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MEMORANDUM

FY 2023 Service Charge Recommendations

December 27, 2021
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To: Sue Coffey, Nicolette Bateson

From: Bart Foster

This memorandum has been prepared to introduce the exhibits summarizing the final approved Water and Sewer Service Charges for FY 2023. These service charges support the resolution passed by the Great Lakes Water Authority (“GLWA”) Board at their meeting on February 23, 2022.

Background

The originally proposed FY 2023 service charges were set forth in the initial version of this memorandum report, dated December 27, 2021. The general approach towards calculating the proposed charges was introduced in our “Proposed FY 2023 Water and Sewer Charges” memorandum dated December 15, 2021 – which is included as Appendix A to this report.

Those charges were initially presented to Member Partners at a “roll out” meeting on January 6, 2022, and further discussed at a meeting on January 20, 2022. GLWA formally issued notification of the proposed charges to Member Partners on January 21, 2022 – at which point the formal Board review process was launched. During the review process, the Audit Committee requested that GLWA staff seek to reduce the overall budgeted FY 2023 Sewer Revenue Requirement by \$5.5 million, and reduce the proposed Sewer service charges accordingly. GLWA staff identified a combination of opportunities to meet the Audit Committee’s request via reductions to the proposed operating expense budget and the originally proposed deposit to the Improvement and Extension Fund. The resulting “System Charge Adjustment” was cut in half, from an originally proposed 2.5% to a revised increase of 1.25%, which actually reduced the overall revenue requirement budget by approximately \$5.9 million.

A public hearing on the originally proposed Water service charges and the revised proposed Sewer service charges for FY 2022 was held on February 23, 2022. Following the public hearing, the Board approved the FY 2023 and FY 2024 Biennial Budget and the FY 2023 Water and Sewer Service Charges on February 23, 2022.

The intent of this “final” document is to set forth the calculations of the FY 2023 Water and Sewer service charges designed to align with the final approved charges. All of the content herein for the

Water charges is identical to the December 27, 2021 version as are large portions of the Sewer content. ***We have attempted to highlight the meaningful changes herein.***

Introduction

This is the seventh water and sewer 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 aspects of the Agreements.

The material presented herein employs a similar presentation and format to that included in studies from prior years. However, as noted in our December 15 memorandum, the FY 2023 Water and Sewer Charges reflect a simplified approach that does not require preparation of a FY 2023 Cost of Service Study¹. With respect to the FY 2023 Water Charges, the "demand" units of service for FY 2023 only change for four of the 88 Member Partners. Since the SHARES established for the FY 2022 Sewer Charges are scheduled to remain in effect until FY 2025, the major units of service for the FY 2023 Sewer Charges are completely unchanged from FY 2022. This remarkable stability provides an opportunity to implement a charge strategy that embraces recent approaches to simplicity, with even more focus on the hallmark GLWA objectives of stability and simplicity.

The FY 2023 Water Charges reflect continued application of a simplified, uniform approach to charge adjustments for the 84 Member Partners whose demands did not change from FY 2022 to FY 2023. Charges for these 84 Member Partners reflect an "across the board" uniform charge adjustment for the **wholesale costs of service**, with subsequent application of minor adjustments to reflect contractual requirements. The FY 2023 Sewer Charges reflect an "across the board" uniform charge adjustment for the **wholesale costs of service** to ALL Member Partners, and also require subsequent application of minor adjustments to reflect contractual requirements.

The overall strategy for the FY 2023 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.

¹ The intent is to complete a FY 2023 Cost of Service Study and publish it at a later date, principally to support ongoing discussion of potential future modifications to the GLWA Charge Methodologies.

Assumptions

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 2023 Budgeted Revenue Requirements depicted herein represents the final approved budget developed by GLWA. ***(The original budget request was presented to the Audit Committee on December 15, 2021. That presentation to the Audit Committee also included an updated ten-year financial forecast, which is included as Appendix B to this report. We have not yet formally updated the ten-year forecast to reflect the final adjustments to the Sewer budget.)***
 - *As further explained herein, the FY 2023 Budgeted Revenue Requirements included in these calculations reflects a 3.5% budgetary increase (for Water) and a **1.25%** budgetary increase (for Sewer) compared to the originally approved FY 2022 Budgeted Revenue Requirements. This is LESS THAN the full implementation of the 4% Revenue Requirement Increase set forth the Agreements.*
 - *It is our understanding that the final FY 2023 Budgeted Revenue Requirements may contain modifications to the current “budget request” version, as final review of specific items is completed, including coordination with the DWSD Budget for the Local Systems.*
2. The Capital Financing Plan reflects the preliminary updated plan set forth in the ten-year forecast update submitted to the Audit Committee on December 15, 2021.
 - *The 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”) CIP 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 2023 Budgeted Revenue Requirements, the spend rate assumption is 80% for Water and 75% for Sewer.*
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 2023 Budgeted Revenue Requirements 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;*
 - *Recovery of existing budget shortfalls from the Local System.*
4. Application of suburban wholesale bad debt expense provisions in Sewer Service Agreement(s)

- *The FY 2023 Sewer charges reflect inclusion of one year's worth of revenue requirements allocable to Highland Park as a bad debt expense allowance, which is only applicable to the suburban wholesale Member Partners. This matter is discussed at length in Appendix C to this report.*

Calculations Summary

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 and service charge calculations for prior years. It is important to note that the existing FY 2022 Water service charges were determined via a uniform adjustment to all but eleven of the Member Partners. The FY 2020 Water service charges were the last charges determined via a detailed cost of service study that treated every Member Partner uniquely and individually.

Finally, as noted above these service charge calculations **do not** rely on an updated cost of service study of the FY 2023 Water and Sewer Revenue Requirements. Rather, we have applied the relative cost pool allocation factors from the FY 2022 Cost of Service Study to the FY 2023 Revenue Requirements. Again, this approach is deemed reasonable to achieve stability objectives, given the continuation of the FY 2022 Sewer SHARES, the pending Water Contract Alignment Process ("CAP) that will impact the FY 2024 Water Service Charges, and the absence of any known material changes in relative budgetary cost profiles.

The exhibits to this memorandum contain executive summary material on:

- The determination of the FY 2023 Budgeted Revenue Requirements;
- The allocation of FY 2023 Revenue Requirements to cost pools *based on the FY 2022 Cost of Service Study*;
- The allocation of these costs to individual Member Partners *based on the simplified approach introduced above*;
- 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 charge calculations. As noted earlier, these individual calculation sheets were distributed to Member Partners in January, 2022, the final, approved calculation sheets were issued GLWA earlier this month, and this memorandum will be published to support the calculation of the approved charges.

In some instances the tables included in this final version of the report are identical to the original December 27, 2021 version of the report. The data and calculations for these tables have not been changed, and they still carry the original date in the footer. Updated Sewer tables reflecting final calculations carry a the date of the approved charges..

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

Water Service Charge Calculation Tables:

The FY 2023 Water Service Charges reflect simplified calculations, but still require an evaluation of units of service for the entire Member Partner group in order to isolate the impact on the four Member Partners whose max day and peak hour demands are changing for FY 2023. This approach categorizes the 88 Member Partners into three “customer groups” for purposes of determining the FY 2023 Water Service Charges.

1. Establishes the “Units of Service” for each Member Partner, and establishes the FY 2023 Water charge adjustment strategy for “Mod” and “No Mod” Member Partners. Table 1 is actually 4 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 2023 Charges Rollout Meeting on November 16, 2021. The final units of service reflect two modifications to original sales volume figures as noted below.***
 - The annual sales volumes in Column 1 of Table 1a continue to reflect a uniform forecasting approach. For FY 2023 the projected volume was determined by averaging annual sales for each Member Partner over the most recent 36 months from October 2017 through September 2020. 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. ***The original units of service had continued a 5% base month reduction factor that had been applied in prior years. Subsequently we reduced the presumed decline in base month water sales from 2.5% annually to 1.0% annually, which is more indicative of recent activity - so the adjustment factor applied to the 3-year average base month sales is 98% instead of 95%.*** 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 data for Dearborn and Detroit has been updated since the November 16 Units of Service Rollout meeting. An error in the reported historical data was corrected for Dearborn and Detroit’s local non-revenue water estimate was adjusted to reflect allocation of Transmission Mains to Distribution Mains.***
 - The max day and peak hour demand figures in Table 1a reflect figures from Exhibit B of the contract for all 85 Member Partners that are served via Master Meters, ***including St. Clair County BPW, which is now served via the model contract. The demands for this Member Partner are different from the assumptions used for the FY 2022 Charges. Max day and peak hour demands for all other Master Metered Member Partners are unchanged from FY 2022 due to the Contract Alignment Process (“CAP”).***
 - ***St. Clair County BPW is being treated uniquely in these calculations as a “one Member customer group” and is highlighted in yellow in the exhibits.***

- Dearborn, Highland Park, and Detroit are not served by master meters. Their units of service continue to be established via the phase 2 Units of Service (“UoS”) Study protocols initially established for the FY 2020 charges. ***These three Member Partners are treated uniformly as a customer group in these calculations and are highlighted in orange in the exhibits.***
 - ***The remaining 84 Member Partners will be treated as members of the “No Mod” Customer Class – the third and final customer group for the FY 2023 Water Charges. The charge strategy applies a uniform charge adjustment for these Member Partners.*** Their information is not “highlighted” in the exhibits.
 - Tables 1b and 1c then combine these basic characteristics into consolidated units of service that align with Cost Pools for each Member Partner.
 - ***Table 1d then consolidates the units of service into the groups introduced above, illustrates how the calculation of units of service from basic input data to cost pool units, and computes individual Cost Pool “Shares” for each of the three “customer groups” that are being established for purposes of these calculations. This establishes the basis for the simplified approach applied in the FY 2023 Water Charges, which is expanded upon in Table 5.***
2. Illustrates the calculation of proforma FY 2023 revenues under the existing FY 2022 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;
 - Adjustment to recover Highland Park bad debt expense
 - This is necessary to implement the charge adjustment strategy presented in Tables 5 and 6.
3. Presents an executive summary of the comprehensive Water Supply System Budgeted Revenue Requirements for FY 2023 compared to the originally approved FY 2022 Revenue Requirements. This table was originally presented in the December 15, 2021 memorandum (*see Appendix A for additional discussion*). Of note:
- The total Revenue Requirement increase is \$12.0 million, or 3.5%, as shown on Line 12 of the table.
 - The budgeted investment earnings and miscellaneous revenue for FY 2023 are not materially different than FY 2022 (*Line 16*).
 - Proforma wholesale Water revenues under existing charges reflect a moderate (\$0.5 million) decline compared to originally forecasted FY 2022 amounts, creating a negative budget variance.

- As a result, the “System Charge Adjustment” required from charges to Member Partners is 3.7%, designed to generate \$12.65 million more revenue than the existing charges.
 - ***The Water Service Charge calculations delineated herein allocate responsibility for the “Revenue Requirement from Charges” totaling \$354.9 million as shown on Line 1 of Column 2 of the table.***
 - *Charges will have to be further adjusted to cover the projected Highland Park debt expense.*
4. Allocates the FY 2023 Revenue Requirements from Table 3 to the Cost Pools necessary to assign costs to Member Partners and Customer classes. ***For purposes of the FY 2023 Charges, the total FY 2023 Revenue Requirements are allocated to Cost Pools proportionally based on the results of the FY 2022 Cost of Service Study.***
5. Calculates the “Wholesale Charge Adjustment Factor” to be applied to each customer group for the FY 2023 Water Charges. The relative shares for each cost pool and from each customer group are brought over from Table 1d and show on Lines 1 through 9. On Lines 10 through 19 these relative shares are applied to the cost pool Revenue Requirements from Table 4. On Line 19, the FY 2023 total Wholesale Revenue Requirement of \$354.9 million is allocated to customer group. Comparing these figures from the “Wholesale Service” Revenue under the existing charges shown on Line 20 (from Table 2) indicates the amount by which wholesale service charges must be adjusted for each customer group, which is shown on Line 21, and produces the Wholesale Charge Adjustment Factors on Line 22.
- ***The Total System figure of 3.70% matches that originally presented in Table 3.***
 - ***The adjustment factor for St. Clair County BPW is consistent with their new model contract and the max day and peak hour demands contained therein.***
 - ***The adjustment factor for the Non-Master Metered group is slightly lower than the Total System figure. The FY 2023 max day and peak hour demands for this group are moderately lower than FY 2022, as they are determined via peaking factors applied to lower projected sales volumes.***
 - ***The specific treatment of these two customer groups basically balances out, and the Wholesale Charge Adjustment Factor for all Other Member Partners is 3.70%, which matches the Total System Factor.***
6. Applies the Wholesale Charge Adjustment Factors from Table 5 to the proforma Wholesale revenue under existing charges from Table 2 to determine FY 2023 Wholesale Revenue Requirement responsibility for each Member Partner. Then applies the adjustments necessary to reflect three special circumstances:

- The “Detroit capital ownership adjustment” of \$20.7 million annually, which is established in the Agreements must be recognized. This amount is reduced from Detroit and allocated to all other Member Partners in proportion to the allocation of 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 2023 is estimated to be \$6,651,800. This adjustment is accomplished 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 CTA wholesale revenue requirements.
 - *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 ~ \$4.9 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.*
- Finally, we make an adjustment to reflect the fact that Highland Park is not currently making any payments of wholesale water bills. While GLWA continues to pursue legal opportunities to remedy this performance, the FY 2023 Budget does not assume any collections. As such, we re-allocate the entirety of Highland Park’s revenue requirement to all other Member Partners (including Detroit) in proportion to the allocation of Wholesale Revenue Requirements. Note that we still include the entire amount in Highland Park’s revenue requirement for charges, which has the result of increasing the “Revenue Requirements for Charges” by \$1.257 million.
- ***The total Detroit “Charge Revenue Requirement” becomes the figure that was approved by the GLWA Authority Board. The calculations herein do not produce specific charge proposals for the Detroit retail class.***

7. Calculates the wholesale service charge structure for each Member Partner.

- The first four columns repeat the calculation of proforma revenues from Table 2.
- Column 5 presents the total adjusted revenue requirement from Table 6.
- Columns 6 and 7 indicate the charge adjustment necessary to meet allocated revenue requirements. The percentage charge adjustment figures in Column 7 for

the No Mod customer group are uniformly 3.4%, with minor rounding variances. *Note that this is lower than the Wholesale Charge Adjustment Factor of 3.7%, as the Detroit Ownership and KWA Debt Service Adjustments are fixed, and not subject to indexed increases.*

- *Similarly, note that the pertinent percentage adjustment figures in Column 7 for Flint and Detroit are most appropriate reviewed on a “gross” basis at the bottom of the table, as their specific, fixed contractual adjustments reflect recovery of less than the Wholesale Revenue Requirements allocated to them.*
- The FY 2023 Water Service Charge Schedule is calculated in Columns 8 through 11. The service charge structure represents the same approach as the existing charge structure, which was originally implemented for the FY 2016 Service Charge Schedule. 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.
- Column 12 calculates projected revenue under the service charge schedule and Column 13 illustrates that the approved charges recover the adjusted, allocated revenue requirements.

Sewer Service Charge Calculation Tables:

The FY 2023 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 2023 budgeted revenue requirements.

1. Presents an executive summary of the comprehensive Sewage Disposal System Budgeted Revenue Requirements for FY 2023 compared to the originally approved FY 2022 Revenue Requirements. This table was originally presented in the December 15, 2021 memorandum (*see Appendix A for additional discussion*). ***This table has been modified to reflect the budget adjustment made to respond to the Audit Committee’s request.*** Of note:
 - The total Revenue Requirement increase is \$**5.94** million, or **1.25%**, as shown on Lines 12 and 13 of the table.
 - The budgeted investment earnings and miscellaneous revenue for FY 2023 are not materially different than FY 2022 (Line 16).
 - The FY 2023 Sewer Charges are designed to recover expected bad debt expense from Highland Park equivalent to approximately one year’s worth of service (~\$5.4 million). *See Appendices A and C.*
 - This negative variance is slightly offset by a moderate increase in proforma Sewer revenues under existing charges from Industrial charges, resulting in the amounts shown on Line 17.

- As a result, the “System Charge Adjustment” required from charges to Member Partners is **2.4%**, designed to generate **\$11.2** million more revenue than the existing charges.
 - 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.
 - The remaining revenue must be recovered from wholesale charges (including industrial charges). This creates the need for all such charges (prior to the adjustment for bad debt expense) to be adjusted in total by **1.23%** as indicated on Line 24 of Table 1.
 - ***The recommended simplified approach applies this **1.23%** Wholesale Charge Adjustment to ALL existing wholesale charges (prior to adjustments) for purposes of calculating the FY 2023 Sewer Charges.***
2. Allocates the FY 2023 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 2023 Revenue Requirements, and compares the results.
- Each section of the table separates revenue requirements into amounts related to:
 - “Wholesale” revenue requirements;
 - Implementation of the Detroit Ownership Adjustment;
 - Adjustment to recover Highland Park bad debt expense.
 - The Proforma Wholesale Revenues shown in Column 1 reflect the results of the FY 2022 Cost of Service Study, prior to recognition of any adjustments related to the other items.
 - Column 2 shows the estimated portion of existing revenue that recognizes the \$5.5 million Detroit Ownership Adjustment², which is deducted from Detroit’s allocated wholesale revenue requirement and proportionally allocated to all Suburban Wholesale Member Partners.
 - ***As shown in Column 3, the FY 2022 Sewer Charges did not include any amounts related to Highland Park bad debt expense.***
 - The FY 2023 Wholesale Revenue Requirement is allocated to Member Partners and Industrial Customer Classes in Column 5 ***by applying the uniform **1.23%** Wholesale Charge Adjustment Index*** computed in Table 1.
 - Since the wholesale revenue requirements are being uniformly adjusted for all Member Partners, the FY 2023 contractual ownership adjustments in Column 6 are identical to those in Column 2.

² As established by the Agreements

- In Column 7 the projected bad debt expense associated with Highland Park is allocated amongst Suburban Wholesale Member Partners in proportion to their Wholesale Revenue Requirements. None of this amount is assigned to the Detroit Customers nor the Industrial Customer Classes.
 - Columns 9 through 12 indicate the relative change in allocated Revenue Requirements for each element, and Columns 13 through 16 illustrate how those changes impact the charge adjustment for each Member Partner based on those changes.
 - ***The FY 2023 Sewer Charges reflect a uniform 1.2³% increase for all Wholesale Service to ALL customer classes. Charges to Suburban Wholesale Member Partners are increased an additional 2.0% due to the Highland Park Bad Debt Expense adjustment, resulting in a uniform 3.2% for these customers.***
3. Calculates the FY 2023 Wholesale Sewer Service Charges.
 - The charges for Member Partners continue to consist entirely of fixed monthly charges are simply the amounts from Table 2 divided by 12. Table 3 illustrates the wholesale and adjusted portion of the charge, but the total figures in Column 7 are the charges to be considered by the Board.
 4. Compares the FY 2023 Wholesale Sewer Service Charges from Table 3 with the existing charges. The relative charge adjustments are the same as introduced in Table 2.
 5. Presents the FY 2022 Industrial Surcharges. These charges simply represent application of the 1.23% uniform Wholesale charge index to the existing charges. (The actual charge increase varies slightly due to rounding.)

³ The index is slightly higher for Detroit, as the ownership adjustment is fixed and not impacted by the indexed adjustment.

