



THE FOSTER GROUP

THE FOSTER GROUP, LLC
12719 WENONGA LANE
LEAWOOD, KS 66209

BART FOSTER, PRESIDENT
CELL: (913) 530-6240
BFOSTER@FOSTERGROUPLLC.COM

MEMORANDUM

FY 2024 Cost of Service Study and Service
Charge Recommendations

December 30, 2022

To: Sue Coffey, Nickie Bateson

From: Bart Foster

This memorandum has been prepared to introduce the exhibits summarizing the cost of service allocations and recommended proposed Water and Sewer service charges for FY 2024. The materials presented herein summarize calculations that are subject to review, change and modification by the Great Lakes Water Authority (“GLWA”) Board. The proposed service charges will be initially presented to Member Partners at a meeting on January 12, 2023, and further discussed at a meeting on January 19, 2023. GLWA will be formally issuing notification of the proposed charges to Member Partners on January 20, 2023. A public hearing on the proposed Water and Sewer service charges for FY 2022 is scheduled for February 22, 2023.

This is the eighth cost of service and service charge study prepared for GLWA. This study only addresses the wholesale service costs of service (revenue requirements) that are GLWA’s direct responsibility, although where appropriate reference is made to certain retail elements that are solely allocable to the City of Detroit, and which are a part of the comprehensive presentation of the overall GLWA financial plan as dictated by the “Agreements” that GLWA must follow in its budget representations. The “Agreements” include the GLWA Master Bond Ordinance, Trust Indenture, the Lease(s), the Services Agreements with the City of Detroit, and the 2018 Memorandum of Understanding that establishes implementation plans for the other core aspect of the Agreements.

The material presented herein employs a similar presentation and format to that included in studies from prior years. The effect of the preliminary proposed FY 2024 Water and Sewer Charges were originally documented in our December 14, 2022 “Proposed FY 2024 Water and Sewer Charges” memorandum, which is included as Appendix A to this report. As noted in that document, the proposed FY 2024 Water Charges are the first in four years to reflect a detailed cost of service study applicable to the charges for every Member Partner, while the proposed FY 2024 Sewer Charges reflect an “across the board” uniform charge adjustment for the wholesale costs of service to ALL Member Partners.

The overall strategy for the FY 2024 Financial Plan and Service Charges has been communicated via the GLWA Customer Outreach Program and briefings to the GLWA Board of Directors in both full meetings and the committee structure. Materials delineating this strategy, and the implementation of it, are disclosed at glwater.org, and we encourage interested stakeholders to review that material, all of which is intended to be incorporated by reference to this concluding report. We have also included key documents as appendices to this report.

The analysis and calculations supporting these recommendations reflect some key assumptions introduced and summarized below. We elaborate on these (and other) assumptions as appropriate in the introduction of specific tables and calculations that follows this introduction.

1. The FY 2024 Budgeted Revenue Requirements depicted herein represents the “budget request” as developed by GLWA, which was originally presented to the Audit Committee on December 16, 2022 and is scheduled to be formally reflected in the preliminary “*FY 2024-2025 Biennial Budget and Five-Year Plan*” document to be published in January 2023. ***Subsequent to publishing the preliminary budget projections, we have updated the ten-year financial forecast, which now reflects the working version of the Capital Improvement Programs (“CIPs”). It is our understanding that the updated CIPs will be presented for review in early January, 2023. The updated ten-year financial forecast is included as Appendix B to this report.***
 - *As further explained herein, the FY 2024 Budgeted Revenue Requirements included in these calculations reflect a 4.0% budgetary increase for both the Water and Sewer Systems This represents full implementation of the 4% Revenue Requirement Increase set forth the Agreements, which are technically in effect through FY 2025.*
 - *It is our understanding that the final FY 2024 Budgeted Revenue Requirements may contain modifications to the current “budget request” version, as final review of specific items are completed, including coordination with the DWSD Budget for the Local Systems.*
 - *It is our further understanding that GLWA management has committed to delivering final FY 2024 Budgeted Revenue Requirements that fit within the total “budget request” figures reflected in these calculations, and that these calculations reflect a reasonable depiction of the final Budgeted Revenue Requirements.*

2. The Capital Financing Plan reflects the preliminary updated plan set forth in the ten-year financial forecast contained in Appendix B.
 - *The FY 2024 capital revenue requirements (debt service, revenue financed capital, etc.) included in this analysis are identical to the budget request.*
 - *The GLWA financial policy includes a capital spend rate assumption. Capital financing plans are designed to generate capital funding sources equal to an amount of the total Capital Improvement Programs (“CIPs”) with what can realistically be spent due to limitations beyond GLWA’s control and/or delayed for non-budgetary reasons financing.*
 - *For purposes of the FY 2024 Budgeted Revenue Requirements, the spend rate assumption is 100% for both Systems.*

3. These calculations reflect preliminary projections regarding DWSD Budget decisions as they relate to the items below. While these items do not directly impact the allocation of Wholesale Service Charges, they are important components to the overall FY 2024 BUDGET and financial plan, as dictated by the Agreements.
 - *O&M Budget for Local Facilities;*
 - *Capital Improvement Program Financing Requirements for Local Facilities;*
 - *Application of \$50 million Lease Payment.*

4. The recommended charge adjustment strategies introduced herein reflect proposed 2.75% “System Charge Adjustments” to meet wholesale revenue requirements. The proposed service charges for each Member Partner will vary from this system average, to reflect:
 - *Recognition of required contractual adjustments for both the Water and Sewer Charges, and;*
 - *Results of the FY 2024 Water Cost of Service Study*

5. Finally, neither the proposed Water Charges nor the proposed Sewer Charges contain any amounts to recover bad debt expense associated with Highland Park from other Member Partners.
 - *It is our understanding that GLWA and the City of Highland Park are in mediation discussions, and that Highland Park is now making regular (although partial) payments to GLWA for sewage disposal services. For purposes of the proposed FY 2024 Water and Sewer Charges, we have assumed that revenue requirements allocable to Highland Park will be fully recovered from Highland Park.*

These calculations follow the same cost allocation strategies, practices, and protocols that have been applied in these calculations without any major modifications from cost of service calculations for prior years. It is important to note that the existing FY 2023 Water and Sewer service charges were determined via “across the board” Wholesale Charge Adjustments (applied to the FY 2022 service charges) to all Member Partners. The last charges determined via a detailed cost of service study that treated every Member Partner uniquely and individually were the FY 2020 Water Charges and the FY 2022 Sewer Charges.

Finally, as noted above these service charge calculations reflect slightly different approaches for the Water charges and the Sewer charges. The recommended proposed Water charges reflect the results of a detailed cost of service study in order to accurately represent cost responsibility for each Member Partner based on their updated peak demands emerging from the Contract Alignment Process (“CAP”). The recommended proposed Sewer charges ***do not*** rely on an updated cost of service study of the FY 2024 Sewer Revenue Requirements. Rather, we have simply applied an “across the board” adjustment to the wholesale revenue requirements assigned to each Member Partner. This approach is deemed reasonable to achieve stability objectives, given the continuation of the FY 2022 Sewer SHAREs, which are scheduled to be next updated for the FY 2025 Sewer charges.

With respect to the Water Cost of Service Study, the core calculation approach remains the same as in prior analyses. Costs are allocated to “cost pools” that align with characteristics that define each Member Partner’s use of the System(s). In many instances, the allocation of specific revenue requirement elements to cost pools reflects the same allocation assumptions as those applied in the development of the current service charges, although specific operating programs as reflected in the budget request for FY 2024 do impact the cost pool allocations. Also, the FY 2024 Cost of Service Study continues to reflect results of the independent GLWA capital asset inventory and valuation project conducted at the “launch” of the Authority. We have utilized information provided by that project, including updates reflecting activity through FY 2022, to allocate capital revenue requirements to Cost Pools.

A detailed discussion with accompanying material that delineate the specific process we have taken to allocate the FY 2024 Budgeted Revenue Requirements to cost pools as part of the FY 2024 Water Cost of Service and Charges Study is included as Appendix C to this memorandum report.

The exhibits to this memorandum report contain executive summary material on:

- The determination of the Proposed FY 2024 Budgeted Revenue Requirements;
- The allocation of Proposed FY 2024 Water Revenue Requirements to cost pools based on the FY 2024 Water Cost of Service Study;

- The proposed allocation of these costs to individual Member Partners based on:
 - *The detailed cost of service study for Water;*
 - *The simplified approach introduced above for Sewer.*
- Proposed wholesale service charge schedules for each Member Partner;

A brief introduction of each of the exhibits follows in this memorandum. We have also prepared individual service charge calculation sheets for each wholesale Member Partner, which includes a “one pager” illustration of the proposed charge calculations. As noted earlier, these individual calculation sheets will be distributed to Member Partners in advance of a meeting on January 12, 2023, and GLWA is formally issuing notification of the proposed charges on January 20, 2023. We suggest publishing this memorandum to support review of the proposed charges. Additional material is being prepared to augment the proposals.

We are prepared to present this material and discuss this matter at your convenience.

[Remainder of page intentionally left blank]

Water Service Charge Calculation Tables:

1. Presents an executive summary of the comprehensive Water Supply System Budgeted Revenue Requirements for FY 2024 compared to the originally approved FY 2023 Revenue Requirements. This table was originally presented in the December 14, 2022 memorandum (*see Appendix A for additional discussion*). Of note:
 - The total Revenue Requirement increase is \$14.2 million, or 4.0%, as shown on Line 12 of the table.
 - The budgeted investment earnings for FY 2024 are significantly higher than those budgeted for FY 2023 and provide funds to meet a portion of the budget increase (*Line 16*).
 - Proforma wholesale Water revenues under existing charges reflect a moderate (\$0.5 million) increase compared to originally forecasted FY 2023 amounts, creating a positive budget variance. (*Line 17*).
 - As a result, the “System Charge Adjustment” required from charges to Member Partners is 2.75%, designed to generate \$9.8 million more revenue than the existing charges.
 - ***The Water Service Charge calculations delineated herein allocate responsibility for the “Revenue Requirement from Charges” totaling \$366 million as shown on Line 1 of Column 2 of the table.***

2. Allocates the FY 2024 Revenue Requirements from Table 1 to the Cost Pools necessary to assign costs to Member Partners and Customer classes. As noted earlier, the approach taken to prepare these allocations does not reflect any major methodology changes from prior studies. ***The detailed allocations are set forth in Appendix C to this memorandum report.*** However, the results of the Cost of Service Study do result in some changes in the relative assignment of costs to Cost Pools. There are a few items of note:
 - The preliminary operating expense budget reflects the detailed review of specific cost elements. In general, compared to the prior cost of service studies the total operating expense budget for FY 2024 reflects material increases in the commodity and max day Cost Pools and a more moderate increase in peak hour related Cost Pools.
 - *This is principally related to increases in chemical and utility costs at the water treatment plants.*
 - This is somewhat offset by the reduction in the pension obligation revenue requirements. These elements are allocated to cost pools based on relative personnel expenses, which are heavily max day related. Therefore the reduction in pension obligation elements results in lower max day revenue requirements.

- The capital revenue requirement allocations continue to reflect the detailed review of the fixed asset data that resulted from the capital asset inventory and valuation project. In general, the relative capital revenue requirements allocated to peak hour cost pools are proportionally higher than the operating revenue requirements. Since the FY 2024 revenue requirements are more heavily capital related than those from the prior cost of service study, peak hour cost pools carry more of the relative total revenue requirement.
3. Illustrates the calculation of proforma FY 2024 revenues under the existing FY 2023 service charge schedule.
- Separates the proforma revenue projections into amounts related to:
 - “Wholesale” revenue requirements;
 - Implementation of the Detroit Ownership Adjustment;
 - Implementation of the KWA Debt Service Credit.
 - This is necessary to provide context to the results of the cost of service analyses and charge adjustment strategy presented in Tables 6 and 7.
 - ***The total proforma revenue of \$356.26 million in Column 4 of the last page of the table becomes the “Baseline Revenue” on Line 14 in Table 1.***
4. Establishes the “Units of Service” for each Member Partner to support the cost of service allocations. Table 4 is actually two distinct tables, starting from basic data input (from contracts, etc.) that define basic characteristics regarding each Member Partner’s use of the System. ***The preliminary basic units of service were originally presented to Member Partners at the second FY 2022 Charges Rollout Meeting on November 16, 2022. The final units of service reflect minor modifications to original sales volume figures for five Member Partners, and max day and peak hour demands for one Member Partner. The specific modifications are set forth in our “Proposed FY 2024 Water Units of Service – Updated Units” memorandum dated December 20, 2022 – which is included as Appendix D to this report.***
- The annual sales volumes in Column 1 of Table 4a continue to reflect a uniform forecasting approach. For FY 2024 the projected volume was determined by averaging annual sales for each Member Partner over the most recent 36 months from October 2019 through September 2022. Sales data for “base” months (October through March) were reduced by 2% to reflect demographic reduction in potable water use based on recent trends being experienced worldwide. Sales data for “peak” months (April through September) were not adjusted. Peak monthly data for the three-year averaging period reflect for one very low demand year and two relatively average demand years.

- The max day and peak hour demand figures in Table 1a reflect figures from Exhibit B of the contract for the 85 master metered Member Partners. ***The max day and peak hour demands for ALL of these Member Partners reflect the results of the renegotiations that occurred during 2022 via the CAP process.***
 - ***Absent “out of cycle” reopener adjustments it is anticipated that these max day and peak hour demands will remain in place for ALL Member Partners for the FY 2024, FY 2025, FY 2026, and FY 2027 Water Charges – and that the next CAP process will take place in 2026 to be reflected in the FY 2028 Water Charges.***
 - Dearborn, Highland Park, and Detroit are not served by master meters. Units of service for these “Non-Master Metered” Member Partners continue to be established via the phase 2 Units of Service (“UoS”) Study protocols initially established for the FY 2020 charges. ***The max day and peak hour demands resulting from this approach are also intended to be “locked in” for the 4-year CAP period introduced above.***
 - Table 4a also documents the distance and elevation measures for each Member Partner, and the relative master meter inventory. The distance and elevation factors are measured to each Member Partner’s “point of commerce” as defined by the meter location(s). These factors are unchanged from those established several years ago.
 - Each Member Partner is proportionally assigned responsibility for Transmission System non-revenue water (“NRW”) based in their distance factor and their annual sales volume, as illustrated in Columns 8 and 9.
 - Table 4b combines the basic characteristics from Table 4a into consolidated units of service for each Member Partner that align with Cost Pools embraced by the current Water Charge Methodology. The calculation of specific “cost pool” factors to is indicated at the top of the table.
5. Calculates each Member Partner’s SHARE of the total FY 2024 Wholesale Revenue Requirement, and uses the SHARE to allocate responsibility for that revenue requirement. Table 5 introduces a slightly different calculation approach to implement the exact same charge methodology as prior studies. In Columns 1 through 10 each Member Partner’s Share of each specific cost pool is determined by simply dividing their individual units of service by the System total. At the top of Table 5, the relative “Cost Pool Weighting Factors” determined in Table 2 are brought over. Each Member Partner’s SHARE is simply the sum of the products of the individual Cost Pool Share times the Cost Pool Weighting Factors. This concept is illustrated for Allen Park below.

Cost Pool SHARE											
Commodity	Max Day Usage	Peak Hour Usage	Peak Hour Increment	Peak Hour Distance	Commodity Distance	Max Day Distance Elevation	Peak Hour Distance Elevation	PH Incr Distance Elevation	Master Meter Related		
	3.8%	43.5%	0.0%	2.5%	24.1%	4.9%	3.3%	13.9%	2.4%	1.6%	100.0%
Allen Park's Cost Pool Share:	0.674%	0.721%	0.782%	1.018%	0.663%	0.443%	0.452%	0.498%	0.690%	1.382%	
Allen Park's Weighted SHARE	0.026%	0.314%	0.000%	0.025%	0.160%	0.022%	0.015%	0.069%	0.017%	0.022%	0.669%
System Revenue Requirement											\$366,068,800
Allen Park's Revenue Requirement											\$2,449,000

- The illustration above will be reflected on the “Charge Calculation Worksheets” that are being developed for each Member Partner and that will be distributed prior to the 3rd Charges Rollout Meeting on January 12.
- Note that the Cost Pool Weighting Factors are rounded to 0.1% and the individual Member Partner Cost Pool Shares are rounded to 0.001%.

6. Summarizes the SHARES and the allocated FY 2024 allocated wholesale revenue requirements from Table 5, then applies the adjustments necessary to reflect two special contractual circumstances:

- The “Detroit capital ownership adjustment” of \$20.7 million annually, which is established in the Agreements must be recognized. In Column 3 of the table this amount is reduced from the Wholesale Revenue Requirement allocated to Detroit and allocated to all other Member Partners in proportion to their individually allocated Wholesale Revenue Requirements.
- Similarly, the contractual credit to Flint related to KWA debt service must be recognized. Flint’s share of KWA debt service for FY 2024 is estimated to be \$6,651,800. This adjustment is accomplished in Column 4 similar to the Detroit Ownership adjustment. It is reduced from Flint’s allocated revenue requirement and allocated to all other Member Partners (including Detroit) in proportion to the allocation of Wholesale Revenue Requirements.

o *Note: while every Member Partner is allocated a portion of the KWA credit as part of the contractual agreement between GLWA and Flint, it is important to recognize that each Member Partner is a “net beneficiary” of the agreement. All Member Partners receive lower revenue requirement allocation than they would absent the agreement, since the Water System experiences ~ \$5.0 million in annual revenues from Flint, which would not have been experienced without the agreement. The incremental costs of serving Flint under the agreement are not material, and incremental investments that may have been necessary to ensure water quality in the northern GLWA service area had the arrangement not been made are avoided.*

- Table 6 also compares the final allocated FY 2024 Total Revenue Requirement with the proforma revenue under the existing charge schedule, and identifies the relative charge adjustment required from each Member Partner.
 - *As introduced earlier, the CAP process produces more variability in charge adjustments amongst Member Partners than experienced in recent years.*
 - ***The total Detroit “Charge Revenue Requirement” becomes the proposed figure for the GLWA Authority Board to consider. The calculations herein do not produce specific charge proposals for the Detroit retail class.***
7. Calculates the proposed wholesale service charge structure for each Member Partner.
- Column 3 presents the “average unit cost” for each Member Partner, which simply represents that allocated cost of service divided by the total annual sales volume. *This metric is included in Table 7 for reference purposes and is not part of the Water Charge Schedule.*
 - The proposed FY 2024 Water Service Charge Schedule is calculated in Columns 4 through 7. The proposed service charge structure represents the same approach as the existing charge structure, which was originally implemented for the FY 2016 Water Service Charges. The fixed monthly charge for each Member Partner is designed to recover precisely 60% of the revenue requirements allocated to that Member Partner. Each Member Partner’s commodity charge is designed to recover the remaining 40% of the revenue requirements allocated to them – and is determined by dividing by the projected sales volume resulting from the uniform forecasting approach.
 - Column 8 calculates projected revenue under the proposed service charge schedule and Column 9 illustrates that the proposed charges recover the adjusted, allocated revenue requirements for each Member Partner.
8. Illustrates the impact of the Detroit Ownership Benefit and Flint / KWA Debt Service contractual adjustments on the relative charge adjustments.
- These adjustments are fixed, and not subject to any indexed adjustment to overall revenue requirements.
 - As a result the most pertinent percentage adjustment figures resulting from the FY 2024 Cost of Service Study are those related to the “Allocated Wholesale Revenue Requirement” – prior to any adjustments.
 - Table 8 is designed to emphasize this notion for Detroit, Flint, and the other Member Partners in total.

Sewer Service Charge Calculation Tables:

The FY 2024 Sewer Service Charges can be calculated without any recognition of “units of service”, as Member Partner SHARES are unchanged and Industrial Charges are being adjusted at the average index required by the FY 2024 budgeted revenue requirements.

1. Presents an executive summary of the comprehensive Sewage Disposal System Budgeted Revenue Requirements for FY 2024 compared to the originally approved FY 2023 Revenue Requirements. This table was originally presented in the December 14, 2022 memorandum (*see Appendix A for additional discussion*). Of note:
 - The total Revenue Requirement increase is \$19.25 million, or 4.0%, as shown on Line 12 of the table.
 - The budgeted investment earnings for FY 2024 are significantly higher than those budgeted for FY 2023 and provide funds to meet a portion of the budget increase (*Line 16*).
 - As a result, the “System Charge Adjustment” required from charges to Member Partners is 2.75%, designed to generate \$13.2 million more revenue than the existing charges.
 - ***The Sewer Service Charge calculations delineated herein allocate responsibility for the “Revenue Requirement from Charges” totaling \$493.2 million as shown on Line 1 of Column 2 of the table.***
 - A small portion of the revenue requirement is recovered from the Oakland Macomb Interceptor District (“OMID”) on a fixed contractual basis, as shown on Line 20.
 - *Since a material portion of these contractual amounts are related to the legacy pension obligation, and since that element is significantly reduced in the FY 2024 Budget, the FY 2024 OMID Specific revenue requirements represent a 11% reduction from FY 2023.*
 - The remaining revenue must be recovered from wholesale charges (including industrial charges). This creates the need for all such to be adjusted in total by **2.81%** as indicated on Line 24 of Table 1.
 - ***The recommended simplified approach applies this 2.81% Wholesale Charge Adjustment to ALL existing wholesale charges (prior to adjustments) for purposes of calculating the proposed FY 2024 Sewer Charges.***
2. Allocates the FY 2024 Revenue Requirements to Member Partners and Industrial Customer Classes. This table presents the proforma revenue under the existing charges, applies the indexed adjustments noted above to allocate the FY 2024 Revenue Requirements, and compares the results.

- Each section of the table separates revenue requirements into amounts related to:
 - “Wholesale” revenue requirements;
 - Implementation of the \$5.5 million Detroit Ownership Adjustment¹.
 - The Proforma Wholesale Revenues shown in Column 1 reflect the results of the FY 2022 Cost of Service Study – as updated for the FY 2023 indexed adjustments - prior to recognition of amounts related to the Detroit Ownership Adjustment.
 - Column 2 shows the portion of existing revenue related to the Detroit Ownership Adjustment, which is deducted from Detroit’s allocated wholesale revenue requirement and proportionally allocated to all Suburban Wholesale Member Partners.
 - The FY 2023 Wholesale Revenue Requirement is allocated to Member Partners and Industrial Customer Classes in Column 4 **by applying the uniform 2.81% Wholesale Charge Adjustment Index** computed in Table 1.
 - Since the wholesale revenue requirements are being uniformly adjusted for all Member Partners, the FY 2024 contractual ownership adjustments in Column 5 are identical to those in Column 2.
 - Columns 7 through 9 indicate the relative change in allocated Revenue Requirements for each element, and Columns 10 through 12 illustrate how those changes impact the charge adjustment for each Member Partner based on those changes.
 - ***The Proposed FY 2024 Sewer Charges reflect a uniform 2.81% increase in wholesale revenue requirements. The effect of the contractual adjustment for the Detroit Ownership Benefit results in slightly different final charge adjustments between Detroit and the Suburban class at large.***
3. Compares the allocated revenue requirements under the existing and proposed charges, and indicates the relative change for each Member Partner. The SHAREs for the FY 2024 charges are unchanged from the FY 2022 SHAREs – therefore the uniformity in charge adjustments
- Note that the pertinent percentage adjustment figure in Column 5 for Detroit is that expressed on a “gross” basis as shown on Line 26. The Ownership Benefit credit results recovery of less than the Wholesale Revenue Requirements allocated to Detroit. But the credit is fixed and not subject to indexed adjustments.

¹ As established by the Agreements

4. Calculates the Proposed FY 2023 Wholesale Sewer Service Charges and compares them to the existing charges. The proposed charges for Member Partners continue to consist entirely of fixed monthly charges are simply the amounts from Table 3 divided by 12. The relative charge adjustments are the same as introduced in Tables 2 and 3.
5. Presents the Proposed FY 2022 Industrial Waste Control Charges and Industrial Surcharges. These charges simply represent application of the 2.81% uniform Wholesale charge index to the existing charges.

Table 1
Water Supply System
Recommended FY 2024 Revenue Requirement and Charge Adjustment Summary

	(1)	(2)	(3)	(4)
	Approved <u>FY 2023</u>	Recommended <u>FY 2024</u>	<u>Variance</u>	<u>% Variance</u>
	\$	\$	\$	
<u>Revenues</u>				
1 Revenues from Charges	354,947,900	366,068,800	11,120,900	3.1%
2 Other Operating Revenue	175,000	175,000	0	0.0%
3 Non-Operating Revenue	948,700	4,070,700	3,122,000	329.1%
4 Total Revenues	356,071,600	370,314,500	14,242,900	4.0%
<u>Revenue Requirements</u>				
5 Operations & Maintenance (O&M) Expense	144,847,700	152,906,400	8,058,700	5.6%
6 General Retirement System Legacy Pension	6,048,000	0	(6,048,000)	-100.0%
7 Debt Service - Regional System Allocation	150,337,100	159,823,700	9,486,600	6.3%
8 General Retirement System Accelerated Pension	6,268,300	3,395,500	(2,872,800)	-45.8%
9 WRAP Contribution	1,770,500	1,851,600	81,100	4.6%
10 Lease Payment	22,500,000	22,500,000	0	0.0%
11 Deposit to Improvement & Extension (I&E) Fund	24,300,000	29,837,300	5,537,300	22.8%
12 Total Revenue Requirements	356,071,600	370,314,500	14,242,900	4.0%
<u>Charge Adjustment Summary</u>				
13 Adjustment Index		4.0%		
14 Baseline Revenue		356,260,500		
15 Change in Annual Revenue Requirement			14,242,900	4.00%
16 Change Attributable to Non-Charge Revenue			(3,122,000)	-0.88%
17 Change Attributable to Sales Revenue			(1,312,600)	-0.37%
18 Wholesale Charge Adjustment			9,808,300	2.75%

Table 2
Water Supply System
Allocation of FY 2024 Wholesale Revenue Requirements to Cost Pools

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Amount to Allocate	Cost Pool Allocation									
	<u>Commod</u>	<u>Max Day</u>	<u>PH Incr</u>	<u>PH Dist</u>	<u>Comm DE</u>	<u>MD DE</u>	<u>PH DE</u>	<u>PHI DE</u>	<u>Master Mtrs</u>	
\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
<u>Revenue Requirement Elements</u>										
1 Regional System O&M Expense	152,906,400	13,131,600	74,317,300	2,140,300	16,952,000	16,706,400	11,207,200	8,353,300	8,353,300	1,745,000
2 Pension Obligation - Operating Portion	0	0	0	0	0	0	0	0	0	0
3 Debt Service	159,823,700	0	62,383,900	5,331,500	55,452,700	0	0	33,515,900	0	3,139,700
4 Non-Operating Portion of Pension Oblig	3,395,500	0	1,996,000	64,000	506,700	225,000	326,600	112,500	112,500	52,200
5 Transfer to WRAP Fund	1,851,600	70,400	805,500	46,300	446,200	90,700	61,100	257,400	44,400	29,600
6 Lease Payment - Transfer to Detroit Local I&E	22,500,000	855,000	9,787,500	562,500	5,422,500	1,102,500	742,500	3,127,500	540,000	360,000
7 Transfer to GLWA Regional I&E Account	29,837,300	0	11,646,400	995,300	10,352,400	0	0	6,257,000	0	586,200
8 Total Gross BUDGET	370,314,500	14,057,000	160,936,600	9,139,900	89,132,500	18,124,600	12,337,400	51,623,600	9,050,200	5,912,700
9 less: Non-Operating Revenue	(4,245,700)	(161,300)	(1,847,000)	(106,100)	(1,023,200)	(208,000)	(140,100)	(590,200)	(101,900)	(67,900)
10 Net BUDGET Req'd from Charges	366,068,800	13,895,700	159,089,600	9,033,800	88,109,300	17,916,600	12,197,300	51,033,400	8,948,300	5,844,800
11 Allocation Factors for Indirect Elements * ->		3.8%	43.5%	2.5%	24.1%	4.9%	3.3%	13.9%	2.4%	1.6%

* These "weighting factors" become the basis for determination of SHARES in Table 5

Table 3
Water Supply System
FY 2024 Proforma Revenue Under Existing Charges

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		FY 2023 Charges		FY 2024 Proforma Revenue by Category				
	<u>Volume</u>	<u>Fixed</u>	<u>Commodity</u>	<u>Gross</u>	DWSD	Flint / KWA	Wholesale	Proforma
	<i>Mcf</i>	<i>\$/mo</i>	<i>\$/Mcf</i>	<u>TOTAL</u>	<u>Ownership Adj</u>	<u>Adjustment</u>	<u>Rev Req't</u>	<u>Unit Cost</u>
				<i>\$</i>	<i>\$</i>	<i>\$</i>	<i>\$</i>	<i>\$/Mcf</i>
1 Allen Park	121,500	136,800	7.52	2,555,300	155,400	45,300	2,354,600	19.38
2 Almont Village	9,300	13,000	10.84	256,800	15,600	4,600	236,600	25.44
3 Ash Township	41,100	45,100	8.56	893,000	54,300	15,800	822,900	20.02
4 Belleville	15,200	17,900	9.41	357,800	21,800	6,300	329,700	21.69
5 Berlin Township	27,700	39,900	11.75	804,300	48,900	14,300	741,100	26.75
6 Brownstown Township	140,200	195,700	11.49	3,959,300	240,800	70,200	3,648,300	26.02
7 Bruce Township	3,020	18,700	56.29	394,400	24,000	7,000	363,400	120.33
8 Burtchville Township	9,000	18,800	17.95	387,200	23,600	6,900	356,700	39.63
9 Canton Township	374,600	563,000	12.52	11,446,000	696,200	202,900	10,546,900	28.16
10 Center Line	32,300	25,600	6.38	513,300	31,200	9,100	473,000	14.64
11 Chesterfield Township	180,400	233,100	10.56	4,702,200	286,000	83,400	4,332,800	24.02
12 Clinton Township	393,800	409,600	8.21	8,148,300	495,600	144,400	7,508,300	19.07
13 Commerce Township	108,100	195,300	14.96	3,960,800	240,900	70,200	3,649,700	33.76
14 Dearborn	561,600	548,800	7.46	10,775,100	655,400	191,000	9,928,700	17.68
15 Dearborn Heights	198,800	199,200	8.08	3,996,700	243,100	70,800	3,682,800	18.53
16 Eastpointe	104,000	84,600	6.49	1,690,200	102,800	30,000	1,557,400	14.98
17 Ecorse	91,500	78,400	4.94	1,392,800	84,700	24,700	1,283,400	14.03
18 Farmington	44,900	54,700	9.79	1,096,000	66,700	19,400	1,009,900	22.49
19 Farmington Hills	356,100	478,200	10.95	9,637,700	586,200	170,800	8,880,700	24.94
20 Ferndale	65,500	56,400	6.27	1,087,500	66,100	19,300	1,002,100	15.30
21 Flat Rock	51,800	69,600	10.65	1,386,900	84,400	24,600	1,277,900	24.67
22 Flint	455,200	23,000	9.84	4,755,200	693,800	(6,651,800)	10,713,200	23.54
23 Fraser	57,100	65,900	9.06	1,308,100	79,600	23,200	1,205,300	21.11
24 Garden City	75,900	89,600	9.16	1,770,400	107,700	31,400	1,631,300	21.49
25 Gibraltar	16,400	18,100	8.83	362,000	22,000	6,400	333,600	20.34
26 Greenwood Township (DTE)	26,400	71,400	22.78	1,458,200	88,700	25,800	1,343,700	50.90
27 Grosse Ile Township	38,500	59,500	12.49	1,194,900	72,700	21,200	1,101,000	28.60
28 Grosse Pt. Park	55,600	72,800	10.60	1,463,000	89,000	25,900	1,348,100	24.25
29 Grosse Pt. Shores	19,500	35,100	14.65	706,900	43,000	12,500	651,400	33.41
30 Grosse Pt. Woods	69,900	68,700	7.91	1,377,300	83,800	24,400	1,269,100	18.16



Table 3
Water Supply System
FY 2024 Proforma Revenue Under Existing Charges

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		FY 2023 Charges		FY 2024 Proforma Revenue by Category				
	<u>Volume</u>	<u>Fixed</u>	<u>Commodity</u>	<u>Gross</u>	DWSD	Flint / KWA	Wholesale	Proforma
	<i>Mcf</i>	<i>\$/mo</i>	<i>\$/Mcf</i>	<u>TOTAL</u>	<u>Ownership Adj</u>	<u>Adjustment</u>	<u>Rev Req't</u>	<u>Unit Cost</u>
				<i>\$</i>	<i>\$</i>	<i>\$</i>	<i>\$</i>	<i>\$/Mcf</i>
31 Hamtramck	61,100	43,500	5.58	862,900	52,500	15,300	795,100	13.01
32 Harper Woods	52,300	43,600	7.38	909,200	55,300	16,100	837,800	16.02
33 Harrison Township	98,500	88,100	7.38	1,784,100	108,500	31,600	1,644,000	16.69
34 Hazel Park	49,100	39,900	6.36	791,100	48,100	14,000	729,000	14.85
35 Highland Park	103,000	62,900	4.76	1,245,100	75,700	22,100	1,147,300	11.14
36 Huron Township	64,800	80,800	10.43	1,645,500	100,100	29,200	1,516,200	23.40
37 Imlay City	45,700	79,900	13.82	1,590,400	96,700	28,200	1,465,500	32.07
38 Imlay Township (Single User)	130	800	45.33	15,500	900	300	14,300	110.00
39 Inkster	101,100	69,300	5.47	1,384,600	84,200	24,500	1,275,900	12.62
40 Keego Harbor	9,900	16,300	12.99	324,200	19,700	5,700	298,800	30.18
41 Lapeer	53,000	83,600	12.64	1,673,100	101,800	29,700	1,541,600	29.09
42 Lenox Township	13,800	15,700	8.99	312,500	19,000	5,500	288,000	20.87
43 Lincoln Park	171,100	126,300	6.11	2,561,000	155,800	45,400	2,359,800	13.79
44 Livonia	467,000	620,700	10.54	12,370,600	752,500	219,300	11,398,800	24.41
45 Macomb Township	331,200	682,100	17.01	13,818,900	840,500	245,000	12,733,400	38.45
46 Madison Heights	111,900	100,400	7.64	2,059,700	125,300	36,500	1,897,900	16.96
47 Mayfield Township (KAMAX)	450	2,200	34.12	41,800	2,500	700	38,600	85.78
48 Melvindale	43,400	35,000	6.66	709,000	43,100	12,600	653,300	15.05
49 New Haven, Village of	19,200	20,300	8.83	413,100	25,100	7,300	380,700	19.83
50 NOCWA	882,200	1,192,200	10.89	23,913,600	1,454,600	423,900	22,035,100	24.98
51 Northville	30,400	41,900	10.77	830,200	50,500	14,700	765,000	25.16
52 Northville Township	140,100	306,100	17.72	6,155,800	374,400	109,100	5,672,300	40.49
53 Novi	303,800	490,900	13.42	9,967,800	606,300	176,700	9,184,800	30.23
54 Oak Park	93,700	75,300	6.35	1,498,600	91,200	26,600	1,380,800	14.74
55 Oakland GWK Drain District	9,000	4,400	3.64	85,600	5,200	1,500	78,900	8.77
56 Plymouth	45,200	59,000	10.59	1,186,700	72,200	21,000	1,093,500	24.19
57 Plymouth Township	162,200	240,700	11.96	4,828,300	293,700	85,600	4,449,000	27.43
58 Redford Township	157,800	171,300	8.64	3,419,000	208,000	60,600	3,150,400	19.96
59 River Rouge	39,000	37,000	7.81	748,600	45,500	13,300	689,800	17.69
60 Riverview	47,800	48,100	8.02	960,600	58,400	17,000	885,200	18.52



Table 3
Water Supply System
FY 2024 Proforma Revenue Under Existing Charges

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		FY 2023 Charges		FY 2024 Proforma Revenue by Category				
	<u>Volume</u>	<u>Fixed</u>	<u>Commodity</u>	<u>Gross</u>	DWSD	Flint / KWA	Wholesale	Proforma
	<i>Mcf</i>	<i>\$/mo</i>	<i>\$/Mcf</i>	<u>TOTAL</u>	<u>Ownership Adj</u>	<u>Adjustment</u>	<u>Rev Req't</u>	<u>Unit Cost</u>
				<i>\$</i>	<i>\$</i>	<i>\$</i>	<i>\$</i>	<i>\$/Mcf</i>
61 Rockwood	9,900	15,000	12.33	302,100	18,400	5,400	278,300	28.11
62 Romeo	6,100	14,100	18.33	281,000	17,100	5,000	258,900	42.44
63 Romulus	217,400	233,200	8.34	4,611,500	280,500	81,700	4,249,300	19.55
64 Roseville	179,700	145,500	6.24	2,867,300	174,400	50,800	2,642,100	14.70
65 Royal Oak Township	10,100	10,500	8.14	208,200	12,700	3,700	191,800	18.99
66 Shelby Township	430,200	781,200	15.14	15,887,600	966,400	281,600	14,639,600	34.03
67 SOCWA	1,250,800	1,242,900	8.08	25,021,300	1,521,900	443,500	23,055,900	18.43
68 South Rockwood	4,700	6,200	10.74	124,900	7,600	2,200	115,100	24.49
69 Southgate	113,300	118,700	8.49	2,386,300	145,100	42,300	2,198,900	19.41
70 St. Clair Shores	201,000	168,200	6.92	3,409,300	207,400	60,400	3,141,500	15.63
71 Sterling Heights	601,400	836,700	11.32	16,848,200	1,024,800	298,700	15,524,700	25.81
72 Sumpter Township	33,500	37,100	9.80	773,500	47,000	13,700	712,800	21.28
73 Sylvan Lake	6,700	12,700	15.92	259,100	15,800	4,600	238,700	35.63
74 Taylor	263,800	250,800	7.75	5,054,100	307,400	89,600	4,657,100	17.65
75 Trenton	88,900	91,600	8.47	1,852,200	112,700	32,800	1,706,700	19.20
76 Troy	463,600	738,900	12.71	14,759,200	897,700	261,600	13,599,900	29.34
77 Utica	23,000	30,100	10.44	601,300	36,600	10,700	554,000	24.09
78 Van Buren Township	136,600	191,100	11.28	3,834,000	233,200	68,000	3,532,800	25.86
79 Walled Lake	29,500	43,000	11.51	855,500	52,000	15,200	788,300	26.72
80 Warren	626,500	558,100	7.22	11,220,500	682,500	198,900	10,339,100	16.50
81 Washington Township	86,500	127,400	12.46	2,606,600	158,500	46,200	2,401,900	27.77
82 Wayne	104,900	174,700	13.26	3,487,400	212,100	61,800	3,213,500	30.63
83 West Bloomfield Township	278,900	567,600	17.03	11,560,900	703,200	204,900	10,652,800	38.20
84 Westland	329,900	335,100	8.32	6,766,000	411,500	119,900	6,234,600	18.90
85 Wixom	78,100	134,800	14.32	2,736,000	166,400	48,500	2,521,100	32.28
86 Woodhaven	58,700	90,900	12.57	1,828,700	111,200	32,400	1,685,100	28.71
87 Ypsilanti Comm Util Auth	490,100	563,400	9.34	11,338,300	689,700	201,000	10,447,600	21.32
88 Detroit	4,170,000	1,902,900		22,834,800	(20,700,000)	825,700	42,709,100	10.24
TOTAL	17,746,600			356,260,500	(14,900)	(200)	356,275,600	20.08



