2,000	12,000	14,000	14,000	42,000
CS-1812 Professional Engineering and Construction Services forCapital Improve	A	I&E	2,795	-	-	-	-	2,795
DWS-902 Repair of Pavement (break repair)	A	I&E	75	-	-	-	-	75
DWS-904 Repair of Lawns (break repair)	A	I&E	338	-	-	-	-	338
DWS-919 (replace DWS-902)	N	I&E	900	900	900	480	-	3,180
Repair and Maintenance Allowance	N	I&E	-	-	1,000	1,000	1,000	3,000
CS-1921 Watermain/Sewer Design	N	I&E	1,000	1,000	1,000	-	-	3,000
CS-1923 Third Party Inspection (Water & Sewer)	N	I&E	750	750	750	-	-	2,250
CS-1522 Green Infrastructure Program Management	C	I&E	-	-	-	-	-	-
PC-799 Crowell Rec Center and EcoSite Modifications	C	I&E	3	-	-	-	-	3
PC-808 West Warren (Constance at Rouge Park/Tireman Sawyer PH III)	N	I&E/Grant	10,040	7,650	6,280	3,995	995	28,960
PC-808 Sewer Rehabilitation (Non GSI)	N	I&E	1,500	1,500	-	-	-	3,000
PC-801A Oakman Blvd	A	I&E/ Bond	60	60	60	-	-	180
PC-800 O'Shea Park	C	I&E	10	-	-	-	-	10
PC-806 Charles H. Wright Academy	N	I&E	1,485	45	38	-	-	1,568
North Rosedale (Edinborough)	N	I&E	-	-	-	-	-	-
Capital Partnership Program	P	I&E	100	-	-	-	-	100
Chandler Park Drive (CIPMP)	N	I&E	150	-	-	-	-	150
Green Stormwater Infrastructure Construction Allowance	N	I&E	-	-	-	5,000	5,000	10,000
CS-1884 Green Infrastructure Program Management	P	I&E	2,500	2,500	2,500	1,000	1,000	9,500
Vehicle, Heavy Equipment, and Equipment Purchases	N	I&E	682	750	500	500	500	2,932
Information Technology	N	I&E	1,965	1,618	500	500	500	5,082
Facility Improvement Allowance	N	I&E	3,761	1,000	500	500	500	6,261
TOTALS			73,280	48,548	33,303	26,975	23,495	205,601

FY 2023-FY 2026 Revenue Funded

2,280
3,000

5,280

Sewer % of Total

47.1%

15.4%

Schedule 15: Meter & Service Line Costs / Capacity Data

Meter & Line Cost Price List Effective July 1, 2021 per DWSD

Size	Type	Max Flow Rate	Meter Cost	Labor Cost	ARM/MXU - 200W (Time)	Van	Pipe	Adapter	Tee	Companion Flange	Restraint Rod	Total Cost w/ Meter	Total Cost w/ 5/8" Meter	Retail Meter Equivalency - Cost w/ Meter ¹	Fire Line Equivalency - Cost w/ 5/8" Meter ²	Capacity Equivalency - Flow Ratios
5/8"	Positive Displacement	20	\$59.39	\$17.00	\$78.00	\$12.91						\$167.30	\$167.30	1.00	1.00	1.00
3/4"	Positive Displacement	30	\$74.00	\$17.00	\$78.00	\$12.91						\$181.91	\$167.30	1.09	1.00	1.50
1"	Positive Displacement	50	\$104.00	\$17.00	\$78.00	\$12.91						\$211.91	\$167.30	1.27	1.00	2.50
1 1/2"	Displacement / Single Jet Electronic	100	\$411.00	\$36.36	\$78.00	\$12.91						\$538.27	\$186.66	3.22	1.12	5.00
2"	Displacement / Single Jet Electronic	160	\$512.00	\$54.54	\$104.00	\$19.37						\$689.91	\$237.30	4.12	1.42	8.00
3"	Magnetic Flow	510	\$1,647.90	\$222.88	\$104.00	\$51.64	\$238.10	\$98.17	\$101.32	\$32.21	\$0.00	\$2,496.22	\$907.71	14.92	5.43	25.50
4"	Magnetic Flow	920	\$1,943.00	\$222.88	\$104.00	\$51.64	\$221.19	\$125.61	\$135.27	\$52.47	\$0.00	\$2,856.06	\$972.45	17.07	5.81	46.00
6"	Magnetic Flow	2,800	\$2,886.00	\$581.76	\$104.00	\$103.28	\$244.88	\$184.44	\$191.62	\$65.75	\$0.00	\$4,361.73	\$1,535.12	26.07	9.18	140.00
8"	Magnetic Flow	3,700	\$4,307.00	\$581.76	\$104.00	\$206.56	\$344.25	\$291.49	\$289.43	\$91.82	\$0.00	\$6,216.31	\$1,968.70	37.16	11.77	185.00
10"	Magnetic Flow	7,045	\$8,465.00	\$891.52	\$104.00	\$206.56	\$468.79	\$413.40	\$485.32	\$103.44	\$0.00	\$11,138.03	\$2,732.42	66.58	16.33	352.25
12"	Magnetic Flow	11,008												98.00	21.72	550.40
14"	Magnetic Flow	17,613												144.27	28.89	880.65
16"	Magnetic Flow	22,897												212.37	38.43	1,144.85