Table 1a
Water Supply System
FY 2023 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) * (4)</i>	<i>~ (8)</i>	<i>(7) + (9)</i>
1	Allen Park	145,600	5.70	7.90	21.0	602	928	398.9	3,057,600	49.9	448.8
2	Almont Village	9,600	0.40	0.44	37.9	802	115	26.3	363,800	6.0	32.3
3	Ash Township	42,200	1.44	2.19	29.9	635	160	115.6	1,261,800	20.6	136.2
4	Belleville	15,300	0.50	0.75	32.5	676	115	41.9	497,300	8.2	50.1
5	Berlin Township	27,100	1.20	1.90	34.6	598	211	74.2	937,700	15.4	89.6
6	Brownstown Township	136,300	6.80	11.00	28.5	601	523	373.4	3,884,600	63.6	437.0
7	Bruce Twp	2,640	0.526	0.875	32.8	767	115	7.2	86,600	1.4	8.6
8	Canton Township	359,900	22.50	23.50	32.2	742	1,770	986.0	11,588,800	189.3	1,175.3
9	Center Line	32,200	1.13	1.60	18.4	623	155	88.2	592,500	9.6	97.8
10	Chesterfield Township	176,500	8.75	12.00	28.3	617	725	483.6	4,995,000	81.6	565.2
11	Clinton Township	399,300	19.70	22.90	22.8	607	1,218	1,094.0	9,104,000	148.7	1,242.7
12	Commerce Township	104,400	6.54	7.58	31.4	967	520	286.0	3,278,200	53.5	339.5
13	Dearborn	588,500	24.90	34.49	20.1	597	0	1,612.3	11,828,900	193.2	1,805.5
14	Dearborn Heights	197,300	8.00	12.00	22.4	624	617	540.5	4,419,500	72.4	612.9
15	Eastpointe	104,300	3.70	5.50	18.1	612	1,013	285.8	1,887,800	30.9	316.7
16	Ecorse	126,800	3.80	4.40	20.1	591	285	347.4	2,548,700	41.6	389.0
17	Farmington	44,600	2.25	2.45	27.1	765	315	122.2	1,208,700	19.7	141.9
18	Farmington Hills	349,500	20.00	21.30	27.4	784	2,754	957.5	9,576,300	156.5	1,114.0
19	Ferndale	71,800	2.80	3.10	18.2	643	568	196.7	1,306,800	21.4	218.1
20	Flat Rock	52,200	2.63	3.83	30.1	601	235	143.0	1,571,200	25.8	168.8
21	Flint	469,200	14.50	14.50	52.0	866	3,600	1,285.5	24,398,400	398.6	1,684.1
22	Fraser	58,100	2.77	4.28	21.0	617	296	159.2	1,220,100	20.0	179.2
23	Garden City	78,300	3.30	5.21	25.0	638	491	214.5	1,957,500	32.1	246.6
24	Gibraltar	16,400	0.65	0.86	30.9	588	176	44.9	506,800	8.3	53.2
25	Grosse Ile Township	38,100	2.01	3.51	27.0	584	400	104.4	1,028,700	16.7	121.1
26	Grosse Pt. Park	54,900	3.23	5.31	18.0	583	291	150.4	988,200	16.2	166.6
27	Grosse Pt. Shores	19,200	1.43	2.67	18.9	587	283	52.6	362,900	6.0	58.6
28	Grosse Pt. Woods	69,400	3.36	4.29	18.9	587	461	190.1	1,311,700	21.4	211.5
29	Hamtramck	62,500	1.77	2.74	16.7	633	658	171.2	1,043,800	17.0	188.2
30	Harper Woods	47,200	2.09	2.99	18.4	598	357	129.3	868,500	14.3	143.6
31	Harrison Township	95,400	3.70	4.75	24.0	587	440	261.4	2,289,600	37.5	298.9
32	Hazel Park	50,200	1.70	2.44	18.1	639	538	137.5	908,600	14.8	152.3
33	Highland Park	105,500	3.33	3.40	17.3	639	0	289.0	1,825,200	29.9	318.9
34	Huron Township	62,000	3.10	3.91	29.9	635	278	169.9	1,853,800	30.4	200.3
35	Imlay City	46,200	2.22	2.35	45.9	908	155	126.6	2,120,600	34.5	161.1

Table 1a
Water Supply System
FY 2023 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) * (4)</i>	<i>~ (8)</i>	<i>(7) + (9)</i>	
36	Imlay Twp	150	0.012	0.024	42.7	825	80	0.4	6,400	0.0	0.4
37	Inkster	101,300	2.44	3.34	24.4	638	443	277.5	2,471,700	40.3	317.8
38	Keego Harbor	10,000	0.45	0.67	29.1	934	123	27.4	291,000	4.7	32.1
39	Lapeer	52,900	1.72	2.50	49.1	850	400	144.9	2,597,400	42.5	187.4
40	Lenox Township	14,000	0.51	0.70	30.5	619	400	38.4	427,000	6.8	45.2
41	Lincoln Park	165,300	5.50	7.00	20.4	594	813	452.9	3,372,100	55.0	507.9
42	Livonia	471,000	23.00	33.00	26.2	687	2,386	1,290.4	12,340,200	201.7	1,492.1
43	Macomb Township	320,800	24.60	41.70	26.8	622	1,015	878.9	8,597,400	140.6	1,019.5
44	Madison Heights	105,100	4.75	6.50	19.4	629	755	287.9	2,038,900	33.5	321.4
45	Mayfield Twp	510	0.04	0.07	48.3	839	155	1.4	24,600	0.3	1.7
46	Melvindale	42,100	1.50	2.10	19.9	594	525	115.3	837,800	13.7	129.0
47	New Haven, Village of	18,400	0.79	1.10	29.8	613	80	50.4	548,300	9.1	59.5
48	N O C W A	876,100	45.10	49.10	27.7	895	5,173	2,400.3	24,268,000	396.4	2,796.7
49	Northville	31,100	1.55	1.65	31.1	836	211	85.2	967,200	15.9	101.1
50	Northville Township	138,200	10.00	13.80	30.5	855	521	378.6	4,215,100	68.8	447.4
51	Novi	292,600	17.00	19.00	31.4	936	1,836	801.6	9,187,600	150.2	951.8
52	Oak Park	94,900	3.90	3.90	19.7	669	285	260.0	1,869,500	30.4	290.4
53	Oakland Co. Drain Comm.	9,700	0.184	0.184	20.4	617	115	26.6	197,900	3.3	29.9
54	Plymouth	44,600	1.81	2.62	30.8	750	203	122.2	1,373,700	22.5	144.7
55	Plymouth Township	160,900	10.00	10.00	31.3	793	315	440.8	5,036,200	82.2	523.0
56	Redford Township	158,600	7.20	10.00	22.6	638	1,271	434.5	3,584,400	58.7	493.2
57	River Rouge	37,900	1.78	2.26	19.4	585	431	103.8	735,300	12.1	115.9
58	Riverview	48,000	1.68	2.67	25.3	594	130	131.5	1,214,400	19.7	151.2
59	Rockwood	9,800	0.56	0.72	32.7	592	88	26.8	320,500	5.3	32.1
60	Romeo	6,100	0.42	0.60	32.2	789	155	16.7	196,400	3.3	20.0
61	Romulus	223,500	8.92	11.00	27.3	651	919	612.3	6,101,600	99.8	712.1
62	Roseville	186,500	6.39	9.06	19.0	620	885	511.0	3,543,500	57.8	568.8
63	Royal Oak Township	10,300	0.473	0.649	19.2	665	146	28.2	197,800	3.3	31.5
64	S O C W A	1,230,500	60.50	60.50	22.2	732	4,998	3,371.2	27,317,100	446.3	3,817.5
65	Shelby Township	412,700	24.79	45.44	26.4	694	1,246	1,130.7	10,895,300	178.1	1,308.8
66	South Rockwood	4,600	0.176	0.297	33.4	586	88	12.6	153,600	2.5	15.1
67	Southgate	111,700	5.00	7.00	23.7	601	361	306.0	2,647,300	43.3	349.3
68	St. Clair County-Burtchville Twp	8,400	0.48	0.68	47.2	620	105	23.0	396,500	6.6	29.6
69	St. Clair County BPW	25,100	2.53	2.53	45.4	774	413	68.8	1,139,500	18.6	87.4
70	St. Clair Shores	194,400	7.50	10.00	20.2	594	1,239	532.6	3,926,900	64.1	596.7
71	Sterling Heights	591,100	33.00	52.50	22.3	632	3,175	1,619.5	13,181,500	215.3	1,834.8

TFG

THE FOSTER GROUP

Table 1a
Water Supply System
FY 2023 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) * (4)</i>	<i>~ (8)</i>	<i>(7) + (9)</i>
72	Sumpter Township	30,300	1.08	1.67	32.9	663	155	83.0	996,900	16.2	99.2
73	Sylvan Lake	6,400	0.35	0.55	29.1	938	80	17.5	186,200	3.0	20.5
74	Taylor	258,900	11.20	14.00	23.5	616	1,078	709.3	6,084,200	99.5	808.8
75	Trenton	86,400	3.30	4.92	25.8	596	1,185	236.7	2,229,100	36.5	273.2
76	Troy	465,000	27.00	40.00	24.2	756	2,548	1,274.0	11,253,000	183.8	1,457.8
77	Utica	23,100	1.20	1.75	24.4	660	155	63.3	563,600	9.3	72.6
78	Van Buren Township	135,500	6.90	8.17	32.5	676	1,090	371.2	4,403,800	72.1	443.3
79	Walled Lake	29,900	1.16	1.67	31.7	959	115	81.9	947,800	15.6	97.5
80	Warren	618,100	27.00	35.00	18.4	623	1,509	1,693.4	11,373,000	185.8	1,879.2
81	Washington Township	81,800	5.40	5.40	29.6	754	278	224.1	2,421,300	39.5	263.6
82	Wayne	105,400	8.28	8.28	25.9	646	600	288.8	2,729,900	44.6	333.4
83	West Bloomfield Township	266,600	15.50	26.00	28.7	912	1,960	730.4	7,651,400	124.9	855.3
84	Westland	322,000	12.50	17.50	26.0	653	1,925	882.2	8,372,000	136.7	1,018.9
85	Wixom	75,300	4.33	5.10	33.9	944	155	206.3	2,552,700	41.6	247.9
86	Woodhaven	57,900	3.24	5.12	28.5	596	195	158.6	1,650,200	26.9	185.5
87	Ypsilanti Comm Util Auth	482,800	21.00	21.00	35.8	726	1,880	1,322.7	17,284,200	282.5	1,605.2
88	Subtotal Wholesale	13,512,900	658.11	853.91			67,158	37,020.9	353,599,100	5,778.2	42,799.1
89	Detroit	4,169,200	114.57	135.53	16.8	629		11,422.5	70,042,600	1,142.1	12,564.6
90	Grand Total	17,682,100	772.68	989.45			67,158	48,443.4	423,641,700	6,920.3	55,363.7
91	Modified Demands (1)	25,100	2.53	2.53	1		413	68.8	1,139,500	18.6	87.4
92	Non-Master Metered (3)	4,863,200	142.80	173.43	3		0	13,323.8	83,696,700	1,365.2	14,689.0
93	No Mods - All Others (84)	12,793,800	627.36	813.49	84		66,745	35,050.8	338,805,500	5,536.5	40,587.3
94	Total	17,682,100	772.68	989.45	88		67,158	48,443.4	423,641,700	6,920.3	55,363.7

Table 1a
Water Supply System
FY 2023 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) * (4)</i>	<i>~ (8)</i>	<i>(7) + (9)</i>
1 Allen Park	145,600	5.70	7.90	21.0	602	928	398.9	3,057,600	49.9	448.8
2 Almont Village	9,600	0.40	0.44	37.9	802	115	26.3	363,800	6.0	32.3
3 Ash Township	42,200	1.44	2.19	29.9	635	160	115.6	1,261,800	20.6	136.2
4 Belleville	15,300	0.50	0.75	32.5	676	115	41.9	497,300	8.2	50.1
5 Berlin Township	27,100	1.20	1.90	34.6	598	211	74.2	937,700	15.4	89.6
6 Brownstown Township	136,300	6.80	11.00	28.5	601	523	373.4	3,884,600	63.6	437.0
7 Bruce Twp	2,640	0.526	0.875	32.8	767	115	7.2	86,600	1.4	8.6
8 Canton Township	359,900	22.50	23.50	32.2	742	1,770	986.0	11,588,800	189.3	1,175.3
9 Center Line	32,200	1.13	1.60	18.4	623	155	88.2	592,500	9.6	97.8
10 Chesterfield Township	176,500	8.75	12.00	28.3	617	725	483.6	4,995,000	81.6	565.2
11 Clinton Township	399,300	19.70	22.90	22.8	607	1,218	1,094.0	9,104,000	148.7	1,242.7
12 Commerce Township	104,400	6.54	7.58	31.4	967	520	286.0	3,278,200	53.5	339.5
13 Dearborn	588,500	24.90	34.49	20.1	597	0	1,612.3	11,828,900	193.2	1,805.5
14 Dearborn Heights	197,300	8.00	12.00	22.4	624	617	540.5	4,419,500	72.4	612.9
15 Eastpointe	104,300	3.70	5.50	18.1	612	1,013	285.8	1,887,800	30.9	316.7
16 Ecorse	126,800	3.80	4.40	20.1	591	285	347.4	2,548,700	41.6	389.0
17 Farmington	44,600	2.25	2.45	27.1	765	315	122.2	1,208,700	19.7	141.9
18 Farmington Hills	349,500	20.00	21.30	27.4	784	2,754	957.5	9,576,300	156.5	1,114.0
19 Ferndale	71,800	2.80	3.10	18.2	643	568	196.7	1,306,800	21.4	218.1
20 Flat Rock	52,200	2.63	3.83	30.1	601	235	143.0	1,571,200	25.8	168.8
21 Flint	469,200	14.50	14.50	52.0	866	3,600	1,285.5	24,398,400	398.6	1,684.1
22 Fraser	58,100	2.77	4.28	21.0	617	296	159.2	1,220,100	20.0	179.2
23 Garden City	78,300	3.30	5.21	25.0	638	491	214.5	1,957,500	32.1	246.6
24 Gibraltar	16,400	0.65	0.86	30.9	588	176	44.9	506,800	8.3	53.2
25 Grosse Ile Township	38,100	2.01	3.51	27.0	584	400	104.4	1,028,700	16.7	121.1
26 Grosse Pt. Park	54,900	3.23	5.31	18.0	583	291	150.4	988,200	16.2	166.6
27 Grosse Pt. Shores	19,200	1.43	2.67	18.9	587	283	52.6	362,900	6.0	58.6
28 Grosse Pt. Woods	69,400	3.36	4.29	18.9	587	461	190.1	1,311,700	21.4	211.5
29 Hamtramck	62,500	1.77	2.74	16.7	633	658	171.2	1,043,800	17.0	188.2
30 Harper Woods	47,200	2.09	2.99	18.4	598	357	129.3	868,500	14.3	143.6
31 Harrison Township	95,400	3.70	4.75	24.0	587	440	261.4	2,289,600	37.5	298.9
32 Hazel Park	50,200	1.70	2.44	18.1	639	538	137.5	908,600	14.8	152.3
33 Highland Park	105,500	3.33	3.40	17.3	639	0	289.0	1,825,200	29.9	318.9
34 Huron Township	62,000	3.10	3.91	29.9	635	278	169.9	1,853,800	30.4	200.3
35 Imlay City	46,200	2.22	2.35	45.9	908	155	126.6	2,120,600	34.5	161.1

Table 1a
Water Supply System
FY 2023 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) * (4)</i>	<i>~ (8)</i>	<i>(7) + (9)</i>	
36	Imlay Twp	150	0.012	0.024	42.7	825	80	0.4	6,400	0.0	0.4
37	Inkster	101,300	2.44	3.34	24.4	638	443	277.5	2,471,700	40.3	317.8
38	Keego Harbor	10,000	0.45	0.67	29.1	934	123	27.4	291,000	4.7	32.1
39	Lapeer	52,900	1.72	2.50	49.1	850	400	144.9	2,597,400	42.5	187.4
40	Lenox Township	14,000	0.51	0.70	30.5	619	400	38.4	427,000	6.8	45.2
41	Lincoln Park	165,300	5.50	7.00	20.4	594	813	452.9	3,372,100	55.0	507.9
42	Livonia	471,000	23.00	33.00	26.2	687	2,386	1,290.4	12,340,200	201.7	1,492.1
43	Macomb Township	320,800	24.60	41.70	26.8	622	1,015	878.9	8,597,400	140.6	1,019.5
44	Madison Heights	105,100	4.75	6.50	19.4	629	755	287.9	2,038,900	33.5	321.4
45	Mayfield Twp	510	0.04	0.07	48.3	839	155	1.4	24,600	0.3	1.7
46	Melvindale	42,100	1.50	2.10	19.9	594	525	115.3	837,800	13.7	129.0
47	New Haven, Village of	18,400	0.79	1.10	29.8	613	80	50.4	548,300	9.1	59.5
48	N O C W A	876,100	45.10	49.10	27.7	895	5,173	2,400.3	24,268,000	396.4	2,796.7
49	Northville	31,100	1.55	1.65	31.1	836	211	85.2	967,200	15.9	101.1
50	Northville Township	138,200	10.00	13.80	30.5	855	521	378.6	4,215,100	68.8	447.4
51	Novi	292,600	17.00	19.00	31.4	936	1,836	801.6	9,187,600	150.2	951.8
52	Oak Park	94,900	3.90	3.90	19.7	669	285	260.0	1,869,500	30.4	290.4
53	Oakland Co. Drain Comm.	9,700	0.184	0.184	20.4	617	115	26.6	197,900	3.3	29.9
54	Plymouth	44,600	1.81	2.62	30.8	750	203	122.2	1,373,700	22.5	144.7
55	Plymouth Township	160,900	10.00	10.00	31.3	793	315	440.8	5,036,200	82.2	523.0
56	Redford Township	158,600	7.20	10.00	22.6	638	1,271	434.5	3,584,400	58.7	493.2
57	River Rouge	37,900	1.78	2.26	19.4	585	431	103.8	735,300	12.1	115.9
58	Riverview	48,000	1.68	2.67	25.3	594	130	131.5	1,214,400	19.7	151.2
59	Rockwood	9,800	0.56	0.72	32.7	592	88	26.8	320,500	5.3	32.1
60	Romeo	6,100	0.42	0.60	32.2	789	155	16.7	196,400	3.3	20.0
61	Romulus	223,500	8.92	11.00	27.3	651	919	612.3	6,101,600	99.8	712.1
62	Roseville	186,500	6.39	9.06	19.0	620	885	511.0	3,543,500	57.8	568.8
63	Royal Oak Township	10,300	0.473	0.649	19.2	665	146	28.2	197,800	3.3	31.5
64	S O C W A	1,230,500	60.50	60.50	22.2	732	4,998	3,371.2	27,317,100	446.3	3,817.5
65	Shelby Township	412,700	24.79	45.44	26.4	694	1,246	1,130.7	10,895,300	178.1	1,308.8
66	South Rockwood	4,600	0.176	0.297	33.4	586	88	12.6	153,600	2.5	15.1
67	Southgate	111,700	5.00	7.00	23.7	601	361	306.0	2,647,300	43.3	349.3
68	St. Clair County-Burtchville Twp	8,400	0.48	0.68	47.2	620	105	23.0	396,500	6.6	29.6
69	St. Clair County BPW	25,100	2.53	2.53	45.4	774	413	68.8	1,139,500	18.6	87.4
70	St. Clair Shores	194,400	7.50	10.00	20.2	594	1,239	532.6	3,926,900	64.1	596.7
71	Sterling Heights	591,100	33.00	52.50	22.3	632	3,175	1,619.5	13,181,500	215.3	1,834.8

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Water Supply System
FY 2023 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>
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73	Sylvan Lake	6,400	0.35	0.55	29.1	938	80	17.5	186,200	3.0	20.5
74	Taylor	258,900	11.20	14.00	23.5	616	1,078	709.3	6,084,200	99.5	808.8
75	Trenton	86,400	3.30	4.92	25.8	596	1,185	236.7	2,229,100	36.5	273.2
76	Troy	465,000	27.00	40.00	24.2	756	2,548	1,274.0	11,253,000	183.8	1,457.8
77	Utica	23,100	1.20	1.75	24.4	660	155	63.3	563,600	9.3	72.6
78	Van Buren Township	135,500	6.90	8.17	32.5	676	1,090	371.2	4,403,800	72.1	443.3
79	Walled Lake	29,900	1.16	1.67	31.7	959	115	81.9	947,800	15.6	97.5
80	Warren	618,100	27.00	35.00	18.4	623	1,509	1,693.4	11,373,000	185.8	1,879.2
81	Washington Township	81,800	5.40	5.40	29.6	754	278	224.1	2,421,300	39.5	263.6
82	Wayne	105,400	8.28	8.28	25.9	646	600	288.8	2,729,900	44.6	333.4
83	West Bloomfield Township	266,600	15.50	26.00	28.7	912	1,960	730.4	7,651,400	124.9	855.3
84	Westland	322,000	12.50	17.50	26.0	653	1,925	882.2	8,372,000	136.7	1,018.9
85	Wixom	75,300	4.33	5.10	33.9	944	155	206.3	2,552,700	41.6	247.9
86	Woodhaven	57,900	3.24	5.12	28.5	596	195	158.6	1,650,200	26.9	185.5
87	Ypsilanti Comm Util Auth	482,800	21.00	21.00	35.8	726	1,880	1,322.7	17,284,200	282.5	1,605.2
88	Subtotal Wholesale	13,512,900	658.11	853.91			67,158	37,020.9	353,599,100	5,778.2	42,799.1
89	Detroit	4,169,200	114.57	135.53	16.8	629		11,422.5	70,042,600	1,142.1	12,564.6
90	Grand Total	17,682,100	772.68	989.45			67,158	48,443.4	423,641,700	6,920.3	55,363.7
91	Modified Demands (1)	25,100	2.53	2.53	1		413	68.8	1,139,500	18.6	87.4
92	Non-Master Metered (3)	4,863,200	142.80	173.43	3		0	13,323.8	83,696,700	1,365.2	14,689.0
93	No Mods - All Others (84)	12,793,800	627.36	813.49	84		66,745	35,050.8	338,805,500	5,536.5	40,587.3
94	Total	17,682,100	772.68	989.45	88		67,158	48,443.4	423,641,700	6,920.3	55,363.7