Table 4a
Water Supply System
FY 2024 Units of Service Data

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
	Units of Service Input Data										
	<u>Volume</u>	<u>Max Day</u>	<u>Peak Hour</u>	<u>Distance</u>	<u>Elevation</u>	<u>Eq Mtrs</u>	<u>Avg Day Use</u>	<u>Dist x Sales</u>	<u>Allo NRW</u>	<u>Avg Day Prod</u>	
	<i>Mcf</i>	<i>mgd</i>	<i>mgd</i>	<i>miles</i>	<i>feet</i>	<i>5/8" proxies</i>	<i>Mcf/day</i>	<i>Mcf</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	
							<i>(1)/365</i>	<i>(1) x (4)</i>	<i>~ (8)</i>	<i>(7) + (9)</i>	
1	Allen Park	121,500	5.45	7.54	21.0	602	928	332.9	2,551,500	41.6	374.5
2	Almont Village	9,300	0.40	0.44	37.9	802	115	25.5	352,500	5.7	31.2
3	Ash Township	41,100	1.45	2.27	29.9	635	160	112.6	1,228,900	20.0	132.6
4	Belleville	15,200	0.55	0.76	32.5	676	115	41.6	494,000	8.0	49.6
5	Berlin Township	27,700	1.13	1.76	34.6	598	211	75.9	958,400	15.6	91.5
6	Brownstown Township	140,200	7.00	11.00	28.5	601	523	384.1	3,995,700	65.2	449.3
7	Bruce Township	3,020	0.46	0.83	32.8	767	115	8.3	99,100	1.6	9.9
8	Burtchville Township	9,000	0.53	0.82	47.2	620	105	24.7	424,800	6.8	31.5
9	Canton Township	374,600	20.00	23.50	32.2	742	1,770	1,026.3	12,062,100	196.7	1,223.0
10	Center Line	32,300	1.13	1.60	18.4	623	155	88.5	594,300	9.6	98.1
11	Chesterfield Township	180,400	8.24	12.50	28.3	617	725	494.2	5,105,300	83.3	577.5
12	Clinton Township	393,800	19.70	22.00	22.8	607	1,218	1,078.9	8,978,600	146.6	1,225.5
13	Commerce Township	108,100	6.28	7.13	31.4	967	520	296.2	3,394,300	55.3	351.5
14	Dearborn	561,600	23.70	32.90	20.1	597	0	1,538.6	11,288,200	184.1	1,722.7
15	Dearborn Heights	198,800	8.00	12.00	22.4	624	617	544.7	4,453,100	72.6	617.3
16	Eastpointe	104,000	3.71	5.38	18.1	612	1,013	284.9	1,882,400	30.7	315.6
17	Ecorse	91,500	2.97	3.42	20.1	591	285	250.7	1,839,200	30.1	280.8
18	Farmington	44,900	2.10	2.31	27.1	765	315	123.0	1,216,800	19.7	142.7
19	Farmington Hills	356,100	18.00	21.30	27.4	784	2,754	975.6	9,757,100	159.2	1,134.8
20	Ferndale	65,500	2.89	3.10	18.2	643	568	179.5	1,192,100	19.4	198.9
21	Flat Rock	51,800	2.63	3.99	30.1	601	235	141.9	1,559,200	25.5	167.4
22	Flint	455,200	13.50	14.00	52.0	866	3,600	1,247.1	23,670,400	386.3	1,633.4
23	Fraser	57,100	2.81	4.25	21.0	617	296	156.4	1,199,100	19.5	175.9
24	Garden City	75,900	3.30	5.21	25.0	638	491	207.9	1,897,500	31.0	238.9
25	Gibraltar	16,400	0.65	0.84	30.9	588	176	44.9	506,800	8.3	53.2
26	Greenwood Township (DTE)	26,400	2.24	2.24	45.4	774	413	72.3	1,198,600	19.5	91.8
27	Grosse Ile Township	38,500	2.01	3.51	27.0	584	400	105.5	1,039,500	17.0	122.5
28	Grosse Pt. Park	55,600	3.09	5.31	18.0	583	291	152.3	1,000,800	16.5	168.8
29	Grosse Pt. Shores	19,500	1.43	2.50	18.9	587	283	53.4	368,600	6.1	59.5
30	Grosse Pt. Woods	69,900	3.36	4.29	18.9	587	461	191.5	1,321,100	21.7	213.2



Table 4a
Water Supply System
FY 2024 Units of Service Data

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
	Units of Service Input Data										
	<u>Volume</u>	<u>Max Day</u>	<u>Peak Hour</u>	<u>Distance</u>	<u>Elevation</u>	<u>Eq Mtrs</u>	<u>Avg Day Use</u>	<u>Dist x Sales</u>	<u>Allo NRW</u>	<u>Avg Day Prod</u>	
	<i>Mcf</i>	<i>mgd</i>	<i>mgd</i>	<i>miles</i>	<i>feet</i>	<i>5/8" proxies</i>	<i>Mcf/day</i>	<i>Mcf</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	
							<i>(1)/365</i>	<i>(1) x (4)</i>	<i>~ (8)</i>	<i>(7) + (9)</i>	
31	Hamtramck	61,100	1.77	2.74	16.7	633	658	167.4	1,020,400	16.7	184.1
32	Harper Woods	52,300	2.09	2.99	18.4	598	357	143.3	962,300	15.6	158.9
33	Harrison Township	98,500	3.90	4.75	24.0	587	440	269.9	2,364,000	38.6	308.5
34	Hazel Park	49,100	1.76	2.41	18.1	639	538	134.5	888,700	14.5	149.0
35	Highland Park	103,000	3.25	3.32	17.3	639	0	282.2	1,781,900	29.0	311.2
36	Huron Township	64,800	3.10	3.91	29.9	635	278	177.5	1,937,500	31.5	209.0
37	Imlay City	45,700	2.22	2.48	45.9	908	155	125.2	2,097,600	34.3	159.5
38	Imlay Township (Single User)	130	0.01	0.02	42.7	825	80	0.4	5,600	0.0	0.4
39	Inkster	101,100	2.47	3.55	24.4	638	443	277.0	2,466,800	40.3	317.3
40	Keego Harbor	9,900	0.45	0.67	29.1	934	123	27.1	288,100	4.7	31.8
41	Lapeer	53,000	1.75	2.50	49.1	850	400	145.2	2,602,300	42.5	187.7
42	Lenox Township	13,800	0.51	0.70	30.5	619	400	37.8	420,900	6.9	44.7
43	Lincoln Park	171,100	5.30	6.93	20.4	594	813	468.8	3,490,400	57.0	525.8
44	Livonia	467,000	23.00	33.00	26.2	687	2,386	1,279.5	12,235,400	199.7	1,479.2
45	Macomb Township	331,200	23.00	40.00	26.8	622	1,015	907.4	8,876,200	144.9	1,052.3
46	Madison Heights	111,900	4.75	6.50	19.4	629	755	306.6	2,170,900	35.3	341.9
47	Mayfield Township (KAMAX)	450	0.05	0.07	48.3	839	155	1.2	21,700	0.3	1.5
48	Melvindale	43,400	1.41	1.97	19.9	594	525	118.9	863,700	14.0	132.9
49	New Haven, Village of	19,200	0.79	1.20	29.8	613	80	52.6	572,200	9.3	61.9
50	NOCWA	882,200	43.50	48.60	27.7	895	5,173	2,417.0	24,436,900	398.9	2,815.9
51	Northville	30,400	1.55	1.65	31.1	836	211	83.3	945,400	15.3	98.6
52	Northville Township	140,100	9.00	13.50	30.5	855	521	383.8	4,273,100	69.9	453.7
53	Novi	303,800	17.00	19.00	31.4	936	1,836	832.3	9,539,300	155.6	987.9
54	Oak Park	93,700	3.90	3.90	19.7	669	285	256.7	1,845,900	30.1	286.8
55	Oakland GWK Drain District	9,000	0.20	0.20	20.4	617	115	24.7	183,600	3.0	27.7
56	Plymouth	45,200	1.81	2.71	30.8	750	203	123.8	1,392,200	22.8	146.6
57	Plymouth Township	162,200	10.00	10.00	31.3	793	315	444.4	5,076,900	82.7	527.1
58	Redford Township	157,800	6.35	9.00	22.6	638	1,271	432.3	3,566,300	58.1	490.4
59	River Rouge	39,000	1.07	1.63	19.4	585	431	106.8	756,600	12.4	119.2
60	Riverview	47,800	1.79	2.67	25.3	594	130	131.0	1,209,300	19.7	150.7



Table 4a
Water Supply System
FY 2024 Units of Service Data

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
	Units of Service Input Data										
	<u>Volume</u>	<u>Max Day</u>	<u>Peak Hour</u>	<u>Distance</u>	<u>Elevation</u>	<u>Eq Mtrs</u>	<u>Avg Day Use</u>	<u>Dist x Sales</u>	<u>Allo NRW</u>	<u>Avg Day Prod</u>	
	<i>Mcf</i>	<i>mgd</i>	<i>mgd</i>	<i>miles</i>	<i>feet</i>	<i>5/8" proxies</i>	<i>Mcf/day</i>	<i>Mcf</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	
							<i>(1)/365</i>	<i>(1) x (4)</i>	<i>~ (8)</i>	<i>(7) + (9)</i>	
61	Rockwood	9,900	0.43	0.66	32.7	592	88	27.1	323,700	5.2	32.3
62	Romeo	6,100	0.37	0.65	32.2	789	155	16.7	196,400	3.3	20.0
63	Romulus	217,400	7.71	9.73	27.3	651	919	595.6	5,935,000	97.0	692.6
64	Roseville	179,700	6.03	8.63	19.0	620	885	492.3	3,414,300	55.6	547.9
65	Royal Oak Township	10,100	0.47	0.65	19.2	665	146	27.7	193,900	3.3	31.0
66	Shelby Township	430,200	26.60	30.00	26.4	694	1,246	1,178.6	11,357,300	185.2	1,363.8
67	SOCWA	1,250,800	60.50	60.50	22.2	732	4,998	3,426.8	27,767,800	453.2	3,880.0
68	South Rockwood	4,700	0.18	0.30	33.4	586	88	12.9	157,000	2.4	15.3
69	Southgate	113,300	4.60	6.23	23.7	601	361	310.4	2,685,200	43.8	354.2
70	St. Clair Shores	201,000	7.42	10.00	20.0	594	1,239	550.7	4,020,000	65.5	616.2
71	Sterling Heights	601,400	32.80	49.00	22.3	632	3,175	1,647.7	13,411,200	218.9	1,866.6
72	Sumpter Township	33,500	1.09	1.77	32.9	663	155	91.8	1,102,200	18.1	109.9
73	Sylvan Lake	6,700	0.35	0.54	29.1	938	80	18.4	195,000	3.2	21.6
74	Taylor	263,800	10.90	13.10	23.5	616	1,078	722.7	6,199,300	101.1	823.8
75	Trenton	88,900	3.52	5.20	25.8	596	1,185	243.6	2,293,600	37.5	281.1
76	Troy	463,600	27.30	40.30	24.2	756	2,548	1,270.1	11,219,100	183.1	1,453.2
77	Utica	23,000	1.20	1.75	24.4	660	155	63.0	561,200	9.1	72.1
78	Van Buren Township	136,600	6.90	8.17	32.5	676	1,090	374.2	4,439,500	72.4	446.6
79	Walled Lake	29,500	1.16	1.67	31.7	959	115	80.8	935,200	15.4	96.2
80	Warren	626,500	23.50	32.50	18.4	623	1,509	1,716.4	11,527,600	188.3	1,904.7
81	Washington Township	86,500	5.42	5.42	29.6	754	278	237.0	2,560,400	41.9	278.9
82	Wayne	104,900	3.95	4.71	25.9	646	600	287.4	2,716,900	44.4	331.8
83	West Bloomfield Township	278,900	15.00	26.40	28.7	912	1,960	764.1	8,004,400	130.7	894.8
84	Westland	329,900	12.00	17.00	26.0	653	1,925	903.8	8,577,400	140.0	1,043.8
85	Wixom	78,100	4.19	5.10	33.9	944	155	214.0	2,647,600	43.3	257.3
86	Woodhaven	58,700	2.85	4.40	28.5	596	195	160.8	1,673,000	27.4	188.2
87	Ypsilanti Comm Util Auth	490,100	19.50	21.00	35.8	726	1,880	1,342.7	17,545,600	286.3	1,629.0
88	Detroit	4,170,000	115.00	136.00	16.8	629	0	11,424.7	70,056,000	1,143.2	12,567.9
	TOTAL	17,746,600	747.40	952.65	2,411.3	60,652	67,158	48,620.5	425,637,900	6,945.6	55,566.1



Table 4b
Water Supply System
Consolidated FY 2024 Units of Service Data

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
	Units of Service Detail								
	<u>Max Day</u>	<u>Peak Hour</u>	<u>PH Incr</u>	<u>PH Dist</u>	<u>Elev Factor</u>	<u>Comm DE</u>	<u>MD DE</u>	<u>PH DE</u>	<u>PHI DE</u>
	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>miles *</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>Mcf/day</i>
	<i>(2)*133.68 + (9)</i>	<i>(3)*133.68 + (9)</i>	<i>(12) - (11)</i>	<i>(4) x (12)</i>	<i>((5)-610)/10.56+(4)</i>	<i>(10) x (15)</i>	<i>(11) x (15)</i>	<i>(12) x (15)</i>	<i>(13) x (15)</i>
1 Allen Park	770.2	1,049.6	279.4	22,040.6	21.0	7,864.5	16,173.3	22,040.6	5,867.2
2 Almont Village	59.2	64.5	5.3	2,445.3	56.1	1,750.3	3,319.6	3,619.5	300.0
3 Ash Township	213.8	323.5	109.6	9,671.3	32.3	4,283.0	6,906.9	10,447.6	3,540.7
4 Belleville	81.3	109.9	28.6	3,570.6	38.8	1,924.5	3,152.8	4,262.7	1,110.0
5 Berlin Township	166.7	250.9	84.2	8,680.4	34.6	3,165.9	5,766.4	8,680.4	2,914.0
6 Brownstown Township	1,001.0	1,535.7	534.7	43,767.1	28.5	12,805.1	28,527.5	43,767.1	15,239.6
7 Bruce Township	62.6	112.6	50.0	3,691.8	47.7	472.2	2,984.0	5,368.9	2,384.8
8 Burtchville Township	78.2	115.9	37.7	5,469.7	48.1	1,515.2	3,760.7	5,574.0	1,813.3
9 Canton Township	2,870.3	3,338.2	467.9	107,489.8	44.7	54,668.1	128,302.9	149,217.2	20,914.3
10 Center Line	160.7	223.5	62.8	4,112.2	19.6	1,922.8	3,148.9	4,380.4	1,231.5
11 Chesterfield Township	1,184.8	1,754.3	569.5	49,646.9	29.0	16,747.5	34,360.0	50,874.9	16,514.9
12 Clinton Township	2,780.1	3,087.6	307.5	70,396.6	22.8	27,941.4	63,386.4	70,396.6	7,010.2
13 Commerce Township	894.8	1,008.4	113.6	31,665.1	65.2	22,917.8	58,341.9	65,750.4	7,408.6
14 Dearborn	3,352.3	4,582.2	1,229.9	92,102.0	20.1	34,626.3	67,381.8	92,102.0	24,720.2
15 Dearborn Heights	1,142.0	1,676.8	534.7	37,559.6	23.7	14,630.0	27,066.5	39,739.4	12,672.9
16 Eastpointe	526.7	749.9	223.2	13,573.2	18.3	5,775.5	9,637.8	13,723.2	4,085.4
17 Ecorse	427.1	487.3	60.2	9,794.5	20.1	5,644.1	8,585.3	9,794.5	1,209.1
18 Farmington	300.4	328.5	28.1	8,902.4	41.8	5,964.9	12,557.9	13,731.4	1,173.4
19 Farmington Hills	2,565.4	3,006.6	441.1	82,380.7	43.9	49,817.7	112,623.2	131,989.5	19,366.3
20 Ferndale	405.7	433.8	28.1	7,895.3	21.3	4,236.6	8,642.2	9,240.1	598.0
21 Flat Rock	377.1	558.9	181.8	16,822.4	30.1	5,038.7	11,350.1	16,822.4	5,472.3
22 Flint	2,191.0	2,257.8	66.8	117,407.0	76.2	124,465.1	166,953.2	172,046.5	5,093.2
23 Fraser	395.1	587.6	192.5	12,340.5	21.7	3,817.0	8,574.6	12,751.8	4,177.2
24 Garden City	472.1	727.5	255.3	18,186.9	27.7	6,617.5	13,078.4	20,151.1	7,072.6
25 Gibraltar	95.1	120.1	25.0	3,709.8	30.9	1,643.9	2,937.3	3,709.8	772.4
26 Greenwood Township (DTE)	318.9	318.9	0.0	14,480.1	60.9	5,590.6	19,423.7	19,423.7	0.0
27 Grosse Ile Township	285.7	486.2	200.5	13,127.9	27.0	3,307.5	7,713.8	13,127.9	5,414.1
28 Grosse Pt. Park	429.6	726.3	296.8	13,074.2	18.0	3,038.4	7,732.3	13,074.2	5,341.9
29 Grosse Pt. Shores	197.3	340.3	143.0	6,431.7	18.9	1,124.6	3,728.3	6,431.7	2,703.4
30 Grosse Pt. Woods	470.9	595.2	124.3	11,249.1	18.9	4,029.5	8,899.4	11,249.1	2,349.7



Table 4b
Water Supply System
Consolidated FY 2024 Units of Service Data

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
	Units of Service Detail								
	<u>Max Day</u>	<u>Peak Hour</u>	<u>PH Incr</u>	<u>PH Dist</u>	<u>Elev Factor</u>	<u>Comm DE</u>	<u>MD DE</u>	<u>PH DE</u>	<u>PHI DE</u>
	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>miles *</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>Mcf/day</i>
	<i>(2)*133.68 + (9)</i>	<i>(3)*133.68 + (9)</i>	<i>(12) - (11)</i>	<i>(4) x (12)</i>	<i>((5)-610)/10.56+(4)</i>	<i>(10) x (15)</i>	<i>(11) x (15)</i>	<i>(12) x (15)</i>	<i>(13) x (15)</i>
31 Hamtramck	253.3	383.0	129.7	6,395.8	18.9	3,479.5	4,787.6	7,238.4	2,450.8
32 Harper Woods	295.0	415.3	120.3	7,641.6	18.4	2,923.8	5,427.9	7,641.6	2,213.7
33 Harrison Township	560.0	673.6	113.6	16,166.0	24.0	7,404.0	13,438.9	16,166.0	2,727.1
34 Hazel Park	249.8	336.7	86.9	6,093.7	20.8	3,099.2	5,195.4	7,002.7	1,807.4
35 Highland Park	463.5	472.8	9.4	8,179.8	20.0	6,224.0	9,269.2	9,456.4	187.2
36 Huron Township	445.9	554.2	108.3	16,570.3	32.3	6,750.7	14,402.9	17,900.4	3,497.5
37 Imlay City	331.1	365.8	34.8	16,791.5	74.1	11,819.0	24,532.3	27,107.8	2,575.5
38 Imlay Township (Single User)	1.6	3.2	1.6	137.0	63.1	25.2	101.2	202.4	101.2
39 Inkster	370.5	514.9	144.4	12,562.7	27.1	8,598.8	10,040.3	13,952.9	3,912.6
40 Keego Harbor	64.9	94.4	29.5	2,747.0	59.8	1,901.6	3,878.4	5,645.1	1,766.7
41 Lapeer	276.4	376.7	100.3	18,496.0	71.8	13,476.9	19,848.5	27,047.2	7,198.7
42 Lenox Township	75.1	101.0	25.9	3,080.8	31.4	1,403.6	2,357.4	3,171.7	814.3
43 Lincoln Park	765.5	983.4	217.9	20,061.5	20.4	10,726.3	15,616.3	20,061.5	4,445.1
44 Livonia	3,274.4	4,611.2	1,336.8	120,812.3	33.5	49,553.2	109,690.8	154,473.8	44,783.0
45 Macomb Township	3,219.6	5,492.1	2,272.6	147,188.9	27.9	29,359.2	89,825.5	153,230.2	63,404.7
46 Madison Heights	670.3	904.2	233.9	17,541.9	21.2	7,248.3	14,210.0	19,169.5	4,959.5
47 Mayfield Township (KAMAX)	6.3	9.7	3.3	466.5	70.0	105.0	442.1	676.0	233.9
48 Melvindale	202.5	277.4	74.9	5,519.3	19.9	2,644.7	4,029.5	5,519.3	1,489.7
49 New Haven, Village of	114.2	169.7	55.5	5,057.6	30.1	1,863.2	3,438.6	5,108.5	1,669.9
50 NOCWA	6,214.0	6,895.8	681.8	191,013.0	54.7	154,029.7	339,906.0	377,198.9	37,292.9
51 Northville	222.5	235.9	13.4	7,335.6	52.5	5,176.5	11,681.5	12,383.3	701.8
52 Northville Township	1,273.0	1,874.6	601.6	57,174.9	53.7	24,363.7	68,361.4	100,665.3	32,303.9
53 Novi	2,428.2	2,695.5	267.4	84,639.7	62.3	61,546.2	151,274.9	167,931.5	16,656.6
54 Oak Park	551.5	551.5	0.0	10,863.6	25.3	7,256.0	13,951.8	13,951.8	0.0
55 Oakland GWK Drain District	30.3	30.3	0.0	617.5	21.1	584.5	638.7	638.7	0.0
56 Plymouth	264.8	385.1	120.3	11,860.3	44.1	6,465.1	11,676.0	16,981.8	5,305.8
57 Plymouth Township	1,419.5	1,419.5	0.0	44,430.5	48.6	25,617.1	68,988.0	68,988.0	0.0
58 Redford Township	907.0	1,261.2	354.3	28,503.7	25.3	12,407.1	22,946.4	31,909.0	8,962.6
59 River Rouge	155.4	230.3	74.9	4,467.8	19.4	2,312.5	3,015.5	4,467.8	1,452.3
60 Riverview	259.0	376.6	117.6	9,528.7	25.3	3,812.7	6,552.4	9,528.7	2,976.3



Table 4b
Water Supply System
Consolidated FY 2024 Units of Service Data

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
	Units of Service Detail								
	<u>Max Day</u>	<u>Peak Hour</u>	<u>PH Incr</u>	<u>PH Dist</u>	<u>Elev Factor</u>	<u>Comm DE</u>	<u>MD DE</u>	<u>PH DE</u>	<u>PHI DE</u>
	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>miles *</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>Mcf/day</i>	<i>Mcf/day</i>
	<i>(2)*133.68 + (9)</i>	<i>(3)*133.68 + (9)</i>	<i>(12) - (11)</i>	<i>(4) x (12)</i>	<i>((5)-610)/10.56+(4)</i>	<i>(10) x (15)</i>	<i>(11) x (15)</i>	<i>(12) x (15)</i>	<i>(13) x (15)</i>
61 Rockwood	62.9	93.3	30.3	3,050.8	32.7	1,056.2	2,058.5	3,050.8	992.3
62 Romeo	53.3	90.1	36.8	2,899.9	49.2	984.0	2,622.2	4,430.9	1,808.7
63 Romulus	1,127.7	1,397.7	270.0	38,157.5	31.2	21,609.1	35,183.5	43,608.6	8,425.1
64 Roseville	861.7	1,209.3	347.6	22,976.0	19.9	10,903.2	17,147.7	24,064.3	6,916.6
65 Royal Oak Township	66.5	90.1	23.5	1,729.1	24.4	756.4	1,623.4	2,197.4	574.1
66 Shelby Township	3,741.1	4,195.6	454.5	110,764.3	34.4	46,914.7	128,693.9	144,329.2	15,635.3
67 SOCWA	8,540.9	8,540.9	0.0	189,607.4	33.8	131,144.0	288,681.5	288,681.5	0.0
68 South Rockwood	25.9	42.1	16.2	1,406.2	33.4	511.0	866.0	1,406.2	540.3
69 Southgate	658.7	876.6	217.9	20,776.1	23.7	8,394.5	15,611.9	20,776.1	5,164.2
70 St. Clair Shores	1,057.4	1,402.3	344.9	28,046.1	20.0	12,324.0	21,148.2	28,046.1	6,897.9
71 Sterling Heights	4,603.6	6,769.2	2,165.6	150,954.2	24.4	45,545.0	112,328.4	165,169.6	52,841.2
72 Sumpter Township	163.8	254.7	90.9	8,380.1	37.9	4,165.2	6,208.5	9,653.7	3,445.2
73 Sylvan Lake	50.3	75.3	25.0	2,189.9	60.2	1,300.3	3,025.4	4,530.3	1,504.9
74 Taylor	1,558.2	1,852.3	294.1	43,529.4	24.1	19,853.6	37,553.1	44,640.8	7,087.7
75 Trenton	508.1	732.6	224.6	18,902.1	25.8	7,252.4	13,107.8	18,902.1	5,794.2
76 Troy	3,832.6	5,570.4	1,737.8	134,804.3	38.0	55,221.6	145,638.0	211,676.2	66,038.2
77 Utica	169.5	243.0	73.5	5,930.2	29.1	2,098.1	4,932.9	7,072.5	2,139.6
78 Van Buren Township	994.8	1,164.6	169.8	37,848.5	38.8	17,328.1	38,598.1	45,185.3	6,587.2
79 Walled Lake	170.5	238.6	68.2	7,565.1	64.7	6,224.1	11,029.4	15,440.4	4,411.1
80 Warren	3,329.8	4,532.9	1,203.1	83,405.7	19.6	37,332.1	65,263.9	88,845.2	23,581.2
81 Washington Township	766.4	766.4	0.0	22,686.9	43.2	12,048.5	33,110.6	33,110.6	0.0
82 Wayne	572.4	674.0	101.6	17,457.5	29.3	9,721.7	16,772.4	19,749.2	2,976.8
83 West Bloomfield Township	2,135.9	3,659.9	1,524.0	105,038.2	57.3	51,272.0	122,387.5	209,710.3	87,322.8
84 Westland	1,744.2	2,412.6	668.4	62,726.8	30.1	31,418.4	52,499.4	72,618.3	20,118.9
85 Wixom	603.4	725.1	121.6	24,579.9	65.5	16,853.2	39,524.1	47,492.1	7,968.0
86 Woodhaven	408.4	615.6	207.2	17,544.4	28.5	5,363.7	11,639.1	17,544.4	5,905.3
87 Ypsilanti Comm Util Auth	2,893.1	3,093.6	200.5	110,750.6	46.8	76,237.2	135,395.7	144,780.1	9,384.4
88 Detroit	16,516.5	19,323.8	2,807.3	324,639.1	18.6	233,762.9	307,206.2	359,421.8	52,215.6
TOTAL	106,858.4	134,296.4	27,437.9	3,321,976.5	3,109.5	1,777,118.7	3,574,399.8	4,425,038.8	850,638.7



Table 5
Water Supply System
Allocation of FY 2024 Wholesale Revenue Requirement to Member Partners and Determination of Wholesale SHARES

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Cost Pool SHARE										366,068,800	
	<u>Commodity</u>	<u>Max Day Usage</u>	<u>Peak Hour Usage</u>	<u>Peak Hour Increment</u>	<u>Peak Hour Distance</u>	<u>Commodity Distance</u>	<u>Max Day Distance Elevation</u>	<u>Peak Hour Distance Elevation</u>	<u>PH Incr Distance Elevation</u>	<u>Master Meter Related</u>	<u>Allocated Wholesale Rev Req't</u>	<u>Wholesale SHARE</u>
<i>Relative Cost Pool Weights -></i>	3.8%	43.5%	0.0%	2.5%	24.1%	4.9%	3.3%	13.9%	2.4%	1.6%	(a)	~ (11)
1 Allen Park	0.674%	0.721%	0.782%	1.018%	0.663%	0.443%	0.452%	0.498%	0.690%	1.382%	2,449,000	0.669%
2 Almont Village	0.056%	0.055%	0.048%	0.019%	0.074%	0.098%	0.093%	0.082%	0.035%	0.171%	246,300	0.067%
3 Ash Township	0.239%	0.200%	0.241%	0.400%	0.291%	0.241%	0.193%	0.236%	0.416%	0.238%	882,500	0.241%
4 Belleville	0.089%	0.076%	0.082%	0.104%	0.107%	0.108%	0.088%	0.096%	0.130%	0.171%	338,500	0.092%
5 Berlin Township	0.165%	0.156%	0.187%	0.307%	0.261%	0.178%	0.161%	0.196%	0.343%	0.314%	729,600	0.199%
6 Brownstown Township	0.809%	0.937%	1.144%	1.949%	1.318%	0.721%	0.798%	0.989%	1.792%	0.779%	3,876,700	1.059%
7 Bruce Township	0.018%	0.059%	0.084%	0.182%	0.111%	0.027%	0.083%	0.121%	0.280%	0.171%	321,700	0.088%
8 Burtchville Township	0.057%	0.073%	0.086%	0.137%	0.165%	0.085%	0.105%	0.126%	0.213%	0.156%	402,200	0.110%
9 Canton Township	2.201%	2.686%	2.486%	1.705%	3.236%	3.076%	3.589%	3.372%	2.459%	2.636%	10,665,800	2.914%
10 Center Line	0.177%	0.150%	0.166%	0.229%	0.124%	0.108%	0.088%	0.099%	0.145%	0.231%	500,800	0.137%
11 Chesterfield Township	1.039%	1.109%	1.306%	2.076%	1.494%	0.942%	0.961%	1.150%	1.941%	1.080%	4,522,600	1.235%
12 Clinton Township	2.205%	2.602%	2.299%	1.121%	2.119%	1.572%	1.773%	1.591%	0.824%	1.814%	7,906,200	2.160%
13 Commerce Township	0.633%	0.837%	0.751%	0.414%	0.953%	1.290%	1.632%	1.486%	0.871%	0.774%	3,606,700	0.985%
14 Dearborn	3.100%	3.137%	3.412%	4.482%	2.773%	1.948%	1.885%	2.081%	2.906%	0.000%	10,174,700	2.779%
15 Dearborn Heights	1.111%	1.069%	1.249%	1.949%	1.131%	0.823%	0.757%	0.898%	1.490%	0.919%	3,913,000	1.069%
16 Eastpointe	0.568%	0.493%	0.558%	0.814%	0.409%	0.325%	0.270%	0.310%	0.480%	1.508%	1,678,000	0.458%
17 Ecorse	0.505%	0.400%	0.363%	0.219%	0.295%	0.318%	0.240%	0.221%	0.142%	0.424%	1,222,900	0.334%
18 Farmington	0.257%	0.281%	0.245%	0.102%	0.268%	0.336%	0.351%	0.310%	0.138%	0.469%	1,029,300	0.281%
19 Farmington Hills	2.042%	2.401%	2.239%	1.608%	2.480%	2.803%	3.151%	2.983%	2.277%	4.101%	9,283,500	2.536%
20 Ferndale	0.358%	0.380%	0.323%	0.102%	0.238%	0.238%	0.242%	0.209%	0.070%	0.846%	1,107,400	0.303%
21 Flat Rock	0.301%	0.353%	0.416%	0.663%	0.506%	0.284%	0.318%	0.380%	0.643%	0.350%	1,470,900	0.402%
22 Flint	2.940%	2.050%	1.681%	0.244%	3.534%	7.004%	4.671%	3.888%	0.599%	5.360%	10,979,700	2.999%
23 Fraser	0.317%	0.370%	0.438%	0.702%	0.371%	0.215%	0.240%	0.288%	0.491%	0.441%	1,307,900	0.357%
24 Garden City	0.430%	0.442%	0.542%	0.931%	0.547%	0.372%	0.366%	0.455%	0.831%	0.731%	1,790,100	0.489%
25 Gibraltar	0.096%	0.089%	0.089%	0.091%	0.112%	0.093%	0.082%	0.084%	0.091%	0.262%	354,300	0.097%
26 Greenwood Township (DTE)	0.165%	0.298%	0.237%	0.000%	0.436%	0.315%	0.543%	0.439%	0.000%	0.615%	1,264,300	0.345%
27 Grosse Ile Township	0.220%	0.267%	0.362%	0.731%	0.395%	0.186%	0.216%	0.297%	0.636%	0.596%	1,173,200	0.320%
28 Grosse Pt. Park	0.304%	0.402%	0.541%	1.082%	0.394%	0.171%	0.216%	0.295%	0.628%	0.433%	1,416,300	0.387%
29 Grosse Pt. Shores	0.107%	0.185%	0.253%	0.521%	0.194%	0.063%	0.104%	0.145%	0.318%	0.421%	677,900	0.185%
30 Grosse Pt. Woods	0.384%	0.441%	0.443%	0.453%	0.339%	0.227%	0.249%	0.254%	0.276%	0.686%	1,359,800	0.371%



Table 5
Water Supply System
Allocation of FY 2024 Wholesale Revenue Requirement to Member Partners and Determination of Wholesale SHARES

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Cost Pool SHARE										366,068,800	
	<u>Commodity</u>	<u>Max Day Usage</u>	<u>Peak Hour Usage</u>	<u>Peak Hour Increment</u>	<u>Peak Hour Distance</u>	<u>Commodity Distance</u>	<u>Max Day Distance Elevation</u>	<u>Peak Hour Distance Elevation</u>	<u>PH Incr Distance Elevation</u>	<u>Master Meter Related</u>	<u>Allocated Wholesale Rev Req't</u>	<u>Wholesale SHARE</u>
<i>Relative Cost Pool Weights -></i>	3.8%	43.5%	0.0%	2.5%	24.1%	4.9%	3.3%	13.9%	2.4%	1.6%	(a)	~ (11)
31 Hamtramck	0.331%	0.237%	0.285%	0.473%	0.193%	0.196%	0.134%	0.164%	0.288%	0.980%	853,900	0.233%
32 Harper Woods	0.286%	0.276%	0.309%	0.438%	0.230%	0.165%	0.152%	0.173%	0.260%	0.532%	912,200	0.249%
33 Harrison Township	0.555%	0.524%	0.502%	0.414%	0.487%	0.417%	0.376%	0.365%	0.321%	0.655%	1,751,500	0.478%
34 Hazel Park	0.268%	0.234%	0.251%	0.317%	0.183%	0.174%	0.145%	0.158%	0.212%	0.801%	795,300	0.217%
35 Highland Park	0.560%	0.434%	0.352%	0.034%	0.246%	0.350%	0.259%	0.214%	0.022%	0.000%	1,193,700	0.326%
36 Huron Township	0.376%	0.417%	0.413%	0.395%	0.499%	0.380%	0.403%	0.405%	0.411%	0.414%	1,576,000	0.431%
37 Imlay City	0.287%	0.310%	0.272%	0.127%	0.505%	0.665%	0.686%	0.613%	0.303%	0.231%	1,544,900	0.422%
38 Imlay Township (Single User)	0.001%	0.002%	0.002%	0.006%	0.004%	0.001%	0.003%	0.005%	0.012%	0.119%	17,600	0.005%
39 Inkster	0.571%	0.347%	0.383%	0.526%	0.378%	0.484%	0.281%	0.315%	0.460%	0.660%	1,373,500	0.375%
40 Keego Harbor	0.057%	0.061%	0.070%	0.108%	0.083%	0.107%	0.109%	0.128%	0.208%	0.183%	313,600	0.086%
41 Lapeer	0.338%	0.259%	0.281%	0.365%	0.557%	0.758%	0.555%	0.611%	0.846%	0.596%	1,606,900	0.439%
42 Lenox Township	0.080%	0.070%	0.075%	0.095%	0.093%	0.079%	0.066%	0.072%	0.096%	0.596%	315,400	0.086%
43 Lincoln Park	0.946%	0.716%	0.732%	0.794%	0.604%	0.604%	0.437%	0.453%	0.523%	1.211%	2,386,400	0.652%
44 Livonia	2.662%	3.064%	3.434%	4.872%	3.637%	2.788%	3.069%	3.491%	5.265%	3.553%	12,221,900	3.339%
45 Macomb Township	1.894%	3.013%	4.090%	8.283%	4.431%	1.652%	2.513%	3.463%	7.454%	1.511%	12,833,400	3.506%
46 Madison Heights	0.615%	0.627%	0.673%	0.853%	0.528%	0.408%	0.398%	0.433%	0.583%	1.124%	2,087,000	0.570%
47 Mayfield Township (KAMAX)	0.003%	0.006%	0.007%	0.012%	0.014%	0.006%	0.012%	0.015%	0.027%	0.231%	49,600	0.014%
48 Melvindale	0.239%	0.189%	0.207%	0.273%	0.166%	0.149%	0.113%	0.125%	0.175%	0.782%	671,500	0.183%
49 New Haven, Village of	0.111%	0.107%	0.126%	0.202%	0.152%	0.105%	0.096%	0.115%	0.196%	0.119%	451,900	0.123%
50 NOCWA	5.068%	5.815%	5.135%	2.485%	5.750%	8.667%	9.509%	8.524%	4.384%	7.703%	23,142,400	6.322%
51 Northville	0.177%	0.208%	0.176%	0.049%	0.221%	0.291%	0.327%	0.280%	0.083%	0.314%	815,300	0.223%
52 Northville Township	0.817%	1.191%	1.396%	2.192%	1.721%	1.371%	1.913%	2.275%	3.798%	0.776%	5,743,300	1.569%
53 Novi	1.778%	2.272%	2.007%	0.974%	2.548%	3.463%	4.232%	3.795%	1.958%	2.734%	9,598,400	2.622%
54 Oak Park	0.516%	0.516%	0.411%	0.000%	0.327%	0.408%	0.390%	0.315%	0.000%	0.424%	1,487,800	0.406%
55 Oakland GWK Drain District	0.050%	0.028%	0.023%	0.000%	0.019%	0.033%	0.018%	0.014%	0.000%	0.171%	93,900	0.026%
56 Plymouth	0.264%	0.248%	0.287%	0.438%	0.357%	0.364%	0.327%	0.384%	0.624%	0.302%	1,158,800	0.317%
57 Plymouth Township	0.949%	1.328%	1.057%	0.000%	1.337%	1.441%	1.930%	1.559%	0.000%	0.469%	4,739,700	1.295%
58 Redford Township	0.883%	0.849%	0.939%	1.291%	0.858%	0.698%	0.642%	0.721%	1.054%	1.893%	3,122,600	0.853%
59 River Rouge	0.215%	0.145%	0.171%	0.273%	0.134%	0.130%	0.084%	0.101%	0.171%	0.642%	542,600	0.148%
60 Riverview	0.271%	0.242%	0.280%	0.429%	0.287%	0.215%	0.183%	0.215%	0.350%	0.194%	928,200	0.254%



Table 5
Water Supply System
Allocation of FY 2024 Wholesale Revenue Requirement to Member Partners and Determination of Wholesale SHARES

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Cost Pool SHARE										366,068,800	
	<u>Commodity</u>	<u>Max Day Usage</u>	<u>Peak Hour Usage</u>	<u>Peak Hour Increment</u>	<u>Peak Hour Distance</u>	<u>Commodity Distance</u>	<u>Max Day Distance Elevation</u>	<u>Peak Hour Distance Elevation</u>	<u>PH Incr Distance Elevation</u>	<u>Master Meter Related</u>	<u>Allocated Wholesale Rev Req't</u>	<u>Wholesale SHARE</u>
<i>Relative Cost Pool Weights -></i>	3.8%	43.5%	0.0%	2.5%	24.1%	4.9%	3.3%	13.9%	2.4%	1.6%	(a)	~ (11)
61 Rockwood	0.058%	0.059%	0.069%	0.111%	0.092%	0.059%	0.058%	0.069%	0.117%	0.131%	263,700	0.072%
62 Romeo	0.036%	0.050%	0.067%	0.134%	0.087%	0.055%	0.073%	0.100%	0.213%	0.231%	275,600	0.075%
63 Romulus	1.246%	1.055%	1.041%	0.984%	1.149%	1.216%	0.984%	0.985%	0.990%	1.368%	3,962,900	1.083%
64 Roseville	0.986%	0.806%	0.900%	1.267%	0.692%	0.614%	0.480%	0.544%	0.813%	1.318%	2,740,700	0.749%
65 Royal Oak Township	0.056%	0.062%	0.067%	0.086%	0.052%	0.043%	0.045%	0.050%	0.067%	0.217%	217,700	0.059%
66 Shelby Township	2.454%	3.501%	3.124%	1.657%	3.334%	2.640%	3.600%	3.262%	1.838%	1.855%	11,847,900	3.237%
67 SOCWA	6.983%	7.993%	6.360%	0.000%	5.708%	7.380%	8.076%	6.524%	0.000%	7.442%	24,789,100	6.772%
68 South Rockwood	0.028%	0.024%	0.031%	0.059%	0.042%	0.029%	0.024%	0.032%	0.064%	0.131%	122,700	0.034%
69 Southgate	0.637%	0.616%	0.653%	0.794%	0.625%	0.472%	0.437%	0.470%	0.607%	0.538%	2,156,000	0.589%
70 St. Clair Shores	1.109%	0.990%	1.044%	1.257%	0.844%	0.693%	0.592%	0.634%	0.811%	1.845%	3,287,500	0.898%
71 Sterling Heights	3.359%	4.308%	5.041%	7.893%	4.544%	2.563%	3.143%	3.733%	6.212%	4.728%	15,620,100	4.267%
72 Sumpter Township	0.198%	0.153%	0.190%	0.331%	0.252%	0.234%	0.174%	0.218%	0.405%	0.231%	747,600	0.204%
73 Sylvan Lake	0.039%	0.047%	0.056%	0.091%	0.066%	0.073%	0.085%	0.102%	0.177%	0.119%	244,800	0.067%
74 Taylor	1.483%	1.458%	1.379%	1.072%	1.310%	1.117%	1.051%	1.009%	0.833%	1.605%	4,790,300	1.309%
75 Trenton	0.506%	0.475%	0.546%	0.819%	0.569%	0.408%	0.367%	0.427%	0.681%	1.764%	1,902,400	0.520%
76 Troy	2.615%	3.587%	4.148%	6.334%	4.058%	3.107%	4.074%	4.784%	7.763%	3.794%	14,622,700	3.995%
77 Utica	0.130%	0.159%	0.181%	0.268%	0.179%	0.118%	0.138%	0.160%	0.252%	0.231%	607,500	0.166%
78 Van Buren Township	0.804%	0.931%	0.867%	0.619%	1.139%	0.975%	1.080%	1.021%	0.774%	1.623%	3,644,100	0.995%
79 Walled Lake	0.173%	0.160%	0.178%	0.248%	0.228%	0.350%	0.309%	0.349%	0.519%	0.171%	835,000	0.228%
80 Warren	3.428%	3.116%	3.375%	4.385%	2.511%	2.101%	1.826%	2.008%	2.772%	2.247%	10,049,400	2.745%
81 Washington Township	0.502%	0.717%	0.571%	0.000%	0.683%	0.678%	0.926%	0.748%	0.000%	0.414%	2,453,000	0.670%
82 Wayne	0.597%	0.536%	0.502%	0.370%	0.526%	0.547%	0.469%	0.446%	0.350%	0.893%	1,898,600	0.519%
83 West Bloomfield Township	1.610%	1.999%	2.725%	5.554%	3.162%	2.885%	3.424%	4.739%	10.266%	2.918%	11,120,200	3.038%
84 Westland	1.878%	1.632%	1.796%	2.436%	1.888%	1.768%	1.469%	1.641%	2.365%	2.866%	6,454,500	1.763%
85 Wixom	0.463%	0.565%	0.540%	0.443%	0.740%	0.948%	1.106%	1.073%	0.937%	0.231%	2,602,600	0.711%
86 Woodhaven	0.339%	0.382%	0.458%	0.755%	0.528%	0.302%	0.326%	0.396%	0.694%	0.290%	1,564,000	0.427%
87 Ypsilanti Comm Util Auth	2.932%	2.707%	2.304%	0.731%	3.334%	4.290%	3.788%	3.272%	1.103%	2.799%	10,880,000	2.972%
88 Detroit	22.618%	15.456%	14.389%	10.231%	9.772%	13.154%	8.595%	8.122%	6.138%	0.000%	45,387,000	12.399%
TOTAL	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	366,068,600	100.000%

(a) Result of applying Relative Cost Pool Weights for each Cost Pool to each Member Partner's Share of each Cost Pool, then multiplying by total revenue requirement.