(1) Equivalency for meters 10" and smaller based on actual installation and meter costs; equivalency for meters 12" and larger based on average cost increase between 3" - 10" meter sizes.
 (2) Equivalency for meters 10" and smaller based on actual installation costs with 5/8" meter cost; equivalency for meters 12" and larger based on average cost increase between 3" - 10" meter sizes.

APPENDIX D: RATE DESIGN SUPPORTING SCHEDULES

Schedule 1: Water Rate Design

Water					
Fixed Charges					
	Customer	Meters & Service Lines	Public Fire Protection		
			50%	% Incl. in Meter Charge	
FY 2023 Revenue Requirement	\$ 6,544,251	\$ 7,688,955	\$ 9,348,988		\$ 28,619,200
FY 2023 Equivalent Units	191,647	243,907	367,978		\$ 23,582,193
Charge per Equivalent per Month	\$ 2.85	\$ 2.63	\$ 2.12		

Meter Equivalency			
5/8"	1.00	1.00	1.00
3/4"	1.00	1.09	1.50
1"	1.00	1.27	2.50
1 1/2"	1.00	3.22	5.00
2"	1.00	4.12	8.00
3"	1.00	14.92	25.50
4"	1.00	17.07	46.00
6"	1.00	26.07	140.00
8"	1.00	37.16	185.00
10"	1.00	66.58	352.25
12"	1.00	98.00	550.40
14"	1.00	144.27	880.65
16"	1.00	212.37	1,144.85

	Current Meter Charge	Proposed Meter Charge
5/8"	\$ 7.86	\$ 7.59
3/4"	\$ 11.79	\$ 8.88
1"	\$ 19.65	\$ 11.47
1 1/2"	\$ 39.31	\$ 21.88
2"	\$ 62.89	\$ 30.62
3"	\$ 125.79	\$ 96.03
4"	\$ 196.54	\$ 145.08
6"	\$ 393.08	\$ 367.74
8"	\$ 628.93	\$ 492.14
10"	\$ 904.08	\$ 923.52
12"	\$ 1,218.55	\$ 1,425.61
14"	\$ 1,690.24	\$ 2,246.35
16"	\$ 2,240.56	\$ 2,984.63

FY 2021 Meters			
5/8"	137,605	137,605	137,605
3/4"	33,579	33,579	33,579
1"	11,024	11,024	11,024
1 1/2"	2,865	2,865	2,865
2"	2,720	2,720	2,720
3"	672	672	672
4"	539	539	539
6"	269	269	269
8"	85	85	85
10"	38	38	38
12"	4	4	4
14"	0	0	0
16"	1	1	1