Table 1c
Water Supply System
Consolidated FY 2023 Units of Service

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
		Consolidated Units of Service									
	Sales	Common-to-All								Suburban Only	
	Volume	Commod	Max Day	PH Incr	PH Dist	Comm DE	MD DE	PH DE	PHI DE	Mtrs	
	Mcf	Mcf/day	Mcf/day	Mcf/day	Mcf-miles/day	Mcf-miles/day	Mcf-miles/day	Mcf-miles/day	Mcf-miles/day	eq 5/8" mtrs	
1	Allen Park	145,600	448.8	811.9	294.1	23,225.5	9,424.8	17,049.5	23,225.5	6,176.0	928
2	Almont Village	9,600	32.3	59.5	5.3	2,456.7	1,812.0	3,336.4	3,636.4	300.0	115
3	Ash Township	42,200	136.2	213.1	100.3	9,369.5	4,399.3	6,883.1	10,121.5	3,238.4	160
4	Belleville	15,300	50.1	75.0	33.4	3,525.0	1,943.9	2,911.6	4,208.3	1,296.7	115
5	Berlin Township	27,100	89.6	175.8	93.6	9,321.0	3,100.2	6,083.3	9,321.0	3,237.7	211
6	Brownstown Township	136,300	437.0	972.6	561.5	43,721.5	12,454.5	27,719.9	43,721.5	16,001.6	523
7	Bruce Twp	2,640	8.6	71.7	46.7	3,882.6	410.2	3,420.9	5,646.3	2,225.4	115
8	Canton Township	359,900	1,175.3	3,197.1	133.7	107,251.5	52,535.9	142,910.9	148,886.4	5,975.5	1,770
9	Center Line	32,200	97.8	160.7	62.8	4,112.2	1,916.9	3,148.9	4,380.4	1,231.5	155
10	Chesterfield Township	176,500	565.2	1,251.3	434.5	47,707.2	16,390.8	36,287.8	48,887.2	12,599.4	725
11	Clinton Township	399,300	1,242.7	2,782.2	427.8	73,187.6	28,333.6	63,434.3	73,187.6	9,753.3	1,218
12	Commerce Township	104,400	339.5	927.8	139.0	33,497.5	22,135.4	60,490.7	69,555.3	9,064.6	520
13	Dearborn	588,500	1,805.5	3,521.6	1,282.8	96,567.7	36,290.6	70,783.3	96,567.7	25,784.5	0
14	Dearborn Heights	197,300	612.9	1,141.8	534.7	37,555.1	14,525.7	27,061.7	39,734.6	12,672.9	617
15	Eastpointe	104,300	316.7	525.5	240.6	13,867.2	5,795.6	9,617.0	14,020.4	4,403.4	1,013
16	Ecorse	126,800	389.0	549.6	80.2	12,658.9	7,818.9	11,046.7	12,658.9	1,612.2	285
17	Farmington	44,600	141.9	320.5	26.7	9,409.6	5,931.4	13,396.1	14,513.7	1,117.6	315
18	Farmington Hills	349,500	1,114.0	2,830.1	173.8	82,306.7	48,904.6	124,241.9	131,871.0	7,629.1	2,754
19	Ferndale	71,800	218.1	395.7	40.1	7,931.7	4,645.5	8,428.5	9,282.7	854.2	568
20	Flat Rock	52,200	168.8	377.4	160.4	16,187.7	5,080.9	11,359.1	16,187.7	4,828.5	235
21	Flint	469,200	1,684.1	2,337.0	0.0	121,522.3	128,328.4	178,077.0	178,077.0	0.0	3,600
22	Fraser	58,100	179.2	390.3	201.9	12,435.2	3,888.6	8,469.4	12,849.7	4,380.3	296
23	Garden City	78,300	246.6	473.2	255.3	18,214.4	6,830.8	13,108.9	20,181.5	7,072.6	491
24	Gibraltar	16,400	53.2	95.2	28.1	3,808.9	1,643.9	2,941.4	3,808.9	867.5	176
25	Grosse Ile Township	38,100	121.1	285.4	200.5	13,119.8	3,269.7	7,705.7	13,119.8	5,414.1	400
26	Grosse Pt. Park	54,900	166.6	448.0	278.1	13,068.8	2,998.8	8,063.8	13,068.8	5,005.0	291
27	Grosse Pt. Shores	19,200	58.6	197.2	165.8	6,859.3	1,107.5	3,726.4	6,859.3	3,132.9	283
28	Grosse Pt. Woods	69,400	211.5	470.6	124.3	11,243.4	3,997.4	8,893.7	11,243.4	2,349.7	461
29	Hamtramck	62,500	188.2	253.6	129.7	6,400.9	3,557.0	4,793.3	7,244.1	2,450.8	658
30	Harper Woods	47,200	143.6	293.7	120.3	7,617.7	2,642.2	5,403.9	7,617.7	2,213.7	357
31	Harrison Township	95,400	298.9	532.1	140.4	16,139.6	7,173.6	12,770.8	16,139.6	3,368.7	440
32	Hazel Park	50,200	152.3	242.1	98.9	6,171.7	3,167.8	5,034.8	7,092.4	2,057.6	538
33	Highland Park	105,500	318.9	474.5	10.2	8,384.6	6,378.0	9,489.4	9,693.2	203.7	0
34	Huron Township	62,000	200.3	444.8	108.3	16,537.4	6,469.7	14,367.4	17,864.8	3,497.5	278
35	Imlay City	46,200	161.1	331.3	17.4	16,003.0	11,937.5	24,547.2	25,834.9	1,287.7	155

Table 1c
Water Supply System
Consolidated FY 2023 Units of Service

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
		Consolidated Units of Service									
	Sales	Common-to-All								Suburban Only	
	Volume	Commod	Max Day	PH Incr	PH Dist	Comm DE	MD DE	PH DE	PHI DE	Mtrs	
	Mcf	Mcf/day	Mcf/day	Mcf/day	Mcf-miles/day	Mcf-miles/day	Mcf-miles/day	Mcf-miles/day	Mcf-miles/day	eq 5/8" mtrs	
36	Imlay Twp	150	0.4	1.6	1.6	137.0	25.2	101.2	202.4	101.2	80
37	Inkster	101,300	317.8	366.5	120.3	11,877.7	8,612.4	9,931.6	13,192.1	3,260.5	443
38	Keego Harbor	10,000	32.1	64.9	29.5	2,747.0	1,919.6	3,878.4	5,645.1	1,766.7	123
39	Lapeer	52,900	187.4	272.4	104.3	18,496.0	13,455.3	19,560.5	27,047.2	7,486.6	400
40	Lenox Township	14,000	45.2	75.0	25.9	3,077.8	1,419.3	2,354.3	3,168.6	814.3	400
41	Lincoln Park	165,300	507.9	790.2	200.5	20,211.6	10,361.2	16,121.0	20,211.6	4,090.6	813
42	Livonia	471,000	1,492.1	3,276.4	1,336.8	120,864.7	49,985.4	109,757.8	154,540.8	44,783.0	2,386
43	Macomb Township	320,800	1,019.5	3,429.1	2,285.9	153,164.1	28,444.1	95,673.0	159,450.7	63,777.7	1,015
44	Madison Heights	105,100	321.4	668.5	233.9	17,507.0	6,813.7	14,171.8	19,131.4	4,959.5	755
45	Mayfield Twp	510	1.7	5.6	4.0	466.5	119.0	395.3	676.0	280.7	155
46	Melvindale	42,100	129.0	214.2	80.2	5,859.1	2,567.1	4,263.0	5,859.1	1,596.1	525
47	New Haven, Village of	18,400	59.5	114.0	42.1	4,653.2	1,791.0	3,432.6	4,700.1	1,267.5	80
48	N O C W A	876,100	2,796.7	6,425.4	534.7	192,795.2	152,979.5	351,469.0	380,718.3	29,249.3	5,173
49	Northville	31,100	101.1	223.1	13.4	7,354.3	5,307.8	11,713.0	12,414.8	701.8	211
50	Northville Township	138,200	447.4	1,405.6	508.0	58,364.5	24,025.4	75,481.0	102,759.9	27,278.9	521
51	Novi	292,600	951.8	2,422.8	267.4	84,470.1	59,297.1	150,938.5	167,595.1	16,656.6	1,836
52	Oak Park	94,900	290.4	551.8	0.0	10,869.6	7,347.1	13,959.4	13,959.4	0.0	285
53	Oakland Co. Drain Comm.	9,700	29.9	27.9	0.0	569.1	630.9	588.6	588.6	0.0	115
54	Plymouth	44,600	144.7	264.5	108.3	11,480.5	6,381.3	11,662.8	16,438.0	4,775.2	203
55	Plymouth Township	160,900	523.0	1,419.0	0.0	44,414.9	25,417.8	68,963.7	68,963.7	0.0	315
56	Redford Township	158,600	493.2	1,021.2	374.3	31,538.4	12,478.0	25,836.4	35,306.3	9,469.9	1,271
57	River Rouge	37,900	115.9	250.1	64.2	6,095.8	2,248.5	4,851.0	6,095.8	1,244.8	431
58	Riverview	48,000	151.2	244.3	132.3	9,528.7	3,825.4	6,180.4	9,528.7	3,348.3	130
59	Rockwood	9,800	32.1	80.2	20.7	3,298.8	1,049.7	2,621.3	3,298.8	677.6	88
60	Romeo	6,100	20.0	59.4	24.1	2,689.0	984.0	2,924.7	4,108.6	1,183.9	155
61	Romulus	223,500	712.1	1,292.2	278.1	42,868.8	22,217.5	40,317.6	48,992.9	8,675.3	919
62	Roseville	186,500	568.8	912.0	356.9	24,110.0	11,319.1	18,149.2	25,252.0	7,102.8	885
63	Royal Oak Township	10,300	31.5	66.5	23.5	1,729.1	768.6	1,623.4	2,197.4	574.1	146
64	S O C W A	1,230,500	3,817.5	8,534.0	0.0	189,454.2	129,031.5	288,448.3	288,448.3	0.0	4,998
65	Shelby Township	412,700	1,308.8	3,492.0	2,760.5	165,067.2	45,022.7	120,126.2	215,087.5	94,961.3	1,246
66	South Rockwood	4,600	15.1	26.0	16.2	1,409.6	504.3	869.3	1,409.6	540.3	88
67	Southgate	111,700	349.3	711.7	267.4	23,203.8	8,278.4	16,867.4	23,203.8	6,336.5	361
68	St. Clair County-Burchville Twp	8,400	29.6	70.5	27.0	4,602.1	1,423.8	3,391.0	4,689.9	1,298.9	105
69	St. Clair County BPW	25,100	87.4	356.8	0.0	16,199.3	5,322.7	21,729.8	21,729.8	0.0	413
70	St. Clair Shores	194,400	596.7	1,066.7	334.2	28,298.3	12,053.3	21,547.4	28,298.3	6,750.9	1,239
71	Sterling Heights	591,100	1,834.8	4,626.8	2,606.8	161,307.7	44,769.1	112,892.9	176,498.1	63,605.2	3,175

TFG

THE FOSTER GROUP

Table 1c
Water Supply System
Consolidated FY 2023 Units of Service

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
		Consolidated Units of Service									
	Sales	Common-to-All								Suburban Only	
	Volume	Commod	Max Day	PH Incr	PH Dist	Comm DE	MD DE	PH DE	PHI DE	Mtrs	
	Mcf	Mcf/day	Mcf/day	Mcf/day	Mcf-miles/day	Mcf-miles/day	Mcf-miles/day	Mcf-miles/day	Mcf-miles/day	eq 5/8" mtrs	
72	Sumpter Township	30,300	99.2	160.6	78.9	7,877.8	3,759.7	6,085.8	9,075.0	2,989.2	155
73	Sylvan Lake	6,400	20.5	50.1	26.5	2,226.9	1,234.1	3,013.3	4,606.8	1,593.4	80
74	Taylor	258,900	808.8	1,596.7	374.3	46,319.1	19,492.1	38,481.0	47,501.8	9,020.8	1,078
75	Trenton	86,400	273.2	477.6	216.6	17,910.6	7,048.6	12,323.3	17,910.6	5,587.3	1,185
76	Troy	465,000	1,457.8	3,793.2	1,737.8	133,850.7	55,396.4	144,140.6	210,178.8	66,038.2	2,548
77	Utica	23,100	72.6	169.7	73.5	5,935.1	2,112.7	4,938.8	7,078.3	2,139.6	155
78	Van Buren Township	135,500	443.3	994.5	169.8	37,838.8	17,200.0	38,586.4	45,173.7	6,587.2	1,090
79	Walled Lake	29,900	97.5	170.7	68.2	7,571.4	6,308.3	11,042.3	15,453.4	4,411.1	115
80	Warren	618,100	1,879.2	3,795.2	1,069.4	89,509.0	36,832.3	74,385.4	95,346.5	20,961.1	1,509
81	Washington Township	81,800	263.6	761.4	0.0	22,536.7	11,387.5	32,891.4	32,891.4	0.0	278
82	Wayne	105,400	333.4	1,151.5	0.0	29,823.2	9,768.6	33,738.2	33,738.2	0.0	600
83	West Bloomfield Township	266,600	855.3	2,196.9	1,403.6	103,337.1	49,008.7	125,885.1	206,314.0	80,428.9	1,960
84	Westland	322,000	1,018.9	1,807.7	668.4	64,378.8	30,668.9	54,412.0	74,530.9	20,118.9	1,925
85	Wixom	75,300	247.9	620.4	102.9	24,522.3	16,237.5	40,638.6	47,380.8	6,742.2	155
86	Woodhaven	57,900	185.5	460.0	251.3	20,273.3	5,286.8	13,110.7	20,273.3	7,162.6	195
87	Ypsilanti Comm Util Auth	482,800	1,605.2	3,089.8	0.0	110,614.5	75,123.4	144,602.2	144,602.2	0.0	1,880
88	Total Suburban	13,512,900	42,799.1	93,754.6	26,175.4	3,120,575.4	1,532,304.0	3,388,072.6	4,213,773.6	825,700.8	67,158
89	Detroit	4,169,200	12,564.6	16,458.5	2,801.9	323,575.0	233,701.6	306,127.8	358,243.7	52,115.9	0
90	Grand Total	17,682,100	55,363.7	110,213.1	28,977.3	3,444,150.3	1,766,005.6	3,694,200.4	4,572,017.3	877,816.7	67,158
91	Modified Demands (1)	25,100	87.4	356.8	0.0	16,199.3	5,322.7	21,729.8	21,729.8	0.0	413
92	Non-Master Metered (3)	4,863,200	14,689.0	20,454.5	4,094.9	428,527.3	276,370.2	386,400.5	464,504.6	78,104.1	0
93	No Mods - All Others (84)	12,793,800	40,587.3	89,401.8	24,882.4	2,999,423.8	1,484,312.7	3,286,070.1	4,085,782.9	799,712.6	66,745
94	Total	17,682,100	55,363.7	110,213.1	28,977.3	3,444,150.3	1,766,005.6	3,694,200.4	4,572,017.3	877,816.7	67,158

Table 1d
Water Supply System
Consolidated FY 2023 Units of Service by Customer Group

	(1)	(2)	(3)	(4)	
	<u>Total System</u>	<u>St. Clair County BPW</u>	<u>Non Master Metered Group</u>	<u>All Other Members</u>	
					(1) - (2) - (3)
<u>Baseline Units of Service Data</u>					
1 Annual Sales - <i>Mcf</i>	17,682,100	25,100	4,863,200	12,793,800	<i>Sales = 36 mo "hybrid" -> 9/21</i>
2 Average Day Units - <i>Mcf</i>	48,444.1	68.8	13,323.8	35,051.5	<i>Line (1) / 365</i>
3 Allocated Non-Revenue Water - <i>Mcf</i>	6,920.3	18.6	1,365.2	5,536.5	<i>Allocated share based on distance and sales</i>
4 Commodity Units - <i>Mcf</i>	55,364.4	87.4	14,689.0	40,588.0	<i>Line (2) + Line 3</i>
5 Max Day Units - <i>mgd</i>	772.68	2.53	142.80	627.36	<i>Contract or proxy</i>
6 Max Day Units - <i>Mcf</i>	110,213.1	356.8	20,454.5	89,401.8	<i>Line (5) x 1,000/7.48 + Line 3</i>
7 Peak Hour Units - <i>mgd</i>	989.45	2.53	173.43	813.49	<i>Contract or proxy</i>
8 Peak Hour Units - <i>Mcf</i>	139,190.4	356.8	24,549.4	114,284.2	<i>Line (7) x 1,000/7.48 + Line 3</i>
9 Distance - <i>miles</i>	24.7	45.4	17.5	26.2	<i>Avg from WTPs to connections</i>
10 Elevation - <i>feet</i>	686	774	624	719	<i>Avg of connections to System</i>
11 Dist-Elev Factor - <i>miles</i>	31.9	60.9	18.8	36.6	<i>[Line (10)-610]/10.56 + Ln 9</i>
<u>Cost Pool Units of Service</u>					
12 Commodity Units - <i>Mcf</i>	55,363.7	87.4	14,689.0	40,587.3	<i>Line (4)</i>
13 Max Day Units - <i>Mcf/Day</i>	110,213.1	356.8	20,454.5	89,401.8	<i>Line (6)</i>
14 Peak Hour Increment - <i>Mcf/Day</i>	28,977.3	0.0	4,094.9	24,882.4	<i>Line (8) - Line (6)</i>
15 Peak Hour Distance - <i>Mcf-miles/Day</i>	3,444,150.3	16,199.3	428,527.3	2,999,423.7	<i>Line (8) x Line (9)</i>
16 Commodity Distance-Elevation - <i>Mcf-miles/Day</i>	1,766,005.6	5,322.7	276,370.2	1,484,312.7	<i>Line (4) x Line (11)</i>
17 Max Day Distance-Elevation - <i>Mcf-miles/Day</i>	3,694,200.4	21,729.8	386,400.5	3,286,070.1	<i>Line (6) x Line (11)</i>
18 Peak Hour Distance-Elevation - <i>Mcf-miles/Day</i>	4,572,017.3	21,729.8	464,504.6	4,085,782.9	<i>Line (8) x Line (11)</i>
19 Peak Hour Increment Dist-Elev - <i>Mcf-miles/Day</i>	877,816.7	0.0	78,104.1	799,712.6	<i>Line (14) x Line (11)</i>
20 Suburban Equivalent Meters	67,158	413	0.0	66,745	<i>Equivalent 5/8" master meters</i>
<u>Cost Pool Shares</u>					
21 Commodity Units - <i>Mcf</i>	100.0%	0.158%	26.532%	73.310%	<i>Relative Share of Line 12</i>
22 Max Day Units - <i>Mcf/Day</i>	100.0%	0.324%	18.559%	81.117%	<i>Relative Share of Line 13</i>
23 Peak Hour Increment - <i>Mcf/Day</i>	100.0%	0.000%	14.132%	85.868%	<i>Relative Share of Line 14</i>
24 Peak Hour Distance - <i>Mcf-miles/Day</i>	100.0%	0.470%	12.442%	87.087%	<i>Relative Share of Line 15</i>
25 Commodity Distance-Elevation - <i>Mcf-miles/Day</i>	100.0%	0.301%	15.649%	84.049%	<i>Relative Share of Line 16</i>
26 Max Day Distance-Elevation - <i>Mcf-miles/Day</i>	100.0%	0.588%	10.460%	88.952%	<i>Relative Share of Line 17</i>
27 Peak Hour Distance-Elevation - <i>Mcf-miles/Day</i>	100.0%	0.475%	10.160%	89.365%	<i>Relative Share of Line 18</i>
28 Peak Hour Increment Dist-Elev - <i>Mcf-miles/Day</i>	100.0%	0.000%	8.898%	91.102%	<i>Relative Share of Line 19</i>
29 Suburban Equivalent Meters	100.0%	0.615%	0.000%	99.385%	<i>Relative Share of Line 20</i>

Table 2
Water Supply System
Determination of FY 2023 Proforma Revenue Under Existing Charges

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	FY 2023 Proforma Revenue							
	Sales Volume	Existing Charges Fixed Mo	Commodity	Gross Revenue Exist Charges	Wholesale Rev Exist Charges	Ownership Benefit Adjustment	KWA Debt Service Credit	Highland Park Bad Debt Expense
	Mcf	\$/mo	\$/Mcf	\$	\$	\$	\$	\$
				(1)*(3) + (2)*12	(4)-(6)-(7)-(8)	Allocated Prorata Based on Prior COS		
1 Allen Park	145,600	126,400	7.82	2,655,400	2,430,700	167,300	48,700	8,700
2 Almont Village	9,600	12,600	10.54	252,400	231,100	15,900	4,600	800
3 Ash Township	42,200	43,900	8.27	875,800	801,600	55,200	16,100	2,900
4 Belleville	15,300	16,600	9.74	348,200	318,600	22,000	6,400	1,200
5 Berlin Township	27,100	38,400	11.54	773,500	708,100	48,700	14,200	2,500
6 Brownstown Township	136,300	190,600	11.09	3,798,800	3,477,300	239,300	69,800	12,400
7 Bruce Twp	2,640	16,700	61.19	361,900	331,300	22,800	6,600	1,200
8 Canton Township	359,900	539,900	12.36	10,927,200	10,002,600	688,200	200,600	35,800
9 Center Line	32,200	24,600	6.28	497,400	455,400	31,300	9,100	1,600
10 Chesterfield Township	176,500	223,800	10.41	4,523,000	4,140,400	284,800	83,000	14,800
11 Clinton Township	399,300	398,900	7.92	7,949,300	7,276,700	500,600	145,900	26,100
12 Commerce Township	104,400	187,700	14.72	3,789,200	3,468,700	238,600	69,500	12,400
13 Dearborn	588,500	538,500	7.22	10,711,000	9,804,700	674,600	196,600	35,100
14 Dearborn Heights	197,300	193,300	7.84	3,866,400	3,539,200	243,500	71,000	12,700
15 Eastpointe	104,300	82,000	6.31	1,642,100	1,503,100	103,400	30,200	5,400
16 Ecorse	126,800	79,400	4.48	1,520,900	1,392,200	95,800	27,900	5,000
17 Farmington	44,600	53,000	9.52	1,060,600	970,900	66,800	19,400	3,500
18 Farmington Hills	349,500	465,600	10.57	9,281,400	8,496,100	584,500	170,400	30,400
19 Ferndale	71,800	54,100	6.19	1,093,600	1,001,200	68,900	20,000	3,500
20 Flat Rock	52,200	69,900	9.79	1,349,800	1,235,700	85,000	24,700	4,400
21 Flint	469,200	10,000	9.43	11,197,400	10,441,600	718,400	(6,652,800)	37,400
22 Fraser	58,100	64,300	8.72	1,278,200	1,170,000	80,500	23,500	4,200
23 Garden City	78,300	88,100	8.71	1,739,200	1,592,000	109,600	31,900	5,700
24 Gibraltar	16,400	17,500	8.61	351,200	321,600	22,100	6,400	1,100
25 Grosse Ile Township	38,100	57,800	12.10	1,154,600	1,056,900	72,700	21,200	3,800
26 Grosse Pt. Park	54,900	71,000	10.21	1,412,500	1,292,900	89,000	25,900	4,700
27 Grosse Pt. Shores	19,200	34,800	13.75	681,600	623,900	42,900	12,500	2,300
28 Grosse Pt. Woods	69,400	67,700	7.50	1,332,900	1,220,200	84,000	24,400	4,300
29 Hamtramck	62,500	42,200	5.42	845,200	773,600	53,200	15,600	2,800
30 Harper Woods	47,200	42,500	7.12	846,100	774,400	53,300	15,600	2,800
31 Harrison Township	95,400	85,100	7.21	1,709,000	1,564,400	107,600	31,400	5,600
32 Hazel Park	50,200	38,800	6.15	774,300	708,800	48,800	14,200	2,500
33 Highland Park	105,500	61,200	4.63	1,222,900	1,123,100	77,300	22,500	0
34 Huron Township	62,000	77,600	10.28	1,568,600	1,435,800	98,800	28,800	5,200
35 Imlay City	46,200	77,200	13.50	1,550,100	1,418,900	97,600	28,500	5,100