Table 6
Water Supply System
Application of Contract Adjustments to Allocated Revenue Requirements

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Wholesale <u>SHARE</u> <i>Table 5</i>	Allocated Wholesale <u>Rev Req't</u> <i>Table 5</i>	Allocated DWSD <u>Ownership Adj</u>	Allocated Flint / KWA <u>Adjustment</u>	Adjusted Allocated <u>Rev Req't</u> <i>(2) + (3) + (4)</i>	Proforma <u>Revenue</u> <i>Table 5</i>	Charge Adjustment <u>Required</u> <i>(5) - (6)</i>	\$ Charge Adjustment <u>Required</u> <i>(7) / (6)</i>
1 Allen Park	0.669%	2,449,000	158,100	45,900	2,653,000	2,555,300	97,700	3.82%
2 Almont Village	0.067%	246,300	15,900	4,600	266,800	256,800	10,000	3.89%
3 Ash Township	0.241%	882,500	56,900	16,600	956,000	893,000	63,000	7.05%
4 Belleville	0.092%	338,500	21,900	6,300	366,700	357,800	8,900	2.49%
5 Berlin Township	0.199%	729,600	47,200	13,600	790,400	804,300	(13,900)	-1.73%
6 Brownstown Township	1.059%	3,876,700	250,300	72,600	4,199,600	3,959,300	240,300	6.07%
7 Bruce Township	0.088%	321,700	20,700	6,100	348,500	394,400	(45,900)	-11.64%
8 Burtchville Township	0.110%	402,200	25,900	7,500	435,600	387,200	48,400	12.50%
9 Canton Township	2.914%	10,665,800	688,500	199,800	11,554,100	11,446,000	108,100	0.94%
10 Center Line	0.137%	500,800	32,300	9,400	542,500	513,300	29,200	5.69%
11 Chesterfield Township	1.235%	4,522,600	291,900	84,700	4,899,200	4,702,200	197,000	4.19%
12 Clinton Township	2.160%	7,906,200	510,300	148,100	8,564,600	8,148,300	416,300	5.11%
13 Commerce Township	0.985%	3,606,700	232,900	67,600	3,907,200	3,960,800	(53,600)	-1.35%
14 Dearborn	2.779%	10,174,700	656,800	190,600	11,022,100	10,775,100	247,000	2.29%
15 Dearborn Heights	1.069%	3,913,000	252,500	73,300	4,238,800	3,996,700	242,100	6.06%
16 Eastpointe	0.458%	1,678,000	108,300	31,500	1,817,800	1,690,200	127,600	7.55%
17 Ecorse	0.334%	1,222,900	78,900	22,900	1,324,700	1,392,800	(68,100)	-4.89%
18 Farmington	0.281%	1,029,300	66,400	19,300	1,115,000	1,096,000	19,000	1.73%
19 Farmington Hills	2.536%	9,283,500	599,300	173,900	10,056,700	9,637,700	419,000	4.35%
20 Ferndale	0.303%	1,107,400	71,400	20,800	1,199,600	1,087,500	112,100	10.31%
21 Flat Rock	0.402%	1,470,900	95,000	27,500	1,593,400	1,386,900	206,500	14.89%
22 Flint	2.999%	10,979,700	708,800	(6,651,800)	5,036,700	4,755,200	281,500	5.92%
23 Fraser	0.357%	1,307,900	84,500	24,500	1,416,900	1,308,100	108,800	8.32%
24 Garden City	0.489%	1,790,100	115,500	33,500	1,939,100	1,770,400	168,700	9.53%
25 Gibraltar	0.097%	354,300	22,800	6,700	383,800	362,000	21,800	6.02%
26 Greenwood Township (DTE)	0.345%	1,264,300	81,600	23,700	1,369,600	1,458,200	(88,600)	-6.08%
27 Grosse Ile Township	0.320%	1,173,200	75,800	22,000	1,271,000	1,194,900	76,100	6.37%
28 Grosse Pt. Park	0.387%	1,416,300	91,500	26,500	1,534,300	1,463,000	71,300	4.87%
29 Grosse Pt. Shores	0.185%	677,900	43,700	12,700	734,300	706,900	27,400	3.88%
30 Grosse Pt. Woods	0.371%	1,359,800	87,800	25,500	1,473,100	1,377,300	95,800	6.96%



Table 6
Water Supply System
Application of Contract Adjustments to Allocated Revenue Requirements

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Wholesale <u>SHARE</u> <i>Table 5</i>	Allocated Wholesale <u>Rev Req't</u> <i>Table 5</i>	Allocated DWSD <u>Ownership Adj</u>	Allocated Flint / KWA <u>Adjustment</u>	Adjusted Allocated <u>Rev Req't</u> <i>(2) + (3) + (4)</i>	Proforma <u>Revenue</u> <i>Table 5</i>	Charge Adjustment <u>Required</u> <i>(5) - (6)</i>	\$ Charge Adjustment <u>Required</u> <i>(7) / (6)</i>
31 Hamtramck	0.233%	853,900	55,100	16,000	925,000	862,900	62,100	7.20%
32 Harper Woods	0.249%	912,200	58,800	17,100	988,100	909,200	78,900	8.68%
33 Harrison Township	0.478%	1,751,500	113,000	32,800	1,897,300	1,784,100	113,200	6.34%
34 Hazel Park	0.217%	795,300	51,300	14,900	861,500	791,100	70,400	8.90%
35 Highland Park	0.326%	1,193,700	77,000	22,400	1,293,100	1,245,100	48,000	3.86%
36 Huron Township	0.431%	1,576,000	101,600	29,500	1,707,100	1,645,500	61,600	3.74%
37 Imlay City	0.422%	1,544,900	99,800	28,900	1,673,600	1,590,400	83,200	5.23%
38 Imlay Township (Single User)	0.005%	17,600	1,000	300	18,900	15,500	3,400	21.94%
39 Inkster	0.375%	1,373,500	88,600	25,700	1,487,800	1,384,600	103,200	7.45%
40 Keego Harbor	0.086%	313,600	20,300	5,900	339,800	324,200	15,600	4.81%
41 Lapeer	0.439%	1,606,900	103,700	30,100	1,740,700	1,673,100	67,600	4.04%
42 Lenox Township	0.086%	315,400	20,300	5,900	341,600	312,500	29,100	9.31%
43 Lincoln Park	0.652%	2,386,400	154,000	44,700	2,585,100	2,561,000	24,100	0.94%
44 Livonia	3.339%	12,221,900	788,900	229,000	13,239,800	12,370,600	869,200	7.03%
45 Macomb Township	3.506%	12,833,400	828,400	240,400	13,902,200	13,818,900	83,300	0.60%
46 Madison Heights	0.570%	2,087,000	134,800	39,100	2,260,900	2,059,700	201,200	9.77%
47 Mayfield Township (KAMAX)	0.014%	49,600	3,100	900	53,600	41,800	11,800	28.23%
48 Melvindale	0.183%	671,500	43,300	12,600	727,400	709,000	18,400	2.60%
49 New Haven, Village of	0.123%	451,900	29,200	8,400	489,500	413,100	76,400	18.49%
50 NOCWA	6.322%	23,142,400	1,493,900	433,500	25,069,800	23,913,600	1,156,200	4.83%
51 Northville	0.223%	815,300	52,600	15,300	883,200	830,200	53,000	6.38%
52 Northville Township	1.569%	5,743,300	370,700	107,600	6,221,600	6,155,800	65,800	1.07%
53 Novi	2.622%	9,598,400	619,600	179,800	10,397,800	9,967,800	430,000	4.31%
54 Oak Park	0.406%	1,487,800	96,000	27,900	1,611,700	1,498,600	113,100	7.55%
55 Oakland GWK Drain District	0.026%	93,900	6,000	1,700	101,600	85,600	16,000	18.69%
56 Plymouth	0.317%	1,158,800	74,700	21,700	1,255,200	1,186,700	68,500	5.77%
57 Plymouth Township	1.295%	4,739,700	305,900	88,800	5,134,400	4,828,300	306,100	6.34%
58 Redford Township	0.853%	3,122,600	201,600	58,500	3,382,700	3,419,000	(36,300)	-1.06%
59 River Rouge	0.148%	542,600	35,000	10,200	587,800	748,600	(160,800)	-21.48%
60 Riverview	0.254%	928,200	59,800	17,400	1,005,400	960,600	44,800	4.66%



Table 6
Water Supply System
Application of Contract Adjustments to Allocated Revenue Requirements

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Wholesale <u>SHARE</u> <i>Table 5</i>	Allocated Wholesale <u>Rev Req't</u> <i>Table 5</i>	Allocated DWSD <u>Ownership Adj</u>	Allocated Flint / KWA <u>Adjustment</u>	Adjusted Allocated <u>Rev Req't</u> <i>(2) + (3) + (4)</i>	Proforma <u>Revenue</u> <i>Table 5</i>	Charge Adjustment <u>Required</u> <i>(5) - (6)</i>	\$ Charge Adjustment <u>Required</u> <i>(7) / (6)</i>
61 Rockwood	0.072%	263,700	17,000	4,900	285,600	302,100	(16,500)	-5.46%
62 Romeo	0.075%	275,600	17,800	5,200	298,600	281,000	17,600	6.26%
63 Romulus	1.083%	3,962,900	255,900	74,200	4,293,000	4,611,500	(318,500)	-6.91%
64 Roseville	0.749%	2,740,700	177,000	51,400	2,969,100	2,867,300	101,800	3.55%
65 Royal Oak Township	0.059%	217,700	14,100	4,100	235,900	208,200	27,700	13.30%
66 Shelby Township	3.237%	11,847,900	764,900	222,000	12,834,800	15,887,600	(3,052,800)	-19.21%
67 SOCWA	6.772%	24,789,100	1,600,100	464,400	26,853,600	25,021,300	1,832,300	7.32%
68 South Rockwood	0.034%	122,700	7,900	2,300	132,900	124,900	8,000	6.41%
69 Southgate	0.589%	2,156,000	139,100	40,400	2,335,500	2,386,300	(50,800)	-2.13%
70 St. Clair Shores	0.898%	3,287,500	212,200	61,600	3,561,300	3,409,300	152,000	4.46%
71 Sterling Heights	4.267%	15,620,100	1,008,300	292,600	16,921,000	16,848,200	72,800	0.43%
72 Sumpter Township	0.204%	747,600	48,200	14,000	809,800	773,500	36,300	4.69%
73 Sylvan Lake	0.067%	244,800	15,700	4,600	265,100	259,100	6,000	2.32%
74 Taylor	1.309%	4,790,300	309,300	89,700	5,189,300	5,054,100	135,200	2.68%
75 Trenton	0.520%	1,902,400	122,800	35,700	2,060,900	1,852,200	208,700	11.27%
76 Troy	3.995%	14,622,700	943,900	273,900	15,840,500	14,759,200	1,081,300	7.33%
77 Utica	0.166%	607,500	39,100	11,400	658,000	601,300	56,700	9.43%
78 Van Buren Township	0.995%	3,644,100	235,200	68,200	3,947,500	3,834,000	113,500	2.96%
79 Walled Lake	0.228%	835,000	53,800	15,600	904,400	855,500	48,900	5.72%
80 Warren	2.745%	10,049,400	648,700	188,200	10,886,300	11,220,500	(334,200)	-2.98%
81 Washington Township	0.670%	2,453,000	158,400	46,000	2,657,400	2,606,600	50,800	1.95%
82 Wayne	0.519%	1,898,600	122,500	35,600	2,056,700	3,487,400	(1,430,700)	-41.02%
83 West Bloomfield Township	3.038%	11,120,200	717,900	208,300	12,046,400	11,560,900	485,500	4.20%
84 Westland	1.763%	6,454,500	416,700	120,900	6,992,100	6,766,000	226,100	3.34%
85 Wixom	0.711%	2,602,600	168,100	48,800	2,819,500	2,736,000	83,500	3.05%
86 Woodhaven	0.427%	1,564,000	101,000	29,300	1,694,300	1,828,700	(134,400)	-7.35%
87 Ypsilanti Comm Util Auth	2.972%	10,880,000	702,400	203,800	11,786,200	11,338,300	447,900	3.95%
88 Detroit	12.399%	45,387,000	(20,700,000)	850,200	25,537,200	22,834,800	2,702,400	11.83%
TOTAL	100.000%	366,068,600	(600)	200	366,068,200	356,260,500	9,807,700	2.75%

Table 7
Water Supply System
Calculation of FY 2024 Wholesale Water Service Charge Schedule and Illustration of Revenue Recovery

	(1)	(2)	(3)	(4)		(5)		(6)	(7)	(8)	(9)
	Allocated Total <u>Rev Req't</u> \$ <i>Table 6</i>	Projected Sales <u>Volume</u> Mcf <i>Table 3</i>	<i>Net</i> <i>Allocated</i> <u>Unit Cost</u> \$/Mcf <i>(1) / (2)</i>	Recover Via		Recover Via				Proforma <u>Revenue</u> \$ <i>12 * (6)+(2)*(7)</i>	Revenue <u>Recovery</u> % <i>(8)/(1)</i>
				Fixed <u>Monthly</u> \$ <i>60% of (1)</i>	Commodity <u>Charge</u> \$ <i>(1)-(6)*12</i>	Fixed <u>Monthly</u> \$/mo <i>(4) / 12 mos</i>	Commodity <u>Charge</u> \$/Mcf <i>(5) / (2)</i>				
1 Allen Park	2,653,000	121,500	21.84	1,591,800	1,060,600	132,700	8.73	2,653,100	100.0%		
2 Almont Village	266,800	9,300	28.69	160,100	107,200	13,300	11.53	266,800	100.0%		
3 Ash Township	956,000	41,100	23.26	573,600	382,400	47,800	9.30	955,800	100.0%		
4 Belleville	366,700	15,200	24.13	220,000	147,100	18,300	9.68	366,700	100.0%		
5 Berlin Township	790,400	27,700	28.53	474,200	316,400	39,500	11.42	790,300	100.0%		
6 Brownstown Township	4,199,600	140,200	29.95	2,519,800	1,679,600	210,000	11.98	4,199,600	100.0%		
7 Bruce Township	348,500	3,020	115.40	209,100	139,700	17,400	46.26	348,500	100.0%		
8 Burtchville Township	435,600	9,000	48.40	261,400	174,000	21,800	19.33	435,600	100.0%		
9 Canton Township	11,554,100	374,600	30.84	6,932,500	4,621,700	577,700	12.34	11,555,000	100.0%		
10 Center Line	542,500	32,300	16.80	325,500	217,300	27,100	6.73	542,600	100.0%		
11 Chesterfield Township	4,899,200	180,400	27.16	2,939,500	1,959,200	245,000	10.86	4,899,100	100.0%		
12 Clinton Township	8,564,600	393,800	21.75	5,138,800	3,426,200	428,200	8.70	8,564,500	100.0%		
13 Commerce Township	3,907,200	108,100	36.14	2,344,300	1,562,400	195,400	14.45	3,906,800	100.0%		
14 Dearborn	11,022,100	561,600	19.63	6,613,300	4,408,900	551,100	7.85	11,021,800	100.0%		
15 Dearborn Heights	4,238,800	198,800	21.32	2,543,300	1,696,000	211,900	8.53	4,238,600	100.0%		
16 Eastpointe	1,817,800	104,000	17.48	1,090,700	727,000	90,900	6.99	1,817,800	100.0%		
17 Ecorse	1,324,700	91,500	14.48	794,800	530,300	66,200	5.80	1,325,100	100.0%		
18 Farmington	1,115,000	44,900	24.83	669,000	445,400	55,800	9.92	1,115,000	100.0%		
19 Farmington Hills	10,056,700	356,100	28.24	6,034,000	4,023,100	502,800	11.30	10,057,500	100.0%		
20 Ferndale	1,199,600	65,500	18.31	719,800	479,600	60,000	7.32	1,199,500	100.0%		
21 Flat Rock	1,593,400	51,800	30.76	956,000	637,000	79,700	12.30	1,593,500	100.0%		
22 Flint	5,036,700	455,200	11.06	3,022,000	2,015,100	251,800	4.43	5,038,100	100.0%		
23 Fraser	1,416,900	57,100	24.81	850,100	567,300	70,800	9.94	1,417,200	100.0%		
24 Garden City	1,939,100	75,900	25.55	1,163,500	775,100	97,000	10.21	1,938,900	100.0%		
25 Gibraltar	383,800	16,400	23.40	230,300	153,400	19,200	9.35	383,700	100.0%		
26 Greenwood Township (DTE)	1,369,600	26,400	51.88	821,800	547,600	68,500	20.74	1,369,500	100.0%		
27 Grosse Ile Township	1,271,000	38,500	33.01	762,600	507,800	63,600	13.19	1,271,000	100.0%		
28 Grosse Pt. Park	1,534,300	55,600	27.60	920,600	613,900	76,700	11.04	1,534,200	100.0%		
29 Grosse Pt. Shores	734,300	19,500	37.66	440,600	293,900	36,700	15.07	734,300	100.0%		
30 Grosse Pt. Woods	1,473,100	69,900	21.07	883,900	588,700	73,700	8.42	1,473,000	100.0%		

TFG

THE FOSTER GROUP

Table 7
Water Supply System
Calculation of FY 2024 Wholesale Water Service Charge Schedule and Illustration of Revenue Recovery

	(1)	(2)	(3)	(4)		(5)		(6)	(7)	(8)	(9)
	Allocated Total <u>Rev Req't</u> \$ <i>Table 6</i>	Projected Sales <u>Volume</u> Mcf <i>Table 3</i>	<i>Net</i> <i>Allocated</i> <u>Unit Cost</u> \$/Mcf <i>(1) / (2)</i>	Recover Via		Recover Via				Proforma <u>Revenue</u> \$ <i>12 * (6)+(2)*(7)</i>	Revenue <u>Recovery</u> % <i>(8)/(1)</i>
				Fixed <u>Monthly</u> \$ <i>60% of (1)</i>	Commodity <u>Charge</u> \$ <i>(1)-(6)*12</i>	Fixed <u>Monthly</u> \$/mo <i>(4) / 12 mos</i>	Commodity <u>Charge</u> \$/Mcf <i>(5) / (2)</i>				
31 Hamtramck	925,000	61,100	15.14	555,000	369,400	46,300	6.05	925,300	100.0%		
32 Harper Woods	988,100	52,300	18.89	592,900	395,300	49,400	7.56	988,200	100.0%		
33 Harrison Township	1,897,300	98,500	19.26	1,138,400	758,500	94,900	7.70	1,897,300	100.0%		
34 Hazel Park	861,500	49,100	17.55	516,900	344,300	43,100	7.01	861,400	100.0%		
35 Highland Park	1,293,100	103,000	12.55	775,900	516,700	64,700	5.02	1,293,500	100.0%		
36 Huron Township	1,707,100	64,800	26.34	1,024,300	682,300	85,400	10.53	1,707,100	100.0%		
37 Imlay City	1,673,600	45,700	36.62	1,004,200	669,200	83,700	14.64	1,673,400	100.0%		
38 Imlay Township (Single User)	18,900	130	145.38	11,300	8,100	900	62.31	18,900	100.0%		
39 Inkster	1,487,800	101,100	14.72	892,700	595,000	74,400	5.89	1,488,300	100.0%		
40 Keego Harbor	339,800	9,900	34.32	203,900	135,800	17,000	13.72	339,800	100.0%		
41 Lapeer	1,740,700	53,000	32.84	1,044,400	696,700	87,000	13.15	1,741,000	100.0%		
42 Lenox Township	341,600	13,800	24.75	205,000	136,400	17,100	9.88	341,500	100.0%		
43 Lincoln Park	2,585,100	171,100	15.11	1,551,100	1,033,500	129,300	6.04	2,585,000	100.0%		
44 Livonia	13,239,800	467,000	28.35	7,943,900	5,295,800	662,000	11.34	13,239,800	100.0%		
45 Macomb Township	13,902,200	331,200	41.98	8,341,300	5,561,000	695,100	16.79	13,902,000	100.0%		
46 Madison Heights	2,260,900	111,900	20.20	1,356,500	904,900	113,000	8.09	2,261,300	100.0%		
47 Mayfield Township (KAMAX)	53,600	450	119.11	32,200	21,200	2,700	47.11	53,600	100.0%		
48 Melvindale	727,400	43,400	16.76	436,400	290,600	36,400	6.70	727,600	100.0%		
49 New Haven, Village of	489,500	19,200	25.49	293,700	195,500	24,500	10.18	489,500	100.0%		
50 NOCWA	25,069,800	882,200	28.42	15,041,900	10,027,800	1,253,500	11.37	25,072,600	100.0%		
51 Northville	883,200	30,400	29.05	529,900	352,800	44,200	11.61	883,300	100.0%		
52 Northville Township	6,221,600	140,100	44.41	3,733,000	2,488,400	311,100	17.76	6,221,400	100.0%		
53 Novi	10,397,800	303,800	34.23	6,238,700	4,159,000	519,900	13.69	10,397,800	100.0%		
54 Oak Park	1,611,700	93,700	17.20	967,000	644,500	80,600	6.88	1,611,900	100.0%		
55 Oakland GWK Drain District	101,600	9,000	11.29	61,000	40,400	5,100	4.49	101,600	100.0%		
56 Plymouth	1,255,200	45,200	27.77	753,100	501,600	62,800	11.10	1,255,300	100.0%		
57 Plymouth Township	5,134,400	162,200	31.65	3,080,600	2,054,000	256,700	12.66	5,133,900	100.0%		
58 Redford Township	3,382,700	157,800	21.44	2,029,600	1,353,500	169,100	8.58	3,383,100	100.0%		
59 River Rouge	587,800	39,000	15.07	352,700	235,000	29,400	6.03	588,000	100.0%		
60 Riverview	1,005,400	47,800	21.03	603,200	401,800	50,300	8.41	1,005,600	100.0%		

TFG

THE FOSTER GROUP

Table 7
Water Supply System
Calculation of FY 2024 Wholesale Water Service Charge Schedule and Illustration of Revenue Recovery

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Allocated Total <u>Rev Req't</u> \$ <i>Table 6</i>	Projected Sales <u>Volume</u> Mcf <i>Table 3</i>	<i>Net</i> <i>Allocated</i> <u>Unit Cost</u> \$/Mcf <i>(1) / (2)</i>	Recover Via		Recover Via		Proforma <u>Revenue</u> \$ <i>12 * (6)+(2)*(7)</i>	Revenue <u>Recovery</u> % <i>(8)/(1)</i>
				Fixed <u>Monthly</u> \$ <i>60% of (1)</i>	Commodity <u>Charge</u> \$ <i>(1)-(6)*12</i>	Fixed <u>Monthly</u> \$/mo <i>(4) / 12 mos</i>	Commodity <u>Charge</u> \$/Mcf <i>(5) / (2)</i>		
61 Rockwood	285,600	9,900	28.85	171,400	114,000	14,300	11.52	285,600	100.0%
62 Romeo	298,600	6,100	48.95	179,200	119,800	14,900	19.64	298,600	100.0%
63 Romulus	4,293,000	217,400	19.75	2,575,800	1,716,600	214,700	7.90	4,293,900	100.0%
64 Roseville	2,969,100	179,700	16.52	1,781,500	1,187,100	148,500	6.61	2,969,800	100.0%
65 Royal Oak Township	235,900	10,100	23.36	141,500	94,300	11,800	9.34	235,900	100.0%
66 Shelby Township	12,834,800	430,200	29.83	7,700,900	5,134,400	641,700	11.93	12,832,700	100.0%
67 SOCWA	26,853,600	1,250,800	21.47	16,112,200	10,741,200	1,342,700	8.59	26,856,800	100.0%
68 South Rockwood	132,900	4,700	28.28	79,700	53,700	6,600	11.43	132,900	100.0%
69 Southgate	2,335,500	113,300	20.61	1,401,300	933,900	116,800	8.24	2,335,200	100.0%
70 St. Clair Shores	3,561,300	201,000	17.72	2,136,800	1,424,100	178,100	7.09	3,562,300	100.0%
71 Sterling Heights	16,921,000	601,400	28.14	10,152,600	6,767,800	846,100	11.25	16,919,000	100.0%
72 Sumpter Township	809,800	33,500	24.17	485,900	323,800	40,500	9.67	809,900	100.0%
73 Sylvan Lake	265,100	6,700	39.57	159,100	105,500	13,300	15.75	265,100	100.0%
74 Taylor	5,189,300	263,800	19.67	3,113,600	2,075,300	259,500	7.87	5,190,100	100.0%
75 Trenton	2,060,900	88,900	23.18	1,236,500	824,900	103,000	9.28	2,061,000	100.0%
76 Troy	15,840,500	463,600	34.17	9,504,300	6,336,500	792,000	13.67	15,841,400	100.0%
77 Utica	658,000	23,000	28.61	394,800	263,200	32,900	11.44	657,900	100.0%
78 Van Buren Township	3,947,500	136,600	28.90	2,368,500	1,578,700	197,400	11.56	3,947,900	100.0%
79 Walled Lake	904,400	29,500	30.66	542,600	362,000	45,200	12.27	904,400	100.0%
80 Warren	10,886,300	626,500	17.38	6,531,800	4,354,700	544,300	6.95	10,885,800	100.0%
81 Washington Township	2,657,400	86,500	30.72	1,594,400	1,062,600	132,900	12.28	2,657,000	100.0%
82 Wayne	2,056,700	104,900	19.61	1,234,000	823,100	102,800	7.85	2,057,100	100.0%
83 West Bloomfield Township	12,046,400	278,900	43.19	7,227,800	4,818,800	602,300	17.28	12,047,000	100.0%
84 Westland	6,992,100	329,900	21.19	4,195,300	2,796,900	349,600	8.48	6,992,800	100.0%
85 Wixom	2,819,500	78,100	36.10	1,691,700	1,127,500	141,000	14.44	2,819,800	100.0%
86 Woodhaven	1,694,300	58,700	28.86	1,016,600	677,900	84,700	11.55	1,694,400	100.0%
87 Ypsilanti Comm Util Auth	11,786,200	490,100	24.05	7,071,700	4,714,600	589,300	9.62	11,786,400	100.0%
88 Detroit	25,537,200	4,170,000	6.12	25,537,200		2,128,100		25,537,200	100.0%
TOTAL	366,068,200	17,746,600	20.63	229,856,300	136,205,800	19,155,200		366,080,000	100.0%

TFG

THE FOSTER GROUP

Table 8
Water Supply System
Illustration of the Impact of Contract Adjustments to Detroit and Flint

	(1)	(2)	(3)	(4)	(5)	
	Proforma Revenue <u>Exit Charges</u> <i>Table 3</i>	FY 2024 <u>SHARE</u> <i>Table 5</i>	Adjusted Allocated <u>Rev Req't</u> <i>Table 6</i>	Charge Adjustment <u>Required</u> <i>(3) - (1)</i>	\$ Charge Adjustment <u>Required</u> <i>(4) / (1)</i>	
<u>Detroit</u>						
1	Allocated Wholesale Rev Req't	42,709,100	12.399%	45,387,000	2,677,900	6.27%
2	Flint KWA Adjustment	825,700		850,200	24,500	2.97%
3	Subtotal Wholesale	43,534,800		46,237,200	2,702,400	6.21%
4	Detroit Ownership Adjustment	(20,700,000)		(20,700,000)	0	0.00%
5	Adjusted Total	22,834,800		25,537,200	2,702,400	11.83%
<u>Flint</u>						
6	Allocated Wholesale Rev Req't	10,713,200	2.999%	10,979,700	266,500	2.49%
7	Detroit Ownership Adjustment	693,800		708,800	15,000	2.16%
8	Subtotal Wholesale	11,407,000		11,688,500	281,500	2.47%
9	Flint KWA Adjustment	(6,651,800)		(6,651,800)	0	0.00%
10	Adjusted Total	4,755,200		5,036,700	281,500	5.92%
<u>All Other Member Partners</u>						
11	Allocated Wholesale Rev Req't	302,853,300	84.602%	309,701,900	6,848,600	2.26%
12	Flint KWA Adjustment	5,825,900		5,801,800	(24,100)	-0.41%
13	Subtotal Wholesale	308,679,200		315,503,700	6,824,500	2.21%
14	Detroit Ownership Adjustment	19,991,300		19,990,600	(700)	0.00%
15	Adjusted Total	328,670,500		335,494,300	6,823,800	2.08%
<u>Total System</u>						
16	Allocated Wholesale Rev Req't	356,275,600	100.000%	366,068,600	9,793,000	2.75%
17	Flint KWA Adjustment	(200)		200	400	
18	Subtotal Wholesale	356,275,400		366,068,800	9,793,400	2.75%
19	Detroit Ownership Adjustment	(14,900)		(600)	14,300	
20	Subtotal Wholesale	356,260,500		366,068,200	9,807,700	2.75%

Table 1
Sewage Disposal System
Recommended FY 2024 Revenue Requirement and Charge Adjustment Summary

	(1)	(2)	(3)	(4)
	Approved FY 2023	Recommended FY 2024	Variance	% Variance
	\$	\$	\$	
<u>Revenues</u>				
1 Revenues from Charges	479,816,500	493,167,700	13,351,200	2.8%
2 Other Operating Revenue	400,000	400,000	0	0.0%
3 Non-Operating Revenue	1,155,600	7,059,300	5,903,700	510.9%
4 Total Revenues	<u>481,372,100</u>	<u>500,627,000</u>	<u>19,254,900</u>	4.0%
<u>Revenue Requirements</u>				
5 Operations & Maintenance (O&M) Expense	184,052,600	205,643,700	21,591,100	11.7%
6 General Retirement System Legacy Pension	10,824,000	0	(10,824,000)	-100.0%
7 Debt Service - Regional System Allocation	205,638,100	225,012,300	19,374,200	9.4%
8 General Retirement System Accelerated Pension	11,620,700	6,479,300	(5,141,400)	-44.2%
9 WRAP Contribution	2,394,200	2,503,100	108,900	4.5%
10 Lease Payment	27,500,000	27,500,000	0	0.0%
11 Deposit to Improvement & Extension (I&E) Fund	39,342,500	33,488,600	(5,853,900)	-14.9%
12 Total Revenue Requirements	<u>481,372,100</u>	<u>500,627,000</u>	<u>19,254,900</u>	4.0%
<u>Charge Adjustment Summary</u>				
13 Budget Adjustment Index		4.0%		
14 Baseline Revenue		479,976,700		
15 Change in Annual Revenue Requirement			19,254,900	4.01%
16 Change Attributable to Non-Charge Revenue			(5,903,700)	-1.23%
17 Change Attributable to Sales Revenue			(160,200)	-0.03%
18 System Charge Adjustment			13,191,000	2.75%
19 Revenue Requirement to Collect with Charges		493,167,700		
20 less: OMID Contract Revenue (a)		(1,941,100)		
21 Revenue Requirement to Collect with Wholesale Charges		<u>491,226,600</u>		
22 Proforma Revenue from <u>Wholesale</u> Charges		477,790,300		
23 Additional Revenue Required from Wholesale Charges		13,436,300		
24 Wholesale Charge Adjustment - %		2.81%		
(a) OMID Contract Revenue	2,186,400	1,941,100	(245,300)	-11.2%

Table 2
Sewage Disposal System
Allocation of FY 2024 Revenue Requirements to Member Partners and Industrial Customer Classes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
	Proforma Revenue - Existing Charges			Allocated FY 2024 Revenue Requirement			Change for FY 2023 Charges			"Unbundled" FY 2023 Charge Adjustment			
	Wholesale Rev Req'ts	Contractual Adjustments	Total	Wholesale Rev Req'ts	Contractual Adjustments	Total	Wholesale Rev Req'ts	Contractual Adjustments	Total	Wholesale Rev Req'ts	Contractual Adjustments	Total	
		(a)	(1) + (2)	Table 1	(a)	(4) + (5)	(4) - (1)	(5) - (2)	(6) - (3)	(7) / (3)	(8) / (3)	(9) / (3)	
				2.81%									
<u>Suburban Wholesale</u>													
1	OMID Common *	67,730,800	1,395,500	69,126,300	69,635,400	1,395,500	71,030,900	1,904,600	0	1,904,600	2.81%	0.00%	2.76%
2	Rouge Valley	54,801,200	1,129,200	55,930,400	56,342,200	1,129,200	57,471,400	1,541,000	0	1,541,000	2.81%	0.00%	2.76%
3	Oakland GWK	45,441,700	936,300	46,378,000	46,719,500	936,300	47,655,800	1,277,800	0	1,277,800	2.81%	0.00%	2.76%
4	Evergreen Farmington	35,464,800	730,800	36,195,600	36,462,000	730,800	37,192,800	997,200	0	997,200	2.81%	0.00%	2.76%
5	SE Macomb San Dist	24,564,000	506,100	25,070,100	25,254,700	506,100	25,760,800	690,700	0	690,700	2.81%	0.00%	2.76%
6	Dearborn	19,888,900	409,800	20,298,700	20,448,200	409,800	20,858,000	559,300	0	559,300	2.81%	0.00%	2.76%
7	Grosse Pointe Farms	2,692,700	55,500	2,748,200	2,768,400	55,500	2,823,900	75,700	0	75,700	2.81%	0.00%	2.75%
8	Grosse Pointe Park	1,866,300	38,500	1,904,800	1,918,800	38,500	1,957,300	52,500	0	52,500	2.81%	0.00%	2.76%
9	Melvindale	1,541,400	31,800	1,573,200	1,584,700	31,800	1,616,500	43,300	0	43,300	2.81%	0.00%	2.75%
10	Farmington	1,174,600	24,200	1,198,800	1,207,600	24,200	1,231,800	33,000	0	33,000	2.81%	0.00%	2.75%
11	Center Line	1,021,400	21,000	1,042,400	1,050,100	21,000	1,071,100	28,700	0	28,700	2.81%	0.00%	2.75%
12	Allen Park	831,100	17,100	848,200	854,500	17,100	871,600	23,400	0	23,400	2.82%	0.00%	2.76%
13	Highland Park	5,311,100	109,400	5,420,500	5,460,400	109,400	5,569,800	149,300	0	149,300	2.81%	0.00%	2.75%
14	Hamtramck	3,960,100	81,600	4,041,700	4,071,500	81,600	4,153,100	111,400	0	111,400	2.81%	0.00%	2.76%
15	Grosse Pointe	882,100	18,200	900,300	906,900	18,200	925,100	24,800	0	24,800	2.81%	0.00%	2.75%
16	Harper Woods	213,600	4,400	218,000	219,600	4,400	224,000	6,000	0	6,000	2.81%	0.00%	2.75%
17	Redford Township	264,600	5,500	270,100	272,000	5,500	277,500	7,400	0	7,400	2.80%	0.00%	2.74%
18	Wayne County #3	51,100	1,100	52,200	52,500	1,100	53,600	1,400	0	1,400	2.74%	0.00%	2.68%
19	Subtotal Suburban Wholesale	267,701,500	5,516,000	273,217,500	275,229,000	5,516,000	280,745,000	7,527,500	0	7,527,500	2.81%	0.00%	2.76%
20	Detroit Customers	196,557,900	(5,516,000)	191,041,900	202,085,000	(5,516,000)	196,569,000	5,527,100	0	5,527,100	2.81%	0.00%	2.89%
21	Total Wholesale	464,259,400	0	464,259,400	477,314,000	0	477,314,000	13,054,600	0	13,054,600	2.81%		2.81%
22	OMID Direct *		2,186,400	2,186,400		1,941,100	1,941,100	0	(245,300)	(245,300)		-11.22%	-11.22%
23	Total Member Partner	464,259,400	2,186,400	466,445,800	477,314,000	1,941,100	479,255,100	13,054,600	(245,300)	12,809,300	2.81%	-11.22%	2.75%
24	OMID Total *	67,730,800	3,581,900	71,312,700	69,635,400	3,336,600	72,972,000	1,904,600	(245,300)	1,659,300	2.81%	-6.85%	2.33%
<u>Industrial Specific Charges</u>													
25	Industrial Waste Control	8,349,400		8,349,400	8,584,200	0	8,584,200	234,800	0	234,800	2.81%		2.81%
26	Industrial Surcharges	5,180,500		5,180,500	5,328,300	0	5,328,300	147,800	0	147,800	2.85%		2.85%
27	Subtotal	13,529,900	0	13,529,900	13,912,500	0	13,912,500	382,600	0	382,600	2.83%		2.83%
28	Total	477,789,300	2,186,400	479,975,700	491,226,500	1,941,100	493,167,600	13,437,200	(245,300)	13,191,900	2.81%		2.75%

(a) DWSD Ownership Benefit and fixed OMID Direct Revenue Requirements

Table 3
GLWA FY 2024 Sewer Charge Study Summary
Comparison of Allocated Revenue Requirements and Revenue under Existing Charges

	(1)	(2)	(3)	(4)	(5)	
	Revenue Existing <u>Charges</u> \$	FY 2024 SHARE (a)	Allocated Revenue <u>Requirement</u> \$	Adjustment <u>Required</u> \$	% Adjustment <u>Required</u>	
<u>Suburban Wholesale</u>						
1	OMID (b)	71,312,700	14.589%	72,971,800	1,659,100	2.33%
2	Rouge Valley	55,930,400	11.804%	57,471,300	1,540,900	2.76%
3	Oakland GWK	46,378,000	9.788%	47,655,700	1,277,700	2.75%
4	Evergreen Farmington	36,195,600	7.639%	37,192,800	997,200	2.76%
5	SE Macomb San Dist	25,070,100	5.291%	25,760,800	690,700	2.76%
6	Dearborn	20,298,700	4.284%	20,857,900	559,200	2.75%
7	Grosse Pointe Farms	2,748,200	0.580%	2,823,900	75,700	2.75%
8	Grosse Pointe Park	1,904,800	0.402%	1,957,300	52,500	2.76%
9	Melvindale	1,573,200	0.332%	1,616,500	43,300	2.75%
10	Farmington	1,198,800	0.253%	1,231,800	33,000	2.75%
11	Center Line	1,042,400	0.220%	1,071,100	28,700	2.75%
12	Allen Park	848,200	0.179%	871,600	23,400	2.76%
13	Highland Park	5,420,500	1.144%	5,569,800	149,300	2.75%
14	Hamtramck	4,041,700	0.853%	4,153,000	111,300	2.75%
15	Grosse Pointe	900,300	0.190%	925,100	24,800	2.75%
16	Harper Woods	218,000	0.046%	224,000	6,000	2.75%
17	Redford Township	270,100	0.057%	277,500	7,400	2.74%
18	Wayne County #3	52,200	0.011%	53,600	1,400	2.68%
19	Subtotal Suburban Wholesale	275,403,900	57.662%	282,685,500	7,281,600	2.64%
20	Detroit Customers	191,042,900	42.338%	196,569,600	5,526,700	2.89%
21	Total Wholesale	466,446,800	100.000%	479,255,100	12,808,300	2.75%
<u>Industrial Specific Charges</u>						
22	Industrial Waste Control	8,349,400		8,584,200	234,800	2.81%
23	Industrial Surcharges	5,180,500		5,328,300	147,800	2.85%
24	Subtotal	13,529,900		13,912,500	382,600	2.83%
25	Grand Total	479,976,700		493,167,600	13,190,900	2.75%
26	Detroit Gross	196,558,900	42.338%	202,085,600	5,526,700	2.81%
27	less: Ownership Benefit	<u>(5,516,000)</u>		<u>(5,516,000)</u>	<u>0</u>	
28	Detroit Net (see Line 20)	191,042,900		196,569,600	5,526,700	2.89%

(a) Represents each Member Partner's Allocated SHARE of the GLWA Wholesale Revenue Requirement. The final "Allocated Revenue Requirement" reflects recognition of the Detroit Ownership Benefit.