Wastewater				
Fixed Charges				
	Customer	Meters & Service Lines		Current Revenue Revenue Requirement
FY 2023 Revenue Requirement	\$ 6,840,963	\$ 7,763,356		\$ 15,031,300 \$ 14,604,319
FY 2023 Accounts	192,000	192,000		
Charge per Account per Month	\$ 2.97	\$ 3.37		
				Current Meter Charge Proposed Meter Charge
Meter Equivalency				
All	1.00	1.00	All	\$ 6.54 \$ 6.34
Meters				
All	188,993	188,993		
Volume Rates				
	Volume Rates			Current Revenue Revenue Requirement
FY 2023 Revenue Requirement	\$ 119,100,828			\$ 139,941,000 \$ 119,100,828
FY 2023 Usage (Mcf)	2,149,833			
FY 2021 Volume				
Winter Usage (Mcf)	2,208,832			
				Current Volume Proposed Volume Rate
Charge per Unit	\$ 55.40		All Usage	\$ 57.06 \$ 55.40

Drainage			
Impervious Area Charge			
		Current Revenue	Revenue Requirement
Initial Rate Revenue Requirement	\$ 150,203,140	\$ 226,208,650	\$ 215,375,622
Bad Debt Adjustment	\$ 32,971,421		
Drainage Credit	\$ 32,201,061		
FY 2023 Rate Revenue Requirement	\$ 215,375,622		
FY 2023 Equivalent Units	26,461		
Charge per Equivalent per Month	\$ 678.28		
		Current Drainage Charge	Proposed Drainage Charge
Per Impervious Acre		\$ 677.00	\$ 678.28

Schedule 4: Drainage Credit Calculation

Customer Class	Billed Impervious Acreage	Credit %	Credit \$	Total Credit
Residential	10,283	25.0%	\$ 169.57	\$ 20,924,383
MDOT/County	2,132	42.5%	\$ 288.31	\$ 7,376,678
Green Credit				\$ 3,900,000
Total Credit				\$ 32,201,061

FY 2023 Drainage Rate Calculation per Rate Study		Source
Initial Rate Revenue Requirement	\$ 150,203,140	
Bad Debt Adjustment	\$ 32,971,421	
Drainage Credit	\$ 32,201,061	
FY 2023 Rate Revenue Requirement	\$ 215,375,622	
FY 2023 Equivalent Units	26,461	
ROW Impervious Area (acres)	15,872	p. 12 John. A. Aldrich (CDM Smith) Expert Report, footnote 39
Charge per Equivalent per Month	\$ 423.97	

Year	Drainage Rate	Annual Drainage Cost (\$M)
2022	\$ 423.17	\$ 80.60
2023	\$ 423.97	\$ 80.75
2024	\$ 440.93	\$ 83.98
2025	\$ 458.57	\$ 87.34
2026	\$ 476.91	\$ 90.83
2027	\$ 495.99	\$ 94.47
2028	\$ 515.83	\$ 98.25
2029	\$ 536.46	\$ 102.18
2030	\$ 557.92	\$ 106.26
2031	\$ 580.23	\$ 110.51