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Table 2
Water Supply System
Determination of FY 2023 Proforma Revenue Under Existing Charges

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
	FY 2023 Proforma Revenue								
	Sales	Existing Charges		Gross Revenue	Wholesale Rev	Ownership Benefit	KWA Debt Service	Highland Park	
	Volume	Fixed Mo	Commodity	Exist Charges	Exist Charges	Adjustment	Credit	Bad Debt Expense	
	Mcf	\$/mo	\$/Mcf	\$	\$	\$	\$	\$	
				(1)*(3) + (2)*12	(4)-(6)-(7)-(8)	Allocated Prorata Based on Prior COS			
36	Imlay Twp	150	800	42.50	16,000	14,600	1,000	300	100
37	Inkster	101,300	65,100	5.56	1,344,400	1,230,600	84,700	24,700	4,400
38	Keego Harbor	10,000	15,700	12.74	315,800	289,100	19,900	5,800	1,000
39	Lapeer	52,900	80,600	12.39	1,622,600	1,485,300	102,200	29,800	5,300
40	Lenox Township	14,000	15,600	8.42	305,100	279,200	19,300	5,600	1,000
41	Lincoln Park	165,300	121,000	6.04	2,450,400	2,243,100	154,300	45,000	8,000
42	Livonia	471,000	607,100	10.11	12,047,000	11,027,600	758,700	221,200	39,500
43	Macomb Township	320,800	669,300	16.23	13,238,200	12,118,100	833,700	243,000	43,400
44	Madison Heights	105,100	98,000	7.35	1,948,500	1,783,600	122,700	35,800	6,400
45	Mayfield Twp	510	2,500	24.68	42,600	38,900	2,700	800	200
46	Melvindale	42,100	34,100	6.42	679,500	622,000	42,800	12,500	2,200
47	New Haven, Village of	18,400	22,200	6.94	394,100	360,800	24,800	7,200	1,300
48	N O C W A	876,100	1,168,100	10.41	23,137,400	21,179,800	1,457,100	424,700	75,800
49	Northville	31,100	40,600	10.48	813,100	744,300	51,200	14,900	2,700
50	Northville Township	138,200	299,300	17.00	5,941,000	5,438,400	374,200	109,000	19,400
51	Novi	292,600	476,200	13.03	9,527,000	8,720,900	600,000	174,900	31,200
52	Oak Park	94,900	73,700	6.08	1,461,400	1,337,800	92,000	26,800	4,800
53	Oakland Co. Drain Comm.	9,700	4,300	3.49	85,500	78,200	5,400	1,600	300
54	Plymouth	44,600	57,000	10.34	1,145,200	1,048,400	72,100	21,000	3,700
55	Plymouth Township	160,900	234,100	11.57	4,670,800	4,275,600	294,200	85,700	15,300
56	Redford Township	158,600	167,100	8.32	3,324,800	3,043,500	209,400	61,000	10,900
57	River Rouge	37,900	35,900	7.58	718,100	657,300	45,200	13,200	2,400
58	Riverview	48,000	46,900	7.73	933,800	854,700	58,800	17,200	3,100
59	Rockwood	9,800	14,700	11.79	291,900	267,100	18,400	5,400	1,000
60	Romeo	6,100	13,500	18.13	272,600	249,600	17,100	5,000	900
61	Romulus	223,500	224,200	8.21	4,525,300	4,142,500	284,900	83,100	14,800
62	Roseville	186,500	142,200	5.99	2,823,500	2,584,700	177,800	51,800	9,200
63	Royal Oak Township	10,300	10,400	7.65	203,600	186,400	12,800	3,700	700
64	S O C W A	1,230,500	1,215,400	7.75	24,121,200	22,080,300	1,519,100	442,800	79,000
65	Shelby Township	412,700	751,600	14.88	15,160,200	13,877,600	954,700	278,200	49,700
66	South Rockwood	4,600	6,100	10.17	120,000	109,900	7,500	2,200	400
67	Southgate	111,700	116,300	8.12	2,302,600	2,107,900	145,000	42,200	7,500
68	St. Clair County-Burtchville Twp	8,400	17,700	18.19	365,200	334,300	23,000	6,700	1,200
69	St. Clair County BPW	25,100	49,400	19.18	1,074,200	983,400	67,600	19,700	3,500
70	St. Clair Shores	194,400	161,800	6.80	3,263,500	2,987,400	205,500	59,900	10,700
71	Sterling Heights	591,100	804,500	11.14	16,238,900	14,864,900	1,022,700	298,100	53,200

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Table 2
Water Supply System
Determination of FY 2023 Proforma Revenue Under Existing Charges

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
	FY 2023 Proforma Revenue								
	Sales Volume	Existing Charges Fixed Mo	Commodity \$/Mcf	Gross Revenue Exist Charges	Wholesale Rev Exist Charges	Ownership Benefit Adjustment	KWA Debt Service Credit	Highland Park Bad Debt Expense	
	Mcf	\$/mo	\$/Mcf	\$ <i>(1)*(3) + (2)*12</i>	\$ <i>(4)-(6)-(7)-(8)</i>	\$	\$	\$	
						Allocated Prorata Based on Prior COS			
72	Sumpter Township	30,300	35,600	9.67	720,200	659,200	45,400	13,300	2,300
73	Sylvan Lake	6,400	12,300	15.48	246,700	225,900	15,500	4,500	800
74	Taylor	258,900	244,700	7.46	4,867,800	4,456,000	306,600	89,300	15,900
75	Trenton	86,400	89,100	8.19	1,776,800	1,626,500	111,900	32,600	5,800
76	Troy	465,000	722,200	12.20	14,339,400	13,126,100	903,100	263,200	47,000
77	Utica	23,100	30,000	9.72	584,500	535,100	36,800	10,700	1,900
78	Van Buren Township	135,500	183,700	11.10	3,708,500	3,394,700	233,600	68,100	12,100
79	Walled Lake	29,900	42,200	10.98	834,700	764,000	52,500	15,400	2,800
80	Warren	618,100	545,200	6.94	10,832,000	9,915,500	682,200	198,900	35,400
81	Washington Township	81,800	121,700	12.37	2,472,300	2,263,100	155,700	45,400	8,100
82	Wayne	105,400	168,700	12.96	3,390,400	3,103,600	213,500	62,200	11,100
83	West Bloomfield Township	266,600	551,000	16.52	11,016,200	10,084,200	693,700	202,200	36,100
84	Westland	322,000	327,500	7.99	6,502,800	5,952,600	409,500	119,400	21,300
85	Wixom	75,300	130,500	13.95	2,616,400	2,394,900	164,800	48,100	8,600
86	Woodhaven	57,900	88,100	12.22	1,764,700	1,615,400	111,100	32,400	5,800
87	Ypsilanti Comm Util Auth	482,800	547,900	9.03	10,934,500	10,009,300	688,700	200,700	35,800
88	Total Suburban	13,512,900	180,600	10.19	328,474,600	300,877,600	20,700,100	(828,800)	1,072,900
89	Detroit	4,169,200	1,808,100		21,697,300	41,418,600	(20,700,000)	828,700	150,000
90	GRAND TOTAL	17,682,100			350,171,900	342,296,200	100	(100)	1,222,900
91	less: Bad Debt Expense								
92	Net Wholesale Revenue								
	<u>(a) Flint / Detroit Adjustment Impacts</u>								
93	Flint Gross	469,200	564,400	9.43	11,197,400	10,441,600	718,400	(6,652,800)	37,400
94	less: KWA Debt Svc Credit		(554,400)		(6,652,800)	0	0	0	0
95	Flint Net		10,000		4,544,600	10,441,600	718,400	(6,652,800)	37,400
96	Detroit Gross				42,397,300	41,418,600	(20,700,000)	828,700	150,000
97	less: Ownership Adj Credit				(20,700,000)	0	0	0	0
98	Detroit Net				21,697,300	41,418,600	(20,700,000)	828,700	150,000
99	Modified Demands (1)	25,100	49,400		1,074,200	983,400	67,600	19,700	3,500
100	Non-Master Metered (3)	4,863,200	2,407,800		33,631,200	52,346,400	(19,948,100)	1,047,800	185,100
101	No Mods - All Others (84)	12,793,800	15,246,000		315,466,500	288,966,400	19,880,600	(1,067,600)	1,034,300
102	Total	17,682,100	17,703,200		350,171,900	342,296,200	100	(100)	1,222,900
103	Total Mods (99) + (100)	4,888,300	2,457,200		34,705,400	53,329,800	(19,880,500)	1,067,500	188,600

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Table 3
Water Supply System
Revenue Requirement and Charge Adjustment Summary

	(1)	(2)	(3)	(4)
	Approved	Recommended		
	<u>FY 2022</u>	<u>FY 2023</u>	<u>Variance</u>	<u>% Variance</u>
	\$	\$	\$	
<u>Revenues</u>				
1 Revenues from Charges	342,808,200	354,946,100	12,137,900	3.5%
2 Other Operating Revenue	175,000	175,000	0	0.0%
3 Non-Operating Revenue	1,047,300	950,500	(96,800)	-9.2%
4 Total Revenues	344,030,500	356,071,600	12,041,100	3.5%
<u>Revenue Requirements</u>				
5 Operations & Maintenance (O&M) Expense	143,933,800	144,847,700	913,900	0.6%
6 General Retirement System Legacy Pension	6,048,000	6,048,000	0	0.0%
7 Debt Service - Regional System Allocation	135,481,000	150,337,100	14,856,100	11.0%
8 General Retirement System Accelerated Pension	6,268,300	6,268,300	0	0.0%
9 WRAP Contribution	1,705,500	1,770,500	65,000	3.8%
10 Lease Payment	22,500,000	22,500,000	0	0.0%
11 Deposit to Improvement & Extension (I&E) Fund	28,093,900	24,300,000	(3,793,900)	-13.5%
12 Total Revenue Requirements	344,030,500	356,071,600	12,041,100	3.5%
<u>Charge Adjustment Summary</u>				
13 Adjustment Index		3.50%		
14 Baseline Revenue		342,296,100		
15 Change in Annual Revenue Requirement			12,041,100	3.5%
16 Change Attributable to Non-Charge Revenue			96,800	0.03%
17 Change Attributable to Sales Revenue / Bad Debt			<u>512,100</u>	<u>0.15%</u>
18 System Charge Adjustment			12,650,000	3.70%

Table 4
Water Supply System
Summarized *Wholesale Service* Revenue Requirement Allocation to Cost Pools

		(1)	(2)	(3)
		FY 2022 Cost of Svc <u>Allocation</u> \$	FY 2022 Cost of Svc <u>Alloc Factors</u> ~ (1)	Allocated FY 2023 <u>Rev Req't</u> ~ (2)
	<u>Cost Pools</u>			
1	Commodity	8,879,400	2.6%	9,193,900
2	Max Day Usage	156,443,800	45.6%	161,984,100
3	Peak Hour Increment	7,041,000	2.1%	7,290,300
4	Peak Hour Distance	84,456,800	24.6%	87,447,700
5	Commodity Distance-Elevation	18,392,200	5.4%	19,043,500
6	Max Day Distance-Elevation	12,778,100	3.7%	13,230,600
7	Peak Hour Distance-Elevation	41,377,100	12.1%	42,842,400
8	Peak Hour Increment Distance-Elevation	9,196,200	2.7%	9,521,900
9	Suburban Only - Meter Related	4,241,400	1.2%	4,391,600
10	Total	342,806,000	100.0%	354,946,000
	<u>Summary by Major Category</u>			
11	Commodity			28,237,400
12	Max Day			175,214,700
13	Peak Hour			147,102,300
14	Total Demand			322,317,000
15	Suburban Only - Meter Related			4,391,600

Table 5
Water Supply System
Calculation of Wholesale Cost of Service Charge Adjustment Factors

	(1)	(2)	(3)	(4)	
	<u>Total System</u>	<u>St. Clair County BPW</u>	<u>Non Master Metered Group</u>	<u>All Other Members</u>	
					(1) - (2) - (3)
<u>Cost Pool Shares</u>					
1 Commodity Units - Mcf	100.0%	0.158%	26.532%	73.310%	Table 1d
2 Max Day Units - Mcf/Day	100.0%	0.324%	18.559%	81.117%	Table 1d
3 Peak Hour Increment - Mcf/Day	100.0%	0.000%	14.132%	85.868%	Table 1d
4 Peak Hour Distance - Mcf-miles/Day	100.0%	0.470%	12.442%	87.087%	Table 1d
5 Commodity Distance-Elevation - Mcf-miles/Day	100.0%	0.301%	15.649%	84.049%	Table 1d
6 Max Day Distance-Elevation - Mcf-miles/Day	100.0%	0.588%	10.460%	88.952%	Table 1d
7 Peak Hour Distance-Elevation - Mcf-miles/Day	100.0%	0.475%	10.160%	89.365%	Table 1d
8 Peak Hour Increment Dist-Elev - Mcf-miles/Day	100.0%	0.000%	8.898%	91.102%	Table 1d
9 Suburban Equivalent Meters	100.0%	0.615%	0.000%	99.385%	Table 1d
<u>Revenue Requirement Allocation</u> (a)					
10 Commodity	9,193,900	14,500	2,439,300	6,740,100	Line 1 x Column (1)
11 Max Day Usage	161,984,100	524,400	30,062,700	131,397,000	Line 2 x Column (1)
12 Peak Hour Increment	7,290,300	0	1,030,200	6,260,100	Line 3 x Column (1)
13 Peak Hour Distance	87,447,700	411,300	10,880,400	76,156,000	Line 4 x Column (1)
14 Commodity Distance-Elevation	19,043,500	57,400	2,980,200	16,005,900	Line 5 x Column (1)
15 Max Day Distance-Elevation	13,230,600	77,800	1,383,900	11,768,900	Line 6 x Column (1)
16 Peak Hour Distance-Elevation	42,842,400	203,600	4,352,700	38,286,100	Line 7 x Column (1)
17 Peak Hour Increment Distance-Elevation	9,521,900	0	847,200	8,674,700	Line 8 x Column (1)
18 Suburban Only - Meter Related	4,391,600	27,000	0	4,364,600	Line 9 x Column (1)
19 Total	354,946,000	1,316,000	53,976,600	299,653,400	
20 "Wholesale Service" Revenue - Existing Charges	342,296,100	983,400	52,346,300	288,966,400	Table 2
21 "Wholesale Service" Adjustment Required - \$	12,649,900	332,600	1,630,300	10,687,000	
22 "Wholesale Service" Adjustment Required - %	3.70%	33.82%	3.11%	3.70%	<-- Simplified Wholesale Charge Adjustment

(a) FY 2022 Allocated Revenue Requirement + 3.5% - from Table 4

Table 6
Water Supply System
Allocation of FY 2023 Revenue Requirements and Adjustments to Member Partners

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Proforma Wholesale Revenue	Indexed Adjustment	Wholesale Rev Req't Adjustment	Allocated Wholesale Rev Req't	Detroit Ownership Adjustment		Flint KWA Debt Svc Adj		HP Bad Debt Adjustment	
	<u>\$</u>	<u>%</u>	<u>\$</u>	<u>\$</u>	<u>Apply Adjustment</u>	<u>Adjusted Rev Req't</u>	<u>Apply Adjustment</u>	<u>Adjusted Rev Req't</u>	<u>Apply Adjustment</u>	<u>Charge Rev Req't</u>
	Table 2	Table 5	(1) * (2)	(1) + (3)	<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>
					20,700,000	(4) + (5)	6,651,800	(6) + (7)	1,257,300	(8) + (9)
1 Allen Park	2,430,700	3.70%	89,900	2,520,600	167,100	2,687,700	48,700	2,736,400	9,000	2,745,400
2 Almont Village	231,100	3.70%	8,500	239,600	15,900	255,500	4,600	260,100	900	261,000
3 Ash Township	801,600	3.70%	29,600	831,200	55,100	886,300	16,100	902,400	3,000	905,400
4 Belleville	318,600	3.70%	11,800	330,400	21,900	352,300	6,400	358,700	1,200	359,900
5 Berlin Township	708,100	3.70%	26,200	734,300	48,700	783,000	14,200	797,200	2,600	799,800
6 Brownstown Township	3,477,300	3.70%	128,600	3,605,900	239,100	3,845,000	69,700	3,914,700	12,800	3,927,500
7 Bruce Twp	331,300	3.70%	12,300	343,600	22,800	366,400	6,600	373,000	1,200	374,200
8 Canton Township	10,002,600	3.70%	369,900	10,372,500	687,700	11,060,200	200,500	11,260,700	36,900	11,297,600
9 Center Line	455,400	3.70%	16,800	472,200	31,300	503,500	9,100	512,600	1,700	514,300
10 Chesterfield Township	4,140,400	3.70%	153,100	4,293,500	284,600	4,578,100	83,000	4,661,100	15,300	4,676,400
11 Clinton Township	7,276,700	3.70%	269,100	7,545,800	500,300	8,046,100	145,900	8,192,000	26,800	8,218,800
12 Commerce Township	3,468,700	3.70%	128,300	3,597,000	238,500	3,835,500	69,500	3,905,000	12,800	3,917,800
13 Dearborn	9,804,700	3.11%	305,400	10,110,100	670,300	10,780,400	195,400	10,975,800	35,900	11,011,700
14 Dearborn Heights	3,539,200	3.70%	130,900	3,670,100	243,300	3,913,400	70,900	3,984,300	13,000	3,997,300
15 Eastpointe	1,503,100	3.70%	55,600	1,558,700	103,300	1,662,000	30,100	1,692,100	5,500	1,697,600
16 Ecorse	1,392,200	3.70%	51,500	1,443,700	95,700	1,539,400	27,900	1,567,300	5,100	1,572,400
17 Farmington	970,900	3.70%	35,900	1,006,800	66,700	1,073,500	19,500	1,093,000	3,600	1,096,600
18 Farmington Hills	8,496,100	3.70%	314,200	8,810,300	584,100	9,394,400	170,300	9,564,700	31,300	9,596,000
19 Ferndale	1,001,200	3.70%	37,000	1,038,200	68,800	1,107,000	20,100	1,127,100	3,700	1,130,800
20 Flat Rock	1,235,700	3.70%	45,700	1,281,400	85,000	1,366,400	24,800	1,391,200	4,600	1,395,800
21 Flint	10,441,600	3.70%	386,200	10,827,800	717,800	11,545,600	(6,651,800)	4,893,800	38,500	4,932,300
22 Fraser	1,170,000	3.70%	43,300	1,213,300	80,400	1,293,700	23,500	1,317,200	4,300	1,321,500
23 Garden City	1,592,000	3.70%	58,900	1,650,900	109,400	1,760,300	31,900	1,792,200	5,900	1,798,100
24 Gibraltar	321,600	3.70%	11,900	333,500	22,100	355,600	6,400	362,000	1,200	363,200
25 Grosse Ile Township	1,056,900	3.70%	39,100	1,096,000	72,700	1,168,700	21,200	1,189,900	3,900	1,193,800
26 Grosse Pt. Park	1,292,900	3.70%	47,800	1,340,700	88,900	1,429,600	25,900	1,455,500	4,800	1,460,300
27 Grosse Pt. Shores	623,900	3.70%	23,100	647,000	42,900	689,900	12,500	702,400	2,300	704,700
28 Grosse Pt. Woods	1,220,200	3.70%	45,100	1,265,300	83,900	1,349,200	24,500	1,373,700	4,500	1,378,200
29 Hamtramck	773,600	3.70%	28,600	802,200	53,200	855,400	15,500	870,900	2,900	873,800
30 Harper Woods	774,400	3.70%	28,600	803,000	53,200	856,200	15,500	871,700	2,900	874,600
31 Harrison Township	1,564,400	3.70%	57,900	1,622,300	107,600	1,729,900	31,400	1,761,300	5,800	1,767,100
32 Hazel Park	708,800	3.70%	26,200	735,000	48,700	783,700	14,200	797,900	2,600	800,500
33 Highland Park	1,123,100	3.11%	35,000	1,158,100	76,800	1,234,900	22,400	1,257,300	0	1,257,300
34 Huron Township	1,435,800	3.70%	53,100	1,488,900	98,700	1,587,600	28,800	1,616,400	5,300	1,621,700
35 Imlay City	1,418,900	3.70%	52,500	1,471,400	97,500	1,568,900	28,400	1,597,300	5,200	1,602,500