(b) Includes directly assigned revenue requirements in addition to wholesale SHARES.

TFG

Table 4
Sewage Disposal System
Comparison of Existing and Proposed Member Partner Service Charges

	(1)	(2)	(3)	(4)	
	Existing FY 2023 <u>Charges</u> \$/mo	Proposed FY 2024 <u>Charges</u> \$/mo	Charge <u>Adjustment</u> \$/mo	% Charge <u>Adjustment</u>	
<u>Suburban Wholesale</u>					
1	OMID Common *	5,760,500	5,919,200	158,700	2.75%
2	Rouge Valley	4,660,900	4,789,300	128,400	2.75%
3	Oakland GWK	3,864,800	3,971,300	106,500	2.76%
4	Evergreen Farmington	3,016,300	3,099,400	83,100	2.76%
5	SE Macomb San Dist	2,089,200	2,146,700	57,500	2.75%
6	Dearborn	1,691,600	1,738,200	46,600	2.75%
7	Grosse Pointe Farms	229,000	235,300	6,300	2.75%
8	Grosse Pointe Park	158,700	163,100	4,400	2.77%
9	Melvindale	131,200	134,700	3,500	2.67%
10	Farmington	99,900	102,700	2,800	2.80%
11	Center Line	86,900	89,300	2,400	2.76%
12	Allen Park	70,700	72,600	1,900	2.69%
13	Highland Park	451,700	464,200	12,500	2.77%
14	Hamtramck	336,800	346,100	9,300	2.76%
15	Grosse Pointe	75,000	77,100	2,100	2.80%
16	Harper Woods	18,200	18,700	500	2.75%
17	Redford Township	22,600	23,100	500	2.21%
18	Wayne County #3	4,400	4,500	100	2.27%
19	Subtotal Suburban Wholesale	22,768,400	23,395,500	627,100	2.75%
20	Detroit Customers (a)	15,920,100	16,380,800	460,700	2.89%
21	Subtotal Wholesale	38,688,500	39,776,300	1,087,800	2.81%
22	OMID Direct *	182,200	161,800	(20,400)	-11.20%
23	Total Member Partner Chgs	38,870,700	39,938,100	1,067,400	2.75%
24	OMID Total *	5,942,700	6,081,000	138,300	2.33%
<u>(a) Detroit Revenue Req'ts</u>					
25	Gross Revenue Requirements	16,379,800	16,840,500	460,700	2.81%
26	Ownership Benefit	(459,700)	(459,700)	0	0.00%
27	Net Revenue Requirements	15,920,100	16,380,800	460,700	2.89%

Table 5
Sewage Disposal System
FY 2024 Industrial Specific Charges

Industrial Waste Control Charges - \$/month (a)					Industrial Surcharges - \$/lb			
Meter <u>Size</u>	Equivalency <u>Ratio</u>	Existing <u>Rate</u>	Proposed <u>Rate</u>	Rate <u>Adjustment</u>		Existing <u>Rate</u>	Proposed <u>Rate</u>	Rate <u>Adjustment</u>
5/8	1.0	3.54	3.64	2.82%	BIOCHEMICAL OXYGEN DEMAND (BOD)			
3/4	1.5	5.31	5.46	2.82%	for concentrations > 275 mg/l	0.351	0.361	2.85%
1	2.5	8.85	9.10	2.82%				
1-1/2	5.5	19.47	20.02	2.82%				
2	8.0	28.32	29.12	2.82%	TOTAL SUSPENDED SOLIDS (TSS)			
3	14.5	51.33	52.78	2.82%	for concentrations > 350 mg/l	0.482	0.496	2.90%
4	20.0	70.80	72.80	2.82%				
6	30.0	106.20	109.20	2.82%				
8	50.0	177.00	182.00	2.82%	PHOSPHORUS (P)			
10	70.0	247.80	254.80	2.82%	for concentrations > 12 mg/l	6.448	6.629	2.81%
12	80.0	283.20	291.20	2.82%				
14	100.0	354.00	364.00	2.82%				
16	120.0	424.80	436.80	2.82%	FATS, OIL AND GREASE (FOG)			
18	140.0	495.60	509.60	2.82%	for concentrations > 100 mg/l	0.112	0.115	2.68%
20	160.0	566.40	582.40	2.82%				
24	180.0	637.20	655.20	2.82%				
30	200.0	708.00	728.00	2.82%	SEPTAGE DISPOSAL FEE			
36	220.0	778.80	800.80	2.82%	Per 500 gallons of disposal	36.00	37.01	2.81%
48	240.0	849.60	873.60	2.82%				

(a) Full Service Rate. "Administrative Only" Rate = 25% of Full Service Rate.



Appendices

- A. December 14, 2022 memorandum: “Proposed FY 2024 Water and Sewer Charges”
- B. December 30, 2022 memorandum: “GLWA Financial Forecast Update”
- C. December 30, 2022 memorandum: “FY 2024 Water Cost of Service and Charges Study - Detailed Cost Allocation Schedules”
- D. December 20, 2022 memorandum: “Proposed FY 2024 Water Units of Service – Updated Units”

Additional appendices may be added to this report to address the results of ongoing review of the budget and charge proposals.

TFG
THE FOSTER GROUP

THE FOSTER GROUP, LLC
12719 WENONGA LANE
LEAWOOD, KS 66209

BART FOSTER, PRESIDENT
CELL: (913) 530-6240
BFOSTER@FOSTERGROUPLLC.COM

MEMORANDUM

Proposed FY 2024 Water and Sewer Charges

December 14, 2022

To: Sue Coffey, Nicolette Bateson

From: Bart Foster

This memorandum is intended to introduce our recommended proposed Water and Sewer Charges for FY 2024. Herewith we provide an executive summary of our recommendations.

Executive Summary

1. Proposed FY 2024 Water Charges reflect a detailed cost of service study and the updated units of service resulting from the recently completed Contract Alignment Process (CAP).
 - *For the first time in four years, there is significant diversity in the charge adjustments to individual Water Member Partners as a result of the CAP.*
2. Proposed FY 2024 Sewer Charges reflect a simplified approach that does not require preparation of a FY 2024 Cost of Service Study, since the FY 2022 Sewer SHARES will be continued for the FY 2024 Sewer Charges – they are scheduled to be updated for the FY 2025 Sewer Charges.
 - *Cost of service analyses are ongoing, with a specific focus on detailed review of fixed asset records.*
3. Both the Proposed FY 2024 Water Charges and the Proposed FY 2024 Sewer Charges reflect:
 - *Budgeted Revenue Requirement increase of **4.0%** and a System Charge Adjustment equal to a **2.75%** increase – increased budgeted investment earnings and baseline sales revenues help address the balance of the budget increase.*
4. Neither the proposed Water Charges nor the proposed Sewer Charges contain any amounts to recover bad debt expense associated with Highland Park from other Member Partners.

Proposed FY 2024 Water Charges**Budgeted Revenue Requirements and System Charge Adjustment:**

- We are proposing a ***System Charge Adjustment*** of a 2.75% increase. As shown in the table below, this adjustment is the product of:
 - *4.0% to address a \$14.2 million revenue requirement increase; offset by . . .*
 - *Approximately 0.9% to reflect a \$3.1 million increase in budgeted investment earnings (See Line 16), and*
 - *Approximately 0.4 % to reflect an increase in budgeted water sales volumes, creating a \$1.3 million positive sales revenue forecast. (See Line 17)*

Recommended FY 2024 Water Revenue Requirement Summary

	Approved <u>FY 2023</u> \$	Recommended <u>FY 2024</u> \$	<u>Variance</u> \$	<u>% Variance</u>
<u>Revenues</u>				
1 Revenues from Charges	354,947,900	366,068,800	11,120,900	3.1%
2 Other Operating Revenue	175,000	175,000	0	0.0%
3 Non-Operating Revenue	948,700	4,070,700	3,122,000	329.1%
4 Total Revenues	356,071,600	370,314,500	14,242,900	4.0%
<u>Revenue Requirements</u>				
5 Operations & Maintenance (O&M) Expense	144,847,700	152,906,400	8,058,700	5.6%
6 General Retirement System Legacy Pension	6,048,000	0	(6,048,000)	-100.0%
7 Debt Service - Regional System Allocation	150,337,100	159,823,700	9,486,600	6.3%
8 General Retirement System Accelerated Pension	6,268,300	3,395,500	(2,872,800)	-45.8%
9 WRAP Contribution	1,770,500	1,851,600	81,100	4.6%
10 Lease Payment	22,500,000	22,500,000	0	0.0%
11 Deposit to Improvement & Extension (I&E) Fund	24,300,000	29,837,300	5,537,300	22.8%
12 Total Revenue Requirements	356,071,600	370,314,500	14,242,900	4.0%
<u>Charge Adjustment Summary</u>				
13 Adjustment Index		4.0%		
14 Baseline Revenue		356,265,200		
15 Change in Annual Revenue Requirement			14,242,900	4.00%
16 Change Attributable to Non-Charge Revenue			(3,122,000)	-0.88%
17 Change Attributable to Sales Revenue			(1,317,300)	-0.37%
18 Wholesale Charge Adjustment			9,803,600	2.75%

- The positive budgeted revenue variance is slightly lower than that presented earlier in the charge planning process, including at the November 16 Charge Rollout meeting on proposed Units of Service. Subsequent to that meeting, we have made some minor adjustments to projected sales volumes for specific Member Partners based on review of specific data¹.

¹ The specific adjustments will be documented in our Cost of Service Study Report Memorandum, to be published under separate cover,

- As a result, the proposed System Charge Adjustment is higher than what was indicated in originally presented material.

Specific Member Partner Water Charge Proposals:

As presented at the November 16 Charge Rollout meeting, the CAP process creates significant changes in individual Member Partner units of service. As such there is variability in the impact of the proposed charges on individual Member Partners.

Our recommended charges have been developed by:

- Preparing a detailed Cost of Service Study to allocate the FY 2024 Revenue Requirements to Cost Pools, and subsequently to individual Member Partners based on their updated units of service. That Cost of Service Study will be published under separate cover in the coming days.
- The results of the Cost of Service Study produce allocated wholesale revenue requirement responsibility for each Water Member Partner.
 - *For the FY 2024 Cost of Service Study we are introducing and embracing the concept of SHARES to illustrate the results. This will align the approach followed by the GLWA Sewer Charge Methodology.*
 - *Each Member Partner's SHARE represents their allocated portion of GLWA's budgeted wholesale revenue requirement – based on their individual units of service in proportion to the System total.*
 - *As previously mentioned, the CAP process produces significant variability in the impacts on individual Member Partners.*
- The allocated wholesale costs of service are then adjusted to reflect two required contractual adjustments, both of which are “fixed” and not subject to adjustment in the FY 2024 revenue requirements:
 - *The Detroit Ownership Benefit of \$20.7 million, which is deducted from the Detroit wholesale revenue requirement and proportionally allocated to all other Member Partners based on their wholesale revenue requirements.*
 - *The KWA Debt Service Credit of \$6.65 million, which is deducted from the Flint wholesale revenue requirement and proportionally allocated to all other Member Partners based on their wholesale revenue requirements.*
- The adjusted final revenue requirements are then compared to the projected revenue under existing charges in order to determine the required adjustment to individual Member Partner charges. See Table 1 for the results of that analysis.
 - *This table is identical in format to that included in the hypothetical “units of service” impact summary published on November 16 in connection with Charges Rollout Meeting #2. It now reflects the FY 2024 budgeted revenue requirement and the results of the FY 2024 Cost of Service Study.*

- *The specific charge schedules for each member partner will be published under separate cover. The proposed FY 2024 charges will continue to follow the approach to collect 60% of each Member Partner's Allocated Revenue Requirement via fixed monthly charges and the remaining 40% via Commodity Charges.*

Proposed FY 2024 Sewer Charges

Budgeted Revenue Requirements and System Charge Adjustment:

- We are proposing a **System Charge Adjustment** of a 2.75% increase. As shown in the table below, this adjustment is the product of:
 - *4.0% to address a \$19.3 million revenue requirement increase; offset by . . .*
 - *Approximately 2.0% to reflect a \$9.7 million increase in budgeted investment earnings (See Line 16), and*
 - *There is also a minor adjustment to budgeted sales revenue from industrial customers. (See Line 17).*

Recommended FY 2024 Sewer Revenue Requirement Summary

	Approved <u>FY 2023</u> \$	Recommended <u>FY 2024</u> \$	<u>Variance</u> \$	<u>% Variance</u>
<u>Revenues</u>				
1 Revenues from Charges	479,816,500	493,156,400	13,339,900	2.8%
2 Other Operating Revenue	400,000	400,000	0	0.0%
3 Non-Operating Revenue	1,155,600	7,070,600	5,915,000	511.9%
4 Total Revenues	481,372,100	500,627,000	19,254,900	4.0%
<u>Revenue Requirements</u>				
5 Operations & Maintenance (O&M) Expense	184,052,600	205,643,700	21,591,100	11.7%
6 General Retirement System Legacy Pension	10,824,000	0	(10,824,000)	-100.0%
7 Debt Service - Regional System Allocation	205,638,100	225,012,300	19,374,200	9.4%
8 General Retirement System Accelerated Pension	11,620,700	6,479,300	(5,141,400)	-44.2%
9 WRAP Contribution	2,394,200	2,503,100	108,900	4.5%
10 Lease Payment	27,500,000	27,500,000	0	0.0%
11 Deposit to Improvement & Extension (I&E) Fund	39,342,500	33,488,600	(5,853,900)	-14.9%
12 Total Revenue Requirements	481,372,100	500,627,000	19,254,900	4.0%
<u>Charge Adjustment Summary</u>				
13 Budget Adjustment Index		4.0%		
14 Baseline Revenue		479,976,700		
15 Change in Annual Revenue Requirement			19,254,900	4.01%
16 Change Attributable to Non-Charge Revenue			(5,915,000)	-1.23%
17 Change Attributable to Sales Revenue			(160,200)	-0.03%
18 System Charge Adjustment			13,179,700	2.75%

Specific Member Partner Sewer Charge Proposals:

As presented at the November 16 Charge Rollout meeting, the existing SHAREs established for the FY 2022 Charges will remain in effect for FY 2024. Revenues collected via the SHAREs process account for almost 97% of the revenues generated from charges, with Industrial Specific charges and contractual charges to OMID making up the remainder. We believe this dynamic supports a simplified approach to the proposed FY 2024 Sewer Charges to support the stability objectives embraced by the GLWA Charge Methodologies. Our recommended charges have been developed by:

- Determining and recognizing the OMID Specific revenue requirements. Since a material portion of these contractual amounts are related to the legacy pension obligation, and since that element is significantly reduced in the FY 2024 Budget, the FY 2024 OMID Specific revenue requirements represent a 11% reduction from FY 2023.
 - *As a result, the remaining wholesale revenue requirements for all other charge categories must be increased by 2.8% instead of the 2.75% noted above.*
- Increasing the “wholesale revenue requirements from charges” for ALL charge categories by 2.8% to align with the overall budgeted revenue requirement increase.
- Apply the required contractual adjustments related to the Detroit Ownership Benefit.
 - *Since the Detroit Ownership Benefit is fixed, the charge adjustment for Detroit is 2.9% expressed on a “gross” pre credit basis (Compared to the 2.8% budgeted revenue requirement increase).*
- Computing specific Industrial Waste Control and Industrial Surcharge rates for FY 2023 that align with the overall 2.8% increase in budgeted revenue requirements.
- Table 2 summarizes the proposed Sewer Charges for FY 2024.

We are continuing detailed cost of service analyses to support customer class specific charge adjustments for FY 2025. The focus of the ongoing efforts includes a detailed review of fixed asset records to ensure alignment with cost pools supported by the SHAREs methodology, and a comprehensive review of industrial cost pools. This effort will support development of the FY 2025 SHAREs for next year’s charge analysis.

Highland Park Bad Debt Expense

It is our understanding that GLWA and the City of Highland Park are in mediation discussions, and that Highland Park is now making regular (although partial) payments to GLWA for sewage disposal services. For purposes of the proposed FY 2024 Water and Sewer Charges, we have assumed that revenue requirements allocable to Highland Park will be fully recovered from Highland Park. ***We have not included any amounts in the proposed charges to other Member Partners to recover bad debt expense associated with Highland Park.***

We believe that the approaches recommended above are consistent with the goals and objectives set forth in the “One Water Charge Initiatives” that were (most recently) presented

at the November 16 Charge Rollout meeting. We have initiated efforts to prepare and provide specific Member Partner charge calculation sheets that embrace and follow these approaches.

We are prepared to present this material to the Audit Committee meeting scheduled for December 16 and to discuss this matter further at your convenience.

Table 1
GLWA FY 2024 Water Cost of Service Study Result Summary

Illustration of SHARES and Comparison of Allocated Revenue Requirements and Revenue under Existing Charges

<u>Customer</u>	(1)	(2)	(3)	(4)	(5)	<u>County</u>
	Revenue Existing	FY 2024	Allocated	Adjustment	% Adjustment	
	<u>Charges</u>	<u>SHARE</u>	<u>Requirement</u>	<u>Required</u>	<u>Required</u>	
	\$	(a)	\$	\$		
1 Allen Park	2,555,300	0.669%	2,652,900	97,600	3.8%	Wayne
2 Almont Village	256,800	0.067%	266,800	10,000	3.9%	Other
3 Ash Township	893,000	0.241%	956,000	63,000	7.1%	Other
4 Belleville	357,800	0.092%	366,700	8,900	2.5%	Wayne
5 Berlin Township	804,300	0.199%	790,400	(13,900)	-1.7%	Other
6 Brownstown Township	3,959,300	1.059%	4,199,500	240,200	6.1%	Wayne
7 Bruce Township	394,400	0.088%	348,500	(45,900)	-11.6%	Macomb
8 Burtchville Township	387,200	0.110%	435,600	48,400	12.5%	Other
9 Canton Township	11,446,000	2.913%	11,553,700	107,700	0.9%	Wayne
10 Center Line	513,300	0.137%	542,500	29,200	5.7%	Macomb
11 Chesterfield Township	4,702,200	1.235%	4,899,000	196,800	4.2%	Macomb
12 Clinton Township	8,148,300	2.160%	8,564,200	415,900	5.1%	Macomb
13 Commerce Township	3,960,800	0.985%	3,907,100	(53,700)	-1.4%	Oakland
14 Dearborn Heights	3,996,700	1.069%	4,238,700	242,000	6.1%	Wayne
15 Eastpointe	1,690,200	0.458%	1,817,700	127,500	7.5%	Macomb
16 Ecorse	1,392,800	0.334%	1,324,700	(68,100)	-4.9%	Wayne
17 Farmington	1,096,000	0.281%	1,115,000	19,000	1.7%	Oakland
18 Farmington Hills	9,637,700	2.536%	10,056,300	418,600	4.3%	Oakland
19 Ferndale	1,087,500	0.303%	1,199,600	112,100	10.3%	Oakland
20 Flat Rock	1,386,900	0.402%	1,593,300	206,400	14.9%	Wayne
21 <i>Flint</i> *	4,755,200	2.999%	5,036,300	281,100	5.9%	Other
22 Fraser	1,308,100	0.357%	1,416,900	108,800	8.3%	Macomb
23 Garden City	1,770,400	0.489%	1,939,100	168,700	9.5%	Wayne
24 Gibraltar	362,000	0.097%	383,800	21,800	6.0%	Wayne
25 Greenwood Township (DTE)	1,458,200	0.345%	1,369,500	(88,700)	-6.1%	Other
26 Grosse Ile Township	1,194,900	0.320%	1,270,900	76,000	6.4%	Wayne
27 Grosse Pt. Park	1,463,000	0.387%	1,534,200	71,200	4.9%	Wayne
28 Grosse Pt. Shores	706,900	0.185%	734,300	27,400	3.9%	Wayne
29 Grosse Pt. Woods	1,377,300	0.371%	1,473,100	95,800	7.0%	Wayne
30 Hamtramck	862,900	0.233%	925,000	62,100	7.2%	Wayne
31 Harper Woods	909,200	0.249%	988,000	78,800	8.7%	Wayne
32 Harrison Township	1,784,100	0.478%	1,897,200	113,100	6.3%	Macomb
33 Hazel Park	791,100	0.217%	861,500	70,400	8.9%	Oakland
34 Huron Township	1,645,500	0.431%	1,707,100	61,600	3.7%	Wayne
35 Imlay City	1,590,400	0.422%	1,673,500	83,100	5.2%	Other
36 Imlay Township (Single User)	15,500	0.005%	18,900	3,400	21.9%	Other
37 Inkster	1,384,600	0.375%	1,487,800	103,200	7.5%	Wayne
38 Keego Harbor	324,200	0.086%	339,800	15,600	4.8%	Oakland
39 Lapeer	1,673,100	0.439%	1,740,700	67,600	4.0%	Other



Table 1
GLWA FY 2024 Water Cost of Service Study Result Summary

Illustration of SHARES and Comparison of Allocated Revenue Requirements and Revenue under Existing Charges

	(1)	(2)	(3)	(4)	(5)	
<u>Customer</u>	Revenue Existing <u>Charges</u>	FY 2024 SHARE	Allocated Revenue <u>Requirement</u>	Adjustment <u>Required</u>	% Adjustment <u>Required</u>	<u>County</u>
	\$	(a)	\$	\$		
40 Lenox Township	312,500	0.086%	341,600	29,100	9.3%	Macomb
41 Lincoln Park	2,561,000	0.652%	2,585,000	24,000	0.9%	Wayne
42 Livonia	12,370,600	3.339%	13,239,300	868,700	7.0%	Wayne
43 Macomb Township	13,818,900	3.506%	13,901,800	82,900	0.6%	Macomb
44 Madison Heights	2,059,700	0.570%	2,260,800	201,100	9.8%	Oakland
45 Mayfield Township (KAMAX)	41,800	0.014%	53,500	11,700	28.0%	Other
46 Melvindale	709,000	0.183%	727,400	18,400	2.6%	Wayne
47 New Haven, Village of	413,100	0.123%	489,500	76,400	18.5%	Macomb
48 NOCWA	23,913,600	6.322%	25,068,700	1,155,100	4.8%	Oakland
49 Northville	830,200	0.223%	883,200	53,000	6.4%	Wayne
50 Northville Township	6,155,800	1.569%	6,221,400	65,600	1.1%	Wayne
51 Novi	9,967,800	2.622%	10,397,500	429,700	4.3%	Oakland
52 Oak Park	1,498,600	0.406%	1,611,600	113,000	7.5%	Oakland
53 Oakland GWK Drain District	85,600	0.026%	101,600	16,000	18.7%	Oakland
54 Plymouth	1,186,700	0.317%	1,255,200	68,500	5.8%	Wayne
55 Plymouth Township	4,828,300	1.295%	5,134,200	305,900	6.3%	Wayne
56 Redford Township	3,419,000	0.853%	3,382,600	(36,400)	-1.1%	Wayne
57 River Rouge	748,600	0.148%	587,800	(160,800)	-21.5%	Wayne
58 Riverview	960,600	0.254%	1,005,400	44,800	4.7%	Wayne
59 Rockwood	302,100	0.072%	285,500	(16,600)	-5.5%	Wayne
60 Romeo	281,000	0.075%	298,600	17,600	6.3%	Macomb
61 Romulus	4,611,500	1.083%	4,292,900	(318,600)	-6.9%	Wayne
62 Roseville	2,867,300	0.749%	2,969,000	101,700	3.5%	Macomb
63 Royal Oak Township	208,200	0.059%	235,900	27,700	13.3%	Oakland
64 Shelby Township	15,887,600	3.236%	12,834,000	(3,053,600)	-19.2%	Macomb
65 SOCWA	25,021,300	6.771%	26,852,600	1,831,300	7.3%	Oakland
66 South Rockwood	124,900	0.034%	132,900	8,000	6.4%	Other
67 Southgate	2,386,300	0.589%	2,335,400	(50,900)	-2.1%	Wayne
68 St. Clair Shores	3,409,300	0.898%	3,561,200	151,900	4.5%	Macomb
69 Sterling Heights	16,848,200	4.267%	16,920,500	72,300	0.4%	Macomb
70 Sumpter Township	773,500	0.204%	809,800	36,300	4.7%	Wayne
71 Sylvan Lake	259,100	0.067%	265,000	5,900	2.3%	Oakland
72 Taylor	5,054,100	1.309%	5,189,100	135,000	2.7%	Wayne
73 Trenton	1,852,200	0.520%	2,060,900	208,700	11.3%	Wayne
74 Troy	14,759,200	3.994%	15,840,000	1,080,800	7.3%	Oakland
75 Utica	601,300	0.166%	657,900	56,600	9.4%	Macomb
76 Van Buren Township	3,834,000	0.995%	3,947,300	113,300	3.0%	Wayne
77 Walled Lake	855,500	0.228%	904,400	48,900	5.7%	Oakland
78 Warren	11,220,500	2.745%	10,885,900	(334,600)	-3.0%	Macomb



Table 1
GLWA FY 2024 Water Cost of Service Study Result Summary

Illustration of SHARES and Comparison of Allocated Revenue Requirements and Revenue under Existing Charges

	(1)	(2)	(3)	(4)	(5)	
<u>Customer</u>	Revenue Existing Charges	FY 2024 SHARE	Allocated Revenue Requirement	Adjustment Required	% Adjustment Required	County
	\$	(a)	\$	\$		
79 Washington Township	2,606,600	0.670%	2,657,300	50,700	1.9%	Macomb
80 Wayne	3,487,400	0.519%	2,056,600	(1,430,800)	-41.0%	Wayne
81 West Bloomfield Township	11,560,900	3.038%	12,046,000	485,100	4.2%	Oakland
82 Westland	6,766,000	1.763%	6,991,900	225,900	3.3%	Wayne
83 Wixom	2,736,000	0.711%	2,819,400	83,400	3.0%	Oakland
84 Woodhaven	1,828,700	0.427%	1,694,200	(134,500)	-7.4%	Wayne
85 Ypsilanti Comm Util Auth	11,338,300	2.972%	11,785,800	447,500	3.9%	Other
86 Subtotal Master Metered	321,405,500	84.492%	328,203,900	6,798,400	2.1%	
87 Dearborn	10,775,100	2.779%	11,021,700	246,600	2.3%	Wayne
88 Highland Park	1,249,800	0.330%	1,308,300	58,500	4.7%	Wayne
89 Detroit **	<u>22,834,800</u>	12.399%	<u>25,535,200</u>	<u>2,700,400</u>	11.8%	Detroit
90 Non-Master Metered	34,859,700	15.508%	37,865,200	3,005,500	8.6%	
91 TOTAL	356,265,200	100.000%	366,069,100	9,803,900	2.8%	
92 Detroit Gross **	43,534,800	12.399%	46,235,200	2,700,400	6.2%	
93 less: Ownership Benefit	(20,700,000)		(20,700,000)	0		
94 Detroit Net ** (see Line 89)	22,834,800		25,535,200	2,700,400	11.8%	
95 NMM Gross (adjusts Line 92)	55,559,700		58,565,200	3,005,500	5.4%	
96 Flint Gross *	11,407,000	2.999%	11,688,100	281,100	2.5%	
97 less: KWA Credit	(6,651,800)		(6,651,800)	0		
98 Flint Net * (see Line 21)	4,755,200		5,036,300	281,100	5.9%	
<u>Summary by County</u>						
99 Macomb	86,806,900	21.434%	85,003,300	(1,803,600)	-2.1%	
100 Oakland	109,822,800	29.222%	115,882,800	6,060,000	5.5%	
101 Wayne	113,462,000	29.098%	115,387,900	1,925,900	1.7%	
102 Other	23,338,700	7.847%	24,259,900	921,200	3.9%	
103 Detroit	22,834,800	12.399%	25,535,200	2,700,400	11.8%	
104 Total	356,265,200	100.000%	366,069,100	9,803,900	2.8%	

(a) Represents each Member Partner's Allocated SHARE of the GLWA Wholesale Revenue Requirement. The final "Allocated Revenue Requirement" reflects recognition of the Detroit Ownership Benefit and the Flint KWA Debt Service Adjustment.

Table 2
GLWA FY 2024 Sewer Charge Study Summary
Comparison of Allocated Revenue Requirements and Revenue under Existing Charges

	(1)	(2)	(3)	(4)	(5)	
	Revenue Existing <u>Charges</u> \$	FY 2024 SHARE (a)	Allocated Revenue <u>Requirement</u> \$	Adjustment <u>Required</u> \$	% Adjustment <u>Required</u>	
<u>Suburban Wholesale</u>						
1	OMID (b)	71,312,700	14.589%	72,971,800	1,659,100	2.3%
2	Rouge Valley	55,930,400	11.804%	57,471,300	1,540,900	2.8%
3	Oakland GWK	46,378,000	9.788%	47,655,700	1,277,700	2.8%
4	Evergreen Farmington	36,195,600	7.639%	37,192,800	997,200	2.8%
5	SE Macomb San Dist	25,070,100	5.291%	25,760,800	690,700	2.8%
6	Dearborn	20,298,700	4.284%	20,857,900	559,200	2.8%
7	Grosse Pointe Farms	2,748,200	0.580%	2,823,900	75,700	2.8%
8	Grosse Pointe Park	1,904,800	0.402%	1,957,300	52,500	2.8%
9	Melvindale	1,573,200	0.332%	1,616,500	43,300	2.8%
10	Farmington	1,198,800	0.253%	1,231,800	33,000	2.8%
11	Center Line	1,042,400	0.220%	1,071,100	28,700	2.8%
12	Allen Park	848,200	0.179%	871,600	23,400	2.8%
13	Highland Park	5,420,500	1.144%	5,569,800	149,300	2.8%
14	Hamtramck	4,041,700	0.853%	4,153,000	111,300	2.8%
15	Grosse Pointe	900,300	0.190%	925,100	24,800	2.8%
16	Harper Woods	218,000	0.046%	224,000	6,000	2.8%
17	Redford Township	270,100	0.057%	277,500	7,400	2.7%
18	Wayne County #3	52,200	0.011%	53,600	1,400	2.7%
19	Subtotal Suburban Wholesale	275,403,900	57.662%	282,685,500	7,281,600	2.6%
20	Detroit Customers	191,042,900	42.338%	196,569,600	5,526,700	2.9%
21	Total Wholesale	466,446,800	100.000%	479,255,100	12,808,300	2.7%
<u>Industrial Specific Charges</u>						
22	Industrial Waste Control	8,349,400		8,584,200	234,800	2.8%
23	Industrial Surcharges	5,180,500		5,328,300	147,800	2.9%
24	Subtotal	13,529,900		13,912,500	382,600	2.8%
25	Grand Total	479,976,700		493,167,600	13,190,900	2.7%
26	Detroit Gross	196,558,900	42.338%	202,085,600	5,526,700	2.8%
27	less: Ownership Benefit	<u>(5,516,000)</u>		<u>(5,516,000)</u>	<u>0</u>	
28	Detroit Net (see Line 89)	191,042,900		196,569,600	5,526,700	2.9%

(a) Represents each Member Partner's Allocated SHARE of the GLWA Wholesale Revenue Requirement. The final "Allocated Revenue Requirement" reflects recognition of the Detroit Ownership Benefit.

(b) Includes directly assigned revenue requirements in addition to wholesale SHARES.

TFG

TFG
THE FOSTER GROUP

THE FOSTER GROUP, LLC
12719 WENONGA LANE
LEAWOOD, KS 66209

BART FOSTER, PRESIDENT
CELL: (913) 530-6240
BFOSTER@FOSTERGROUPLLC.COM

MEMORANDUM

GLWA Financial Forecast Update
FY 2024 Budget Support

December 30, 2022

To: Nicolette Bateson

From: Bart Foster

This memorandum is intended to introduce updated long-term financial plan forecasts for the GLWA Regional System Water and Sewer funds, prepared in coordination with development of the Fiscal Year 2024 budget and charges. We originally presented an executive summary of the updated forecasts in the presentation material shared with the GLWA Board of Directors at their November 17, 2022 workshop meeting. Many of the fundamental assumptions presented in that material have remained constant to this updated version, including the core operating expense and overall “top line revenue requirement” budget forecast plan. This update reflects modifications to the Capital Improvement Programs (“CIPs”) made subsequent to the prior presentation. It is our understanding that the updated CIPs will be formally presented for review in early January, 2023. The forecast update also introduces certain suggested refinements to strategic capital financing plan approaches based on further understanding of specific CIP projects and financing availability. Finally, it also contains detailed exhibits that were not included in the prior briefing. As such we are reflecting this material as the “Preliminary First Discussion Draft” of the updated forecast.

These PRELIMINARY updated projections reflect forecasted financial results for a ten-year¹ projection period (*Fiscal Year 2023 through Fiscal Year 2033*) for GLWA’s capital and operating financial requirements. Separate exhibits are designed to summarize forecasts for both the Water Fund and the Sewer Fund. These forecast summaries are presented in similar format to prior published work products we have prepared in various forums, which largely focused on revenue requirements (reflected as either “budget” or “cash” basis) in a manner that aligns with requirements of the GLWA Master Bond Ordinances (MBO’s). We have also included forecast exhibits that illustrate projected “GAAP basis” results, and forecasted “Net Position” of both utilities.

This version of the forecast report continues to focus entirely on projected financial results for the GLWA Regional System. We are in the process of incorporating preliminary budget and forecast information for the DWSD Local System into the comprehensive forecast. Those exhibits will also be presented in subsequent documents.

¹ Actually 11 years, including estimated results for the current year.

This forecast document embraces a forecasting approach and format that we've utilized for several years, and readers should find the general exhibits and discussion familiar. It has been used in support of GLWA revenue bond issues and annual budgeting and charge setting. This material is designed to support the proposed FY 2024 budget and charges, and builds upon our "Proposed FY 2024 Water and Sewer Charges" memorandum published on December 14, 2022. *We are concurrently submitting material specific to our recommendations regarding the FY 2024 Budget and FY 2024 Water Charges and FY 2024 Sewer Charges under separate cover.*

Executive Summary Takeaways

- This forecast introduces preliminarily recommended overall FY 2024 **System Charge Adjustments** of a 2.75% increase for both the Water and Sewer Systems.
 - *The Water adjustment is the product of:*
 - 4.0% to address a \$14.2 million revenue requirement increase;
 - Less 0.9% to reflect a \$3.1 million increase in budgeted investment earnings; and
 - Less: 0.4% to reflect an increase in budgeted water sales volumes, creating a \$1.3 million positive sales revenue forecast due to increased projected water sales volumes.
 - *The Sewer adjustment is the product of:*
 - 4.0% to address a \$13.3 million revenue requirement increase;
 - Less 1.25% to reflect a \$5.9 million increase in budgeted investment earnings
 - *These proposed adjustments are more fully documented in other material published contemporaneously with this forecast update.*
- The forecast produces the executive summary metrics for the 10-year forecast period summarized in the table on the following page.
- The Water CIP continues to place relatively more financing pressure on the forecast than does the Sewer CIP. As a result the Water System forecast contains continuation of significant debt financing, while mostly "pay go" capital financing is forecasted for the Sewer System towards the end of the ten year period.
 - *This fundamental difference in the Water and Sewer Forecasts is highlighted throughout this memorandum and in the accompanying exhibits.*
- With this version of the forecast update we are introducing potential subtle modifications in the overall financial planning strategy – specifically as it relates to the available liquidity in the Water and Sewer Funds.