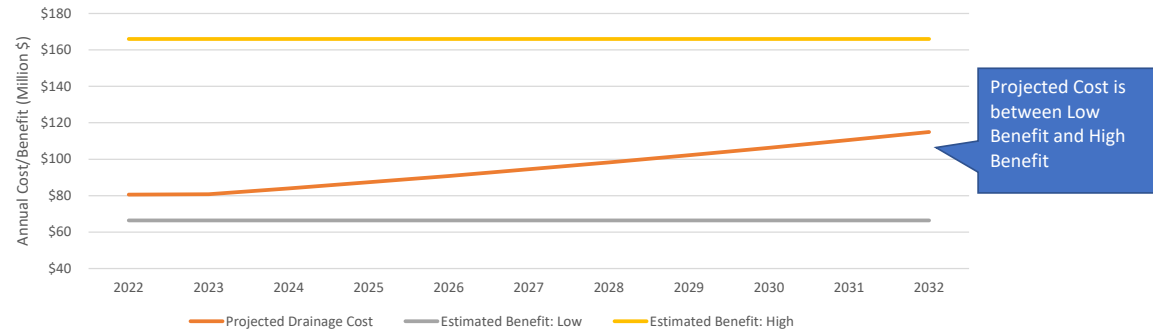
Schedule 5: Right of Way Analysis

Cost Benefit of Rights-of-Way - Option 1

Benefit of Easement Calculation		Source
Equivalent easement value for all roads		40% p. 11 John A. Aldrich (CDM Smith) Expert Report
Min avg. assessed value of vacant land (\$/sq ft)	\$	4.00 p. 11 John A. Aldrich (CDM Smith) Expert Report
Max avg. assessed value of vacant land (\$/sq ft)	\$	10.00 p. 11 John A. Aldrich (CDM Smith) Expert Report
Min combined drainage easement cost (\$/sq ft)	40% \$	1.60 p. 11 John A. Aldrich (CDM Smith) Expert Report
Max combined drainage easement cost (\$/sq ft)	40% \$	4.00 p. 11 John A. Aldrich (CDM Smith) Expert Report
Miles of system in public ROW		24.8 p. 12 John A. Aldrich (CDM Smith) Expert Report, footnote 39 - all IA in public ROW
Sq ft of system in public ROW		691,384,320
Est. cost of easements - min (\$M)	\$	1,106
Est. cost of easements - max (\$M)	\$	2,766

$$PV \text{ of Perpetuity} = \frac{D}{r}$$

PV = Present Value
D = Dividend or Coupon per period
r = discount rate



RoR	Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	Projected Drainage Cost	\$ 80.6	\$ 80.8	\$ 84.0	\$ 87.3	\$ 90.8	\$ 94.5	\$ 98.2	\$ 102.2	\$ 106.3	\$ 110.5	\$ 114.9
	6% Estimated Benefit: Low	\$ 66.37	\$ 66.37	\$ 66.37	\$ 66.37	\$ 66.37	\$ 66.37	\$ 66.37	\$ 66.37	\$ 66.37	\$ 66.37	\$ 66.37
	6% Estimated Benefit: High	\$ 165.93	\$ 165.93	\$ 165.93	\$ 165.93	\$ 165.93	\$ 165.93	\$ 165.93	\$ 165.93	\$ 165.93	\$ 165.93	\$ 165.93

Schedule 5: Right of Way Analysis

Cost Benefit of Rights-of-Way - Option 2

ROW Cost Calculation		Source
FY 2023 drainage total cost	\$ 229,119,951 per year	Stantec cost allocation per current rate study
Total wet weather flow (5 yr avg 17-21)	134 MGD	GLWA Flow Balance Analysis & Results for Fiscal Year 2021 - Draft CDM Report (1/14/22)
Cost per MGD	\$ 1,705,193	
Total billed impervious area	26,461 acres	DWSD billing data provided per rate study
Total ROW impervious area	15,872 acres	pg. 12 John A. Aldrich (CDM Smith) Expert Report, footnote 39
Total impervious area	42,333 acres	
ROW wet weather flow	50 MGD	
FY 2023 ROW cost	\$ 85,904,421 cost per year	
ROW Benefit Calculation		Source
FY 2023 drainage total cost	\$ 229,119,951 per year	Stantec cost allocation per current rate study
Total wet weather flow (5 yr avg 17-21)	134 MGD	GLWA Flow Balance Analysis & Results for Fiscal Year 2021 - Draft CDM Report (1/14/22)
Cost per MGD	\$ 1,705,193	
Billed impervious area	26,461 acres	DWSD billing data provided per rate study
Impervious area not conveyed by ROW	25%	p. 9 John A. Aldrich (CDM Smith) Expert Report; Approx. 3/4 of combined sewers in public ROW
ROW conveyance benefit	19,846 acres	
ROW flow benefit	63 MGD	
FY 2023 ROW benefit	\$ 107,411,647 benefit per year	
Benefit minus cost of ROW	\$ 21,507,226 net benefit per year	