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Table 6
Water Supply System
Allocation of FY 2023 Revenue Requirements and Adjustments to Member Partners

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Proforma Wholesale Revenue	Indexed Adjustment	Wholesale Rev Req't Adjustment	Allocated Wholesale Rev Req't	Detroit Ownership Adjustment		Flint KWA Debt Svc Adj		HP Bad Debt Adjustment	
	<u>\$</u>	<u>%</u>	<u>\$</u>	<u>\$</u>	<u>Apply Adjustment</u>	<u>Adjusted Rev Req't</u>	<u>Apply Adjustment</u>	<u>Adjusted Rev Req't</u>	<u>Apply Adjustment</u>	<u>Charge Rev Req't</u>
	Table 2	Table 5	(1) * (2)	(1) + (3)	<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>
					20,700,000	(4) + (5)	6,651,800	(6) + (7)	1,257,300	(8) + (9)
36	Imlay Twp	14,600	3.70%	500	15,100	1,000	16,100	300	16,400	100
37	Inkster	1,230,600	3.70%	45,500	1,276,100	84,600	1,360,700	24,700	1,385,400	4,500
38	Keego Harbor	289,100	3.70%	10,700	299,800	19,900	319,700	5,800	325,500	1,100
39	Lapeer	1,485,300	3.70%	54,900	1,540,200	102,100	1,642,300	29,800	1,672,100	5,500
40	Lenox Township	279,200	3.70%	10,300	289,500	19,200	308,700	5,600	314,300	1,000
41	Lincoln Park	2,243,100	3.70%	83,000	2,326,100	154,200	2,480,300	45,000	2,525,300	8,300
42	Livonia	11,027,600	3.70%	407,800	11,435,400	758,100	12,193,500	221,000	12,414,500	40,600
43	Macomb Township	12,118,100	3.70%	448,200	12,566,300	833,100	13,399,400	242,900	13,642,300	44,700
44	Madison Heights	1,783,600	3.70%	66,000	1,849,600	122,600	1,972,200	35,800	2,008,000	6,600
45	Mayfield Twp	38,900	3.70%	1,400	40,300	2,700	43,000	800	43,800	100
46	Melvindale	622,000	3.70%	23,000	645,000	42,800	687,800	12,500	700,300	2,300
47	New Haven, Village of	360,800	3.70%	13,300	374,100	24,800	398,900	7,200	406,100	1,300
48	N O C W A	21,179,800	3.70%	783,300	21,963,100	1,456,100	23,419,200	424,500	23,843,700	78,100
49	Northville	744,300	3.70%	27,500	771,800	51,200	823,000	14,900	837,900	2,700
50	Northville Township	5,438,400	3.70%	201,100	5,639,500	373,900	6,013,400	109,000	6,122,400	20,000
51	Novi	8,720,900	3.70%	322,500	9,043,400	599,500	9,642,900	174,800	9,817,700	32,100
52	Oak Park	1,337,800	3.70%	49,500	1,387,300	92,000	1,479,300	26,800	1,506,100	4,900
53	Oakland Co. Drain Comm.	78,200	3.70%	2,900	81,100	5,400	86,500	1,600	88,100	300
54	Plymouth	1,048,400	3.70%	38,800	1,087,200	72,100	1,159,300	21,000	1,180,300	3,900
55	Plymouth Township	4,275,600	3.70%	158,100	4,433,700	293,900	4,727,600	85,700	4,813,300	15,800
56	Redford Township	3,043,500	3.70%	112,600	3,156,100	209,200	3,365,300	61,000	3,426,300	11,200
57	River Rouge	657,300	3.70%	24,300	681,600	45,200	726,800	13,200	740,000	2,400
58	Riverview	854,700	3.70%	31,600	886,300	58,800	945,100	17,100	962,200	3,100
59	Rockwood	267,100	3.70%	9,900	277,000	18,400	295,400	5,400	300,800	1,000
60	Romeo	249,600	3.70%	9,200	258,800	17,200	276,000	5,000	281,000	900
61	Romulus	4,142,500	3.70%	153,200	4,295,700	284,800	4,580,500	83,000	4,663,500	15,300
62	Roseville	2,584,700	3.70%	95,600	2,680,300	177,700	2,858,000	51,800	2,909,800	9,500
63	Royal Oak Township	186,400	3.70%	6,900	193,300	12,800	206,100	3,700	209,800	700
64	S O C W A	22,080,300	3.70%	816,600	22,896,900	1,518,000	24,414,900	442,600	24,857,500	81,400
65	Shelby Township	13,877,600	3.70%	513,200	14,390,800	954,000	15,344,800	278,200	15,623,000	51,100
66	South Rockwood	109,900	3.70%	4,100	114,000	7,600	121,600	2,200	123,800	400
67	Southgate	2,107,900	3.70%	78,000	2,185,900	144,900	2,330,800	42,300	2,373,100	7,800
68	St. Clair County-Burchville Twp	334,300	3.70%	12,400	346,700	23,000	369,700	6,700	376,400	1,200
69	St. Clair County BPW	983,400	33.82%	332,600	1,316,000	87,200	1,403,200	25,400	1,428,600	4,700
70	St. Clair Shores	2,987,400	3.70%	110,500	3,097,900	205,400	3,303,300	59,900	3,363,200	11,000
71	Sterling Heights	14,864,900	3.70%	549,800	15,414,700	1,021,900	16,436,600	298,000	16,734,600	54,800

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Table 6
Water Supply System
Allocation of FY 2023 Revenue Requirements and Adjustments to Member Partners

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Proforma Wholesale Revenue	Indexed Adjustment	Wholesale Rev Req't Adjustment	Allocated Wholesale Rev Req't	Detroit Ownership Adjustment		Flint KWA Debt Svc Adj		HP Bad Debt Adjustment	
	<u>\$</u>	<u>%</u>	<u>\$</u>	<u>\$</u>	<u>Apply Adjustment</u>	<u>Adjusted Rev Req't</u>	<u>Apply Adjustment</u>	<u>Adjusted Rev Req't</u>	<u>Apply Adjustment</u>	<u>Charge Rev Req't</u>
	<i>Table 2</i>	<i>Table 5</i>	<i>(1) * (2)</i>	<i>(1) + (3)</i>	<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>
					20,700,000	<i>(4) + (5)</i>	6,651,800	<i>(6) + (7)</i>	1,257,300	<i>(8) + (9)</i>
72 Sumpter Township	659,200	3.70%	24,400	683,600	45,300	728,900	13,200	742,100	2,400	744,500
73 Sylvan Lake	225,900	3.70%	8,400	234,300	15,500	249,800	4,500	254,300	800	255,100
74 Taylor	4,456,000	3.70%	164,800	4,620,800	306,300	4,927,100	89,300	5,016,400	16,400	5,032,800
75 Trenton	1,626,500	3.70%	60,200	1,686,700	111,800	1,798,500	32,600	1,831,100	6,000	1,837,100
76 Troy	13,126,100	3.70%	485,400	13,611,500	902,400	14,513,900	263,100	14,777,000	48,400	14,825,400
77 Utica	535,100	3.70%	19,800	554,900	36,800	591,700	10,700	602,400	2,000	604,400
78 Van Buren Township	3,394,700	3.70%	125,500	3,520,200	233,400	3,753,600	68,000	3,821,600	12,500	3,834,100
79 Walled Lake	764,000	3.70%	28,300	792,300	52,500	844,800	15,300	860,100	2,800	862,900
80 Warren	9,915,500	3.70%	366,700	10,282,200	681,700	10,963,900	198,800	11,162,700	36,500	11,199,200
81 Washington Township	2,263,100	3.70%	83,700	2,346,800	155,600	2,502,400	45,400	2,547,800	8,300	2,556,100
82 Wayne	3,103,600	3.70%	114,800	3,218,400	213,400	3,431,800	62,200	3,494,000	11,400	3,505,400
83 West Bloomfield Township	10,084,200	3.70%	372,900	10,457,100	693,300	11,150,400	202,100	11,352,500	37,200	11,389,700
84 Westland	5,952,600	3.70%	220,100	6,172,700	409,200	6,581,900	119,300	6,701,200	21,900	6,723,100
85 Wixom	2,394,900	3.70%	88,600	2,483,500	164,600	2,648,100	48,000	2,696,100	8,800	2,704,900
86 Woodhaven	1,615,400	3.70%	59,700	1,675,100	111,100	1,786,200	32,400	1,818,600	6,000	1,824,600
87 Ypsilanti Comm Util Auth	10,009,300	3.70%	370,200	10,379,500	688,100	11,067,600	200,600	11,268,200	36,900	11,305,100
88 Total Suburban	300,877,600	3.78%	11,359,900	312,237,500	20,700,300	332,937,800	(825,700)	332,112,100	1,105,700	333,217,800
89 Detroit	41,418,600	3.11%	1,290,000	42,708,600	(20,700,000)	22,008,600	825,700	22,834,300	151,600	22,985,900
90 GRAND TOTAL	342,296,200	3.70%	12,649,900	354,946,100	300	354,946,400	0	354,946,400	1,257,300	356,203,700
91 less: Bad Debt Expense										(1,257,300)
92 Net Wholesale Revenue				354,946,100	300	354,946,400	0	354,946,400	1,257,300	354,946,400
93 Modified Demands (1)	983,400	33.82%	332,600	1,316,000	87,200	1,403,200	25,400	1,428,600	4,700	1,433,300
94 Non-Master Metered (3)	52,346,400	3.11%	1,630,400	53,976,800	(19,952,900)	34,023,900	1,043,500	35,067,400	187,500	35,254,900
95 No Mods - All Others (84)	288,966,400	3.70%	10,686,900	299,653,300	19,866,000	319,519,300	(1,068,900)	318,450,400	1,065,100	319,515,500
96 Total	342,296,200	3.70%	12,649,900	354,946,100	300	354,946,400	0	354,946,400	1,257,300	356,203,700

Table 7
Water Supply System
Calculation of FY 2023 Wholesale Water Service Charge Schedule

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
		Sales Volume <i>Mcf</i>	Existing Charges		Proforma Revenue	Allocated Revenue Req't \$	Charge Adjustment \$	% Charge Adjustment <i>(6) / (4)</i>	60%	Recover Via:		Proposed Charges		Projected Revenue \$	Revenue Recovery <i>(12) / (5)</i>
			Fixed Mo	Commodity	Exist Charges				Fixed Mo	Commodity	Fixed Mo	Commodity			
			<i>\$/mo</i>	<i>\$/Mcf</i>	<i>\$</i>				<i>\$</i>	<i>\$</i>	<i>\$/mo</i>	<i>\$/Mcf</i>			
			0		<i>Table 2</i>	<i>Table 7</i>	<i>(5) - (4)</i>	<i>(6) / (4)</i>	<i>60% of (5)</i>	<i>(5) - (8)*12</i>	<i>(8) / 12 mos</i>	<i>(9) / (1)</i>	<i>'2*(10)+(1)*(11)</i>		
1	Allen Park	145,600	126,400	7.82	2,655,400	2,745,400	90,000	3.39%	1,647,200	1,097,800	137,300	7.54	2,745,400	100.0%	
2	Almont Village	9,600	12,600	10.54	252,400	261,000	8,600	3.41%	156,600	103,800	13,100	10.81	261,000	100.0%	
3	Ash Township	42,200	43,900	8.27	875,800	905,400	29,600	3.38%	543,200	361,800	45,300	8.57	905,300	100.0%	
4	Belleville	15,300	16,600	9.74	348,200	359,900	11,700	3.36%	215,900	143,900	18,000	9.41	360,000	100.0%	
5	Berlin Township	27,100	38,400	11.54	773,500	799,800	26,300	3.40%	479,900	319,800	40,000	11.80	799,800	100.0%	
6	Brownstown Township	136,300	190,600	11.09	3,798,800	3,927,500	128,700	3.39%	2,356,500	1,570,700	196,400	11.52	3,927,000	100.0%	
7	Bruce Twp	2,640	16,700	61.19	361,900	374,200	12,300	3.40%	224,500	149,800	18,700	56.74	374,200	100.0%	
8	Canton Township	359,900	539,900	12.36	10,927,200	11,297,600	370,400	3.39%	6,778,600	4,518,800	564,900	12.56	11,299,100	100.0%	
9	Center Line	32,200	24,600	6.28	497,400	514,300	16,900	3.40%	308,600	205,900	25,700	6.39	514,200	100.0%	
10	Chesterfield Township	176,500	223,800	10.41	4,523,000	4,676,400	153,400	3.39%	2,805,800	1,870,800	233,800	10.60	4,676,500	100.0%	
11	Clinton Township	399,300	398,900	7.92	7,949,300	8,218,800	269,500	3.39%	4,931,300	3,288,000	410,900	8.23	8,217,000	100.0%	
12	Commerce Township	104,400	187,700	14.72	3,789,200	3,917,800	128,600	3.39%	2,350,700	1,567,000	195,900	15.01	3,917,800	100.0%	
13	Dearborn	588,500	538,500	7.22	10,711,000	11,011,700	300,700	2.81%	6,607,000	4,404,500	550,600	7.48	11,009,200	100.0%	
14	Dearborn Heights	197,300	193,300	7.84	3,866,400	3,997,300	130,900	3.39%	2,398,400	1,598,500	199,900	8.10	3,996,900	100.0%	
15	Eastpointe	104,300	82,000	6.31	1,642,100	1,697,600	55,500	3.38%	1,018,600	678,800	84,900	6.51	1,697,800	100.0%	
16	Ecorse	126,800	79,400	4.48	1,520,900	1,572,400	51,500	3.39%	943,400	629,200	78,600	4.96	1,572,100	100.0%	
17	Farmington	44,600	53,000	9.52	1,060,600	1,096,600	36,000	3.39%	658,000	439,000	54,800	9.84	1,096,500	100.0%	
18	Farmington Hills	349,500	465,600	10.57	9,281,400	9,596,000	314,600	3.39%	5,757,600	3,838,400	479,800	10.98	9,595,100	100.0%	
19	Ferndale	71,800	54,100	6.19	1,093,600	1,130,800	37,200	3.40%	678,500	452,800	56,500	6.31	1,131,100	100.0%	
20	Flat Rock	52,200	69,900	9.79	1,349,800	1,395,800	46,000	3.41%	837,500	558,200	69,800	10.69	1,395,600	100.0%	
21	Flint	469,200	10,000	9.43	4,544,600	4,932,300	387,700	8.53%	298,700	4,633,500	24,900	9.88	4,934,500	100.0%	
22	Fraser	58,100	64,300	8.72	1,278,200	1,321,500	43,300	3.39%	792,900	528,300	66,100	9.09	1,321,300	100.0%	
23	Garden City	78,300	88,100	8.71	1,739,200	1,798,100	58,900	3.39%	1,078,900	719,300	89,900	9.19	1,798,400	100.0%	
24	Gibraltar	16,400	17,500	8.61	351,200	363,200	12,000	3.42%	217,900	144,800	18,200	8.83	363,200	100.0%	
25	Grosse Ile Township	38,100	57,800	12.10	1,154,600	1,193,800	39,200	3.40%	716,300	477,400	59,700	12.53	1,193,800	100.0%	
26	Grosse Pt. Park	54,900	71,000	10.21	1,412,500	1,460,300	47,800	3.38%	876,200	584,300	73,000	10.64	1,460,100	100.0%	
27	Grosse Pt. Shores	19,200	34,800	13.75	681,600	704,700	23,100	3.39%	422,800	282,300	35,200	14.70	704,600	100.0%	
28	Grosse Pt. Woods	69,400	67,700	7.50	1,332,900	1,378,200	45,300	3.40%	826,900	551,400	68,900	7.95	1,378,500	100.0%	
29	Hamtramck	62,500	42,200	5.42	845,200	873,800	28,600	3.38%	524,300	349,400	43,700	5.59	873,800	100.0%	
30	Harper Woods	47,200	42,500	7.12	846,100	874,600	28,500	3.37%	524,800	350,200	43,700	7.42	874,600	100.0%	
31	Harrison Township	95,400	85,100	7.21	1,709,000	1,767,100	58,100	3.40%	1,060,300	706,300	88,400	7.40	1,766,800	100.0%	
32	Hazel Park	50,200	38,800	6.15	774,300	800,500	26,200	3.38%	480,300	320,500	40,000	6.38	800,300	100.0%	
33	Highland Park	105,500	61,200	4.63	1,222,900	1,257,300	34,400	2.81%	754,400	502,500	62,900	4.76	1,257,000	100.0%	
34	Huron Township	62,000	77,600	10.28	1,568,600	1,621,700	53,100	3.39%	973,000	648,500	81,100	10.46	1,621,700	100.0%	
35	Imlay City	46,200	77,200	13.50	1,550,100	1,602,500	52,400	3.38%	961,500	641,300	80,100	13.88	1,602,500	100.0%	

Table 7
Water Supply System
Calculation of FY 2023 Wholesale Water Service Charge Schedule

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
	Sales	Existing Charges		Proforma Revenue	Allocated	Charge	% Charge	60%	Recover Via:		Proposed Charges		Projected	Revenue
	Volume	Fixed Mo	Commodity	Exist Charges	Revenue Req't	Adjustment	Adjustment	Fixed Mo	Commodity	Fixed Mo	Commodity	Revenue	Recovery	
	Mcf	\$/mo	\$/Mcf	\$	\$	\$		\$	\$	\$/mo	\$/Mcf	\$		
		0		Table 2	Table 7	(5) - (4)	(6) / (4)	60% of (5)	(5) - (8)*12	(8) / 12 mos	(9) / (1)	'2*(10)+(1)*(11)	(12) / (5)	
36	Imlay Twp	150	800	42.50	16,000	16,500	500	3.13%	9,900	6,900	800	46.00	16,500	100.0%
37	Inkster	101,300	65,100	5.56	1,344,400	1,389,900	45,500	3.38%	833,900	555,900	69,500	5.49	1,390,100	100.0%
38	Keego Harbor	10,000	15,700	12.74	315,800	326,600	10,800	3.42%	196,000	131,000	16,300	13.10	326,600	100.0%
39	Lapeer	52,900	80,600	12.39	1,622,600	1,677,600	55,000	3.39%	1,006,600	670,800	83,900	12.68	1,677,600	100.0%
40	Lenox Township	14,000	15,600	8.42	305,100	315,300	10,200	3.34%	189,200	125,700	15,800	8.98	315,300	100.0%
41	Lincoln Park	165,300	121,000	6.04	2,450,400	2,533,600	83,200	3.40%	1,520,200	1,013,200	126,700	6.13	2,533,700	100.0%
42	Livonia	471,000	607,100	10.11	12,047,000	12,455,100	408,100	3.39%	7,473,100	4,981,500	622,800	10.58	12,456,800	100.0%
43	Macomb Township	320,800	669,300	16.23	13,238,200	13,687,000	448,800	3.39%	8,212,200	5,474,200	684,400	17.06	13,685,600	100.0%
44	Madison Heights	105,100	98,000	7.35	1,948,500	2,014,600	66,100	3.39%	1,208,800	806,200	100,700	7.67	2,014,500	100.0%
45	Mayfield Twp	510	2,500	24.68	42,600	43,900	1,300	3.05%	26,300	17,500	2,200	34.31	43,900	100.0%
46	Melvindale	42,100	34,100	6.42	679,500	702,600	23,100	3.40%	421,600	281,400	35,100	6.68	702,400	100.0%
47	New Haven, Village of	18,400	22,200	6.94	394,100	407,400	13,300	3.37%	244,400	162,600	20,400	8.84	407,500	100.0%
48	N O C W A	876,100	1,168,100	10.41	23,137,400	23,921,800	784,400	3.39%	14,353,100	9,568,600	1,196,100	10.92	23,920,200	100.0%
49	Northville	31,100	40,600	10.48	813,100	840,600	27,500	3.38%	504,400	336,600	42,000	10.82	840,500	100.0%
50	Northville Township	138,200	299,300	17.00	5,941,000	6,142,400	201,400	3.39%	3,685,400	2,457,200	307,100	17.78	6,142,400	100.0%
51	Novi	292,600	476,200	13.03	9,527,000	9,849,800	322,800	3.39%	5,909,900	3,939,800	492,500	13.46	9,848,400	100.0%
52	Oak Park	94,900	73,700	6.08	1,461,400	1,511,000	49,600	3.39%	906,600	603,800	75,600	6.36	1,510,800	100.0%
53	Oakland Co. Drain Comm.	9,700	4,300	3.49	85,500	88,400	2,900	3.39%	53,000	35,600	4,400	3.67	88,400	100.0%
54	Plymouth	44,600	57,000	10.34	1,145,200	1,184,200	39,000	3.41%	710,500	473,800	59,200	10.62	1,184,100	100.0%
55	Plymouth Township	160,900	234,100	11.57	4,670,800	4,829,100	158,300	3.39%	2,897,500	1,931,100	241,500	12.00	4,828,800	100.0%
56	Redford Township	158,600	167,100	8.32	3,324,800	3,437,500	112,700	3.39%	2,062,500	1,374,700	171,900	8.67	3,437,900	100.0%
57	River Rouge	37,900	35,900	7.58	718,100	742,400	24,300	3.38%	445,400	297,200	37,100	7.84	742,300	100.0%
58	Riverview	48,000	46,900	7.73	933,800	965,300	31,500	3.37%	579,200	385,700	48,300	8.04	965,500	100.0%
59	Rockwood	9,800	14,700	11.79	291,900	301,800	9,900	3.39%	181,100	120,600	15,100	12.31	301,800	100.0%
60	Romeo	6,100	13,500	18.13	272,600	281,900	9,300	3.41%	169,100	112,700	14,100	18.48	281,900	100.0%
61	Romulus	223,500	224,200	8.21	4,525,300	4,678,800	153,500	3.39%	2,807,300	1,872,000	233,900	8.38	4,679,700	100.0%
62	Roseville	186,500	142,200	5.99	2,823,500	2,919,300	95,800	3.39%	1,751,600	1,167,300	146,000	6.26	2,919,500	100.0%
63	Royal Oak Township	10,300	10,400	7.65	203,600	210,500	6,900	3.39%	126,300	84,500	10,500	8.20	210,500	100.0%
64	S O C W A	1,230,500	1,215,400	7.75	24,121,200	24,938,900	817,700	3.39%	14,963,300	9,976,100	1,246,900	8.11	24,942,200	100.0%
65	Shelby Township	412,700	751,600	14.88	15,160,200	15,674,100	513,900	3.39%	9,404,500	6,269,700	783,700	15.19	15,673,300	100.0%
66	South Rockwood	4,600	6,100	10.17	120,000	124,200	4,200	3.50%	74,500	49,800	6,200	10.83	124,200	100.0%
67	Southgate	111,700	116,300	8.12	2,302,600	2,380,900	78,300	3.40%	1,428,500	952,900	119,000	8.53	2,380,800	100.0%
68	St. Clair County-Burtchville Twp	8,400	17,700	18.19	365,200	377,600	12,400	3.40%	226,600	150,800	18,900	17.95	377,600	100.0%
69	St. Clair County BPW	25,100	49,400	19.18	1,074,200	1,433,300	359,100	33.43%	860,000	572,900	71,700	22.82	1,433,200	100.0%
70	St. Clair Shores	194,400	161,800	6.80	3,263,500	3,374,200	110,700	3.39%	2,024,500	1,349,800	168,700	6.94	3,373,500	100.0%
71	Sterling Heights	591,100	804,500	11.14	16,238,900	16,789,400	550,500	3.39%	10,073,600	6,715,400	839,500	11.36	16,788,900	100.0%