GLWA Financial Plan Summary (\$ millions)
 Executive Summary Metrics

	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>Total</u>
<u>Water Supply System</u>												
Budget Adjustment		4.0%	4.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Charge Adjustment		2.75%	3.2%	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%	
Projected Revenue	361.8	370.3	385.1	408.2	432.7	458.7	486.2	515.4	546.3	579.1	613.8	
Projected Expenses	144.8	152.9	162.8	165.3	169.3	172.6	176.0	179.5	183.1	186.8	190.5	
Net Revenues	216.9	217.4	222.3	242.9	263.4	286.1	310.2	335.9	363.2	392.3	423.3	
Contribution to I&E	29.6	29.8	8.4	21.8	35.4	41.6	59.8	69.6	93.8	115.2	142.2	647.3
Projected Cash Balance	198.5	209.3	222.9	226.5	231.8	236.6	241.1	246.0	250.7	255.8	261.0	
Days Cash Ratio	500	500	500	500	500	500	500	500	500	500	500	
Capital Improvements *	241.2	250.8	210.1	184.0	173.6	212.3	217.7	196.6	180.4	199.8	214.9	2,281.4
New Bond Sales **	0.0	0.0	360.0	0.0	320.0	0.0	295.0	0.0	185.0	0.0	175.0	1,335.0
SRF Loan Proceeds **	82.9	97.1	44.2	20.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	248.2
Reg Syst Debt Svc Covg **	1.40	1.36	1.25	1.28	1.35	1.35	1.42	1.44	1.53	1.60	1.70	
<u>Sewage Disposal System</u>												
Budget Adjustment		4.0%	4.0%	5.0%	5.0%	5.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Charge Adjustment		2.75%	3.5%	5.1%	5.1%	5.1%	3.1%	2.9%	3.0%	3.2%	3.1%	
Projected Revenue	488.7	500.6	520.7	546.7	574.0	602.7	620.8	639.4	658.6	678.4	698.7	
Projected Expenses	194.8	205.6	216.2	221.3	225.0	229.6	234.2	238.9	243.7	248.5	253.5	
Net Revenues	293.9	295.0	304.4	325.4	349.1	373.1	386.6	400.5	414.9	429.8	445.2	
Contribution to I&E	30.9	33.5	37.5	54.6	66.8	72.7	87.0	107.4	124.6	139.8	155.1	909.8
Projected Cash Balance	267.1	281.6	296.3	303.2	307.9	314.5	320.8	425.1	381.5	359.4	346.9	
Days Cash Ratio	500	500	500	500	500	500	500	650	572	528	499	
Capital Improvements *	157.5	214.0	186.6	161.3	141.4	125.4	145.1	160.7	170.7	164.6	170.4	1,797.8
New Bond Sales **	0.0	0.0	260.0	0.0	310.0	0.0	0.0	0.0	0.0	0.0	0.0	570.0
SRF Loan Proceeds **	39.8	47.3	31.1	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	133.1
Debt Service Coverage **	1.34	1.31	1.33	1.40	1.43	1.44	1.49	1.58	1.66	1.72	1.79	

* Includes Budgeted Capital Outlay
 ** Regional System contribution only

Forecast Introduction and Exhibits

As noted earlier, the efforts undertaken to prepare these forecasts are consistent with the analyses that we utilize to prepare financial feasibility report(s) that we have provided to GLWA in support of financial transactions. However, the efforts to date have not been as rigorous as those designed to support a public offering of debt, and should be considered “*Preliminary*”. We encourage stakeholders to review these forecasts with that understanding in mind. In addition, our formally published forecasts always carry this caveat:

In conducting our studies and formulating our projections and opinions contained herein, we reviewed the books, records, agreements, capital improvement programs and other information produced by the Authority as we deemed necessary. While we consider such books, records, and other documents to be reliable, we have not verified the accuracy of these documents. The projections set forth herein are intended as “forward-looking statements”. Actual results may differ materially from those projected, as influenced by conditions, events, and circumstances that may actually occur.

Having said all that, let’s review the next look at the updated forecasts. First, let’s introduce a potential subtle modification in the overall financial planning strategy – specifically as it relates

to the available liquidity in the Water and Sewer Funds. For purposes of “unrestricted” available cash balances, the System’s liquidity includes amounts in four specific Funds:

1. Receiving Fund
2. Operations and Maintenance Fund
3. Extraordinary Repair and Replacement (“ER&R”) Fund, and
4. Improvement and Extension (“I&E”) Fund.

The first three can be collectively thought of as Working Capital². The I&E Fund is designed to fund capital improvements to the System and is the last “bucket” filled in the MBO flow of funds. One of the key financial metrics that GLWA reports is a “Days Cash Ratio”. This ratio reflects how many days of operating expense are available in the bank with respect to unrestricted cash balances. It is calculated by dividing total available unrestricted cash by the average daily operating expense. The Days Cash Ratios reported in the FY 2022 Financial Statements are 632 for the Water Fund and 574 for the Sewer Fund.

In prior forecasts our planning approach was to hold the existing “Working Capital” balances in the Receiving, Operations and Maintenance and ER&R Funds constant throughout the forecast period, and to target minimum balances of \$90 million in each of the GLWA I&E Funds. Since none of these target balances were being indexed for inflationary or other revenue requirement growth, the forecasted Days Cash Ratios naturally declined.

With this forecast update we are introducing a more strategic approach. The Authority carefully monitors Working Capital balances to ensure that adequate amounts are on hand for subsequent monthly transfers via the MBO requirements. The forecast update anticipates maintaining Working Capital balances that are tied to the criteria established for that process. As such, we are projecting increased Working Capital balances once the minimum policy targets have been met. In this fashion the “days cash” provided by the Working Capital element of the unrestricted funds is fairly constant during the forecast, rather than the decline exhibited in prior versions.

With respect to the I&E Fund, rather than target a minimum amount of \$90 million, this forecast update ties the minimum policy amount to that required to achieve (together with the forecasted available Working Capital) a proposed Days Cash Ratio. For purposes of this forecast update we’ve assumed a Days Cash Ratio of 500 days. This figure should be considered a “conversation starter” - we are not necessarily recommending such amount as an Authority policy, and we acknowledge that higher targets may be warranted. In any event the capital financing strategy employed in this forecast is designed to produce overall Days Cash Ratios of 500 days.

With that, an introduction of the core executive summary assumptions we’ve incorporated into the baseline analysis.

² Technically there are restrictions on use of amounts in the ER&R Fund, but they are available for working capital needs so long as they are replenished timely.

1. FY 2023 estimated activity is consistent with the approved first quarter budget amendments, with additional minor estimates to reflect ongoing review.
2. FY 2024 through FY 2028 O&M is consistent with the budget request established by GLWA.
 - *As documented elsewhere the first two years in that budget document reflect inflationary pressures that are unprecedented in recent years.*
 - *The O&M budget request for FY 2024 reflects an increase of 9.0% in total (combined Water and Sewer) compared to originally approved FY 2023 budget;*
 - *Water O&M increase for FY 2024 is 5.6%, Sewer increase is 11.7% - this reflects diligent review of the FY 2024 budget preparation and individual budget programs, including increased focus on programs to address Sewer issues.*
 - *The proposed O&M increases for FY 2025 are 5.7% in total, 6.5% for Water and 5.1% for Sewer.*
3. Future O&M growth beyond FY 2025 = 2%, on average, overall for the System, with varying amounts between Water and Sewer through FY 2028 to match the FY 2024 Budget documents, and uniformly thereafter.
4. CIP's reflect the latest working drafts being developed for Capital Planning Committee consideration.
 - ***It is our understanding that the updated CIPs are scheduled to be formally presented to the Capital Planning Committee on January 18, 2023.***
5. CIP Expenditure Level reflects a Spend Rate Assumption of 100% for the entire forecast period.
 - *This is consistent with the strategic adjustment made as part of the first quarter amendments to the FY 2023 budget, and the plans embraced to support the 2022 bond transactions.*
6. Investment earnings rate = 3.0% for FY 2023, declining to 2.5% for the remainder of the forecast period.
7. Capital financing forecast policy:
 - *Fund all Major CIP expenditures via Construction Fund, which is sourced by:*
 - SRF loans
 - Transfers from I&E
 - Bond Proceeds
 - Investment Earnings on Bond Proceeds
 - *CIP funding source priority:*
 - Identify short lived CIP projects that should be financed by I&E (*currently estimated at 10% of total CIP*);
 - Apply "confirmed" SRF resources to specific projects³; then

³ We note that prior forecasts included loans for projects that had been approved on the State's Project Priority List. A few of those projects were deferred in the preliminary FY 2024 – FY 2028 CIP and have impacted the capital financing plan.

- Spend existing I&E Funds until they reach policy minimum⁴;
 - Do not rely on annual deposits to I&E to finance CIP until subsequent year(s);
 - Issue debt to finance remainder of annual capital requirements;
 - Plan biennial bond sales in amounts that result in moderate “carryover” balances at end of 2nd year⁵.
8. “Top Line” increases in annual revenue requirements are designed to increase forecasted debt service coverage ratios (for the Regional System contribution) of at least 1.50 by FY 2028 and at least 1.80 by FY 2023. These objectives were presented in executive summary form to the Board of Directors at the November 17 workshop meeting. A more tempered scenario for Water was also presented. The results in this forecast are based on annual total revenue requirement increase of:
- *4.0% for the Water System for FY 2024 and FY 2025 and 6.0% for the remainder of the forecast period;*
 - *4.0% for the Sewer System for FY 2024 and FY 2025, 5.0% for FYs 2026 through 2028, and 3.0% for the remainder of the forecast period.*
 - ***We note that these forecasted increases do not produce the stated objectives, but do result in progress towards them. The overall annual budget adjustments once the “4% Promise” sunsets in FY 2026 will be key planning considerations for future forecasts.***
9. Proposed FY 2024 System Charge adjustments of:
- **2.75% increase for Water**
 - Reflects significant increase in budgeted investment earnings and moderate increase in baseline sales revenue compared to approved FY 2023 Budget and Charges.
 - **2.75% increase for Sewer**
 - Reflects significant increase in budgeted investment earnings.
10. Total GLWA / DWSD “Legacy Pension Obligation” annual payments reduce from \$45.4 million in the FY 2023 Budget to \$10.0 million starting in FY 2024, and all FY 2024 and subsequent amounts are treated as a non-operating expense.

The forecasted financial results resulting from our application of these assumptions are summarized in the attached exhibits, and briefly introduced below. The exhibit page number references are consistent between the separate Water (W) and Sewer (S) page numbers.

1. Forecasted CIP Financing Plan
 - Illustrates forecasted plan resulting from application of CIP financing policy noted above.
 - ***Compared to prior forecasts, the increased Water CIP requirements in FYs 2023 and 2024, coupled with the deferral of CIP projects that had previously***

⁴ In prior forecasts the policy minimum was \$90 million for each System. As noted elsewhere herein this forecast contemplates subtle modifications to achieve overall desired liquidity balances.

⁵ The forecasted bond sales for FY 2025 are anticipated towards the beginning of the fiscal year. All other forecasted bond sales in the “biennial cycle” are assumed to occur mid-point of the fiscal year.

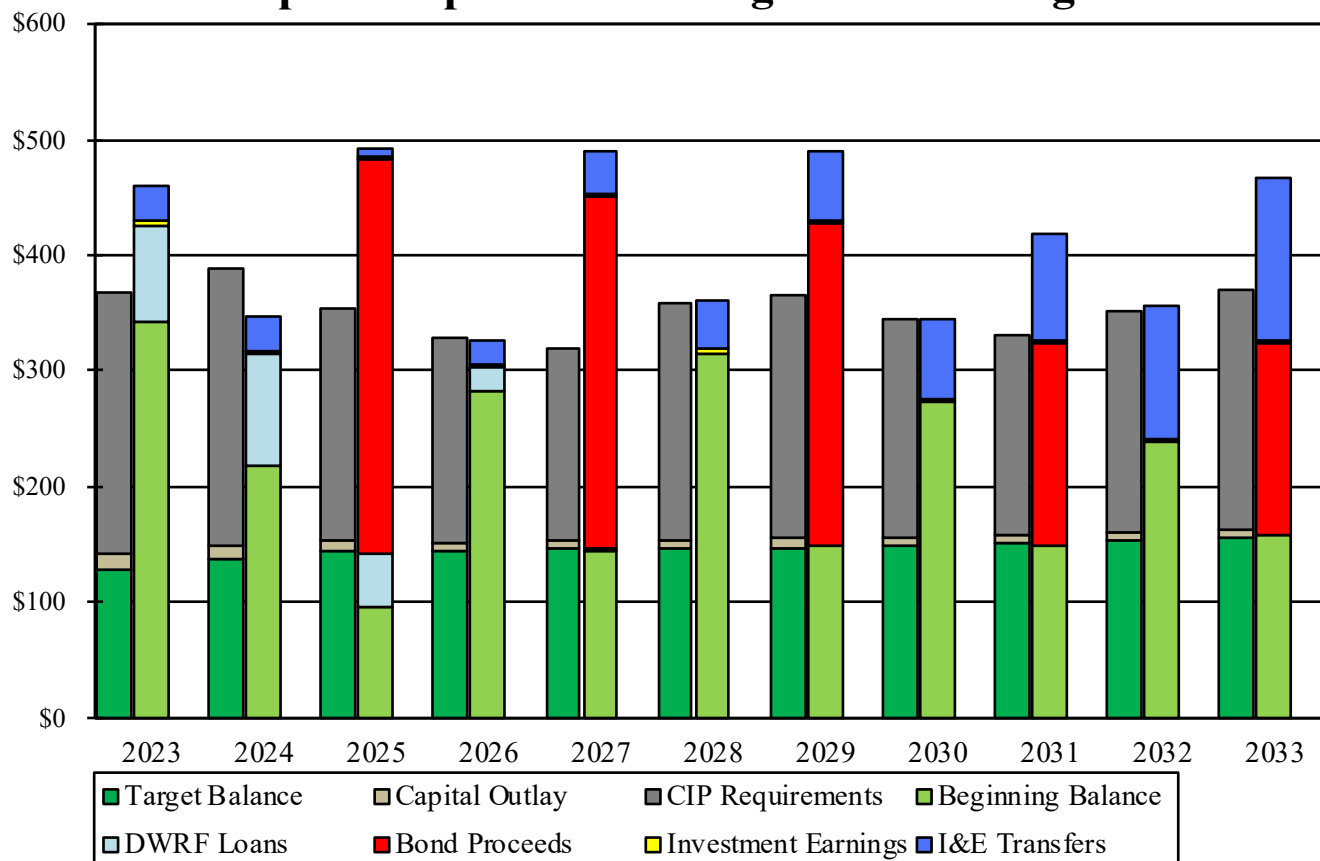
been targeted for SRF financing, require a material draw down in the Water I&E Fund in FY 2024. The same is true to a lesser extent for the Sewer I&E Fund.

- As a result, the forecast anticipates the next “new money Regional System” bond transactions to occur in **early FY 2025** for both the Water and Sewer Systems – compared to the prior assumptions of the mid-point of the year. The size and nature of these transactions are subject to change, and could be impacted by availability of additional SRF loans, DWSD Local System needs, and/or refinancing opportunities.
 - Also note the relatively larger need for forecasted additional Water bond sales compared to Sewer due to the relatively larger Water CIP requirements. The Sewer forecast anticipates being able to “pay go” all **known and projected** CIP Financing after the forecasted bond sale in FY 2027.
2. Forecasted CIP Financing Plan Table
 - Same as 1, in tabular form consistent with published Feasibility Reports.
 3. Forecasted Application of CIP Funding Sources
 - Illustrates growing utilization of I&E monies to finance annual capital improvements, particularly for Sewer. The Water picture is “muddied” because of the early year spend down of existing balances while the Sewer picture is more evident of steady growth – sufficient to fully fund the CIP by the end of the forecast period.
 - At the bottom of the exhibit, we’ve included a metric that identifies the amount of spend from, and deposit to, the I&E Funds as a percentage of total annual CIP. Again, the current level, and the growth, in this metric is more favorable for Sewer than Water.
 4. Revenue Requirement Financing Plan
 - Graphical depiction of the “business plan” assuming annual top line revenue requirement growth and O&M assumptions noted above. Note the relatively stable transfers to Water I&E in the short term compared to the rapid growth in the Sewer amounts. ***This is directly reflective of the varying “top line” growth assumptions noted above.***
 5. Wholesale System Revenue Requirement Financing Plan Table
 - Same as 4, in tabular form consistent with published Feasibility Reports.
 6. Forecasted Fund Balance Summary
 - Illustrates unrestricted liquidity balances and debt service coverage (as computed for the Regional System portion).
 - With respect to the fund balance targets:
 - * *Note that for purposes of this presentation we’ve separately identified the ER&R Fund from the “Working Capital” element introduced above. The ER&R Fund minimum balance is required to be 15% of the total GLWA and DWSD budgeted operating expenses.*
 - * *The “Working Capital Reserve” in this presentation represents the combination of the Receiving and Operations and Maintenance Fund. The target minimum balance is equivalent to that is designed to reflect*

11. Same as 10, but in graphical form to illustrate the overall trend in reported net position for both Systems.

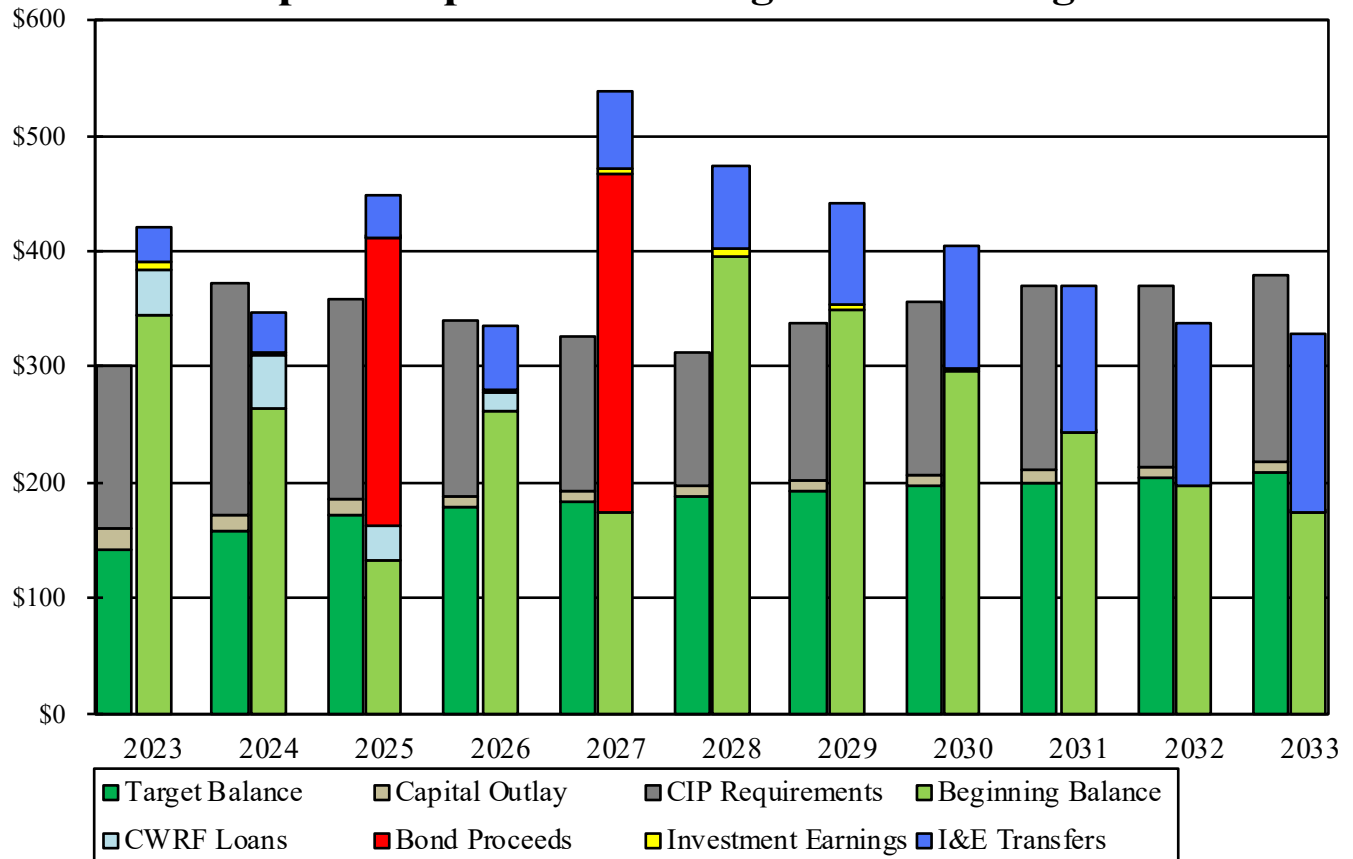
We are hopeful that this executive summary presentation provides a platform for continued discussion of financial planning policies and assumptions as the development of the FY 2024 Budget, proposed FY 2024 Water Charges and Sewer Charges, and related updated financial forecast efforts proceed. We are prepared to present this material and to discuss this matter further at your convenience.

Capital Improvement Program Financing Plan



	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Requirements											
Target Balance	127.3	138.4	144.0	144.1	146.1	145.9	147.5	148.0	150.4	152.6	155.4
Capital Outlay	15.5	11.5	9.7	8.0	7.8	7.2	7.4	7.5	7.7	7.8	8.0
CIP Requirement	225.8	239.3	200.4	176.0	165.8	205.1	210.3	189.1	172.8	192.0	206.9
Total	368.6	389.2	354.1	328.1	319.7	358.2	365.2	344.6	330.8	352.3	370.3
Sources											
Beginning Balance	342.6	218.7	96.7	282.5	143.2	315.4	148.1	272.4	148.2	239.2	157.0
DWRFL Loans	82.9	97.1	44.2	20.0	4.0	-	-	-	-	-	-
Bond Proceeds	-	-	342.0	-	304.0	-	280.3	-	175.8	-	166.3
Investment Earnings	4.8	1.8	1.4	2.9	2.4	3.4	1.9	2.8	1.8	2.4	2.0
I&E Transfers	29.6	29.8	8.4	21.8	35.4	41.6	59.8	69.6	93.8	115.2	142.2
Total Sources	459.9	347.5	492.7	327.2	489.0	360.4	490.1	344.8	419.6	356.8	467.4
End Balance	218.7	96.7	282.5	143.2	315.4	148.1	272.4	148.2	239.2	157.0	252.6

Capital Improvement Program Financing Plan



	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Requirements											
Target Balance	143.0	157.8	172.3	179.2	184.3	187.9	191.9	196.5	200.6	204.6	208.6
Capital Outlay	18.4	15.0	12.4	7.8	7.7	9.2	9.4	9.6	9.8	10.0	10.2
CIP Requirement	139.1	199.1	174.2	153.5	133.7	116.2	135.7	151.1	160.9	154.6	160.2
Total	300.5	371.8	358.9	340.5	325.7	313.3	337.0	357.2	371.3	369.2	379.0
Sources											
Beginning Balance	345.3	263.5	132.7	262.9	173.4	396.2	349.3	295.8	244.4	198.4	173.5
CWRFL Loans	39.8	47.3	31.1	15.0	-	-	-	-	-	-	-
Bond Proceeds	-	-	247.0	-	294.5	-	-	-	-	-	-
Investment Earnings	5.2	2.4	1.3	2.3	2.9	5.8	4.5	1.9	0.0	0.0	0.0
I&E Transfers	30.9	33.5	37.5	54.6	66.8	72.7	87.0	107.4	124.6	139.8	155.1
Total Sources	421.1	346.7	449.5	334.8	537.6	474.7	440.9	405.1	369.0	338.2	328.7
End Balance	263.5	132.7	262.9	173.4	396.2	349.3	295.8	244.4	198.4	173.5	158.2



Table 4a
GLWA Wholesale Water System Capital Improvement Program Financing Plan (\$ millions)

Line No.	Item	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Financing Requirements													
1	Budgeted Capital Outlay	15.5	11.5	9.7	8.0	7.8	7.2	7.4	7.5	7.7	7.8	8.0	98.0
2	Major Capital Improvement Program (a)	<u>225.8</u>	<u>239.3</u>	<u>200.4</u>	<u>176.0</u>	<u>165.8</u>	<u>205.1</u>	<u>210.3</u>	<u>189.1</u>	<u>172.8</u>	<u>192.0</u>	<u>206.9</u>	<u>2,183.4</u>
3	Total Financing Requirements	241.2	250.8	210.1	184.0	173.6	212.3	217.7	196.6	180.4	199.8	214.9	2,281.4
Financing Sources													
<u>GLWA Regional System Improvement and Extension Account</u>													
4	Beginning Balance (b)	94.5	77.4	88.2	93.9	94.1	95.9	96.1	97.5	98.1	100.2	102.5	94.5 (i)
5	Transfers from Water Receiving Fund	<u>29.6</u>	<u>29.8</u>	<u>8.4</u>	<u>21.8</u>	<u>35.4</u>	<u>41.6</u>	<u>59.8</u>	<u>69.6</u>	<u>93.8</u>	<u>115.2</u>	<u>142.2</u>	<u>647.3</u>
6	Subtotal - Improvement & Extension Fund	124.1	107.2	96.6	115.6	129.5	137.6	155.9	167.1	192.0	215.4	244.7	741.8
<u>Construction Fund</u>													
7	Beginning Balance (b)	248.1	141.3	8.5	188.7	49.1	219.5	52.0	174.9	50.1	139.0	54.5	248.1 (i)
Bond Proceeds													
8	Water System Revenue Bonds - Par Value	-	-	360.0	-	320.0	-	337.1	-	227.1	-	201.3	1,445.5
9	Less: Transfer to DWSD Const. Fund (e)	-	-	-	-	-	-	(40.0)	-	(40.0)	-	(25.0)	(105.0)
10	Less: Issuance Expenses (f)	-	-	(18.0)	-	(16.0)	-	(16.9)	-	(11.4)	-	(10.1)	(72.3)
11	Net Bond Proceeds Available	-	-	342.0	-	304.0	-	280.3	-	175.8	-	166.3	1,268.3
12	State Drinking Water Revolving Fund Loan Draws	98.2	112.2	59.4	38.1	13.0	9.0	9.0	9.0	9.0	9.0	9.0	375.0
13	Less: Transfer to DWSD Constr. Fund	<u>(15.4)</u>	<u>(15.1)</u>	<u>(15.2)</u>	<u>(18.1)</u>	<u>(9.0)</u>	<u>(9.0)</u>	<u>(9.0)</u>	<u>(9.0)</u>	<u>(9.0)</u>	<u>(9.0)</u>	<u>(9.0)</u>	<u>(126.8)</u>
14	Net State DWRP Financing for Authority	82.9	97.1	44.2	20.0	4.0	-	-	-	-	-	-	248.2
15	Investment Income	<u>4.8</u>	<u>1.8</u>	<u>1.4</u>	<u>2.9</u>	<u>2.4</u>	<u>3.4</u>	<u>1.9</u>	<u>2.8</u>	<u>1.8</u>	<u>2.4</u>	<u>2.0</u>	<u>27.6</u>
16	Subtotal - Construction Fund	<u>335.8</u>	<u>240.3</u>	<u>396.1</u>	<u>211.6</u>	<u>359.5</u>	<u>222.8</u>	<u>334.2</u>	<u>177.7</u>	<u>227.6</u>	<u>141.4</u>	<u>222.7</u>	<u>1,792.1</u>
17	Total Financing Sources Available	459.9	347.5	492.7	327.2	489.0	360.4	490.1	344.8	419.6	356.8	467.4	2,534.0
Application of Financing Sources													
18	I&E Funds - Budgeted Capital Outlay	15.5	11.5	9.7	8.0	7.8	7.2	7.4	7.5	7.7	7.8	8.0	98.0
19	I&E Funds - Major CIP Financing	31.3	7.5	(7.0)	13.6	25.8	34.3	51.0	61.5	84.1	105.1	131.3	538.4
20	Project Expenditures from Construction Fund	<u>194.5</u>	<u>231.8</u>	<u>207.4</u>	<u>162.5</u>	<u>140.0</u>	<u>170.8</u>	<u>159.3</u>	<u>127.6</u>	<u>88.6</u>	<u>86.9</u>	<u>75.6</u>	<u>1,645.0</u>
21	Total Financing Sources Applied	241.2	250.8	210.1	184.0	173.6	212.3	217.7	196.6	180.4	199.8	214.9	2,281.4
Financing Sources Available for Future Requirements													
22	Improvement & Extension Fund (g)	77.4	88.2	93.9	94.1	95.9	96.1	97.5	98.1	100.2	102.5	105.4	102.5 (j)
23	Construction Fund (h)	<u>141.3</u>	<u>8.5</u>	<u>188.7</u>	<u>49.1</u>	<u>219.5</u>	<u>52.0</u>	<u>174.9</u>	<u>50.1</u>	<u>139.0</u>	<u>54.5</u>	<u>147.2</u>	<u>54.5 (j)</u>
24	Financing Sources Available for Future Req'ts	218.7	96.7	282.5	143.2	315.4	148.1	272.4	148.2	239.2	157.0	252.6	157.0 (j)

(a) Preliminary from Draft #2 FY 2024 - FY 2028 CIP

(b) Estimated balance available June 30, 2022 (applies only to Fiscal Year 2023).

(c) Reserved.

(d) Reserved.

(e) Current, preliminary forecast does not anticipate any bonds issued for Local System improvements.

(f) Assumes amounts will be required from future bond proceeds to fund debt service reserve fund.

(g) Line 6 minus Lines 18 through 19.

(h) Line 17 minus Line 20.

(i) Total column reflects estimated balance available June 30, 2022.

(j) Total column reflects estimated balance available June 30, 2033.

Table 4a
GLWA Wholesale Sewer System Capital Improvement Program Financing Plan

Line No.	Item	Fiscal Year Ending June 30,										Total	
		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		2033
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
Financing Requirements													
1	Budgeted Capital Outlay	18.4	15.0	12.4	7.8	7.7	9.2	9.4	9.6	9.8	10.0	10.2	119.5
2	Major Capital Improvement Program (a)	139.1	199.1	174.2	153.5	133.7	116.2	135.7	151.1	160.9	154.6	160.2	1,678.3
3	Total Financing Requirements	157.5	214.0	186.6	161.3	141.4	125.4	145.1	160.7	170.7	164.6	170.4	1,797.8
Financing Sources													
GLWA Regional System Improvement and Extension Account													
4	Beginning Balance (b)	104.3	93.2	107.7	122.4	129.3	134.0	137.9	141.9	244.4	198.3	173.5	93.2 (i)
5	Transfers from Sewer Receiving Fund	30.9	33.5	37.5	54.6	66.8	72.7	87.0	107.4	124.6	139.8	155.1	878.9
6	Subtotal - Improvement & Extension Fund	135.2	126.7	145.2	176.9	196.1	206.7	224.9	249.3	369.0	338.2	328.6	972.1
Construction Fund													
7	Beginning Balance (b)	241.0	170.3	24.9	140.6	44.2	262.2	211.5	153.9	0.0	0.0	0.0	170.3 (i)
Bond Proceeds													
8	Sewer System Revenue Bonds - Par Value	-	260.0	-	310.0	-	-	-	-	-	-	-	570.0
9	Less: Transfer to DWSD Const. Fund (e)	-	-	-	-	-	-	-	-	-	-	-	-
10	Less: Issuance Expenses (f)	-	-	(13.0)	-	(15.5)	-	-	-	-	-	-	(28.5)
11	Net Bond Proceeds Available	-	-	247.0	-	294.5	-	-	-	-	-	-	541.5
12	State Clean Water Revolving Fund Loan Draws	50.8	56.1	40.9	21.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	212.5
13	Less: Transfer to DWSD Constr. Fund	(11.1)	(8.9)	(9.8)	(6.0)	(13.5)	(13.5)	(13.5)	(13.5)	(13.5)	(13.5)	(13.5)	(119.2)
14	Net State CWRP Financing for Authority	39.8	47.3	31.1	15.0	-	-	-	-	-	-	-	93.4
15	Investment Income	5.2	2.4	1.3	2.3	2.9	5.8	4.5	1.9	0.0	0.0	0.0	21.1
16	Subtotal - Construction Fund	285.9	220.0	304.3	157.8	341.5	268.0	216.0	155.8	0.0	0.0	0.0	826.3
17	Total Financing Sources Available	421.1	346.7	449.5	334.8	537.6	474.7	440.9	405.1	369.0	338.2	328.7	1,798.5
Application of Financing Sources													
18	I&E Funds - Budgeted Capital Outlay	18.4	15.0	12.4	7.8	7.7	9.2	9.4	9.6	9.8	10.0	10.2	101.1
19	I&E Funds - Major CIP Financing	23.5	4.0	10.4	39.9	54.4	59.6	73.6	(4.7)	160.9	154.6	160.2	712.9
20	Project Expenditures from Construction Fund	115.6	195.1	163.8	113.7	79.4	56.6	62.1	155.8	-	-	-	826.3
21	Total Financing Sources Applied	157.5	214.0	186.6	161.3	141.4	125.4	145.1	160.7	170.7	164.6	170.4	1,640.2
Financing Sources Available for Future Requirements													
22	Improvement & Extension Fund (g)	93.2	107.7	122.4	129.3	134.0	137.9	141.9	244.4	198.3	173.5	158.2	158.2 (j)
23	Construction Fund (h)	170.3	24.9	140.6	44.2	262.2	211.5	153.9	0.0	0.0	0.0	0.0	0.0 (j)
24	Financing Sources Available for Future Req'ts	263.5	132.7	262.9	173.4	396.2	349.3	295.8	244.4	198.4	173.5	158.2	158.2 (j)

(a) Preliminary from Draft #2 FY 2024 - FY 2028 CIP

(b) Estimated balance available June 30, 2022 (applies only to Fiscal Year 2023).

(c) Reserved.

(d) Reserved.

(e) Current, preliminary forecast does not anticipate any bonds issued for Local System improvements.

(f) Assumes amounts will be required from future bond proceeds to fund debt service reserve fund.

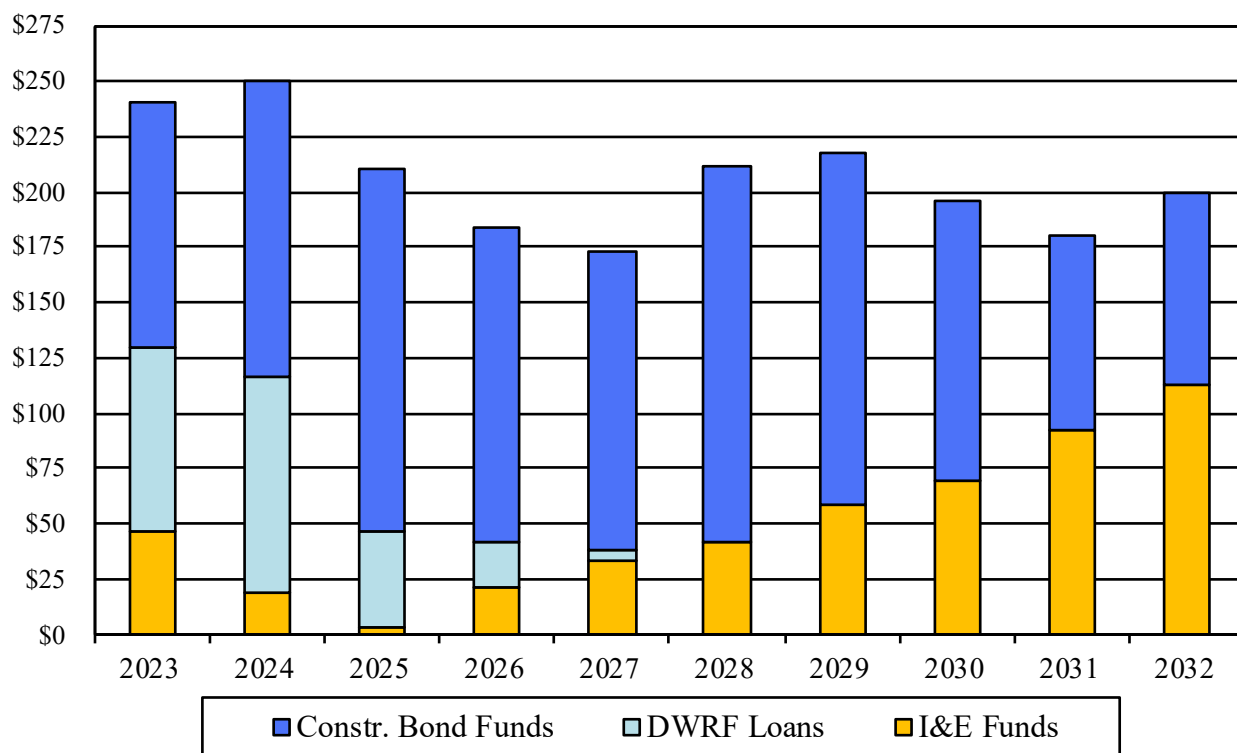
(g) Line 6 minus Lines 18 through 19.

(h) Line 17 minus Line 20.

(i) Total column reflects estimated balance available June 30, 2022.

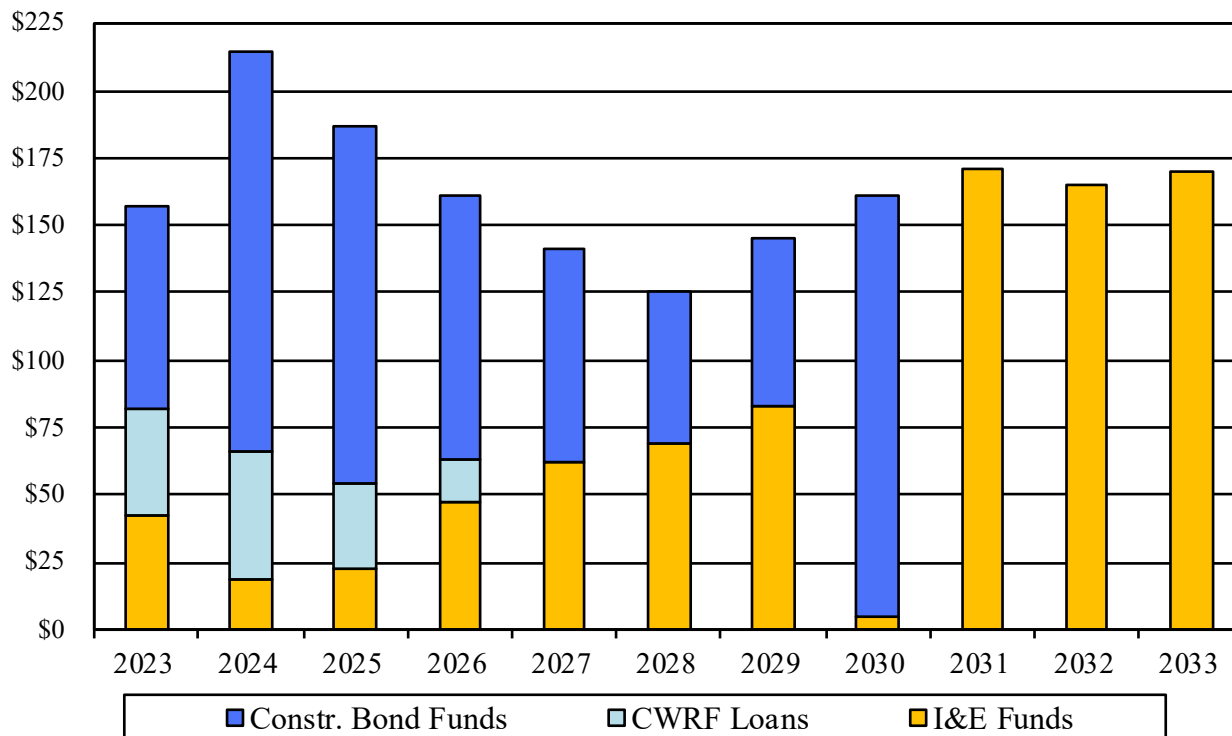
(j) Total column reflects estimated balance available June 30, 2033.