Table 7
Water Supply System
Calculation of FY 2023 Wholesale Water Service Charge Schedule

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
	Sales	Existing Charges		Proforma Revenue	Allocated	Charge	% Charge	60%	Recover Via:		Proposed Charges		Projected	Revenue
	Volume	Fixed Mo	Commodity	Exist Charges	Revenue Req't	Adjustment	Adjustment	Fixed Mo	Commodity	Fixed Mo	Commodity	Revenue	Recovery	
	Mcf	\$/mo	\$/Mcf	\$	\$	\$		\$	\$	\$/mo	\$/Mcf	\$		
		0		Table 2	Table 7	(5) - (4)	(6) / (4)	60% of (5)	(5) - (8)*12	(8) / 12 mos	(9) / (1)	'2*(10)+(1)*(11)	(12) / (5)	
72	Sumpter Township	30,300	35,600	9.67	720,200	744,500	24,300	3.37%	446,700	298,100	37,200	9.84	744,600	100.0%
73	Sylvan Lake	6,400	12,300	15.48	246,700	255,100	8,400	3.40%	153,100	101,500	12,800	15.86	255,100	100.0%
74	Taylor	258,900	244,700	7.46	4,867,800	5,032,800	165,000	3.39%	3,019,700	2,013,600	251,600	7.78	5,033,400	100.0%
75	Trenton	86,400	89,100	8.19	1,776,800	1,837,100	60,300	3.39%	1,102,300	734,300	91,900	8.50	1,837,200	100.0%
76	Troy	465,000	722,200	12.20	14,339,400	14,825,400	486,000	3.39%	8,895,200	5,929,800	741,300	12.75	14,824,400	100.0%
77	Utica	23,100	30,000	9.72	584,500	604,400	19,900	3.40%	362,600	242,000	30,200	10.48	604,500	100.0%
78	Van Buren Township	135,500	183,700	11.10	3,708,500	3,834,100	125,600	3.39%	2,300,500	1,533,700	191,700	11.32	3,834,300	100.0%
79	Walled Lake	29,900	42,200	10.98	834,700	862,900	28,200	3.38%	517,700	345,700	43,100	11.56	862,800	100.0%
80	Warren	618,100	545,200	6.94	10,832,000	11,199,200	367,200	3.39%	6,719,500	4,479,200	560,000	7.25	11,201,200	100.0%
81	Washington Township	81,800	121,700	12.37	2,472,300	2,556,100	83,800	3.39%	1,533,700	1,022,500	127,800	12.50	2,556,100	100.0%
82	Wayne	105,400	168,700	12.96	3,390,400	3,505,400	115,000	3.39%	2,103,200	1,401,800	175,300	13.30	3,505,400	100.0%
83	West Bloomfield Township	266,600	551,000	16.52	11,016,200	11,389,700	373,500	3.39%	6,833,800	4,555,700	569,500	17.09	11,390,200	100.0%
84	Westland	322,000	327,500	7.99	6,502,800	6,723,100	220,300	3.39%	4,033,900	2,688,700	336,200	8.35	6,723,100	100.0%
85	Wixom	75,300	130,500	13.95	2,616,400	2,704,900	88,500	3.38%	1,622,900	1,082,500	135,200	14.38	2,705,200	100.0%
86	Woodhaven	57,900	88,100	12.22	1,764,700	1,824,600	59,900	3.39%	1,094,800	730,200	91,200	12.61	1,824,500	100.0%
87	Ypsilanti Comm Util Auth	482,800	547,900	9.03	10,934,500	11,305,100	370,600	3.39%	6,783,100	4,521,500	565,300	9.37	11,307,400	100.0%
88	Total Suburban	13,512,900	15,895,100	9.70	321,821,800	333,217,800	11,396,000	3.54%	197,270,300	135,943,800	16,439,500	10.06	333,219,000	100.0%
89	Detroit (a)	4,169,200	1,808,100		21,697,300	22,985,900	1,288,600	5.94%	22,985,900		1,915,500		22,985,900	100.0%
90	GRAND TOTAL	17,682,100			343,519,100	356,203,700	12,684,600	3.69%	220,256,200	135,943,800			356,204,900	100.0%
91	less: Bad Debt Expense				(1,222,900)	(1,257,300)	(34,400)						(1,257,000)	
92	Net Wholesale Revenue				342,296,200	354,946,400	12,650,200	3.70%					354,947,900	100.0%
	(a) Flint / Detroit Adjustment Impacts													
93	Flint Gross	469,200	564,400	9.43	11,197,400	11,584,100	386,700	3.45%	6,950,500	4,633,700	579,200	9.88	11,586,100	100.0%
94	less: KWA Debt Svc Credit		(554,400)		(6,652,800)	(6,651,800)	1,000	-0.02%	(6,651,800)	(200)	(554,300)		(6,651,600)	100.0%
95	Flint Net for Line 21		10,000	9.43	4,544,600	4,932,300	387,700	8.53%	298,700	4,633,500	24,900	9.88	4,934,500	100.0%
96	Detroit Gross		3,533,100		42,397,300	43,685,900	1,288,600	3.04%	(42,397,300)	(84,794,600)	3,640,500		43,685,900	100.0%
97	less: Ownership Adj Credit		(1,725,000)		(20,700,000)	(20,700,000)	0	0.00%	20,700,000	41,400,000	(1,725,000)		(20,700,000)	100.0%
98	Detroit Net for Line 89		1,808,100		21,697,300	22,985,900	1,288,600	5.94%	(21,697,300)	(43,394,600)	1,915,500		22,985,900	100.0%
99	Modified Demands (1)	25,100			1,074,200	1,433,300	359,100	33.43%					1,433,200	100.0%
100	Non-Master Metered (3)	4,863,200			33,631,200	35,254,900	1,623,700	4.83%					35,252,100	100.0%
101	No Mods - All Others (84)	12,793,800			308,813,700	319,515,500	10,701,800	3.47%					319,519,600	100.0%
102	Total	17,682,100			343,519,100	356,203,700	12,684,600	3.69%					356,204,900	100.0%

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Table 1
Sewage Disposal System
Revenue Requirement and Charge Adjustment Summary

	(1)	(2)	(3)	(4)	(8)	(9)	(10)
	<u>Approved</u>	<u>Recommended</u>	<u>Variance</u>	<u>% Variance</u>	<u>Approved</u>	<u>Variance</u>	<u>% Variance</u>
	<u>FY 2022</u>	<u>FY 2023</u>			<u>FY 2023</u>		
	\$	\$	\$		\$	\$	
<u>Revenues</u>							
1 Revenues from Charges	474,005,900	485,760,000	11,754,100	2.5%	479,817,200	5,811,300	1.2%
2 Other Operating Revenue	400,000	400,000	0	0.0%	400,000	0	0.0%
3 Non-Operating Revenue	1,023,300	1,154,900	131,600	12.9%	1,154,900	131,600	12.9%
4 Total Revenues	475,429,200	487,314,900	11,885,700	2.5%	481,372,100	5,942,900	1.3%
<u>Revenue Requirements</u>							
5 Operations & Maintenance (O&M) Expense	181,299,800	187,052,600	5,752,800	3.2%	184,052,600	2,752,800	1.5%
6 General Retirement System Legacy Pension	10,824,000	10,824,000	0	0.0%	10,824,000	0	0.0%
7 Debt Service - Regional System Allocation	207,209,500	205,638,100	(1,571,400)	-0.8%	205,638,100	(1,571,400)	-0.8%
8 General Retirement System Accelerated Pension	11,620,700	11,620,700	0	0.0%	11,620,700	0	0.0%
9 WRAP Contribution	2,358,300	2,423,800	65,500	2.8%	2,394,200	35,900	1.5%
10 Lease Payment	27,500,000	27,500,000	0	0.0%	27,500,000	0	0.0%
11 Deposit to Improvement & Extension (I&E) Fund	34,616,900	42,255,700	7,638,800	22.1%	39,342,500	4,725,600	13.7%
12 Total Revenue Requirements	475,429,200	487,314,900	11,885,700	2.5%	481,372,100	5,942,900	1.3%
<u>Charge Adjustment Summary</u>							
13 Adjustment Index		2.50%			1.25%		
14 Baseline Revenue		468,644,700			468,644,700		
15 Change in Annual Revenue Requirement			11,885,700	2.5%		5,942,900	1.3%
16 Change Attributable to Non-Charge Revenue			(131,600)	0.0%		(131,600)	0.0%
17 Change Attributable to Sales Revenue / Bad Debt			5,486,700	1.2%		5,420,500	1.2%
18 System Charge Adjustment			17,240,800	3.7%		11,231,800	2.4%
19 Revenue Requirement to Collect with Charges		485,760,000			479,817,200		
20 less: OMID Contract Revenue		(2,186,400)			(2,186,400)		
21 Revenue Requirement to Collect with Wholesale Charges		483,573,600			477,630,800		
22 Proforma Revenue from <u>Wholesale</u> Charges		471,847,400	prior to bad debt expense		471,847,400	prior to bad debt expense	
23 Additional Revenue Required from Wholesale Charges		11,726,200			5,783,400		
24 Wholesale Charge Adjustment - %		2.49%			1.23%		

Table 2
Sewage Disposal System
Allocation of FY 2023 Revenue Requirements to Member Partners and Industrial Customer Classes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Proforma Revenue - Existing Charges				Allocated FY 2023 Revenue Requirement				Change for FY 2023 Charges				"Unbundled" FY 2023 Charge Adjustment			
	Wholesale Rev Req'ts	Contractual Adjustments	Bad Debt Adjustment	Total	Wholesale Rev Req'ts	Contractual Adjustments	Bad Debt Adjustment	Total	Wholesale Rev Req'ts	Contractual Adjustments	Bad Debt Adjustment	Total	Wholesale Rev Req'ts	Contractual Adjustments	Bad Debt Adjustment	Total
		(a)		(1)+(2)+(3)	Table 1	(a)	(c)	(5)+(6)+(7)	(5) - (1)	(6) - (2)	(7) - (3)	(8) - (4)	(9) / (4)	(10) / (4)	(11) / (4)	(12) / (4)
					1.23%		5,420,500									
<u>Suburban Wholesale</u>																
1 OMID Common *	66,910,800	1,395,500	0	68,306,300	67,730,900	1,395,500	1,371,500	70,497,900	820,100	0	1,371,500	2,191,600	1.20%	0.00%	2.01%	3.21%
2 Rouge Valley	54,137,700	1,129,200	0	55,266,900	54,801,300	1,129,200	1,109,600	57,040,100	663,600	0	1,109,600	1,773,200	1.20%	0.00%	2.01%	3.21%
3 Oakland GWK	44,891,500	936,300	0	45,827,800	45,441,700	936,300	920,100	47,298,100	550,200	0	920,100	1,470,300	1.20%	0.00%	2.01%	3.21%
4 Evergreen Farmington	35,035,400	730,800	0	35,766,200	35,464,800	730,800	718,100	36,913,700	429,400	0	718,100	1,147,500	1.20%	0.00%	2.01%	3.21%
5 SE Macomb San Dist	24,266,600	506,100	0	24,772,700	24,564,000	506,100	497,400	25,567,500	297,400	0	497,400	794,800	1.20%	0.00%	2.01%	3.21%
6 Dearborn	19,648,100	409,800	0	20,057,900	19,888,900	409,800	402,700	20,701,400	240,800	0	402,700	643,500	1.20%	0.00%	2.01%	3.21%
7 Grosse Pointe Farms	2,660,100	55,500	0	2,715,600	2,692,700	55,500	54,500	2,802,700	32,600	0	54,500	87,100	1.20%	0.00%	2.01%	3.21%
8 Grosse Pointe Park	1,843,700	38,500	0	1,882,200	1,866,300	38,500	37,800	1,942,600	22,600	0	37,800	60,400	1.20%	0.00%	2.01%	3.21%
9 Melvindale	1,522,700	31,800	0	1,554,500	1,541,400	31,800	31,200	1,604,400	18,700	0	31,200	49,900	1.20%	0.00%	2.01%	3.21%
10 Farmington	1,160,400	24,200	0	1,184,600	1,174,600	24,200	23,800	1,222,600	14,200	0	23,800	38,000	1.20%	0.00%	2.01%	3.21%
11 Center Line	1,009,000	21,000	0	1,030,000	1,021,400	21,000	20,700	1,063,100	12,400	0	20,700	33,100	1.20%	0.00%	2.01%	3.21%
12 Allen Park	821,000	17,100	0	838,100	831,100	17,100	16,800	865,000	10,100	0	16,800	26,900	1.21%	0.00%	2.00%	3.21%
13 Highland Park	5,246,800	109,400	0	5,356,200	5,311,100	109,400	107,500	5,528,000	64,300	0	107,500	171,800	1.20%	0.00%	2.01%	3.21%
14 Hamtramck	3,912,200	81,600	0	3,993,800	3,960,200	81,600	80,200	4,122,000	48,000	0	80,200	128,200	1.20%	0.00%	2.01%	3.21%
15 Grosse Pointe	871,400	18,200	0	889,600	882,100	18,200	17,900	918,200	10,700	0	17,900	28,600	1.20%	0.00%	2.01%	3.21%
16 Harper Woods	211,000	4,400	0	215,400	213,600	4,400	4,300	222,300	2,600	0	4,300	6,900	1.21%	0.00%	2.00%	3.20%
17 Redford Township	261,400	5,500	0	266,900	264,600	5,500	5,400	275,500	3,200	0	5,400	8,600	1.20%	0.00%	2.02%	3.22%
18 Wayne County #3	50,500	1,100	0	51,600	51,100	1,100	1,000	53,200	600	0	1,000	1,600	1.16%	0.00%	1.94%	3.10%
19 Subtotal Suburban Wholesale	264,460,300	5,516,000	0	269,976,300	267,701,800	5,516,000	5,420,500	278,638,300	3,241,500	0	5,420,500	8,662,000	1.20%	0.00%	2.01%	3.21%
20 Detroit Customers	194,178,200	(5,516,000)		188,662,200	196,558,200	(5,516,000)		191,042,200	2,380,000	0	0	2,380,000	1.26%	0.00%	0.00%	1.26%
21 Total Wholesale	458,638,500	0	0	458,638,500	464,260,000	0	5,420,500	469,680,500	5,621,500	0	5,420,500	11,042,000	1.23%	0.00%	1.18%	2.41%
22 OMID Direct *		2,153,500		2,153,500		2,186,400		2,186,400	0	32,900	0	32,900	0.00%	1.53%	0.00%	1.53%
23 Total Member Partner	458,638,500	2,153,500	0	460,792,000	464,260,000	2,186,400	5,420,500	471,866,900	5,621,500	32,900	5,420,500	11,074,900	1.22%	0.01%	1.18%	2.40%
24 OMID Total *	66,910,800	3,549,000	0	70,459,800	67,730,900	3,581,900	1,371,500	72,684,300	820,100	32,900	1,371,500	2,224,500	1.16%	0.05%	1.95%	3.16%
<u>Industrial Specific Charges</u>																
25 Industrial Waste Control	8,318,000			8,318,000	8,420,000	0		8,420,000	102,000	0	0	102,000	1.23%	0.00%	0.00%	1.23%
26 Industrial Surcharges	4,890,900			4,890,900	4,950,800	0		4,950,800	59,900	0	0	59,900	1.22%	0.00%	0.00%	1.22%
27 Subtotal	13,208,900	0	0	13,208,900	13,370,800	0	0	13,370,800	161,900	0	0	161,900	1.23%	0.00%	0.00%	1.23%
28 Total	471,847,400	2,153,500	0	474,000,900	477,630,800	2,186,400	5,420,500	485,237,700	5,783,400	32,900	5,420,500	11,236,800	1.22%	0.01%	1.14%	2.37%
29 less: Expected Bad Debt	(5,246,800)	(109,400)	0	(5,356,200)	(5,311,100)	(109,400)	(0)	(5,420,500)	(64,300)	0	(107,500)	(171,800)	1.20%	0.00%	2.01%	3.21%
30 Total Expected Revenue	466,600,600	2,044,100	0	468,644,700	472,319,700	2,077,000	5,420,500	479,817,200	5,719,100	32,900	5,313,000	11,065,000	1.22%	0.01%	1.13%	2.36%

(a) DWSD Ownership Benefit

(b) Highland Park Amounts from Columns (5) and (6)

Table 3
Sewage Disposal System
Calculation of FY 2023 Wholesale Sewer Service Charge Schedule - Fixed Monthly Charges

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Allocated Wholesale <u>Rev Req't</u> \$	Detroit Capital Ownership <u>Adjustment</u> \$	Adjusted Wholesale <u>Rev Req't</u> \$	OMID <u>Specific</u> \$	Total Allocated <u>Rev Req'ts</u> \$	Bad Debt <u>Adjustment</u> \$ (a)	Total Amount for <u>Charges</u> \$
<u>Suburban Wholesale</u>							
1 OMID	5,644,200	116,300	5,760,500	182,200	5,942,700	114,300	6,057,000
2 Rouge Valley	4,566,800	94,100	4,660,900		4,660,900	92,400	4,753,300
3 Oakland GWK	3,786,800	78,000	3,864,800		3,864,800	76,700	3,941,500
4 Evergreen Farmington	2,955,400	60,900	3,016,300		3,016,300	59,800	3,076,100
5 SE Macomb San Dist	2,047,000	42,200	2,089,200		2,089,200	41,400	2,130,600
6 Dearborn	1,657,400	34,200	1,691,600		1,691,600	33,500	1,725,100
7 Grosse Pointe Farms	224,400	4,600	229,000		229,000	4,600	233,600
8 Grosse Pointe Park	155,500	3,200	158,700		158,700	3,200	161,900
9 Melvindale	128,500	2,700	131,200		131,200	2,500	133,700
10 Farmington	97,900	2,000	99,900		99,900	2,000	101,900
11 Center Line	85,100	1,800	86,900		86,900	1,700	88,600
12 Allen Park	69,300	1,400	70,700		70,700	1,400	72,100
13 Highland Park	442,600	9,100	451,700		451,700	9,000	460,700
14 Hamtramck	330,000	6,800	336,800		336,800	6,700	343,500
15 Grosse Pointe	73,500	1,500	75,000		75,000	1,500	76,500
16 Harper Woods	17,800	400	18,200		18,200	300	18,500
17 Redford Township	22,100	500	22,600		22,600	400	23,000
18 Wayne County #3	4,300	100	4,400		4,400	0	4,400
19 Subtotal Suburban Wholesale	22,308,600	459,800	22,768,400	182,200	22,950,600	451,400	23,402,000
20 Detroit Customers (b)	16,379,900	(459,700)	15,920,200		15,920,200	0	15,920,200
21 Total	38,688,500	100	38,688,600	182,200	38,870,800	451,400	39,322,200

(a) Rounded to align with total monthly charge

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

	(1)	(2)	(3)	(4)
	Existing FY 2022 <u>Charges</u> \$/mo	Approved FY 2023 <u>Charges</u> \$/mo	Charge <u>Adjustment</u> \$/mo	% Charge <u>Adjustment</u>
<u>Suburban Wholesale</u>				
1 OMID Common *	5,692,200	5,874,800	182,600	3.2%
2 Rouge Valley	4,605,600	4,753,300	147,700	3.2%
3 Oakland GWK	3,819,000	3,941,500	122,500	3.2%
4 Evergreen Farmington	2,980,500	3,076,100	95,600	3.2%
5 SE Macomb San Dist	2,064,400	2,130,600	66,200	3.2%
6 Dearborn	1,671,500	1,725,100	53,600	3.2%
7 Grosse Pointe Farms	226,300	233,600	7,300	3.2%
8 Grosse Pointe Park	156,900	161,900	5,000	3.2%
9 Melvindale	129,500	133,700	4,200	3.2%
10 Farmington	98,700	101,900	3,200	3.2%
11 Center Line	85,800	88,600	2,800	3.3%
12 Allen Park	69,800	72,100	2,300	3.3%
13 Highland Park	446,400	460,700	14,300	3.2%
14 Hamtramck	332,800	343,500	10,700	3.2%
15 Grosse Pointe	74,100	76,500	2,400	3.2%
16 Harper Woods	18,000	18,500	500	2.8%
17 Redford Township	22,200	23,000	800	3.6%
18 Wayne County #3	4,300	4,400	100	2.3%
19 Subtotal Suburban Wholesale	22,498,000	23,219,800	721,800	3.2%
20 Detroit Customers (a)	15,721,900	15,920,200	198,300	1.3%
21 Subtotal Wholesale	38,219,900	39,140,000	920,100	2.4%
22 OMID Direct *	179,500	182,200	2,700	1.5%
23 Total Member Partner Chgs	38,399,400	39,322,200	922,800	2.4%
24 <i>OMID Total *</i>	<i>5,871,700</i>	<i>6,057,000</i>	<i>185,300</i>	<i>3.2%</i>
<u>(a) Detroit Revenue Req'ts</u>				
25 Gross Revenue Requirements	16,181,600	16,379,900	198,300	1.2%
26 Ownership Benefit	(459,700)	(459,700)	0	0.0%
27 Net Revenue Requirements	15,721,900	15,920,200	198,300	1.3%

Table 5
Sewage Disposal System
FY 2023 Industrial Specific Charges

Industrial Waste Control Charges - \$/month					Industrial Surcharges - \$/lb			
<u>Meter Size</u>	<u>Equivalency Ratio</u>	<u>Existing Rate</u>	<u>Approved Rate</u>	<u>Rate Adjustment</u>		<u>Existing Rate</u>	<u>Approved Rate</u>	<u>Rate Adjustment</u>
5/8	1.0	3.54	3.58	1.1%	BIOCHEMICAL OXYGEN DEMAND (BOD)			
3/4	1.5	5.31	5.37	1.1%	for concentrations > 275 mg/l	0.347	0.351	1.2%
1	2.5	8.85	8.95	1.1%				
1-1/2	5.5	19.47	19.69	1.1%				
2	8.0	28.32	28.64	1.1%	TOTAL SUSPENDED SOLIDS (TSS)			
3	14.5	51.33	51.91	1.1%	for concentrations > 350 mg/l	0.476	0.482	1.3%
4	20.0	70.80	71.60	1.1%				
6	30.0	106.20	107.40	1.1%				
8	50.0	177.00	179.00	1.1%	PHOSPHORUS (P)			
10	70.0	247.80	250.60	1.1%	for concentrations > 12 mg/l	6.368	6.448	1.3%
12	80.0	283.20	286.40	1.1%				
14	100.0	354.00	358.00	1.1%				
16	120.0	424.80	429.60	1.1%	FATS, OIL AND GREASE (FOG)			
18	140.0	495.60	501.20	1.1%	for concentrations > 100 mg/l	0.111	0.112	0.9%
20	160.0	566.40	572.80	1.1%				
24	180.0	637.20	644.40	1.1%				
30	200.0	708.00	716.00	1.1%	SEPTAGE DISPOSAL FEE			
36	220.0	778.80	787.60	1.1%	Per 500 gallons of disposal	36.00	36.00	0.0%
48	240.0	849.60	859.20	1.1%				

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

Appendices

- A. December 15, 2021 memorandum: “Proposed FY 2023 Water and Sewer Charges”
- B. December 15, 2021 memorandum: “GLWA Financial Forecast Update”
- C. December 15, 2021 memorandum: “Highland Park Bad Debt Expense Review Executive Summary”

Note: Appendices A and B were not updated to reflect the final modifications to the budgeted Sewer Revenue Requirement. Disclosure in similar formats is available at glwater.org.

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MEMORANDUM

Proposed FY 2023 Water and Sewer Charges

December 15, 2021

To: Sue Coffey, Nicolette Bateson

From: Bart Foster

This memorandum is intended to introduce our recommended proposed Water and Sewer Charges for FY 2023. Herewith we provide an executive summary of our recommendations. We have prepared and provided additional material under separate cover which supports the analyses summarized in this document.

Executive Summary

1. Proposed FY 2023 Water and Sewer Charges reflect a simplified approach that does not require preparation of a FY 2023 Cost of Service Study.
 - *Supported by uniformity in units of service related to the upcoming Water Contract Alignment Process (CAP) and continuation of the FY 2022 Sewer SHARES.*
 - *Cost of service analyses will still be completed to support ongoing review and initiatives.*
2. Proposed FY 2023 Water Charges reflect:
 - *Budgeted Revenue Requirement increase of 3.5%;*
 - *System Charge Adjustment equal to a 3.7% increase;*
 - *Wholesale Charge Adjustment equal to a 3.6% increase;*
 - *Uniform Charge Increase of 3.4% for almost all Member Partners;*
 - *Uniform Charge Increase of 2.6% for Non Master Metered Member Partners;*
 - *Slightly higher increase for Detroit and Flint after recognizing specific contract requirements.*
3. Proposed FY 2023 Sewer Charges reflect:
 - *Budgeted Revenue Requirement increase of 2.5%;*
 - *System Charge Adjustment equal to a 3.7% increase;*
 - *Uniform System Charge Increase of 4.5% for suburban wholesale Member Partners related to Highland Park bad debt;*
 - *Increase to Detroit is 2.5%*

Proposed FY 2023 Water and Sewer Charges

December 15, 2021

Page 2

Proposed FY 2023 Water Charges**Budgeted Revenue Requirements and System Charge Adjustment:**

- We are proposing a ***System Charge Adjustment*** of a 3.7% increase. As shown in the table below, this adjustment is the product of:
 - *3.5% to address a \$12.0 million revenue requirement increase;*
 - *Approximately 0.2% to reflect a decrease in budgeted water sales volumes, creating a \$0.5 million negative sales revenue forecast. (See Line 17)*

Recommended FY 2023 Water Revenue Requirement Summary

	Approved FY 2022	Recommended FY 2023	Variance	% Variance
<u>Revenues</u>				
1 Revenues from Charges	342,808,200	354,946,100	12,137,900	3.5%
2 Other Operating Revenue	175,000	175,000	0	0.0%
3 Non-Operating Revenue	1,047,300	950,500	(96,800)	-9.2%
4 Total Revenues	344,030,500	356,071,600	12,041,100	3.5%
<u>Revenue Requirements</u>				
5 Operations & Maintenance (O&M) Expense	143,933,800	144,847,700	913,900	0.6%
6 General Retirement System Legacy Pension	6,048,000	6,048,000	0	0.0%
7 Debt Service - Regional System Allocation	135,481,000	150,337,100	14,856,100	11.0%
8 General Retirement System Accelerated Pension	6,268,300	6,268,300	0	0.0%
9 WRAP Contribution	1,705,500	1,770,500	65,000	3.8%
10 Lease Payment	22,500,000	22,500,000	0	0.0%
11 Deposit to Improvement & Extension (I&E) Fund	28,093,900	24,300,000	(3,793,900)	-13.5%
12 Total Revenue Requirements	344,030,500	356,071,600	12,041,100	3.5%
<u>Charge Adjustment Summary</u>				
13 Adjustment Index		3.50%		
14 Baseline Revenue		342,296,100		
15 Change in Annual Revenue Requirement			12,041,100	3.5%
16 Change Attributable to Non-Charge Revenue			96,800	0.03%
17 Change Attributable to Sales Revenue / Bad Debt			512,100	0.15%
18 System Charge Adjustment			12,650,000	3.70%

- The budgeted revenue variance is 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 data;*
 - *Adjusted the presumed decline in base month water sales from 2.5% annually to 1.0% annually, which is more indicative of recent activity - so the adjustment factor applied to the 3-year average base month sales is 98% instead of 95%.*
 - *This reduces the “negative budgeted revenue variance” from approximately \$2.0 million to approximately \$0.5 million and puts less pressure on the FY 2023 charges.*
- As a result, the proposed System Charge Adjustment is lower than what was indicated in originally presented material.

Specific Member Partner Charge Proposals:

As presented at the November 16 Charge Rollout meeting, there is only one Member Partner (St. Clair County DTE) whose contracted max day and peak hour demands will change for FY 2023. All Member Partners will have the opportunity to change their contracted demands during the re-opener process during 2022, and to impact their charges for FY 2024. We believe this dynamic supports a simplified approach to the proposed FY 2023 Water Charges, similar to what has been employed in recent years, to support the stability objectives embraced by the GLWA Charge Methodologies. Our recommended charges have been developed by:

- Using the FY 2022 Cost of Service Study as an appropriate mechanism to allocate the FY 2023 Revenue Requirements to Cost Pools, for purposes of establishing the allocation of Revenue Requirements to “Mod” customers introduced below.
- Treating St. Clair County DTE as a “Mod” customer and compute their proposed charges based on their specific demands.
 - *This will result in a significant charge increase for this Member Partner.*
- Treating the Non Master Metered Member Partners (Detroit, Dearborn, Highland Park) uniformly as a group of “Mod” customers and uniformly adjust their allocated wholesale revenue requirement.
 - *After adjusting for the “Mod” above, this results in a 2.9% uniform increase in the “wholesale” revenue requirement for this “No Mod” class.*
 - *This approach continues recent charge calculations that allow the max day and peak hour demands to vary with variances in average day volumes year over year. The change in average volumes for these Member Partners from FY 2022 to FY 2023 is relatively uniform and we believe treating this group as a class is reasonable and embraces the simplified approach introduced herein.*
- Treating ALL other Member Partners as members of the “No Mod” customer class and uniformly adjust their allocated wholesale revenue requirement.
 - *After adjusting for the “Mods” above, this results in a 3.7% uniform increase in the “wholesale” revenue requirement for this “No Mod” class.*
- Apply the required contractual adjustments to the allocated wholesale revenue requirements.
 - *Since the Detroit Ownership Benefit and the KWA debt service credit are fixed¹, the uniform charge adjustment for all members of the “No Mod” customer class is 3.4%.*
 - *Proposed charge adjustments to Detroit and Flint (expressed on a “gross” pre credit basis) after reflecting contractual adjustments are 3.0% and 3.5%, respectively.*

¹ There is a minor reduction in the budgeted KWA debt service credit, which has the effect of moderately reducing the amount allocated to all other Member Partners.

Proposed FY 2023 Water and Sewer Charges

December 15, 2021

Page 4

Proposed FY 2023 Sewer Charges**Budgeted Revenue Requirements and System Charge Adjustment:**

- We are proposing a ***System Charge Adjustment*** of a 3.66% increase. As shown in the table below, this adjustment is the product of:
 - *2.5% to address a \$11.9 million revenue requirement increase;*
 - *Approximately 1.15% to reflect inclusion of one year's worth of revenue requirements allocable to Highland Park as a bad debt expense allowance. (See Line 17). No such amounts were included in the approved FY 2022 Budget and Charges.*

Recommended FY 2023 Sewer Revenue Requirement Summary

	Approved FY 2022	Recommended FY 2023	Variance	% Variance
<u>Revenues</u>				
1 Revenues from Charges	474,005,900	485,760,000	11,754,100	2.5%
2 Other Operating Revenue	400,000	400,000	0	0.0%
3 Non-Operating Revenue	1,023,300	1,154,900	131,600	12.9%
4 Total Revenues	475,429,200	487,314,900	11,885,700	2.5%
<u>Revenue Requirements</u>				
5 Operations & Maintenance (O&M) Expense	181,299,800	187,052,600	5,752,800	3.2%
6 General Retirement System Legacy Pension	10,824,000	10,824,000	0	0.0%
7 Debt Service - Regional System Allocation	207,209,500	205,638,100	(1,571,400)	-0.8%
8 General Retirement System Accelerated Pension	11,620,700	11,620,700	0	0.0%
9 WRAP Contribution	2,358,300	2,423,800	65,500	2.8%
10 Lease Payment	27,500,000	27,500,000	0	0.0%
11 Deposit to Improvement & Extension (I&E) Fund	34,616,900	42,255,700	7,638,800	22.1%
12 Total Revenue Requirements	475,429,200	487,314,900	11,885,700	2.5%
<u>Charge Adjustment Summary</u>				
13 Adjustment Index		2.50%		
14 Baseline Revenue		468,611,800		
15 Change in Annual Revenue Requirement			11,885,700	2.5%
16 Change Attributable to Non-Charge Revenue			(131,600)	-0.03%
17 Change Attributable to Sales Revenue / Bad Debt			5,394,100	1.15%
18 System Charge Adjustment			17,148,200	3.66%

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

Specific Member Partner 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 2023 and 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 2023 Sewer Charges to support the stability objectives embraced by the GLWA Charge Methodologies. Our recommended charges have been developed by:

- Increase the “wholesale revenue requirements from charges” for ALL charge categories by 2.5% to align with the overall budgeted revenue requirement increase.

Proposed FY 2023 Water and Sewer Charges

December 15, 2021

Page 5

- *This will effectively increase the Sewer Charges for ALL Member Partners (prior to adjustments related to the Agreements) by 2.5%.*
- Allocate responsibility for the \$5.4 million expected bad debt expense allowance associated with Highland Park to Member Partners in the Suburban Wholesale customer class and compute a FY 2023 “surcharge” associated with this amount².
 - *This will effectively result in uniform charge increase of 4.5% for members of this customer class.*
- Apply the required contractual adjustments related to the Detroit Ownership Benefit and the OMID Specific revenue requirements.
 - *Since the Detroit Ownership Benefit is fixed, the charge adjustment for Detroit is 2.56% expressed on a “gross” pre credit basis (Compared to the 2.5% budgeted revenue requirement increase).*
- Compute specific Industrial Waste Control and Industrial Surcharge rates for FY 2023 that align with the overall 2.5% increase in budgeted revenue requirements.

We believe that the simplified 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 are prepared 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 17 and to discuss this matter further at your convenience.

² We have provided commentary and analysis regarding specific details on the Highland Park bad debt expense and the impact on Sewer Charges under separate cover.

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MEMORANDUM

GLWA Financial Forecast Update

December 15, 2021

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 2023 budget and charges. ***The material presented herein updates that originally presented in a similar document published on October 15, 2021 date, and reflects the results of our ongoing review and analysis – including incorporation of the requested FY 2023 Budget for both the Water and Sewer Systems. Significant updated information, which reflects the “Preliminary Second Discussion Draft” of the updated forecast, is highlighted where appropriate in this document.*** These PRELIMINARY updated projections reflect forecasted financial results for a ten-year¹ projection period (*Fiscal Year 2022 through Fiscal Year 2032*) 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.

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 2023 budget and charges. ***We are concurrently submitting material specific to our recommendations regarding the FY 2023 Budget and FY 2023 Water Charges and FY 2023 Sewer Charges under separate cover.***

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

Executive Summary Takeaways

- This forecast introduces preliminarily recommended overall FY 2023 ***System Charge Adjustments*** of a 3.7% increase for both the Water Sewer Systems.
 - *The Water adjustment is the product of:*
 - 3.5% to address a \$12.0 million revenue requirement increase;
 - 0.15% to reflect a decrease in budgeted water sales volumes, creating a \$0.5 million negative sales revenue forecast.
 - *The Sewer adjustment is the product of:*
 - 2.5% to address a \$11.9 million revenue requirement increase;
 - ***1.2% to reflect reinstitution of Highland Park bad debt adjustment, creating a \$3.0 million negative revenue forecast.***
 - ***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 below.

GLWA Financial Plan Summary (\$ millions)

Executive Summary Metrics

	<u>2022</u>	<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>Water Supply System</u>											
Charge Adjustment		3.7%	3.3%	3.0%	3.0%	3.6%	3.5%	3.6%	3.5%	3.6%	3.6%
Projected Revenue	342.1	356.1	368.5	381.4	394.8	408.6	422.9	437.7	453.0	468.9	485.3
Projected Expenses	143.9	144.8	148.7	154.3	155.6	159.2	162.3	165.6	168.9	172.3	175.7
Net Revenues	198.2	211.2	219.8	227.1	239.1	249.4	260.6	272.1	284.1	296.6	309.6
Projected Cash Balance	222.7	202.8	203.8	203.1	202.7	202.6	203.0	202.6	202.5	202.9	202.9
Capital Improvements *	160.4	172.8	195.6	189.5	151.2	130.5	228.4	228.5	179.3	176.4	153.5
Debt Service Coverage **	1.42	1.36	1.38	1.33	1.32	1.34	1.33	1.34	1.30	1.32	1.32
<u>Sewage Disposal System</u>											
Charge Adjustment		3.7%	2.3%	2.0%	2.1%	2.5%	2.5%	2.5%	2.6%	2.6%	2.5%
Projected Revenue	472.9	489.8	502.0	514.6	527.4	540.6	554.1	568.0	582.2	596.7	611.7
Projected Expenses	181.3	187.1	192.4	193.6	196.8	200.0	204.0	208.1	212.3	216.5	220.8
Net Revenues	291.6	302.7	309.6	321.0	330.6	340.6	350.1	359.9	369.9	380.2	390.8
Projected Cash Balance	247.2	244.6	244.3	244.6	244.1	244.0	244.2	244.1	244.0	242.6	281.9
Capital Improvements *	95.5	112.9	133.3	146.5	126.9	108.7	181.1	161.0	121.7	123.5	82.8
Debt Service Coverage **	1.37	1.42	1.40	1.51	1.54	1.54	1.53	1.56	1.61	1.67	1.72

* Includes Budgeted Capital Outlay

** Regional System contribution only

- The Water CIP creates 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.*

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

1. FY 2022 estimated activity is consistent with the approved first quarter budget amendments, with additional minor estimates to reflect ongoing review.
2. FY 2023 through FY 2027 O&M is consistent with the budget request established by GLWA.
 - FY 2023 increase of 2.0% in total (combined Water and Sewer) compared to originally approved FY 2022 budget;
 - Water increase for FY 2023 is 0.6%, Sewer increase is 3.2% - this reflects diligent review of the FY 2023 budget preparation and individual budget programs, including increased focus on programs to address Sewer issues.
3. Future O&M growth beyond FY 2023 = 2%, on average, overall for the System, with varying amounts between Water and Sewer through FY 2027 to match the FY 2023 Budget documents, and uniformly thereafter.
4. CIP’s reflect versions submitted to the Capital Planning Committee on October 19 and to Member Partners on November 9.
5. CIP Expenditure Level reflects a Spend Rate Assumption of:
 - 80% for the Water System for FY 2022 through FY 2027;
 - 75% for the Sewer System for FY 2022 through FY 2027;
 - 100% for both systems for FY 2028 through FY 2032.
6. Investment earnings rate = 0.45% for FY 2022, declining to 0.35% for FY 2023, then gradually increasing to 2.2% by FY 2026 and remaining at that level for the remainder of the forecast period (consistent with estimates provided by PFM).
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 projects²; then
 - Spend existing I&E Funds until they reach policy minimum (*\$90 million*);
 - 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 year³
 - *Apply Capital Spend Rate Assumption to ALL elements noted above, including:*
 - Total annual requirements;
 - Estimated short lived projects;
 - Scheduled SRF reimbursements
8. “Top Line” increases in annual revenue requirements starting in FY 2023 of:
- *3.5% for the Water System;*
 - *2.5% for the Sewer System*
9. Preliminary FY 2023 System Charge adjustments of:
- **3.7% increase for Water**
 - Reflects moderate reduction in baseline sales revenue compared to approved FY 2022 Budget and Charges
 - **3.7% increase for Sewer**
 - Reflects reinstitution of Highland Park bad debt adjustment compared to approved FY 2022 Budget and Charges
10. Total GLWA / DWSD “Legacy Pension Obligation” annual payments reduce from \$45.4 million to \$11.0 million starting in FY 2024, and all amounts are treated as a non-operating expense after FY 2023.

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.