Application of CIP Funding Sources



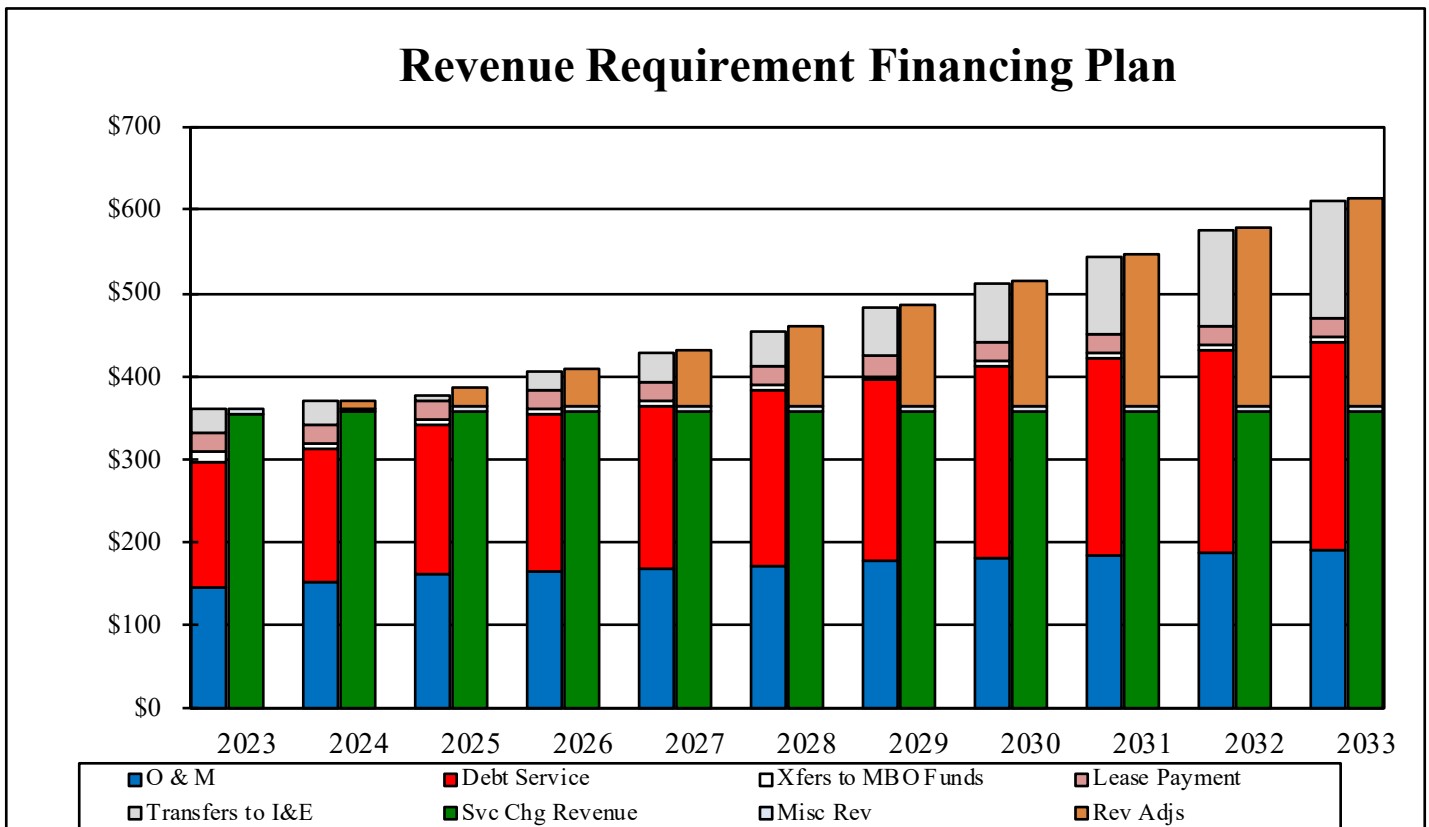
	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>
I&E Funds	46.7	19.0	2.7	21.5	33.6	41.5	58.4	69.0	91.8	112.9	139.3
DWRF Loans	82.9	97.1	44.2	20.0	4.0	-	-	-	-	-	-
Constr. Bond Funds	111.6	134.7	163.2	142.5	136.0	170.8	159.3	127.6	88.6	86.9	75.6
<i>I&E Spend % of Total</i>	19%	8%	1%	12%	19%	20%	27%	35%	51%	57%	65%
<i>I&E Deposit % of Tot</i>	12%	12%	4%	12%	20%	20%	27%	35%	52%	58%	66%

Application of CIP Funding Sources



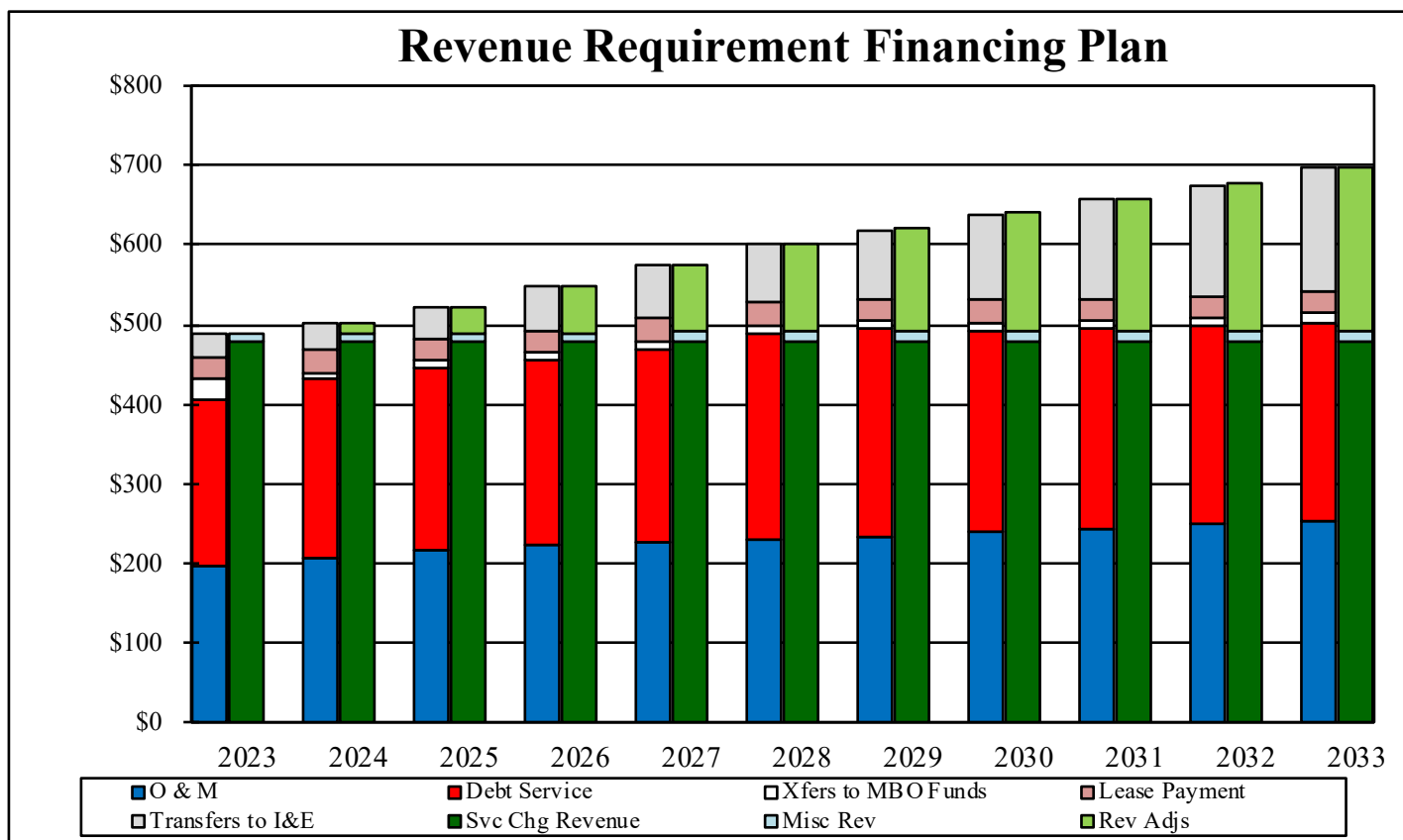
	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>
I&E Funds	41.9	19.0	22.8	47.6	62.1	68.8	83.0	4.9	170.7	164.6	170.4
CWRP Loans	39.8	47.3	31.1	15.0	-	-	-	-	-	-	-
Constr. Bond Funds	75.8	147.8	132.7	98.7	79.4	56.6	62.1	155.8	-	-	-
<i>I&E Spend % of Total</i>	27%	9%	12%	30%	44%	55%	57%	3%	100%	100%	100%
<i>I&E Deposit % of Tot</i>	20%	16%	20%	34%	47%	58%	60%	67%	73%	85%	91%

GLWA Water Supply System Financial Plan Summary (\$ millions)



	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
REVENUE											
Svc. Chg. Revenue	353.7	356.3	356.3	356.3	356.3	356.3	356.3	356.3	356.3	356.3	356.3
Charge Adjustments		2.8%	3.2%	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%
Revenue from Adjs		9.8	21.5	44.4	68.8	94.6	122.2	151.2	182.3	215.1	250.0
Other	8.1	4.2	7.4	7.6	7.6	7.8	7.8	7.9	7.8	7.7	7.6
Total Revenue	361.8	370.3	385.1	408.2	432.7	458.7	486.2	515.4	546.3	579.1	613.8
BUDGET											
O&M Expense	144.8	152.9	162.8	165.3	169.3	172.6	176.0	179.5	183.1	186.8	190.5
Debt Service	150.7	159.8	177.4	189.1	195.8	211.3	218.6	233.1	237.8	245.2	249.6
Xfers to MBO Funds	14.1	5.2	6.1	6.2	6.1	6.1	6.2	6.3	6.5	6.6	6.7
Lease Payment	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Transfers to I&E	29.6	29.8	8.4	21.8	35.4	41.6	59.8	69.6	93.8	115.2	142.2
Subtotal Req'ts	361.8	370.3	377.2	404.8	429.2	454.1	483.1	511.1	543.7	576.3	611.5
Work Cap Deposit	0.0	0.0	7.9	3.4	3.5	4.6	3.1	4.3	2.6	2.8	2.3

GLWA Sewage Disposal System Financial Plan Summary (\$ millions)



	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
REVENUE											
Svc. Chg. Revenue	477.4	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0
<i>Charge Adjustments</i>		2.7%	3.5%	5.1%	5.1%	5.1%	3.1%	2.9%	3.0%	3.2%	3.1%
Revenue from Adjs		13.2	30.7	56.6	83.9	112.4	130.5	148.0	166.7	187.5	208.5
Other	11.3	7.5	10.0	10.1	10.2	10.3	10.3	11.4	11.9	10.9	10.3
Total Revenue	488.7	500.6	520.7	546.7	574.0	602.7	620.8	639.4	658.6	678.4	698.7
BUDGET											
O&M Expense	194.8	205.6	216.2	221.3	225.0	229.6	234.2	238.9	243.7	248.5	253.5
Debt Service	210.7	225.0	228.6	232.5	244.1	259.8	259.3	253.3	249.8	249.3	249.2
Xfers to MBO Funds	24.8	9.0	10.8	10.9	10.6	10.5	10.5	10.5	10.5	10.6	10.6
Lease Payment	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Transfers to I&E	30.9	33.5	37.5	54.6	66.8	72.7	87.0	107.4	124.6	139.8	155.1
Subtotal Req'ts	488.7	500.6	520.7	546.7	574.0	600.0	618.5	637.6	656.1	675.7	695.9
Work Cap Deposit	0.0	0.0	0.0	0.0	0.0	2.7	2.3	1.8	2.5	2.7	2.8



Table 5a
Wholesale Water System Revenue Requirement Financing Plan (\$ millions)

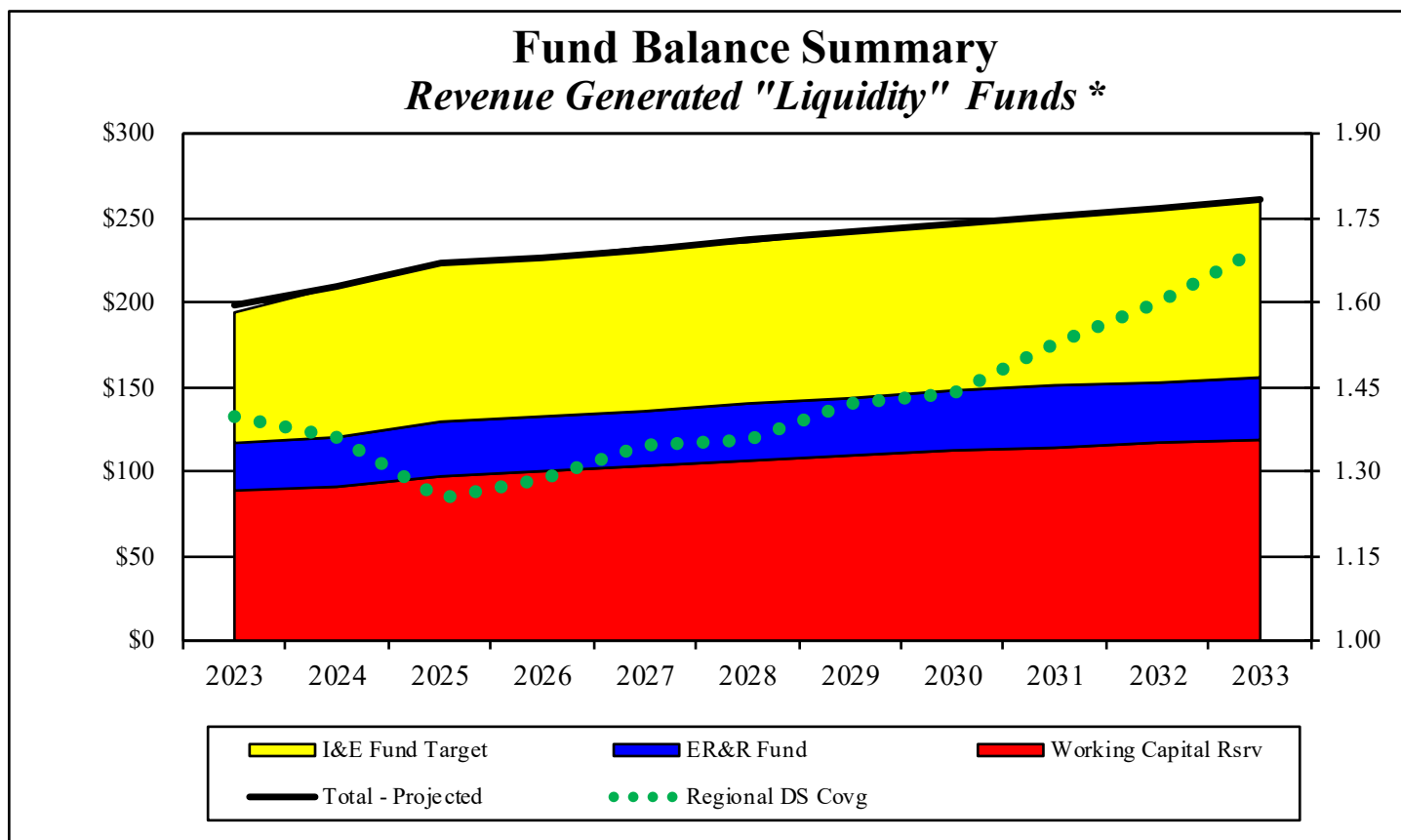
Line No.	Item	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	Revenue (a)											
1	Operating Revenue Under Existing Charges	353.7	356.3	356.3	356.3	356.3	356.3	356.3	356.3	356.3	356.3	356.3
	<u>Projected Revenue from Adjustments</u>											
2	FY 2024: 2.8%		9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
3	FY 2025: 3.2%			11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
4	FY 2026: 6.1%				22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9
5	FY 2027: 6.1%					24.5	24.5	24.5	24.5	24.5	24.5	24.5
6	FY 2028: 6.1%						25.8	25.8	25.8	25.8	25.8	25.8
7	FY 2029: 6.1%							27.5	27.5	27.5	27.5	27.5
8	FY 2030: 6.1%								29.1	29.1	29.1	29.1
9	FY 2031: 6.1%									31.0	31.0	31.0
10	FY 2032: 6.1%										32.8	32.8
11	FY 2033: 6.1%											34.9
12	Total Projected Revenue from Water Charges	353.7	366.1	377.7	400.6	425.1	450.9	478.4	507.5	538.5	571.4	606.3
13	Other Revenue	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14	Non-Operating Revenue	7.9	4.1	7.2	7.4	7.4	7.6	7.6	7.7	7.6	7.5	7.4
15	Total Revenue Available	361.8	370.3	385.1	408.2	432.7	458.7	486.2	515.4	546.3	579.1	613.8
	Revenue Requirements											
16	Transfer to GLWA Regional O&M Account	144.8	152.9	162.8	165.3	169.3	172.6	176.0	179.5	183.1	186.8	190.5
17	Transfer to GLWA Pension O&M Account	6.0	-	-	-	-	-	-	-	-	-	-
18	Total O&M Expense	150.9	152.9	162.8	165.3	169.3	172.6	176.0	179.5	183.1	186.8	190.5
19	Debt Service Allocation - Regional System	150.7	159.8	177.4	189.1	195.8	211.3	218.6	233.1	237.8	245.2	249.6
20	Non-Operating Portion of Pension Obligation	5.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
21	B & C Note Non-Operating Payments	0.9	0.9	1.7	1.6	1.5	1.3	1.3	1.2	1.2	1.2	1.2
22	Transfer to Pension Obligation Payment Fund	6.3	3.4	4.2	4.1	4.0	3.8	3.8	3.8	3.7	3.7	3.7
23	Transfer to WRAP Fund	1.8	1.9	1.9	2.0	2.2	2.3	2.4	2.6	2.7	2.9	3.1
24	Lease Payment to DWSD Local System	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
25	Receiving Fund Working Capital Requirement	-	-	7.9	3.4	3.5	4.6	3.1	4.3	2.6	2.8	2.3
26	Transfer to GLWA Regional I&E Account	29.6	29.8	8.4	21.8	35.4	41.6	59.8	69.6	93.8	115.2	142.2
27	Total Revenue Requirements	361.8	370.3	385.1	408.2	432.7	458.7	486.2	515.4	546.3	579.1	613.8
28	Indicated Balance (Deficiency)	-	-	-	-	-	-	-	-	-	-	-
29	Projected Debt Service Coverage Ratio (Regional)	1.40	1.36	1.25	1.28	1.35	1.35	1.42	1.44	1.53	1.60	1.70
30	<i>Net Revenues (15) - (18)</i>	210.9	217.4	222.3	242.9	263.4	286.1	310.2	335.9	363.2	392.3	423.3
31	<i>Revenues Remaining after Debt Service (30)-(19)</i>	60.2	57.6	44.9	53.8	67.6	74.9	91.6	102.7	125.4	147.1	173.7
32	<i>Applied to MBO Reserve Funds (22,23)</i>	(8.0)	(5.2)	(6.1)	(6.2)	(6.1)	(6.1)	(6.2)	(6.3)	(6.5)	(6.6)	(6.7)
33	<i>Applied as Lease Payment to DWSD (24)</i>	(22.5)	(22.5)	(22.5)	(22.5)	(22.5)	(22.5)	(22.5)	(22.5)	(22.5)	(22.5)	(22.5)
34	<i>Maintained as Receiving Fund Working Capital (25)</i>	-	-	(7.9)	(3.4)	(3.5)	(4.6)	(3.1)	(4.3)	(2.6)	(2.8)	(2.3)
35	<i>Available for I&E Fund (31) - (32,33,34)</i>	29.6	29.8	8.4	21.8	35.4	41.6	59.8	69.6	93.8	115.2	142.2

(a) From Table 3. Based on application of FY 2023 charges for 2023 through 2033.

Table 5a
Wholesale Sewer System Revenue Requirement Financing Plan (\$ millions)

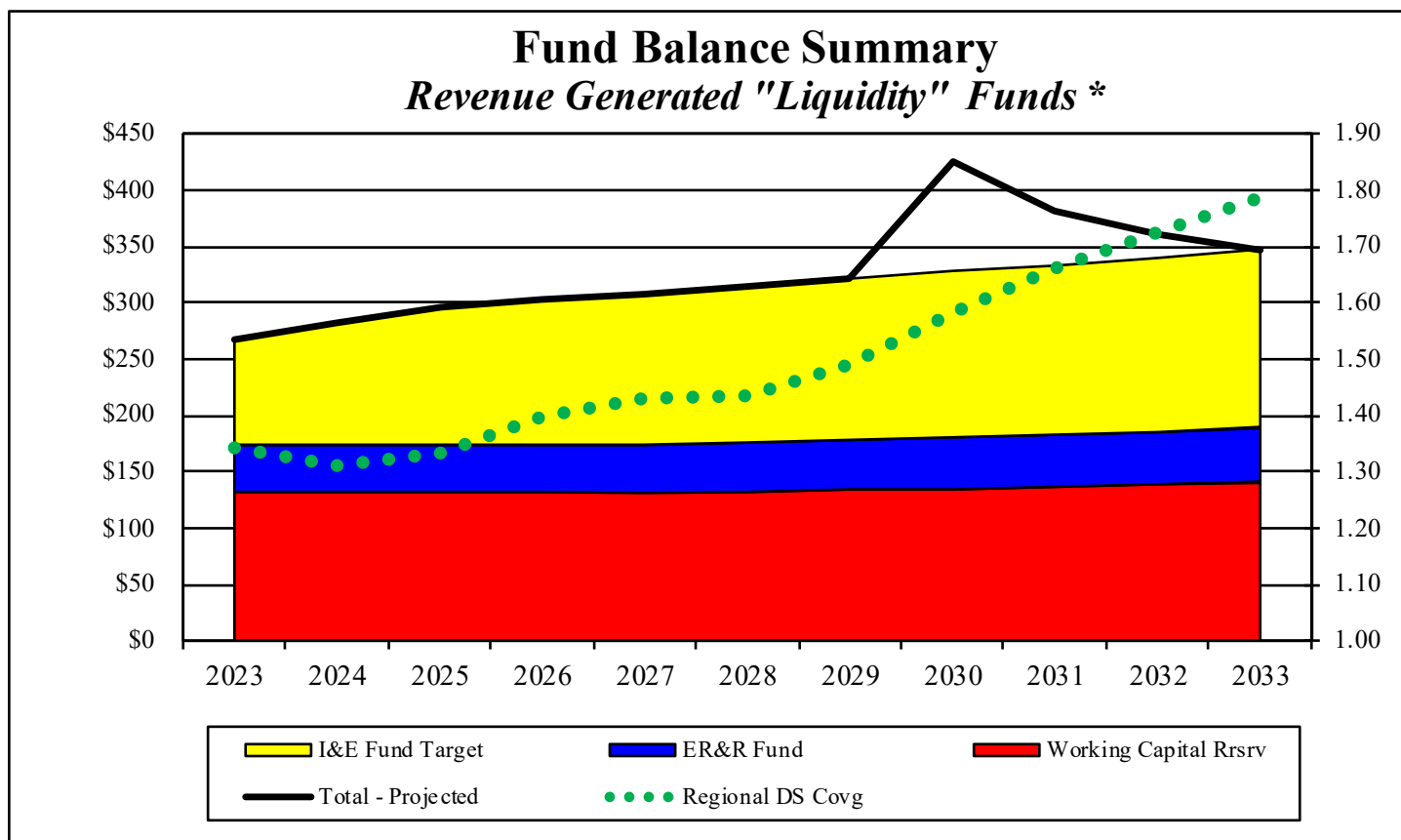
Line No.	Item	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Revenue (a)												
1	Operating Revenue Under Existing Charges	477.4	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0
Projected Revenue from Adjustments												
2	FY 2024: 2.7%		13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
3	FY 2025: 3.5%			17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
4	FY 2026: 5.1%				25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9
5	FY 2027: 5.1%					27.2	27.2	27.2	27.2	27.2	27.2	27.2
6	FY 2028: 5.1%						28.5	28.5	28.5	28.5	28.5	28.5
7	FY 2029: 3.1%							18.1	18.1	18.1	18.1	18.1
8	FY 2030: 2.9%								17.5	17.5	17.5	17.5
9	FY 2031: 3.0%									18.7	18.7	18.7
10	FY 2032: 3.2%										20.8	20.8
11	FY 2033: 3.1%											21.0
12	Total Projected Revenue from Sewer Charges	477.4	493.2	510.7	536.6	563.9	592.4	610.5	628.0	646.7	667.5	688.4
13	Other Revenue	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
14	Non-Operating Revenue	10.9	7.1	9.6	9.7	9.8	9.9	9.9	11.0	11.5	10.5	9.9
15	Total Revenue Available	488.7	500.6	520.7	546.7	574.0	602.7	620.8	639.4	658.6	678.4	698.7
Revenue Requirements												
16	Transfer to GLWA Regional O&M Account	194.8	205.6	216.2	221.3	225.0	229.6	234.2	238.9	243.7	248.5	253.5
17	Transfer to GLWA Pension O&M Account	10.8	-	-	-	-	-	-	-	-	-	-
18	Total O&M Expense	205.6	205.6	216.2	221.3	225.0	229.6	234.2	238.9	243.7	248.5	253.5
19	Debt Service Allocation - Regional System	210.7	225.0	228.6	232.5	244.1	259.8	259.3	253.3	249.8	249.3	249.2
20	Non-Operating Portion of Pension Obligation	9.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
21	B & C Note Non-Operating Payments	2.0	2.0	3.7	3.6	3.3	2.9	2.9	2.8	2.7	2.7	2.6
22	Transfer to Pension Obligation Payment Fund	11.6	6.5	8.2	8.2	7.8	7.4	7.4	7.3	7.2	7.2	7.1
23	Transfer to WRAP Fund	2.4	2.5	2.6	2.7	2.9	3.0	3.1	3.2	3.3	3.4	3.5
24	Lease Payment to DWSD Local System	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
25	Receiving Fund Working Capital Requirement	-	-	-	-	-	2.7	2.3	1.8	2.5	2.7	2.8
26	Transfer to GLWA Regional I&E Account	30.9	33.5	37.5	54.6	66.8	72.7	87.0	107.4	124.6	139.8	155.1
27	Total Revenue Requirements	488.7	500.6	520.7	546.7	574.0	602.7	620.8	639.4	658.6	678.4	698.7
28	Indicated Balance (Deficiency)	-	-	-	-	-	-	-	-	-	-	-
29	Projected Debt Service Coverage Ratio (Regional)	1.34	1.31	1.33	1.40	1.43	1.44	1.49	1.58	1.66	1.72	1.79
30	<i>Net Revenues (15) - (18)</i>	283.1	295.0	304.4	325.4	349.1	373.1	386.6	400.5	414.9	429.8	445.2
31	<i>Revenues Remaining after Debt Service (30)-(19)</i>	72.4	70.0	75.8	92.9	105.0	113.3	127.3	147.2	165.1	180.6	196.0
32	<i>Applied to MBO Reserve Funds (22,23)</i>	(14.0)	(9.0)	(10.8)	(10.9)	(10.6)	(10.5)	(10.5)	(10.5)	(10.5)	(10.6)	(10.6)
33	<i>Applied as Lease Payment to DWSD (24)</i>	(27.5)	(27.5)	(27.5)	(27.5)	(27.5)	(27.5)	(27.5)	(27.5)	(27.5)	(27.5)	(27.5)
34	<i>Maintained as Receiving Fund Working Capital (25)</i>	-	-	-	-	-	(2.7)	(2.3)	(1.8)	(2.5)	(2.7)	(2.8)
35	<i>Available for I&E Fund (31) - (32,33,34)</i>	30.9	33.5	37.5	54.6	66.8	72.7	87.0	107.4	124.6	139.8	155.1

(a) From Table 3. Based on application of FY 2023 charges for 2023 through 2033.



	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
<u>Fund Balance Min. Targets</u>											
Working Capital Rsrv	88.8	90.9	97.7	100.5	103.2	107.1	109.5	113.1	114.9	117.1	118.8
ER&R Fund	28.1	29.6	31.3	31.9	32.7	33.4	34.1	34.8	35.6	36.2	36.8
I&E Fund Target	77.3	88.4	94.0	94.1	96.1	95.9	97.5	98.0	100.4	102.6	105.4
Total - Minimums	194.2	208.9	223.0	226.5	232.0	236.4	241.1	245.9	250.9	255.9	261.0
<u>Projections</u>											
Working Capital Rsrv	93.0	91.5	97.7	100.5	103.2	107.1	109.5	113.1	114.9	117.1	118.8
ER&R Fund	28.1	29.6	31.3	31.9	32.7	33.4	34.1	34.8	35.6	36.2	36.8
I&E Fund	77.4	88.2	93.9	94.1	95.9	96.1	97.5	98.1	100.2	102.5	105.4
Total - Projected	198.5	209.3	222.9	226.5	231.8	236.6	241.1	246.0	250.7	255.8	261.0
Projected > Target	4.3	0.4	(0.2)	0.0	(0.1)	0.2	0.0	0.1	(0.2)	(0.1)	(0.0)
Days Cash Ratio	500	500	500	500	500	500	500	500	500	500	500
Regional DS Covg	1.40	1.36	1.25	1.28	1.35	1.35	1.42	1.44	1.53	1.60	1.70

* Revenue Generated Funds only. Excludes Debt Service Reserve & Construction Funds (Bond Generated) & "Pass Thru" Funds such as Debt Service Payment Funds, WRAP, etc.



	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
<u>Fund Balance Minimums</u>											
Working Capital Rrsrv	131.9	131.9	131.9	131.9	131.1	132.9	134.2	135.1	136.6	138.3	140.1
ER&R Fund	42.0	42.0	42.0	42.0	42.8	43.7	44.7	45.6	46.6	47.6	48.6
I&E Fund Target	93.0	107.8	122.3	129.2	134.3	137.9	141.9	146.5	150.6	154.6	158.6
Total - Minimums	266.9	281.7	296.2	303.1	308.2	314.5	320.8	327.2	333.8	340.5	347.3
<u>Projections</u>											
Working Capital Rrsrv	131.9	131.9	131.9	131.9	131.1	132.9	134.2	135.1	136.6	138.3	140.1
ER&R Fund	42.0	42.0	42.0	42.0	42.8	43.7	44.7	45.6	46.6	47.6	48.6
I&E Fund	93.2	107.7	122.4	129.3	134.0	137.9	141.9	244.4	198.3	173.5	158.2
Total - Projected	267.1	281.6	296.3	303.2	307.9	314.5	320.8	425.1	381.5	359.4	346.9
<i>Projected > Target</i>	<i>0.2</i>	<i>(0.1)</i>	<i>0.1</i>	<i>0.1</i>	<i>(0.2)</i>	<i>(0.1)</i>	<i>(0.0)</i>	<i>97.9</i>	<i>47.7</i>	<i>19.0</i>	<i>(0.4)</i>
Days Cash Ratio	500	500	500	500	500	500	500	650	572	528	499
Regional DS Covg	1.34	1.31	1.33	1.40	1.43	1.44	1.49	1.58	1.66	1.72	1.79

* Revenue Generated Funds only. Excludes Debt Service Reserve & Construction Funds (Bond Generated) & "Pass Thru" Funds such as Debt Service Payment Funds, WRAP, etc.

Table 6
Projected Cash and Investment Fund Balances - Wholesale Water System (\$ millions) (a)

Line No.	Fiscal Year Ended June 30,											
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
Working Capital Reserve (b)												
1	Beginning Balance	93.6	93.0	91.5	97.7	100.5	103.2	107.1	109.5	113.1	114.9	117.1
2	Transfers to ER&R Fund	(0.6)	(1.5)	(1.7)	(0.6)	(0.8)	(0.7)	(0.7)	(0.7)	(0.8)	(0.6)	(0.6)
3	Deposit from Operations	-	-	7.9	3.4	3.5	4.6	3.1	4.3	2.6	2.8	2.3
4	Ending Balance	93.0	91.5	97.7	100.5	103.2	107.1	109.5	113.1	114.9	117.1	118.8
Budget Stabilization Fund (a)												
5	Beginning Balance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
6	Deposits / (Withdrawals)	-	-	-	-	-	-	-	-	-	-	-
7	Ending Balance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ER&R Fund (a)												
8	Beginning Balance	27.5	28.1	29.6	31.3	31.9	32.7	33.4	34.1	34.8	35.6	36.2
9	Transfers from Working Capital	0.6	1.5	1.7	0.6	0.8	0.7	0.7	0.7	0.8	0.6	0.6
10	Ending Balance	28.1	29.6	31.3	31.9	32.7	33.4	34.1	34.8	35.6	36.2	36.8
I&E Fund (c)												
11	Beginning Balance	94.5	77.4	88.2	93.9	94.1	95.9	96.1	97.5	98.1	100.2	102.5
12	Budgeted Capital Outlay	(15.5)	(11.5)	(9.7)	(8.0)	(7.8)	(7.2)	(7.4)	(7.5)	(7.7)	(7.8)	(8.0)
13	Transfer to Construction Fund	(31.3)	(7.5)	7.0	(13.6)	(25.8)	(34.3)	(51.0)	(61.5)	(84.1)	(105.1)	(131.3)
14	Subtotal prior to Revenue Transfer	47.8	58.4	85.5	72.3	60.5	54.5	37.7	28.6	6.4	(12.7)	(36.8)
15	Deposits from Revenues (c)	29.6	29.8	8.4	21.8	35.4	41.6	59.8	69.6	93.8	115.2	142.2
16	Ending Balance	77.4	88.2	93.9	94.1	95.9	96.1	97.5	98.1	100.2	102.5	105.4
Total Revenue Generated Funds (d)												
17	Beginning Balance	217.6	200.5	211.3	224.9	228.5	233.8	238.6	243.1	248.0	252.7	257.8
18	Net Sources and Uses	(17.1)	10.8	13.6	3.6	5.3	4.8	4.5	4.9	4.6	5.1	5.2
19	Ending Balance	200.5	211.3	224.9	228.5	233.8	238.6	243.1	248.0	252.7	257.8	263.0
20	Days Cash on Hand (e)	500	500	500	500	500	500	500	500	500	500	500
Other Funds												
21	Bond Reserve (excludes Surety)	4.5	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
22	Construction Fund	141.3	8.5	188.7	49.1	219.5	52.0	174.9	50.1	139.0	54.5	147.2
23	Total Funds	346.3	224.9	418.6	282.7	458.4	295.7	423.1	303.2	396.7	317.4	415.3
24	Subtotal w/o Construction Funds	205.0	216.4	230.0	233.6	238.9	243.7	248.2	253.1	257.8	262.9	268.1

(a) Technically includes "Combined System" amounts held by GLWA.

(b) Represents Operating Reserve and amounts maintained in the Receiving Fund for subsequent MBO transfers.

(c) Only includes GLWA Regional I&E Account. Does not include Lease Payment transferred to DWSD Local I&E Account.

(d) Excludes MBO Funds that are funded and assumed to be fully expended each year, such as the Bond Interest and Redemption Funds, the Pension Obligation Payment Fund, and the WRAP Fund.

(e) Excludes Budget Stabilization Fund amounts from Line 7.

Table 6
Projected Cash and Investment Fund Balances - Wholesale Sewer System (\$ millions) (a)

Line No.	Fiscal Year Ended June 30,										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
<u>Working Capital Reserve (b)</u>											
1	131.9	131.9	131.9	131.9	131.9	131.1	132.9	134.2	135.1	136.6	138.3
2	-	-	-	-	(0.8)	(0.9)	(1.0)	(0.9)	(1.0)	(1.0)	(1.0)
3	-	-	-	-	-	2.7	2.3	1.8	2.5	2.7	2.8
4	131.9	131.9	131.9	131.9	131.1	132.9	134.2	135.1	136.6	138.3	140.1
<u>Budget Stabilization Fund (a)</u>											
5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6	-	-	-	-	-	-	-	-	-	-	-
7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
<u>ER&R Fund (a)</u>											
8	42.0	42.0	42.0	42.0	42.0	42.8	43.7	44.7	45.6	46.6	47.6
9	-	-	-	-	0.8	0.9	1.0	0.9	1.0	1.0	1.0
10	42.0	42.0	42.0	42.0	42.8	43.7	44.7	45.6	46.6	47.6	48.6
<u>I&E Fund (c)</u>											
11	104.3	93.2	107.7	122.4	129.3	134.0	137.9	141.9	244.4	198.3	173.5
12	(18.4)	(15.0)	(12.4)	(7.8)	(7.7)	(9.2)	(9.4)	(9.6)	(9.8)	(10.0)	(10.2)
13	(23.5)	(4.0)	(10.4)	(39.9)	(54.4)	(59.6)	(73.6)	4.7	(160.9)	(154.6)	(160.2)
14	62.4	74.2	84.9	74.7	67.2	65.2	54.9	137.0	73.8	33.7	3.1
15	30.9	33.5	37.5	54.6	66.8	72.7	87.0	107.4	124.6	139.8	155.1
16	93.2	107.7	122.4	129.3	134.0	137.9	141.9	244.4	198.3	173.5	158.2
<u>Total Revenue Generated Funds (d)</u>											
17	283.2	272.1	286.6	301.3	308.2	312.9	319.5	325.8	430.1	386.5	364.4
18	(11.1)	14.5	14.6	6.9	4.8	6.5	6.4	104.3	(43.6)	(22.1)	(12.5)
19	272.1	286.6	301.3	308.2	312.9	319.5	325.8	430.1	386.5	364.4	351.9
20	500	500	500	500	500	500	500	650	572	528	499
<u>Other Funds</u>											
21	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
22	170.3	24.9	140.6	44.2	262.2	211.5	153.9	0.0	0.0	0.0	0.0
23	463.4	332.6	462.8	373.3	596.1	551.9	500.7	451.1	407.6	385.4	372.9
24	293.1	307.6	322.3	329.2	333.9	340.5	346.8	451.1	407.5	385.4	372.9

(a) Technically includes "Combined System" amounts held by GLWA.

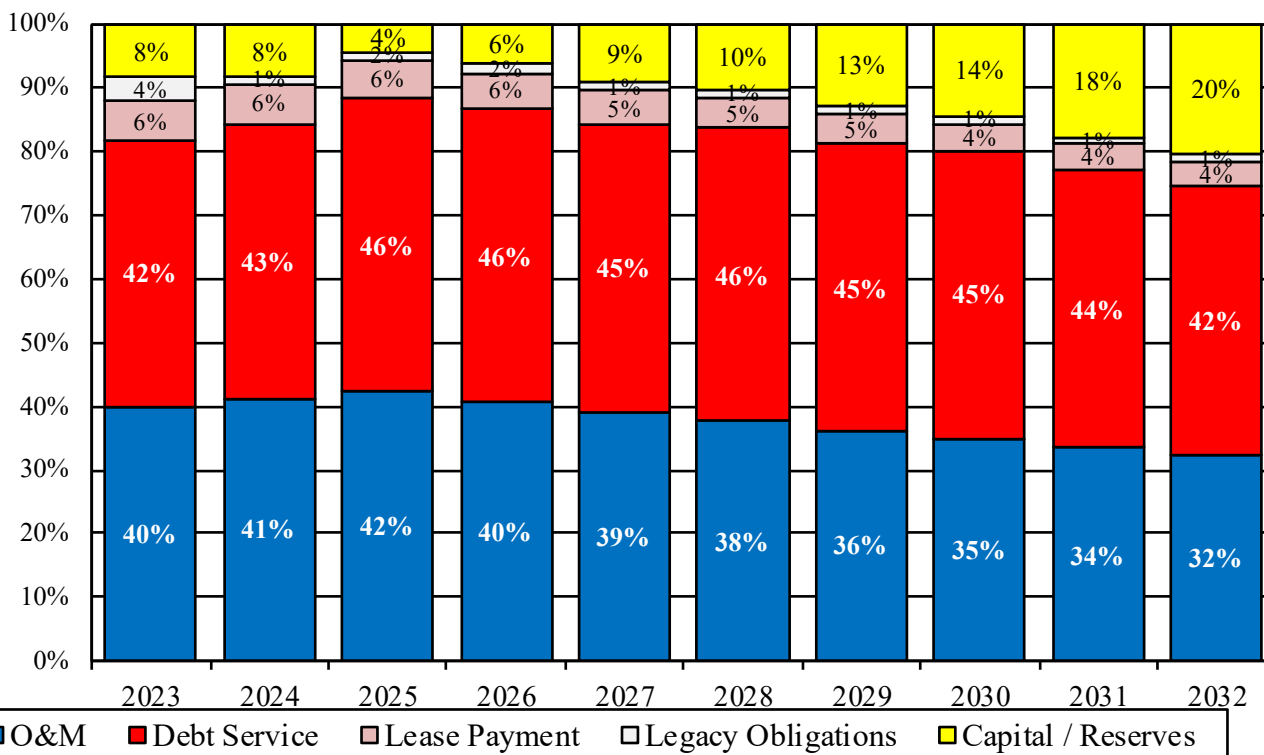
(b) Represents Operating Reserve and amounts maintained in the Receiving Fund for subsequent MBO transfers.

(c) Only includes GLWA Regional I&E Account. Does not include Lease Payment transferred to DWSD Local I&E Account.

(d) Excludes MBO Funds that are funded and assumed to be fully expended each year, such as the Bond Interest and Redemption Funds, the Pension Obligation Payment Fund, and the WRAP Fund.

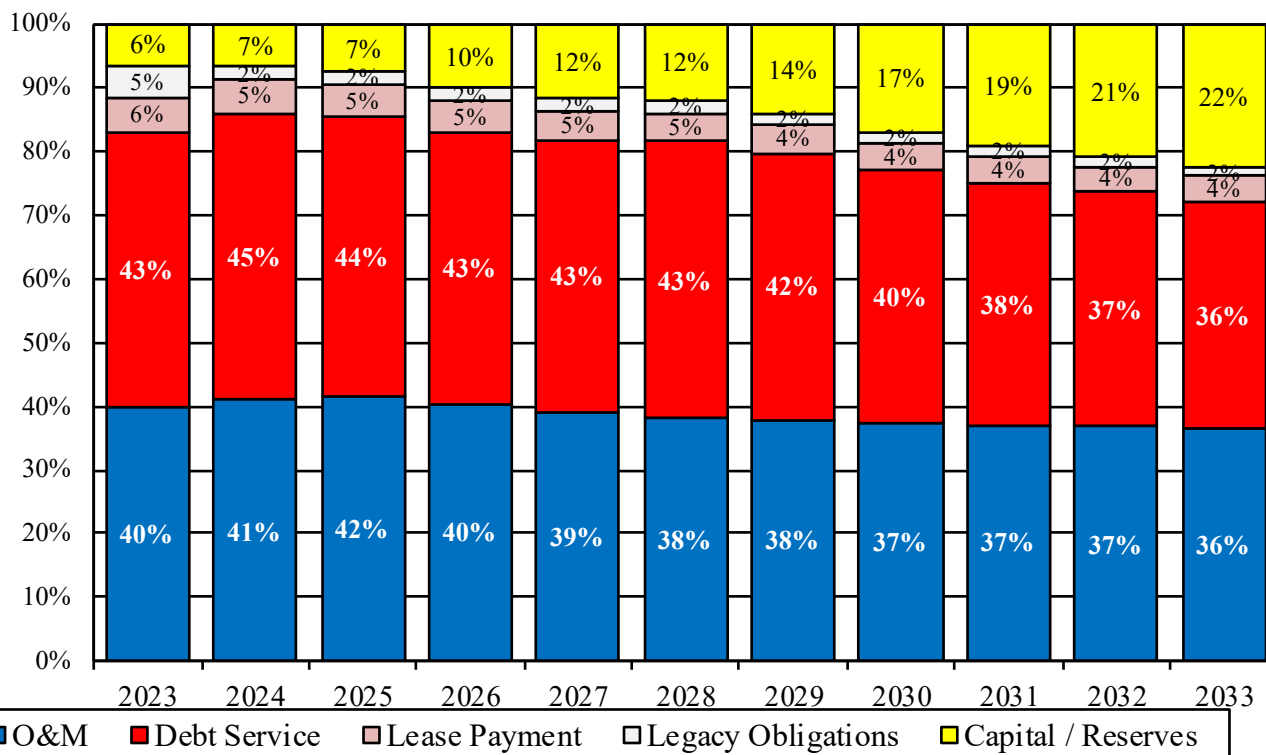
(e) Excludes Budget Stabilization Fund amounts from Line 7.

Relative Revenue Requirement Distribution

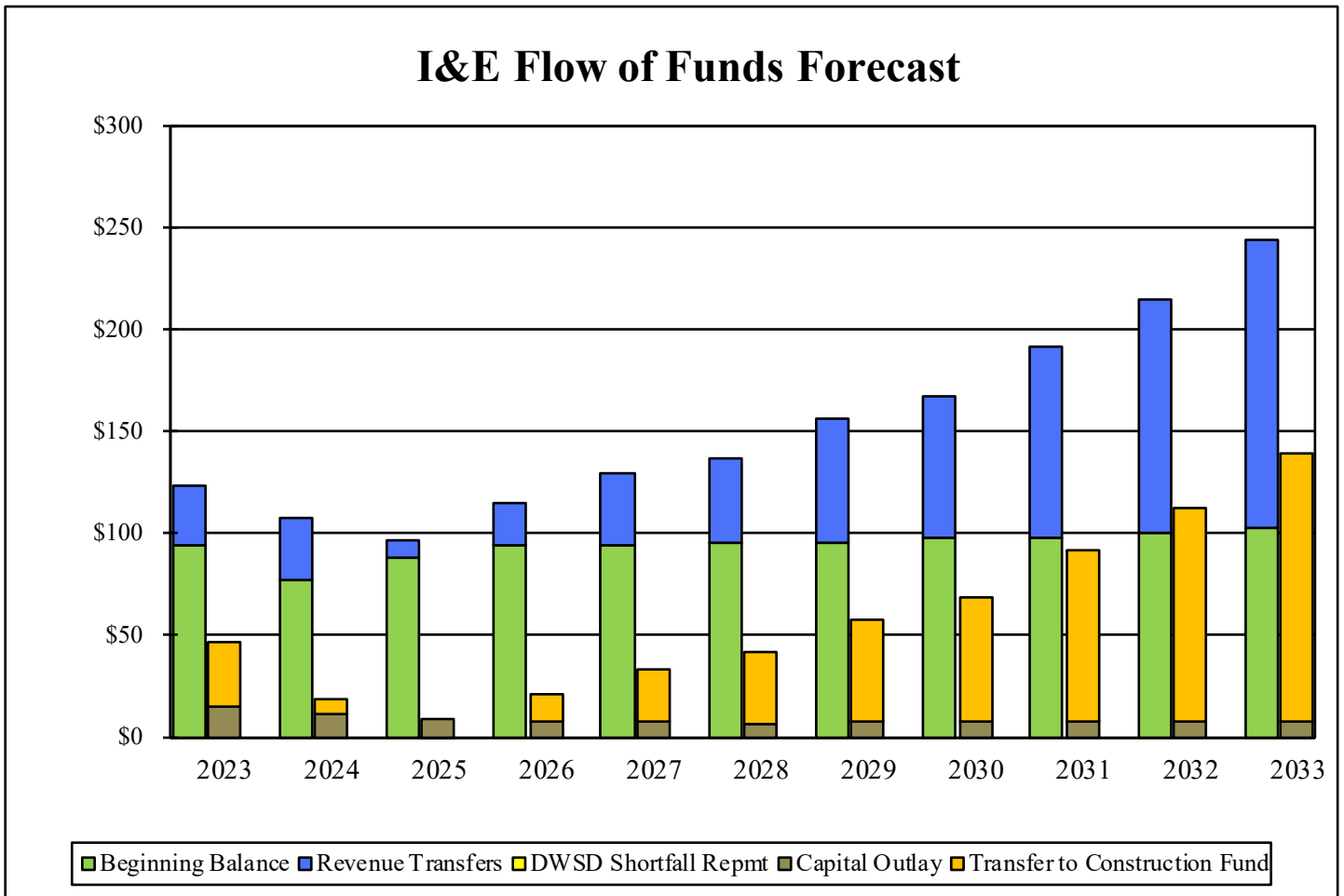


	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
O&M	144.8	152.9	162.8	165.3	169.3	172.6	176.0	179.5	183.1	186.8	190.5
Debt Service	150.7	159.8	177.4	189.1	195.8	211.3	218.6	233.1	237.8	245.2	249.6
Lease Payment	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Legacy Obligations	14.1	5.2	6.1	6.2	6.1	6.1	6.2	6.3	6.5	6.6	6.7
Capital / Reserves	29.6	29.8	16.3	25.2	38.9	46.2	62.9	73.9	96.4	118.0	144.5
Total	361.8	370.3	385.1	408.2	432.7	458.7	486.2	515.4	546.3	579.1	613.8

Relative Revenue Requirement Distribution

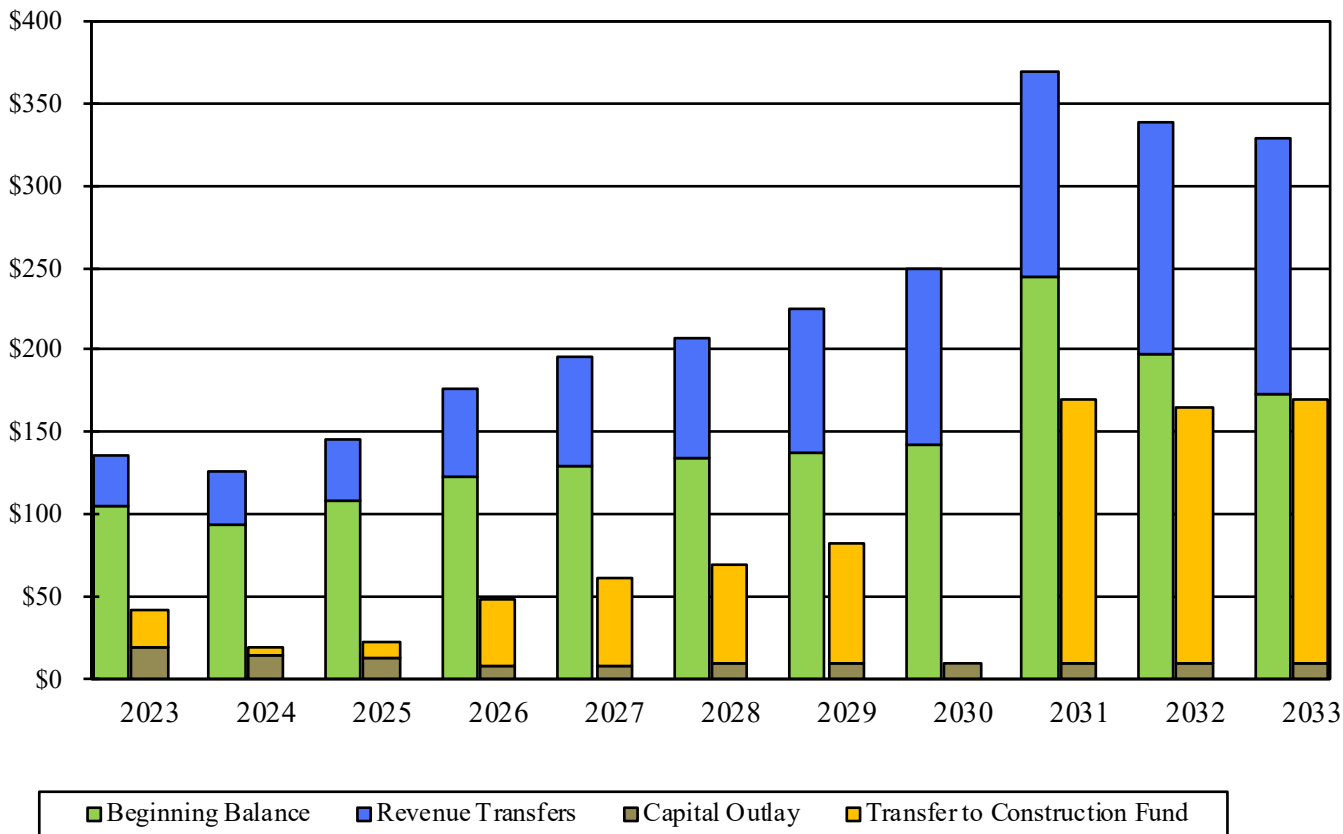


	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>
O&M	194.8	205.6	216.2	221.3	225.0	229.6	234.2	238.9	243.7	248.5	253.5
Debt Service	210.7	225.0	228.6	232.5	244.1	259.8	259.3	253.3	249.8	249.3	249.2
Lease Payment	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Legacy Obligations	24.8	9.0	10.8	10.9	10.6	10.5	10.5	10.5	10.5	10.6	10.6
Capital / Reserves	30.9	33.5	37.5	54.6	66.8	72.7	87.0	107.4	124.6	139.8	155.1
Total	488.7	500.6	520.7	546.7	574.0	600.0	618.5	637.6	656.1	675.7	695.9



	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>
Beginning Balance	94.5	77.4	88.2	93.9	94.1	95.9	96.1	97.5	98.1	100.2	102.5
Capital Outlay	(15.5)	(11.5)	(9.7)	(8.0)	(7.8)	(7.2)	(7.4)	(7.5)	(7.7)	(7.8)	(8.0)
Transfer to Constr	(31.3)	(7.5)	7.0	(13.6)	(25.8)	(34.3)	(51.0)	(61.5)	(84.1)	(105.1)	(131.3)
Initial Balance	47.8	58.4	85.5	72.3	60.5	54.5	37.7	28.6	6.4	(12.7)	(36.8)
Revenue Transfers	<u>29.6</u>	<u>29.8</u>	<u>8.4</u>	<u>21.8</u>	<u>35.4</u>	<u>41.6</u>	<u>59.8</u>	<u>69.6</u>	<u>93.8</u>	<u>115.2</u>	<u>142.2</u>
Ending Balance	77.4	88.2	93.9	94.1	95.9	96.1	97.5	98.1	100.2	102.5	105.4

I&E Flow of Funds Forecast



	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>
Beginning Balance	104.3	93.2	107.7	122.4	129.3	134.0	137.9	141.9	244.4	198.3	173.5
Capital Outlay	(18.4)	(15.0)	(12.4)	(7.8)	(7.7)	(9.2)	(9.4)	(9.6)	(9.8)	(10.0)	(10.2)
Transfer to Constr	(23.5)	(4.0)	(10.4)	(39.9)	(54.4)	(59.6)	(73.6)	4.7	(160.9)	(154.6)	(160.2)
Initial Balance	62.4	74.2	84.9	74.7	67.2	65.2	54.9	137.0	73.8	33.7	3.1
Revenue Transfers	30.9	33.5	37.5	54.6	66.8	72.7	87.0	107.4	124.6	139.8	155.1
DWSD Shortfall Repmt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ending Balance	93.2	107.7	122.4	129.3	134.0	137.9	141.9	244.4	198.3	173.5	158.2

Table 7a
Reported Statement of Changes in Net Position (\$ millions)

Line No.	Fiscal Year Ended June 30,						
	Actual						
	2016	2017	2018	2019	2020	2021	2022
1	167.7	351.7	338.3	331.6	334.3	344.6	345.0
2	49.5	101.7	108.5	119.8	132.5	123.6	137.8
3	71.3	144.1	146.1	144.1	130.7	126.8	126.8
4	120.8	245.9	254.6	264.0	263.3	250.5	264.6
5	46.8	105.9	83.7	67.6	71.0	94.1	80.4
	<u>Nonoperating revenue (expenses)</u>						
6	0.4	1.8	6.1	14.8	13.7	0.8	2.4
7	(56.5)	(113.7)	(118.2)	(114.2)	(111.3)	(106.3)	(103.6)
8	5.2	6.4	4.4	15.3	7.0	10.5	13.6
9	-	(32.8)	-	-	-	-	-
10	(4.1)	(32.4)	(24.0)	(16.4)	(19.5)	(0.9)	(7.3)
11	-	(4.1)	(36.5)	(60.4)	(76.9)	(96.4)	(97.3)
12	(4.1)	(36.5)	(60.4)	(76.9)	(96.4)	(97.3)	(104.5)

Table 7b
Forecasted Statement of Changes in Net Position (\$ millions)

Line No.	Forecasted										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
1	360.5	372.9	384.5	407.4	431.9	457.7	485.3	514.3	545.4	578.2	613.1
2	144.8	152.9	162.8	165.3	169.3	172.6	176.0	179.5	183.1	186.8	190.5
3	130.0	137.7	119.8	99.7	99.4	97.4	100.3	103.9	102.7	101.0	104.0
4	274.9	290.6	282.6	265.1	268.7	270.0	276.3	283.5	285.8	287.7	294.5
5	85.7	82.3	101.9	142.4	163.2	187.7	208.9	230.9	259.5	290.5	318.6
	<u>Nonoperating revenue (expenses)</u>										
6	12.8	5.9	8.6	10.4	9.8	11.0	9.5	10.5	9.4	9.9	9.4
7	(111.0)	(111.3)	(124.0)	(124.1)	(127.2)	(130.4)	(133.3)	(135.8)	(134.9)	(133.6)	(131.4)
8	16.5	15.6	15.3	14.3	13.2	12.0	11.9	10.9	9.9	8.8	7.2
9	-	-	-	-	-	-	-	-	-	-	-
10	3.9	(7.5)	1.9	43.0	59.1	80.2	97.1	116.5	144.0	175.6	203.7
11	(104.5)	(100.7)	(108.1)	(106.2)	(63.3)	(4.2)	76.0	173.1	289.6	433.5	609.1
12	(100.7)	(108.1)	(106.2)	(63.3)	(4.2)	76.0	173.1	289.6	433.5	609.1	812.9

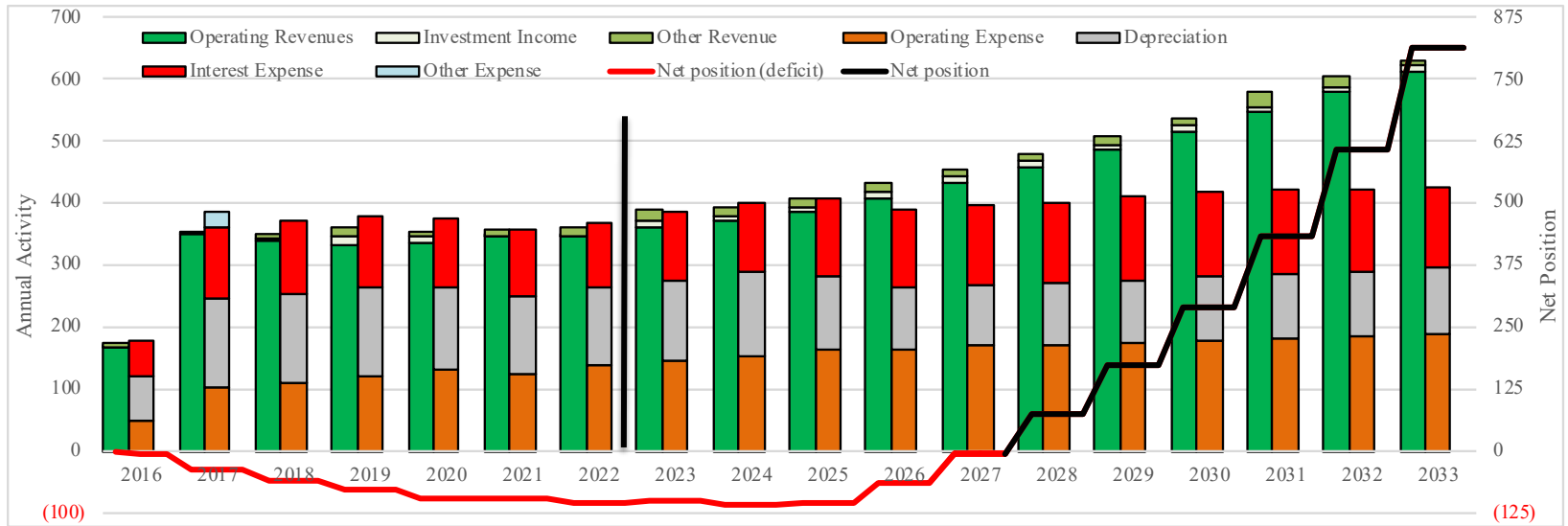
Table 7a
Reported Statement of Changes in Net Position (\$ millions)

Line No.		Actual						
		2016	2017	2018	2019	2020	2021	2022
1	Total operating revenues	230.5	505.8	473.6	469.5	466.6	470.8	471.4
2	Operating expenses	84.4	151.3	176.4	174.0	176.9	178.1	186.9
3	Depreciation/Amortization	<u>86.0</u>	<u>185.6</u>	<u>187.3</u>	<u>168.5</u>	<u>152.9</u>	<u>150.9</u>	<u>158.5</u>
4	Total operating expenses	170.4	336.9	363.6	342.6	329.9	329.0	345.4
5	Operating income	60.1	168.9	110.0	126.9	136.8	141.8	126.0
	<u>Nonoperating revenue (expenses)</u>							
6	Earnings on investments	1.1	2.2	5.3	11.8	11.7	0.5	3.0
7	Interest Expense - Bonded Debt	(56.5)	(113.7)	(118.2)	(136.8)	(132.6)	(112.6)	(108.6)
8	Other Non-Operating	(15.2)	(51.7)	(48.9)	(7.5)	(17.1)	(17.4)	(11.5)
9	Special Item	<u>-</u>	<u>(61.5)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
10	Change in net position	(10.6)	(55.8)	(52.0)	(5.6)	(1.2)	12.3	8.9
11	Net position (deficit), beginning of year	-	(10.6)	(66.4)	(118.3)	(123.9)	(125.2)	(112.9)
12	Net position (deficit), end of year	(10.6)	(66.4)	(118.3)	(123.9)	(125.2)	(112.9)	(104.0)

Table 7b
Forecasted Statement of Changes in Net Position (\$ millions)

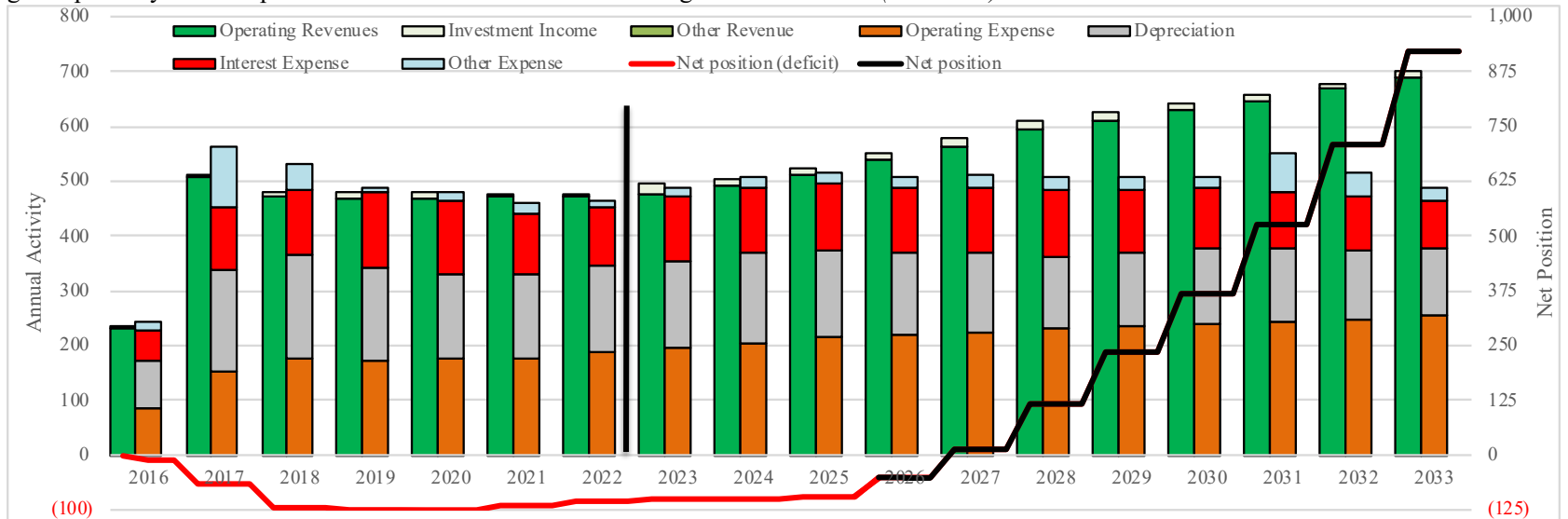
Line No.		Fiscal Year Ended June 30,										
		Forecasted										
		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
1	Total operating revenues	477.8	493.6	511.1	537.0	564.3	592.8	610.9	628.4	647.1	667.9	688.8
2	Operating expenses	194.8	205.6	216.2	221.3	225.0	229.6	234.2	238.9	243.7	248.5	253.5
3	Depreciation/Amortization	<u>158.2</u>	<u>165.5</u>	<u>157.3</u>	<u>146.7</u>	<u>143.1</u>	<u>132.5</u>	<u>135.0</u>	<u>137.7</u>	<u>134.9</u>	<u>125.6</u>	<u>122.4</u>
4	Total operating expenses	353.0	371.1	373.5	368.0	368.1	362.1	369.3	376.6	378.6	374.1	375.9
5	Operating income	124.8	122.5	137.6	169.1	196.2	230.7	241.6	251.9	268.5	293.7	312.9
	<u>Nonoperating revenue (expenses)</u>											
6	Earnings on investments	16.1	9.5	10.9	11.9	12.6	15.8	14.4	12.9	11.5	10.5	9.9
7	Interest Expense - Bonded Debt	(117.1)	(115.3)	(121.4)	(118.4)	(120.9)	(122.7)	(116.1)	(109.4)	(102.7)	(96.0)	(89.0)
8	Other Non-Operating	(19.0)	(19.4)	(19.8)	(20.2)	(20.5)	(21.0)	(21.4)	(21.8)	(22.3)	(22.9)	(23.5)
9	Special Item	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
10	Change in net position	4.8	(2.7)	7.3	42.4	67.4	102.8	118.6	133.5	155.0	185.4	210.3
11	Net position (deficit), beginning of year	(104.0)	(99.2)	(101.9)	(94.6)	(52.2)	15.2	118.0	236.6	370.1	525.1	710.5
12	Net position (deficit), end of year	(99.2)	(101.9)	(94.6)	(52.2)	15.2	118.0	236.6	370.1	525.1	710.5	920.8

Water Supply System - Reported and Forecasted Statement of Changes in Net Position (\$ millions)



	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	Act.	Act.	Act.	Act.	Act.	Act.	Prelim	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.
1 Total operating revenues	167.7	351.7	338.3	331.6	334.3	344.6	345.0	360.5	372.9	384.5	407.4	431.9	457.7	485.3	514.3	545.4	578.2	613.1
2 Operating expenses	49.5	101.7	108.5	119.8	132.5	123.6	137.8	144.8	152.9	162.8	165.3	169.3	172.6	176.0	179.5	183.1	186.8	190.5
3 Depreciation/Amortization	71.3	144.1	146.1	144.1	130.7	126.8	126.8	130.0	137.7	119.8	99.7	99.4	97.4	100.3	103.9	102.7	101.0	104.0
4 Total operating expenses	120.8	245.9	254.6	264.0	263.3	250.5	264.6	274.9	290.6	282.6	265.1	268.7	270.0	276.3	283.5	285.8	287.7	294.5
5 Operating income	46.8	105.9	83.7	67.6	71.0	94.1	80.4	85.7	82.3	101.9	142.4	163.2	187.7	208.9	230.9	259.5	290.5	318.6
Nonoperating revenue (expenses)																		
6 Earnings on investments	0.4	1.8	6.1	14.8	13.7	0.8	2.4	12.8	5.9	8.6	10.4	9.8	11.0	9.5	10.5	9.4	9.9	9.4
7 Interest Expense - Bonded Debt	(56.5)	(113.7)	(118.2)	(114.2)	(111.3)	(106.3)	(103.6)	(111.0)	(111.3)	(124.0)	(124.1)	(127.2)	(130.4)	(133.3)	(135.8)	(134.9)	(133.6)	(131.4)
8 Other Non-Operating	5.2	6.4	4.4	15.3	7.0	10.5	13.6	16.5	15.6	15.3	14.3	13.2	12.0	11.9	10.9	9.9	8.8	7.2
9 Special Item	0.0	(32.8)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 Change in net position	(4.1)	(32.4)	(24.0)	(16.4)	(19.5)	(0.9)	(7.3)	3.9	(7.5)	1.9	43.0	59.1	80.2	97.1	116.5	144.0	175.6	203.7
10 Net position (deficit), beginning of year	0.0	(4.1)	(36.5)	(60.4)	(76.9)	(96.4)	(97.3)	(104.5)	(100.7)	(108.1)	(106.2)	(63.3)	(4.2)	76.0	173.1	289.6	433.5	609.1
11 Net position (deficit), end of year	(4.1)	(36.5)	(60.4)	(76.9)	(96.4)	(97.3)	(104.5)	(100.7)	(108.1)	(106.2)	(63.3)	(4.2)	76.0	173.1	289.6	433.5	609.1	812.9

Sewage Disposal System - Reported and Forecasted Statement of Changes in Net Position (\$ millions)



	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	Act.	Act.	Act.	Act.	Act.	Act.	Prelim	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.
1 Total operating revenues	230.5	505.8	473.6	469.5	466.6	470.8	471.4	477.8	493.6	511.1	537.0	564.3	592.8	610.9	628.4	647.1	667.9	688.8
2 Operating expenses	84.4	151.3	176.4	174.0	176.9	178.1	186.9	194.8	205.6	216.2	221.3	225.0	229.6	234.2	238.9	243.7	248.5	253.5
3 Depreciation/Amortization	86.0	185.6	187.3	168.5	152.9	150.9	158.5	158.2	165.5	157.3	146.7	143.1	132.5	135.0	137.7	134.9	125.6	122.4
4 Total operating expenses	170.4	336.9	363.6	342.6	329.9	329.0	345.4	353.0	371.1	373.5	368.0	368.1	362.1	369.3	376.6	378.6	374.1	375.9
5 Operating income	60.1	168.9	110.0	126.9	136.8	141.8	126.0	124.8	122.5	137.6	169.1	196.2	230.7	241.6	251.9	268.5	293.7	312.9
Nonoperating revenue (expenses)																		
6 Earnings on investments	1.1	2.2	5.3	11.8	11.7	0.5	3.0	16.1	9.5	10.9	11.9	12.6	15.8	14.4	12.9	11.5	10.5	9.9
7 Interest Expense - Bonded Debt	(56.5)	(113.7)	(118.2)	(136.8)	(132.6)	(112.6)	(108.6)	(117.1)	(115.3)	(121.4)	(118.4)	(120.9)	(122.7)	(116.1)	(109.4)	(102.7)	(96.0)	(89.0)
8 Other Non-Operating	(15.2)	(51.7)	(48.9)	(7.5)	(17.1)	(17.4)	(11.5)	(19.0)	(19.4)	(19.8)	(20.2)	(20.5)	(21.0)	(21.4)	(21.8)	(22.3)	(22.9)	(23.5)
9 Special Item	0.0	(61.5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 Change in net position	(10.6)	(55.8)	(52.0)	(5.6)	(1.2)	12.3	8.9	4.8	(2.7)	7.3	42.4	67.4	102.8	118.6	133.5	155.0	185.4	210.3
10 Net position (deficit), beginning of year	0.0	(10.6)	(66.4)	(118.3)	(123.9)	(125.2)	(112.9)	(104.0)	(99.2)	(101.9)	(94.6)	(52.2)	15.2	118.0	236.6	370.1	525.1	710.5
11 Net position (deficit), end of year	(10.6)	(66.4)	(118.3)	(123.9)	(125.2)	(112.9)	(104.0)	(99.2)	(101.9)	(94.6)	(52.2)	15.2	118.0	236.6	370.1	525.1	710.5	920.8

T F G
THE FOSTER GROUP

The Foster Group, LLC
12719 Wenonga Lane
Leawood, KS 66209

Bart Foster, President
Cell: (913) 530-6240
bfoster@fostergroupllc.com

MEMORANDUM

FY 2024 Water Cost of Service and Charges Study
Detailed Cost Allocation Schedules

December 30, 2022

To: Nicolette Bateson

From: Bart Foster

The attached exhibits are intended to delineate the process we've taken to allocate the FY 2024 Budgeted **Water** Revenue Requirements to cost pools as part of the FY 2024 **Water** Cost of Service and Charges Study. This material illustrates the detailed, step by step approach we applied to get to the final cost pool allocation, which is summarized as "Table 2" in our cost of service and charges memorandum report submitted under separate cover. As noted in that report, the strategies employed for the recommended FY 2024 Water and Sewer charges only apply detailed cost of service analyses for the Water Charges. The recommended FY 2024 Sewer charges reflect a simplified, uniform adjustment approach to all individual charges, and do not require detailed cost of service analyses. As such this document is solely designed to address **Water** cost of service allocations.

The schedules in this package have been annotated to indicate the process followed to allocate costs to cost pools. We believe that the annotation provides a "road map" for interested parties to follow the allocation logic, and we'll not elaborate in this introduction.

For the FY 2024 Cost of Service Study, significant review efforts have been applied towards continuing to refine and understand the manner by which budgeted operating expenses of the Centralized Services group have been assigned to Water and Sewer, and to individual Cost Pools within the Water system. This group includes major planning and asset management activities, some of which are discretely related to one utility or the other. For instance, the budget request for the Systems Analytics cost center includes several contracts to support sewer collection system modelling and wastewater metering analyses. These costs are appropriately directly assigned to the Sewer Fund. Similarly, the budget request for the Asset Management cost center includes specific contracts to address the Linear System Integrity Program, which is largely focused on Water transmission mains. The costs of those specific contracts are directly assigned to the appropriate fund and Cost Pool in these calculations.

The FY 2024 Cost of Service Study allocates costs to cost pools based on a detailed review of each of the major cost centers within the Centralized Services group, and we have assigned discrete activities directly to Water and Sewer budget responsibilities based on our review. These results

are summarized at the bottom of page C-5 of the exhibits. All other “general” Centralized Services budgeted costs have been assigned 50% to Water and 50% to Sewer¹.

All Administrative Services budgeted costs have also been assigned 50% to Water and 50% to Sewer, with the exception of a subtle adjustment in the Logistics and Materials cost center, as a portion these costs are related to a “Sewer only” function within that budget.

As noted in the exhibits, we have allocated specific operating costs to cost pools in part based on judgment and experience applied to the historical cost information in prior reports. Subsequent phases of the Cost Allocation Project, and the accompanying review of the overall Cost Allocation Methodology Projects, are intended to refine allocation of specific functional costs to “Cost Pools” that align the GLWA revenue requirements with measures of services to Member Partners.

We have also incorporated updated information from the GLWA capital asset inventory and valuation project, in order to establish the “fixed asset profile” by various functions. This updated information has been utilized to allocate capital revenue requirements to Cost Pools, as illustrated herein.

The approach summarized above results in an allocation of the FY 2024 Budgeted **Water** Revenue Requirements to individual Cost Pools, as shown on exhibit page C-12. These figures are incorporated into the formal Cost of Service Study. The changes noted above have impacts on the relative cost pool allocations, and on subsequent Member Partner cost of service allocations and charges. These impacts are discussed in the Cost of Service Study report.

We are prepared to discuss this matter at your convenience.

¹ With the exception of the System Control Center budgeted costs, which are assigned 55% to Water and 45% to Sewer as noted on exhibit page C-5. This allocation is based on discussions with System Control Center managers.

Water Operations Group Functional Allocation Matrix - FY 2024 Budget

Goal is to allocate specific budget items within the Group that align with Cost Pools used to allocate costs to Member Partners.

The first step in the process is to assign these items to specific Functional Categories, as illustrated below - first for the Water Plants, then for the supporting Divisions.

The FY 2024 allocation factors are based on historical data and judgement. They are unchanged from the FY 2020 Cost of Service Study.

Estimated allocation factors based on judgement and experience applied to historical information

STEP 1 - ALLOCATION FACTORS	Water System Functional Categories								
	Water Treatment Plant Functional Categories				Water Delivery Facilities				
	Source of Supply	Low Lift Pumps	Purification	High Lift Pumps	Reservoirs	Booster Stations	Transmission Mains	Master Meters	General
Part 1 - Water Treatment Plants									
<u>Personnel Costs</u>									
9.3.1 Water Works Park	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.2 Lake Huron Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.3 Springwells Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.4 Northeast Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.5 Southwest Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
Total WTPs	6.0%	9.0%	70.0%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<u>Contractual Services</u>									
9.3.1 Water Works Park	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.2 Lake Huron Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.3 Springwells Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.4 Northeast Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.5 Southwest Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
Total WTPs	2.5%	20.0%	25.0%	52.5%	0.0%	0.0%	0.0%	0.0%	0.0%
<u>Electricity</u>									
9.3.1 Water Works Park	2.5%	20.0%	25.0%	52.5%					0.0%
9.3.2 Lake Huron Water Plant	2.5%	20.0%	25.0%	52.5%					0.0%
9.3.3 Springwells Water Plant	2.5%	20.0%	25.0%	52.5%					0.0%
9.3.4 Northeast Water Plant	2.5%	20.0%	25.0%	52.5%					0.0%
9.3.5 Southwest Water Plant	2.5%	20.0%	25.0%	52.5%					0.0%
Total WTPs	2.5%	20.0%	25.0%	52.5%	0.0%	0.0%	0.0%	0.0%	0.0%
<u>Chemicals</u>									
9.3.1 Water Works Park	0.0%	0.0%	100.0%	0.0%					0.0%
9.3.2 Lake Huron Water Plant	0.0%	0.0%	100.0%	0.0%					0.0%
9.3.3 Springwells Water Plant	0.0%	0.0%	100.0%	0.0%					0.0%
9.3.4 Northeast Water Plant	0.0%	0.0%	100.0%	0.0%					0.0%
9.3.5 Southwest Water Plant	0.0%	0.0%	100.0%	0.0%					0.0%
Total WTPs	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<u>Other Utilities</u>									
9.3.1 Water Works Park	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.2 Lake Huron Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.3 Springwells Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.4 Northeast Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.5 Southwest Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
Total WTPs	6.0%	9.0%	70.0%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Water Operations Group Functional Allocation Matrix - FY 2024 Budget

Goal is to allocate specific budget items within the Group that align with Cost Pools used to allocate costs to Member Partners.

The first step in the process is to assign these items to specific Functional Categories, as illustrated below - first for the Water Plants, then for the supporting Divisions.

The FY 2024 allocation factors are based on historical data and judgement. They are unchanged from the FY 2020 Cost of Service Study.

STEP 1 - ALLOCATION FACTORS	Water System Functional Categories								
	Water Treatment Plant Functional Categories				Water Delivery Facilities				
	Source of Supply	Low Lift Pumps	Purification	High Lift Pumps	Reservoirs	Booster Stations	Transmission Mains	Master Meters	General
Other									
9.3.1 Water Works Park	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.2 Lake Huron Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.3 Springwells Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.4 Northeast Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
9.3.5 Southwest Water Plant	6.0%	9.0%	70.0%	15.0%					0.0%
Total WTPs	6.0%	9.0%	70.0%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TOTAL WTP Budget									
9.3.1 Water Works Park	4.1%	9.6%	66.1%	20.2%					0.0%
9.3.2 Lake Huron Water Plant	3.3%	12.3%	55.2%	29.2%					0.0%
9.3.3 Springwells Water Plant	4.0%	9.7%	65.9%	20.5%					0.0%
9.3.4 Northeast Water Plant	4.2%	9.9%	65.0%	20.9%					0.0%
9.3.5 Southwest Water Plant	4.6%	9.3%	67.7%	18.4%					0.0%
Total WTPs	4.0%	10.3%	63.5%	22.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Part 2 - Booster Stations									
Personnel Costs						100.0%			0.0%
Contractual Services						100.0%			0.0%
Electricity						100.0%			0.0%
Chemicals						100.0%			0.0%
Other Utilities						100.0%			0.0%
Other						100.0%			0.0%
Total Booster Station Costs	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Part 3 - Support Services									
9.1 Chief Operating Officer Water Operations & F	5.4%	8.2%	66.6%	12.6%	0.8%	5.5%	0.8%	0.0%	0.0%
9.2.1 Water Director	10.0%	10.0%	70.0%	10.0%					0.0%
9.2.2 Water Quality			100.0%					0.0%	0.0%
9.5.1 Water Engineering	5.0%	15.0%	20.0%	15.0%	15.0%	15.0%	15.0%	0.0%	0.0%
9.7.1 Water Operations Unallocated Reserve	5.4%	8.2%	66.6%	12.6%	0.8%	5.5%	0.8%	0.0%	0.0%
Total Support Costs	5.0%	7.7%	68.0%	9.7%	2.5%	4.6%	2.5%	0.0%	0.0%
TOTAL GROUP	3.6%	8.6%	55.7%	17.7%	0.3%	13.8%	0.3%	0.0%	0.0%
Indirect Allocation Factors (Non Commodity)	5.4%	8.2%	66.6%	12.6%	0.8%	5.5%	0.8%	0.0%	0.0%

Aligns with FY 2024 Budget Request as of 12/15/2022. Subsequent modifications may occur.

Water Operations Group Functional Allocation Matrix - FY 2024 Budget

Goal is to allocate specific budget items within the Group that align with Cost Pools used to allocate costs to Member Partners.

The first step in the process is to assign these items to specific Functional Categories, as illustrated below - first for the Water Plants, then for the supporting Divisions.

The FY 2024 allocation factors are based on historical data and judgement. They are unchanged from the FY 2020 Cost of Service Study.

STEP 2 - ALLOCATION OF BUDGET		Water System Functional Categories								
		Water Treatment Plant Functional Categories					Water Delivery Facilities			
		Source of Supply	Low Lift Pumps	Purification	High Lift Pumps	Reservoirs	Booster Stations	Transmission Mains	Master Meters	General
Part 1 - Water Treatment Plants										
Personnel Costs										
9.3.1 Water Works Park	3,361,000	201,700	302,500	2,352,600	504,200	0	0	0	0	0
9.3.2 Lake Huron Water Plant	3,052,300	183,100	274,700	2,136,700	457,800	0	0	0	0	0
9.3.3 Springwells Water Plant	3,311,100	198,700	298,000	2,317,700	496,700	0	0	0	0	0
9.3.4 Northeast Water Plant	3,112,400	186,700	280,100	2,178,700	466,900	0	0	0	0	0
9.3.5 Southwest Water Plant	3,012,700	180,800	271,100	2,108,900	451,900	0	0	0	0	0
Total WTPs	15,849,500	951,000	1,426,400	11,094,600	2,377,500	0	0	0	0	0
Contractual Services										
9.3.1 Water Works Park	1,373,000	82,400	123,600	961,000	206,000	0	0	0	0	0
9.3.2 Lake Huron Water Plant	1,215,000	72,900	109,400	850,400	182,300	0	0	0	0	0
9.3.3 Springwells Water Plant	4,571,100	274,300	411,400	3,199,700	685,700	0	0	0	0	0
9.3.4 Northeast Water Plant	3,500,600	210,000	315,100	2,450,400	525,100	0	0	0	0	0
9.3.5 Southwest Water Plant	3,020,700	181,200	271,900	2,114,500	453,100	0	0	0	0	0
Total WTPs	13,680,400	820,800	1,231,400	9,576,000	2,052,200	0	0	0	0	0
Electricity										
9.3.1 Water Works Park	2,050,000	51,300	410,000	512,400	1,076,300	0	0	0	0	0
9.3.2 Lake Huron Water Plant	6,500,000	162,500	1,300,000	1,625,000	3,412,500	0	0	0	0	0
9.3.3 Springwells Water Plant	3,500,000	87,500	700,000	875,000	1,837,500	0	0	0	0	0
9.3.4 Northeast Water Plant	2,800,000	70,000	560,000	700,000	1,470,000	0	0	0	0	0
9.3.5 Southwest Water Plant	1,530,000	38,300	306,000	382,400	803,300	0	0	0	0	0
Total WTPs	16,380,000	409,600	3,276,000	4,094,800	8,599,600	0	0	0	0	0
Chemicals										
9.3.1 Water Works Park	1,834,500	0	0	1,834,500	0	0	0	0	0	0
9.3.2 Lake Huron Water Plant	2,632,300	0	0	2,632,300	0	0	0	0	0	0
9.3.3 Springwells Water Plant	3,157,000	0	0	3,157,000	0	0	0	0	0	0
9.3.4 Northeast Water Plant	2,144,600	0	0	2,144,600	0	0	0	0	0	0
9.3.5 Southwest Water Plant	1,520,500	0	0	1,520,500	0	0	0	0	0	0
Total WTPs	11,288,900	0	0	11,288,900	0	0	0	0	0	0
Other Utilities										
9.3.1 Water Works Park	290,000	17,400	26,100	203,000	43,500	0	0	0	0	0
9.3.2 Lake Huron Water Plant	270,000	16,200	24,300	189,000	40,500	0	0	0	0	0
9.3.3 Springwells Water Plant	405,300	24,300	36,500	283,700	60,800	0	0	0	0	0
9.3.4 Northeast Water Plant	313,100	18,800	28,200	219,100	47,000	0	0	0	0	0
9.3.5 Southwest Water Plant	600,500	36,000	54,000	420,400	90,100	0	0	0	0	0
Total WTPs	1,878,900	112,700	169,100	1,315,200	281,900	0	0	0	0	0

Water Operations Group Functional Allocation Matrix - FY 2024 Budget

Goal is to allocate specific budget items within the Group that align with Cost Pools used to allocate costs to Member Partners.

The first step in the process is to assign these items to specific Functional Categories, as illustrated below - first for the Water Plants, then for the supporting Divisions.

The FY 2024 allocation factors are based on historical data and judgement. They are unchanged from the FY 2020 Cost of Service Study.

STEP 2 - ALLOCATION OF BUDGET		Water System Functional Categories								
		Water Treatment Plant Functional Categories					Water Delivery Facilities			
		Source of Supply	Low Lift Pumps	Purification	High Lift Pumps	Reservoirs	Booster Stations	Transmission Mains	Master Meters	General
Other										
9.3.1 Water Works Park	597,900	35,900	53,800	418,500	89,700	0	0	0	0	0
9.3.2 Lake Huron Water Plant	757,100	45,400	68,100	530,000	113,600	0	0	0	0	0
9.3.3 Springwells Water Plant	351,200	21,100	31,600	245,800	52,700	0	0	0	0	0
9.3.4 Northeast Water Plant	410,800	24,600	37,000	287,600	61,600	0	0	0	0	0
9.3.5 Southwest Water Plant	546,900	32,800	49,200	382,900	82,000	0	0	0	0	0
Total WTPs	2,663,900	159,800	239,700	1,864,800	399,600	0	0	0	0	0
TOTAL WTP Budget										
9.3.1 Water Works Park	9,506,400	388,700	916,000	6,282,000	1,919,700	0	0	0	0	0
9.3.2 Lake Huron Water Plant	14,426,700	480,100	1,776,500	7,963,400	4,206,700	0	0	0	0	0
9.3.3 Springwells Water Plant	15,295,700	605,900	1,477,500	10,078,900	3,133,400	0	0	0	0	0
9.3.4 Northeast Water Plant	12,281,500	510,100	1,220,400	7,980,400	2,570,600	0	0	0	0	0
9.3.5 Southwest Water Plant	10,231,300	469,100	952,200	6,929,600	1,880,400	0	0	0	0	0
Total WTPs	61,741,600	2,453,900	6,342,600	39,234,300	13,710,800	0	0	0	0	0
Part 2 - Booster Stations										
Personnel Costs	0	0	0	0	0	0	0	0	0	0
Contractual Services	10,000	0	0	0	0	10,000	0	0	0	0
Electricity	9,681,400	0	0	0	0	9,681,400	0	0	0	0
Chemicals	0	0	0	0	0	0	0	0	0	0
Other Utilities	78,300	0	0	0	0	78,300	0	0	0	0
Other	1,168,700	0	0	0	0	1,168,700	0	0	0	0
Total Booster Station Costs	10,938,400	0	0	0	0	10,938,400	0	0	0	0
Part 3 - Support Services										
9.1 Chief Operating Officer Water	1,282,300	69,500	105,100	853,800	161,800	10,800	70,500	10,800	0	0
9.2.1 Water Director	1,798,200	179,800	179,800	1,258,800	179,800	0	0	0	0	0
9.2.2 Water Quality	2,225,500	0	0	2,225,500	0	0	0	0	0	0
9.5.1 Water / Field Engineering	1,415,400	70,800	212,300	283,100	212,300	212,300	212,300	212,300	0	0
9.7.1 Water Operations Unallocat	3,331,400	180,500	272,900	2,218,200	420,300	28,200	183,100	28,200	0	0
Total Support Costs	10,052,800	500,600	770,100	6,839,400	974,200	251,300	465,900	251,300	0	0
TOTAL GROUP	82,732,800	2,954,500	7,112,700	46,073,700	14,685,000	251,300	11,404,300	251,300	0	0
Indirect Allocation Factors	25,121,200	1,361,400	2,058,200	16,726,800	3,169,200	212,300	1,381,000	212,300	0	0

Estimated allocation factors based on judgement and experience applied to historical information

Centralized Services Group Functional Allocation Matrix - FY 2024 Budget

Goal is to allocate specific budget items within the Group that align with Cost Pools used to allocate costs to Member Partners. The first step in the process is to establish direct cost pool allocation factors, then to recognize specific project / program allocations reflected in the FY 2022 Budget. The FY 2024 allocation factors are based on historical data and judgement. They are unchanged from the FY 2020 and FY 2021 Cost of Service Studies.

Part 1 - General Cost Pool Allocation Factors		Cost Pool Allocation Factors						Wastewater System Total
		Water System Functional Categories						
		Water Plants	Reservoirs	Booster Stations	Transmission Mains	Master Meters	General	
Centralized Services								
4.1 Chief Planning Officer							50.00%	50.00%
4.2 System Planning		30.0%		10.00%	10.00%		0.00%	50.00%
4.3 System Analytics		30.0%		10.00%	10.00%		0.00%	50.00%
4.4 Asset Management & Capital Planning		30.0%		10.00%	10.00%		0.00%	50.00%
4.5 Energy Management		30.0%		20.00%			0.00%	50.00%
5.3 Field Service Operations			5.00%	10.00%	30.00%	5.00%	0.00%	50.00%
5.4 Facility Operations		40.00%		10.00%			0.00%	50.00%
5.5 Fleet Operations							50.00%	50.00%
7.1 Systems Control		5.0%	5.0%	35.0%	5.0%	5.0%	0.00%	45.00%
6. Information Technology							50.00%	50.00%
10.1 Security							50.00%	50.00%
11.1 HAZMAT							0.00%	100.00%
12.1 Centralized Services Unallocated Reserve							50.00%	50.00%

Part 2 - Recognize Specific Project Allocations		Water System Functional Categories						Wastewater System Total
		Water System Functional Categories						
Total Budget		Water Plants	Reservoirs	Booster Stations	Transmission Mains	Master Meters	General	
Centralized Services								
4.1 Chief Planning Officer	318,200							
4.2 System Planning	6,917,700						250,000	100,000
4.3 System Analytics	6,087,700						318,300	2,601,400
4.4 Asset Management & Capital Planning	3,050,400				1,585,400			272,700
4.5 Energy Management	3,595,200							
5.3 Field Service Operations	18,572,100				4,300,000			4,518,400
5.4 Facility Operations	7,865,900							
5.5 Fleet Operations	2,485,900							
7.1 Systems Control	12,707,200			0				273,000
6. Information Technology	37,054,100							
10.1 Security	4,800,100							
11.1 HAZMAT	1,723,800							
12.1 Centralized Services Unallocated Reserve	1,722,200							
Total Centralized Services Specific	106,900,500	0	0	0	5,885,400	0	568,300	7,765,500
Relative Cost Pool Allocation		0.0%	0.0%	0.0%	41.4%	0.0%	4.0%	54.6%

Reflects analysis of specific contracts and programs in the FY 2024 GLWA Budget Request

Centralized Services Group Functional Allocation Matrix - FY 2024 Budget

Goal is to allocate specific budget items within the Group that align with Cost Pools used to allocate costs to Member Partners.

The first step in the process is to establish direct cost pool allocation factors, then to recognize specific project / program allocations reflected in the FY 2022 Budget.

The FY 2024 allocation factors are based on historical data and judgement. They are unchanged from the FY 2020 and FY 2021 Cost of Service Studies.

		Cost Pool Allocation Factors							
Part 3 - Allocation of Non-Specific Budget		Water System Functional Categories						Wastewater System	
Non Specific Budget		Water Plants	Reservoirs	Booster Stations	Transmission Mains	Master Meters	General	Total	
Centralized Services									
4.1 Chief Planning Officer	318,200	0	0	0	0	0	159,100	159,100	
4.2 System Planning	6,567,700	1,970,300	0	656,800	656,800	0	0	3,283,900	
4.3 System Analytics	3,168,000	950,400	0	316,800	316,800	0	0	1,584,000	
4.4 Asset Management & Capital Planning	1,192,300	357,700	0	119,200	119,200	0	0	596,200	
4.5 Energy Management	3,595,200	1,078,600	0	719,000	0	0	0	1,797,600	
5.3 Field Service Operations	9,753,700	0	487,700	975,400	2,926,100	487,700	0	4,876,900	
5.4 Facility Operations	7,865,900	3,146,400	0	786,600	0	0	0	3,933,000	
5.5 Fleet Operations	2,485,900	0	0	0	0	0	1,243,000	1,243,000	
7.1 Systems Control	12,434,200	621,700	621,700	4,352,000	621,700	621,700	0	5,595,400	
6. Information Technology	37,054,100	0	0	0	0	0	18,527,100	18,527,100	
10.1 Security	4,800,100	0	0	0	0	0	2,400,100	2,400,100	
11.1 HAZMAT	1,723,800	0	0	0	0	0	0	1,723,800	
12.1 Centralized Services Unallocated Reserve	1,722,200	0	0	0	0	0	861,100	861,100	
Total Centralized Services Non-Specific	92,681,300	8,125,100	1,109,400	7,925,800	4,640,600	1,109,400	23,190,400	46,581,200	
<i>Relative Cost Pool Allocation</i>		8.8%	1.2%	8.6%	5.0%	1.2%	25.0%	50.3%	
Part 4 - Consolidated Centralized Services Budget		Water System Functional Categories						Wastewater System	
Consolidated Budget		Water Plants	Reservoirs	Booster Stations	Transmission Mains	Master Meters	General	Total	
Centralized Services									
4.1 Chief Planning Officer	318,200	0	0	0	0	0	159,100	159,100	
4.2 System Planning	6,917,700	1,970,300	0	656,800	656,800	0	250,000	3,383,900	
4.3 System Analytics	6,087,700	950,400	0	316,800	316,800	0	318,300	4,185,400	
4.4 Asset Management & Capital Planning	3,050,400	357,700	0	119,200	1,704,600	0	0	868,900	
4.5 Energy Management	3,595,200	1,078,600	0	719,000	0	0	0	1,797,600	
5.3 Field Service Operations	18,572,100	0	487,700	975,400	7,226,100	487,700	0	9,395,300	
5.4 Facility Operations	7,865,900	3,146,400	0	786,600	0	0	0	3,933,000	
5.5 Fleet Operations	2,485,900	0	0	0	0	0	1,243,000	1,243,000	
7.1 Systems Control	12,707,200	621,700	621,700	4,352,000	621,700	621,700	0	5,868,400	
6. Information Technology	37,054,100	0	0	0	0	0	18,527,100	18,527,100	
10.1 Security	4,800,100	0	0	0	0	0	2,400,100	2,400,100	
11.1 HAZMAT	1,723,800	0	0	0	0	0	0	1,723,800	
12.1 Centralized Services Unallocated Reserve	1,722,200	0	0	0	0	0	861,100	861,100	
Total Centralized Services Consolidated	106,900,500	8,125,100	1,109,400	7,925,800	10,526,000	1,109,400	23,758,700	54,346,700	
<i>Relative Cost Pool Allocation</i>		7.6%	1.0%	7.4%	9.8%	1.0%	22.2%	50.8%	
Indirect Allocation Factors		15.5%	2.1%	15.1%	20.0%	2.1%		100.0%	
Allocated Indirect	0	14,414,000	501,500	3,583,100	4,758,600	501,500	(23,758,700)		
Reallocated Total	106,901,100	22,539,100	1,610,900	11,508,900	15,284,600	1,610,900	0	54,346,700	
		21.1%	1.5%	10.8%	14.3%	1.5%	0.0%	50.8%	



Administrative Services Group Functional Allocation Matrix - FY 2024 Budget

Aligns with FY 2024 Budget Request as of 12/15/2022. Subsequent modifications may occur.

Goal is to allocate specific budget items within the Group that align with Cost Pools used to allocate costs to Member Partners. For purposes of the FY 2024 Budget, these costs are equally allocated between Water and Sewer, and subsequently allocated as overhead amounts to other Cost Pools.

		Part 1 - Water / Sewer Allocation			
		Allocation Factor		Allocated Budget	
		<u>Water</u>	<u>Sewer</u>	<u>Water</u>	<u>Sewer</u>
Part 1 - Water / Sewer Allocation					
<u>Administrative and Other Services</u>					
1.1 Board of Directors	169,600	50.0%	50.0%	84,800	84,800
1.2 Chief Executive Officer	709,100	50.0%	50.0%	354,600	354,500
1.3 Public Affairs	1,695,100	50.0%	50.0%	847,600	847,500
2.1 Chief Administrative Officer	1,252,800	50.0%	50.0%	626,400	626,400
2.2 General Counsel	3,391,200	50.0%	50.0%	1,695,600	1,695,600
2.3 Organizational Development	5,581,600	50.0%	50.0%	2,790,800	2,790,800
2.4 Risk Management and Safety	1,658,700	50.0%	50.0%	829,400	829,300
2.5 Risk Management Insurance Fund	3,745,400	50.0%	50.0%	1,872,700	1,872,700
3.1 Chief Financial Officer	983,400	50.0%	50.0%	491,700	491,700
3.2 Finance	5,706,700	50.0%	50.0%	2,853,400	2,853,300
3.3 Treasury	906,300	50.0%	50.0%	453,200	453,100
3.4 Public Finance	2,553,100	50.0%	50.0%	1,276,600	1,276,500
3.5 Procurement	4,090,500	50.0%	50.0%	2,045,300	2,045,200
3.8 Logistics and Materials	2,886,700	37.1%	62.9%	1,071,500	1,815,200
13.1 Administrative Services O&M Unallocate	652,300	50.0%	50.0%	326,200	326,100
Total Administrative Services	35,982,500	49.0%	51.0%	17,619,800	18,362,700

Consolidated Allocation of Water Operating Costs to Cost Pools - FY 2024 Budget

Goal is to allocate specific budget items within the Group that align with Cost Pools used to allocate costs to Member Partners.
 Based on the assignment to Groups, Functional Category allocation factors can be applied to allocate to Cost Pools
 The FY 2024 Allocation Factors are based on historical data and judgement. The upcoming Water Cost Allocation Methodology Project will review these factors.

Step 1 - Summarize Group Expenses

from Page C-4

	Water System Functional Operating Cost Allocation											Grand Total O&M
	Water Treatment Plant Allocation					Water Delivery Cost Allocation					Admin & General	
	Source of Supply	Low Lift Pumps	Purification	High Lift Pumps	General	Reservoirs	Booster Stations	Transmission Mains	Master Meters	General		
Water Operations Group												
Total	2,954,500	7,112,700	46,073,700	14,685,000	0	251,300	11,404,300	251,300	0	0		82,732,800
Power	409,600	3,276,000	4,094,800	8,599,600	0	0	9,681,400	0	0	0		26,061,400
Chemicals	0	0	11,288,900	0	0	0	0	0	0	0		11,288,900
Other Utilities	112,700	169,100	1,315,200	281,900	0	0	78,300	0	0	0		1,957,200
Subtotal w/o Commodities	2,432,200	3,667,600	29,374,800	5,803,500	0	251,300	1,644,600	251,300	0	0		43,425,300
WTP Allocation Factors	5.9%	8.9%	71.2%	14.1%								
Centralized Services												
Original Allocation					8,125,100	1,109,400	7,925,800	10,526,000	1,109,400	23,758,700		52,554,400
Allocation of Water Plant General	478,700	721,900	5,782,200	1,142,300	(8,125,100)							0
Allocated Subtotal	478,700	721,900	5,782,200	1,142,300	0	1,109,400	7,925,800	10,526,000	1,109,400	23,758,700		52,554,400
Treat Water General Centralized as A&G										(23,758,700)	23,758,700	
"Direct" Centralized Services	478,700	721,900	5,782,200	1,142,300	0	1,109,400	7,925,800	10,526,000	1,109,400	0		28,795,700
Subtotal "Direct" Total	3,433,200	7,834,600	51,855,900	15,827,300	0	1,360,700	19,330,100	10,777,300	1,109,400	0		111,528,500
Subtotal "Direct" w/o Commodities	2,910,900	4,389,500	35,157,000	6,945,800	0	1,360,700	9,570,400	10,777,300	1,109,400	0		72,221,000
Indirect Overhead Allocation Factors	4.0%	6.1%	48.7%	9.6%	0.0%	1.9%	13.3%	14.9%	1.5%	0.0%		
Administrative Services												
Group Budget											17,619,800	
Centralized A&G											23,758,700	
Total A&G to Allocate											41,378,500	41,378,500
Allocation of A&G	1,667,800	2,514,900	20,142,900	3,979,500	0	779,600	5,483,300	6,174,800	635,600	0	(41,378,500)	(100)
Allocated Total	1,667,800	2,514,900	20,142,900	3,979,500	0	779,600	5,483,300	6,174,800	635,600	0	0	41,378,400
ALLOCATED GRAND TOTAL	5,101,000	10,349,500	71,998,800	19,806,800	0	2,140,300	24,813,400	16,952,100	1,745,000	0	0	152,906,900

from Page C-6

from Page C-7

Step 2 - Develop Allocation Factors
 Based on Prior Simplified Assumptions

Source of Supply	Cost Pool Allocation									
	Common-to-All								Sub Only	Det Only
	Commod	Max Day	PH Incr	PH Dist	Comm DE	MD DE	PH DE	PHI DE	Mtrs	Direct
Source of Supply Power	50.00%	50.00%								
Source of Supply Other		100.00%								
Low Lift Pumps Power	50.00%	50.00%								
Low Lift Pumps Other		100.00%								
Purification Chemicals	100.00%									
Purification Other		100.00%								
High Lift Pumps Power					50.00%		25.00%	25.00%		
High Lift Pumps Other						100.00%				
Reservoirs			100.00%							
Booster Stations					50.00%		25.00%	25.00%		
Transmission Mains				100.00%						
Suburban Meters									100.00%	

Traditional allocation factors developed to support Model Water Contract cost allocation methodology

Consolidated Allocation of Water Operating Costs to Cost Pools - FY 2024 Budget

Goal is to allocate specific budget items within the Group that align with Cost Pools used to allocate costs to Member Partners.

Based on the assignment to Groups, Functional Category allocation factors can be applied to allocate to Cost Pools

The FY 2024 Allocation Factors are based on historical data and judgement. The upcoming Water Cost Allocation Methodology Project will review these factors.

Step 3 - Apply Allocation Factors

	Cost Pool Allocation										Grand Total	
	Common-to-All								Sub Only	Det Only		
	Commod	Max Day	PH Incr	PH Dist	Comm DE	MD DE	PH DE	PHI DE	Mtrs	Direct		
All Operating Costs												
Source of Supply Power	409,600	204,800	204,800	0	0	0	0	0	0	0	0	409,600
Source of Supply Other	4,691,400	0	4,691,400	0	0	0	0	0	0	0	0	4,691,400
Low Lift Pumps Power	3,276,000	1,638,000	1,638,000	0	0	0	0	0	0	0	0	3,276,000
Low Lift Pumps Other	7,073,500	0	7,073,500	0	0	0	0	0	0	0	0	7,073,500
Purification Chemicals	11,288,900	11,288,900	0	0	0	0	0	0	0	0	0	11,288,900
Purification Other	60,709,900	0	60,709,900	0	0	0	0	0	0	0	0	60,709,900
High Lift Pumps Power	8,599,600	0	0	0	4,299,800	0	2,149,900	2,149,900	0	0	0	8,599,600
High Lift Pumps Other	11,207,200	0	0	0	0	11,207,200	0	0	0	0	0	11,207,200
Reservoirs	2,140,300	0	0	2,140,300	0	0	0	0	0	0	0	2,140,300
Booster Stations	24,813,400	0	0	0	12,406,700	0	6,203,400	6,203,400	0	0	0	24,813,500
Transmission Mains	16,952,100	0	0	16,952,100	0	0	0	0	0	0	0	16,952,100
Suburban Meters	1,745,000	0	0	0	0	0	0	0	1,745,000	0	0	1,745,000
Total	152,906,900	13,131,700	74,317,600	2,140,300	16,952,100	16,706,500	11,207,200	8,353,300	8,353,300	1,745,000	0	152,907,000
<i>Cost Pool Allocation Factor - All Costs</i>		8.6%	48.6%	1.4%	11.1%	10.9%	7.3%	5.5%	5.5%	1.1%	0.0%	
Non-Commodity Costs												
Source of Supply Power		0	0	0	0	0	0	0	0	0	0	0
Source of Supply Other	2,910,900	0	2,910,900	0	0	0	0	0	0	0	0	2,910,900
Low Lift Pumps Power		0	0	0	0	0	0	0	0	0	0	0
Low Lift Pumps Other	4,389,500	0	4,389,500	0	0	0	0	0	0	0	0	4,389,500
Purification Chemicals		0	0	0	0	0	0	0	0	0	0	0
Purification Other	35,157,000	0	35,157,000	0	0	0	0	0	0	0	0	35,157,000
High Lift Pumps Power		0	0	0	0	0	0	0	0	0	0	0
High Lift Pumps Other	6,945,800	0	0	0	0	6,945,800	0	0	0	0	0	6,945,800
Reservoirs	1,360,700	0	0	1,360,700	0	0	0	0	0	0	0	1,360,700
Booster Stations	9,570,400	0	0	0	4,785,200	0	2,392,600	2,392,600	0	0	0	9,570,400
Transmission Mains	10,777,300	0	0	10,777,300	0	0	0	0	0	0	0	10,777,300
Suburban Meters	1,109,400	0	0	0	0	0	0	0	1,109,400	0	0	1,109,400
Total	72,221,000	0	42,457,400	1,360,700	10,777,300	4,785,200	6,945,800	2,392,600	2,392,600	1,109,400	0	72,221,000
<i>Cost Pool Allocation Factor - Non Commodity Costs</i>		0.0%	58.8%	1.9%	14.9%	6.6%	9.6%	3.3%	3.3%	1.5%	0.0%	

Allocation of Water Capital Revenue Requirements to Cost Pools - FY 2024 Budget

Goal is to use recent GLWA asset inventory and valuation analysis to establish allocation of capital revenue requirements (debt service, etc) to Cost Pools and Member Partners.

First step: Evaluate data from recent capital asset inventory and valuation study, as reported by GLWA

Then: Utilize this information to establish functional allocation of capital revenue requirements.

Final: Allocate capital revenue requirements to Cost Pools based on existing methodology matrices.

Direct from GLWA
Capital Asset Records

Step 1 - Interpret Fixed Asset Data

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Reported Asset Value by Function - 6/30/22 (Includes CWIP)				Reallocate General Items				Reallocated Total - 6/30/22			
	Acquisition Cost	Accumulated Depreciation	Net Book Value	FY 2024 Depr Expense	Acquisition Cost	Accumulated Depreciation	Net Book Value	FY 2024 Depr Expense	Acquisition Cost	Accumulated Depreciation	Net Book Value	FY 2024 Depr Expense
1 Source of Supply	95,857,900	18,034,000	77,823,900	1,605,300	45,787,900	7,789,200	37,998,700	21,100	141,645,800	25,823,200	115,822,600	1,626,400
2 Low Lift Pumping	84,707,800	42,907,300	41,800,500	3,471,300	40,461,900	18,532,400	21,929,500	45,500	125,169,700	61,439,700	63,730,000	3,516,800
3 Purification	553,570,700	191,209,500	362,361,200	26,591,700	264,421,000	82,586,600	181,834,400	348,600	817,991,700	273,796,100	544,195,600	26,940,300
4 High Lift Pumping	108,325,600	52,142,400	56,183,200	4,404,000	51,743,300	22,521,200	29,222,100	57,800	160,068,900	74,663,600	85,405,300	4,461,800
5 Reservoirs	82,702,200	20,157,400	62,544,800	2,628,600	1,293,000	240,500	1,052,500	32,900	83,995,200	20,397,900	63,597,300	2,661,500
6 Water Booster Stations	339,334,000	143,427,900	195,906,100	17,351,600	5,305,100	1,711,200	3,593,900	216,900	344,639,100	145,139,100	199,500,000	17,568,500
7 Transmission Mains	934,740,200	240,422,500	694,317,700	25,309,500	14,613,700	2,868,400	11,745,300	316,300	949,353,900	243,290,900	706,063,000	25,625,800
8 Wholesale Master Meters	46,028,400	6,788,500	39,239,900	1,437,500	719,600	81,000	638,600	18,000	46,748,000	6,869,500	39,878,500	1,455,500
9 Subtotal	2,245,266,800	715,089,500	1,530,177,300	82,799,500	424,345,500	136,330,500	288,015,000	1,057,100	2,669,612,300	851,420,000	1,818,192,300	83,856,600
10 Water Treatment General	383,251,300	126,292,300	256,959,000	21,900	(383,251,300)	(126,292,300)	(256,959,000)	(21,900)	0	0	0	0
11 Water General	41,094,200	10,038,100	31,056,100	1,035,100	(41,094,200)	(10,038,100)	(31,056,100)	(1,035,100)	0	0	0	0
12 Total	2,669,612,300	851,419,900	1,818,192,400	83,856,500	0	100	(100)	100	2,669,612,300	851,420,000	1,818,192,300	83,856,600

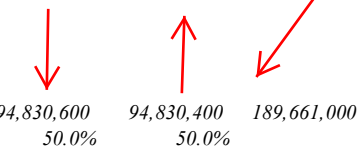
Step 2 - Identify Capital Rev Req't

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	6/30/22 Asset Values				Capital Rev Req't Allocation		
	Acquisition Cost	Accumulated Depreciation	Net Book Value	FY 2024 Depr Expense	FY 2024 Depr Expense	Return on Rate Base	Total Capital Rev Req't
					~ (4)	~ rel (3)	
					113%	5.22%	
1 Source of Supply	141,645,800	25,823,200	115,822,600	1,626,400	1,839,200	6,040,900	7,880,100
2 Low Lift Pumping	125,169,700	61,439,700	63,730,000	3,516,800	3,977,000	3,323,900	7,300,900
3 Purification	817,991,700	273,796,100	544,195,600	26,940,300	30,465,900	28,383,300	58,849,200
4 High Lift Pumping	160,068,900	74,663,600	85,405,300	4,461,800	5,045,700	4,454,400	9,500,100
5 Reservoirs	83,995,200	20,397,900	63,597,300	2,661,500	3,009,800	3,317,000	6,326,800
6 Water Booster Stations	344,639,100	145,139,100	199,500,000	17,568,500	19,867,600	10,405,200	30,272,800
7 Transmission Mains	949,353,900	243,290,900	706,063,000	25,625,800	28,979,400	36,825,700	65,805,100
8 Wholesale Master Meters	46,748,000	6,869,500	39,878,500	1,455,500	1,646,000	2,079,900	3,725,900
9 Total	2,669,612,300	851,420,000	1,818,192,300	83,856,600	94,830,600	94,830,300	189,660,900
<u>Capital Revenue Requirement</u>							
10 Debt Service	159,823,700						
11 Xfer to GLWA Regional I&E Account	29,837,300						
12 Total Capital Rev Req't	189,661,000				94,830,600	94,830,400	189,661,000
13 Relative "Utility Basis" Components					50.0%	50.0%	

Adjustment to approximate "pre valuation" depreciation expense

Effective Utility Basis Rate of Return

In effect, approximately half of the capital revenue requirement is allocated to Cost Pools based on Depreciation Expense and the other half based on Net Book Value of the acquired assets



Allocation of Water Capital Revenue Requirements to Cost Pools - FY 2024 Budget

Goal is to use recent GLWA asset inventory and valuation analysis to establish allocation of capital revenue requirements (debt service, etc) to Cost Pools and Member Partners.

First step: Evaluate data from recent capital asset inventory and valuation study, as reported by GLWA

Then: Utilize this information to establish functional allocation of capital revenue requirements.

Final: Allocate capital revenue requirements to Cost Pools based on existing methodology matrices.

Step 3 - Allocate to Cost Pools	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Capital Rev Req't	Cost Pool Allocation	Commod	Max Day	PH Incr	PH Dist	PH DE	Master Mtrs
1 Source of Supply	7,880,100	Max Day		7,880,100				
2 Low Lift Pumping	7,300,900	Max Day		7,300,900				
3 Purification	58,849,200	Max Day		58,849,200				
4 High Lift Pumping	9,500,100	Peak Hour Distance/Elevation					9,500,100	
5 Reservoirs	6,326,800	Peak Hour Increment			6,326,800			
6 Water Booster Stations	30,272,800	Peak Hour Distance/Elevation					30,272,800	
7 Transmission Mains	65,805,100	Peak Hour Distance				65,805,100		
8 Wholesale Master Meters	3,725,900	Master Meters						3,725,900
9 Total	189,660,900		0	74,030,200	6,326,800	65,805,100	39,772,900	3,725,900
10 Capital Revenue Req't Allocation Factor			0.0%	39.0%	3.3%	34.7%	21.0%	2.0%

Traditional allocation approach developed to support model water contract cost allocation methodology

O&M factors from page C-9

Consolidated Water Revenue Requirement Allocated to Cost Pools

Goal is to use allocation factors resulting from detailed review to allocate the final 2024 Budgeted Revenue Requirements for the FY 2024 Charges

Allocation Factors from Detailed Review

Capital factors from page C-11

		Cost Pool Allocation								
		Commod	Max Day	PH Incr	PH Dist	Comm DE	MD DE	PH DE	PHI DE	Master Mtrs
O&M Expense - Total	1	8.6%	48.6%	1.4%	11.1%	10.9%	7.3%	5.5%	5.5%	1.1%
O&M Expense - Non-Commodity	2	0.0%	58.8%	1.9%	14.9%	6.6%	9.6%	3.3%	3.3%	1.5%
Capital Revenue Requirements	3	0.0%	39.0%	3.3%	34.7%	0.0%	0.0%	21.0%	0.0%	2.0%

Apply Allocation Factors to Budgeted Revenue Requirements

		Budget to Allocate	Allocation Basis	Cost Pool Allocation								Allocated TOTAL	
				Commod	Max Day	PH Incr	PH Dist	Comm DE	MD DE	PH DE	PHI DE	Master Mtrs	
Revenue Requirement Elements													
1	Regional System O&M Expense	152,906,400	1	13,131,600	74,317,300	2,140,300	16,952,000	16,706,400	11,207,200	8,353,300	8,353,300	1,745,000	152,906,400
2	Pension Obligation - Operating Portion	0	2	0	0	0	0	0	0	0	0	0	0
3	Debt Service	159,823,700	3	0	62,383,900	5,331,500	55,452,700	0	0	33,515,900	0	3,139,700	159,823,700
4	Non-Operating Portion of Pension Oblig	3,395,500	2	0	1,996,200	64,000	506,700	225,000	326,600	112,500	112,500	52,200	3,395,700
5	Transfer to WRAP Fund	1,851,600	4	70,300	804,600	45,700	445,600	90,600	61,700	258,200	45,300	29,600	1,851,600
6	Lease Payment - Transfer to Detroit Local I&E	22,500,000	4	854,000	9,777,700	554,800	5,415,100	1,101,100	750,100	3,137,200	550,600	359,200	22,499,800
7	Transfer to GLWA Regional I&E Account	29,837,300	3	0	11,646,400	995,300	10,352,400	0	0	6,257,000	0	586,200	29,837,300
8	Total Gross BUDGET	370,314,500		14,055,900	160,926,100	9,131,600	89,124,500	18,123,100	12,345,600	51,634,100	9,061,700	5,911,900	370,314,500
9	less: Non-Operating Revenue	(4,245,700)	4	(161,200)	(1,845,000)	(104,700)	(1,021,800)	(207,800)	(141,500)	(592,000)	(103,900)	(67,800)	(4,245,700)
10	Net BUDGET Req'd from Charges	366,068,800		13,894,700	159,081,100	9,026,900	88,102,700	17,915,300	12,204,100	51,042,100	8,957,800	5,844,100	366,068,800
11	Subtotal Direct Elements			13,131,600	150,343,800	8,531,100	83,263,800	16,931,400	11,533,800	48,238,700	8,465,800	5,523,100	345,963,100
12	Allocation Factors for Indirect Elements		4	3.8%	43.5%	2.5%	24.1%	4.9%	3.3%	13.9%	2.4%	1.6%	

THIS IS WATER TABLE 2 IN THE FY 2024 COST OF SERVICE STUDY MEMORANDUM REPORT

TFG
THE FOSTER GROUP

The Foster Group, LLC
12719 Wenonga Lane
Leawood, KS 66209

Bart Foster, President
Cell: (913) 530-6240
bfoster@fostergroupllc.com

MEMORANDUM

Proposed FY 2024 Water Units of Service
Updated Units

December 20, 2022

To: Nicolette Bateson, Matt Lane

From: Bart Foster

This intent of this memorandum is document modifications to certain Units of Service that will be reflected in our recommended proposed Water Charges for FY 2024. The preliminary proposed Units of Service were introduced in our November 3, 2022 memorandum, and formally presented to stakeholders at Charges Rollout Meeting # 2 on November 17. Subsequent review has resulted in modifications to projected annual sales demands for five Member Partners to contract demands for one Member Partner.

Projected Units of Service Modifications

- Allen Park – reduced to 121,500 Mcf from 147,600 Mcf
 - *During our “office hours” meeting with Allen Park representatives on November 30 it was discovered that the historical water sales data for Allen Park included a lengthy period that was impacted by a major water main break*
 - *We agreed that a more accurate projection would exclude the affected data from the uniform forecasting model.*
- Fraser – reduced to 57,100 Mcf from 58,100 Mcf
 - *During our “office hours” meeting with Fraser representatives on November 20 they indicated installation of new pressure reducing valves and that limiting the historical data used for projections to the most recent 12 months would be more accurate.*
- Ecorse – reduced to 91,500 Mcf from 104,200 Mcf
 - *Additional review of Ecorse water purchase data illustrates significant declines due to reduction in water purchases by a large industrial user. We have limited the historical data used for projections to the most recent 12 months.*
- Ferndale – reduced to 65,500 Mcf from 70,400 Mcf
 - *Additional review of Ferndale water purchase data illustrates significant declines likely due to reduction in water purchases by a large industrial user. We have limited the historical data used for projections to the most recent 12 months.*

- Flint – reduced to 455,200 Mcf from 479,200 Mcf; reduced Max Day to 13.5 mgd from 14.0 mgd; reduced Peak Hour Day to 14.0 mgd from 14.5 mgd.
 - *The GLWA / Flint Water Service Agreement stipulates that Flint take a portion (5%) of its water from the northern connection with GCDC. That connection was not active in the historical water sales data, and it is appropriate to adjust the sales volume accordingly. It is also appropriate to reduce the contract demands – for charge purposes only – to limit them to the water demands directly placed on the GLWA System. As such we have reduced all Flint Units of Service by 0.5 mgd.*

As noted in our December 14 Proposed Water and Sewer Charges memorandum, the sales forecast modifications introduced above have an impact on the projected revenue under existing charges, and on the overall System Charge Adjustment. Collectively, the sales volume adjustments lower the projected revenue under the existing charges by approximately \$536,000, which represents 0.15% of total System charge revenue.

Our upcoming Water Cost of Service Study will be published in the coming days and will reflect these updated Units of Service. We are prepared to discuss this matter further at your convenience.