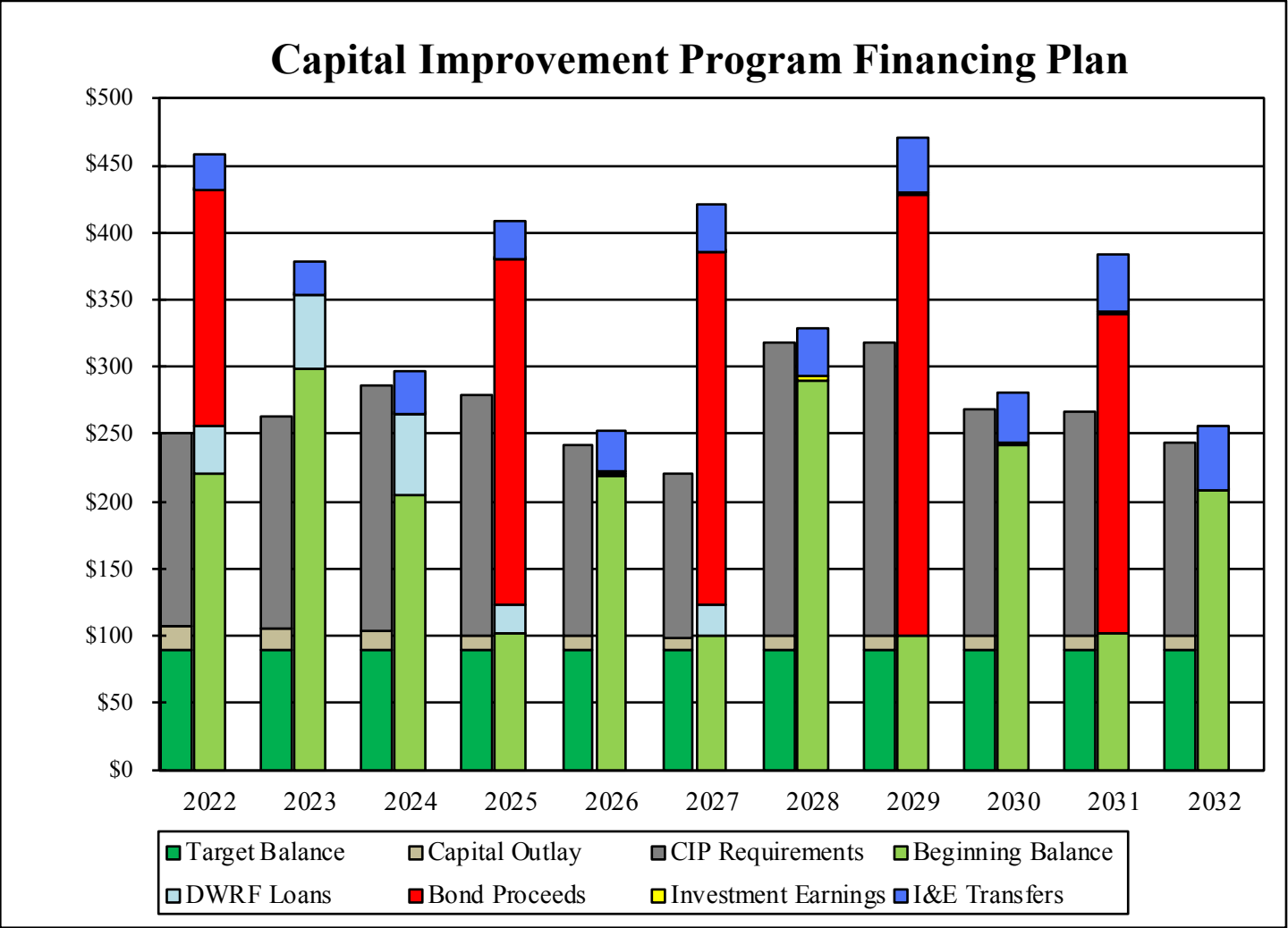
² In prior forecasts “confirmed” SRF projects were limited to those for which GLWA Board had formally passed ordinances and intent to issue. The forecast policy has been updated to include as “confirmed” all projects that have been approved on the State’s Project Priority List.

³ The forecasted bond sales anticipated towards the end of FY 2022 are designed to provide financing through FY 2024, with the “biennial cycle” continuing starting in FY 2025.

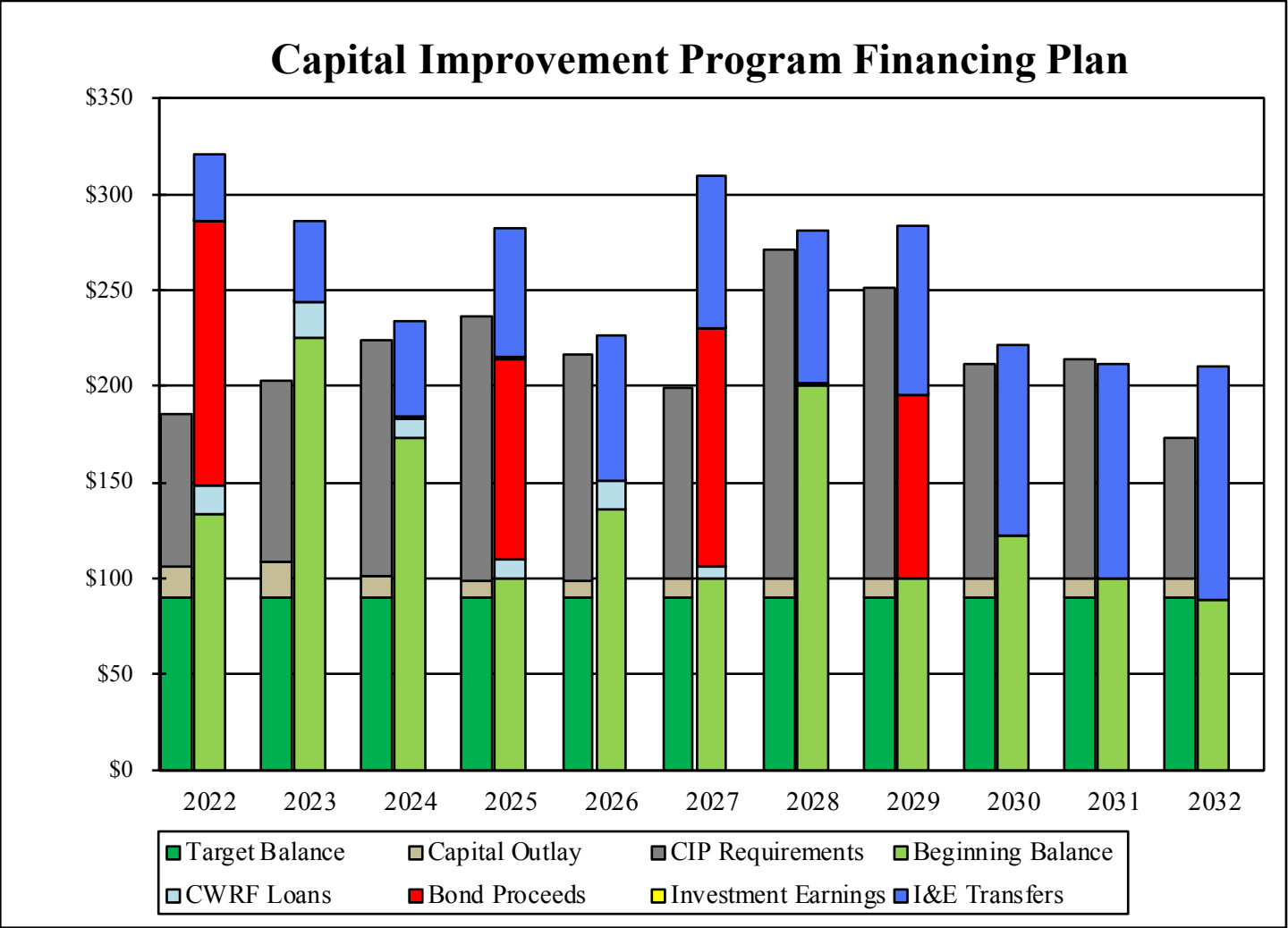
1. Forecasted CIP Financing Plan
 - Illustrates forecasted plan resulting from application of CIP financing policy noted above. Note that the forecast anticipates the next “new money Regional System” bond transactions to occur in late FY 2022 for both the Water and Sewer Systems. These transactions are designed in this forecast to not provide any meaningful bond funds to pay for CIP expenditures during FY 2022, nor result in any debt service during FY 2022. We’ve assumed a full annual amortization starting in FY 2023. 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 starting in FY 2030.
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 “muddled” 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 and exceed the \$90 million policy minimum 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. We note that once the existing I&E reserves are spent down to the targeted balance of \$90 million, the amounts deposited to the I&E Funds annually basically match the amounts spent from the I&E Funds. 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 of 3.5% for Water and 2.5% for Sewer and 2% O&M growth rate assumption for the balance of the forecast period. Note the relatively stable transfers to Water I&E compared to the rapid growth in the Sewer amounts.
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 “non-restricted” liquidity balances and debt service coverage (as computed for the Regional System portion).
 - * *Note that the targeted and forecasted balances reflect a “Working Capital Reserve” that is designed to reflect an Operating Fund reserve balance equivalent to 105 days of annual Operations and Maintenance Expense plus 60 days of scheduled transfers to all other MBO Funds.*

- Shows forecasted reduction of existing I&E balances to policy minimums for both systems, with Sewer increasing towards the end of the forecast period.
 - * *Note that if full “pay go” status of the Sewer CIP is achieved it may be appropriate to reduce the top line revenue growth assumption in the forecast.*
- Debt service coverage provided by Regional System net revenues is relatively stable for Water and materially increasing for Sewer.
- 7. Projected Cash and Investment Balances – Wholesale System Table
 - Same as 6, in tabular form consistent with published Feasibility Reports.
 - Documents forecasted “Days Cash on Hand” metric
- 8. Relative Revenue Requirement Distribution
 - Illustrates “where each \$ of revenue goes” with respect to revenue requirements. Again, note the reduction in debt service, and corresponding increase in I&E bottom line transfers for Sewer, while the Water bottom line contribution is fairly constant as the relative debt service portion increases.
- 9. I&E Flow of Funds Forecast
 - Illustrates draw down of existing balances to fund CIP requirements, maintenance of the \$90 million policy minimums, and the growth in annual transfers from revenues, particularly for Sewer.
- 10. GAAP Basis Income Statement Forecast
 - *Presents forecast of changes in, and level of, net position as reported on a GAAP Basis for forecast purposes;*
 - *As has been discussed in prior deliberations, the reductions in net position reported for both funds since GLWA’s inception have (in part) been related to an accelerated level of depreciation expense associated with the valuation of acquired and leased assets;*
 - *Due to the accelerated depreciation structure, many of the acquired assets will be fully depreciated in the next few years, and the annual depreciation expense is projected to decrease;*
 - *As a result the GAAP basis change in net position is projected to increase during the forecast period, and result in positive cumulative net position metrics by FY 2027 for Water and by FY 2026 for Sewer, and to continue to grow thereafter;*
 - *We note that there are other “non cash revenue requirement” elements that impact the GAAP basis results, many of which are difficult to project. These include statements of liabilities associated with long term liabilities.*

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 2023 Budget, proposed FY 2023 Water Charges and Sewer Charges, and related updated financial forecast efforts proceed. We are prepared to present this material to the Audit Committee meeting scheduled for December 17 and to discuss this matter further at your convenience.



	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<u>Requirements</u>											
Target Balance	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
Capital Outlay	17.0	15.5	13.4	10.4	9.6	9.0	10.0	10.0	10.0	10.0	10.0
CIP Requirement	143.4	157.4	182.2	179.1	141.6	121.5	218.4	218.5	169.3	166.4	143.5
Total	250.4	262.8	285.6	279.5	241.2	220.5	318.4	318.5	269.3	266.4	243.5
<u>Sources</u>											
Beginning Balance	219.9	298.4	205.1	101.8	219.1	100.9	290.4	100.3	242.4	101.2	207.5
DWRP Loans	36.5	55.0	59.4	21.4	2.4	22.5	-	-	-	-	-
Bond Proceeds	175.8	-	-	256.5	-	261.3	-	327.8	-	237.5	-
Investment Earnings	0.1	0.1	0.4	1.2	1.3	1.1	2.1	2.4	1.6	1.7	1.2
I&E Transfers	26.6	24.3	32.6	27.7	29.3	35.1	36.2	40.4	36.4	43.5	46.8
Total Sources	458.8	377.9	297.5	408.7	252.2	420.9	328.7	470.9	280.4	383.9	255.5
End Balance	298.4	205.1	101.8	219.1	100.9	290.4	100.3	242.4	101.2	207.5	102.0



	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<u>Requirements</u>											
Target Balance	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
Capital Outlay	16.0	18.4	11.6	8.1	8.7	10.3	10.0	10.0	10.0	10.0	10.0
CIP Requirement	79.5	94.4	121.7	138.4	118.3	98.5	171.1	151.0	111.7	113.5	72.8
Total	185.5	202.9	223.3	236.5	216.9	198.7	271.1	251.0	211.7	213.5	172.8
<u>Sources</u>											
Beginning Balance	133.9	225.1	173.3	99.9	135.5	99.4	200.2	100.1	122.5	100.1	88.6
CWRP Loans	14.1	18.7	10.2	9.8	15.4	7.2	-	-	-	-	-
Bond Proceeds	137.8	-	-	104.5	-	123.5	-	95.0	-	-	-
Investment Earnings	0.1	0.1	0.3	0.6	0.4	0.4	1.1	0.9	0.2	0.1	-
I&E Transfers	34.7	42.3	49.5	67.2	75.1	78.5	79.8	87.5	99.0	111.9	122.1
Total Sources	320.6	286.2	233.3	282.0	226.3	308.9	281.1	283.5	221.8	212.1	210.7
End Balance	225.1	173.3	99.9	135.5	99.4	200.2	100.1	122.5	100.1	88.6	127.9

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

Line No.	Fiscal Year Ended June 30,											
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Financing Requirements												
1	Budgeted Capital Outlay	17.0	15.5	13.4	10.4	9.6	9.0	10.0	10.0	10.0	10.0	124.9
2	Major Capital Improvement Program (a)	143.4	157.4	182.2	179.1	141.6	121.5	218.4	218.5	169.3	166.4	1,841.2
3	Total Financing Requirements	160.4	172.8	195.6	189.5	151.2	130.5	228.4	228.5	179.3	176.4	1,966.1
Financing Sources												
Construction Fund												
4	Beginning Balance (b)	12.4	188.3	114.8	10.6	128.5	10.8	200.2	9.8	152.4	11.1	117.0 (g)
5	State Drinking Water Revolving Fund Loans	56.0	74.3	70.5	21.4	2.4	22.5	-	-	-	-	247.2
6	Less: Transfer to DWSD Constr. Fund	(19.5)	(19.3)	(11.1)	-	-	-	-	-	-	-	(49.9)
7	Net State DWRP Financing for Authority	36.5	55.0	59.4	21.4	2.4	22.5	-	-	-	-	197.3
8	Transfers from Water Constr. Bond Fund (Line 2)	175.8	0.1	0.4	257.7	1.3	262.3	2.1	330.2	1.6	239.2	1,271.9
9	Transfers from Water I&E Fund (Line 26)	106.8	28.7	18.2	17.9	20.2	26.1	25.8	30.9	26.4	33.1	36.8 371.1
10	Total Construction Fund Sources	331.6	272.1	192.8	307.6	152.4	321.7	228.2	370.9	180.4	283.5	1,852.8
11	Uses - Major CIP Expenditures (Line 2)	143.4	157.4	182.2	179.1	141.6	121.5	218.4	218.5	169.3	166.4	1,841.2
12	Ending Balance	188.3	114.8	10.6	128.5	10.8	200.2	9.8	152.4	11.1	117.0	11.6 (h)
Subsidiary Capital Financing Funds												
Construction Bond Fund												
13	Beginning Balance (b)	-	-	-	-	-	-	-	-	-	-	0.0 (g)
Bond Proceeds												
14	Water System Revenue Bonds (c)	185.0	-	-	270.0	-	275.0	-	345.0	-	250.0	1,325.0
15	Less: Transfer to DWSD Const. Fund (e)	-	-	-	-	-	-	-	-	-	-	0.0
16	Less: Issuance Expenses (f)	(9.3)	-	-	(13.5)	-	(13.8)	-	(17.3)	-	(12.5)	(66.3)
17	Net Bond Proceeds Available	175.8	-	-	256.5	-	261.3	-	327.8	-	237.5	1,258.8
18	Investment Income	0.1	0.1	0.4	1.2	1.3	1.1	2.1	2.4	1.6	1.7	13.2
19	Total Construction Bond Fund Sources	175.8	0.1	0.4	257.7	1.3	262.3	2.1	330.2	1.6	239.2	1,271.9
20	Less: Transfer to GLWA Construction Fund	(175.8)	(0.1)	(0.4)	(257.7)	(1.3)	(262.3)	(2.1)	(330.2)	(1.6)	(239.2)	(1,271.9)
21	Ending Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 (h)
GLWA Regional System Improvement and Extension Account												
22	Beginning Balance (b)	207.5	110.2	90.3	91.3	90.6	90.2	90.1	90.5	90.1	90.0	207.5 (g)
23	Transfers from Water Receiving Fund	26.6	24.3	32.6	27.7	29.3	35.1	36.2	40.4	36.4	43.5	378.9
24	Total I&E Fund Sources	234.0	134.5	122.9	118.9	120.0	125.3	126.3	130.9	126.5	133.5	586.4
25	Less: Capital Outlay (Line 1)	(17.0)	(15.5)	(13.4)	(10.4)	(9.6)	(9.0)	(10.0)	(10.0)	(10.0)	(10.0)	(124.9)
26	Less: Transfer to GLWA Construction Fund	(106.8)	(28.7)	(18.2)	(17.9)	(20.2)	(26.1)	(25.8)	(30.9)	(26.4)	(33.1)	(36.8) (371.1)
27	Ending Balance	110.2	90.3	91.3	90.6	90.2	90.1	90.5	90.1	90.0	90.4	90.4 (h)
28	Combined Ending Balance of Capital Funds	298.4	205.1	101.8	219.1	100.9	290.4	100.3	242.4	101.2	207.5	102.0 (h)

(a) From Table 1.

(b) Estimated balance available June 30, 2021 (applies only to Fiscal Year 2022).

(c) Par value for future bonds.

(d) Reserved

(e) Includes amounts to provide funding to the DWSD CIP.

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

(g) Total column reflects estimated balance available June 30, 2021.

(h) Total column reflects estimated balance available June 30, 2032.

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

Line No.	Fiscal Year Ended June 30,											
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Financing Requirements												
1	Budgeted Capital Outlay	16.0	18.4	11.6	8.1	8.7	10.3	10.0	10.0	10.0	10.0	123.1
2	Major Capital Improvement Program (a)	79.5	94.4	121.7	138.4	118.3	98.5	171.1	151.0	111.7	113.5	1,270.9
3	Total Financing Requirements	95.5	112.9	133.3	146.5	126.9	108.7	181.1	161.0	121.7	123.5	1,394.0
Financing Sources												
Construction Fund												
4	Beginning Balance (b)	11.5	131.9	82.7	9.6	44.9	9.3	110.2	9.9	32.4	10.1	0.0 11.5 (g)
5	State Clean Water Revolving Fund Loans	21.6	25.3	13.4	9.8	15.4	7.2	-	-	-	-	92.7
6	Less: Transfer to DWSD Constr. Fund	(7.5)	(6.5)	(3.2)	-	-	-	-	-	-	-	(17.2)
7	Net State DWRP Financing for Authority	14.1	18.7	10.2	9.8	15.4	7.2	-	-	-	-	75.5
8	Transfers from Sewer Constr. Bond Fund (Line 2)	137.8	0.1	0.3	105.1	0.4	123.9	1.1	95.9	0.2	0.1	464.9
9	Transfers from Sewer I&E Fund (Line 27)	48.0	26.4	38.2	58.8	66.8	68.3	69.6	77.6	89.2	103.2	72.8 719.0
10	Total Construction Fund Sources	211.4	177.1	131.4	183.3	127.5	208.7	180.9	183.4	121.8	113.5	1,270.9
11	Uses - Major CIP Expenditures (Line 2)	79.5	94.4	121.7	138.4	118.3	98.5	171.1	151.0	111.7	113.5	1,270.9
12	Ending Balance	131.9	82.7	9.6	44.9	9.3	110.2	9.9	32.4	10.1	0.0	0.0 (h)
Subsidiary Capital Financing Funds												
Construction Bond Funds												
13	Beginning Balance (b)	-	-	-	-	-	-	-	-	-	-	- (g)
Bond Proceeds												
14	Sewer System Revenue Bonds (c)	145.0	-	-	110.0	-	130.0	-	100.0	-	-	485.0
15	Less: Transfer to DWSD Const. Fund (e)	-	-	-	-	-	-	-	-	-	-	-
16	Less: Issuance Expenses (f)	(7.3)	-	-	(5.5)	-	(6.5)	-	(5.0)	-	-	(24.3)
17	Net Bond Proceeds Available	137.8	-	-	104.5	-	123.5	-	95.0	-	-	460.8
18	Investment Income	0.1	0.1	0.3	0.6	0.4	0.4	1.1	0.9	0.2	0.1	4.2
19	Total Constr. Bond Fund Sources	137.8	0.1	0.3	105.1	0.4	123.9	1.1	95.9	0.2	0.1	464.9
20	Less: Transfer to GLWA Construction Fund	(137.8)	(0.1)	(0.3)	(105.1)	(0.4)	(123.9)	(1.1)	(95.9)	(0.2)	(0.1)	(464.9)
21	Ending Balance	-	-	-	-	-	-	-	-	-	-	- (h)
GLWA Regional System Improvement and Extension Account												
22	Beginning Balance (b)	122.4	93.2	90.6	90.3	90.6	90.1	90.0	90.2	90.1	90.0	88.6 122.4 (g)
23	Transfers from Sewer Receiving Fund	34.3	42.3	49.5	67.2	75.1	78.5	79.8	87.5	99.0	111.9	847.2
24	Other Sources - DWSD Loan Receivable Pmts	0.4	-	-	-	-	-	-	-	-	-	0.4
25	Total I&E Fund Sources	157.1	135.5	140.1	157.5	165.6	168.6	169.8	177.7	189.1	201.9	970.0
26	Less: Capital Outlay (Line 1)	(16.0)	(18.4)	(11.6)	(8.1)	(8.7)	(10.3)	(10.0)	(10.0)	(10.0)	(10.0)	(123.1)
27	Less: Transfer to GLWA Construction Fund	(48.0)	(26.4)	(38.2)	(58.8)	(66.8)	(68.3)	(69.6)	(77.6)	(89.2)	(103.2)	(72.8) (719.0)
28	Ending Balance	93.2	90.6	90.3	90.6	90.1	90.0	90.2	90.1	90.0	88.6	127.9 (h)
29	Combined Ending Balance of Capital Funds	225.1	173.3	99.9	135.5	99.4	200.2	100.1	122.5	100.1	88.6	127.9 (h)

(a) From Table 1.

(b) Estimated balance available June 30, 2021 (applies only to Fiscal Year 2022).

(c) Par value for future bonds.

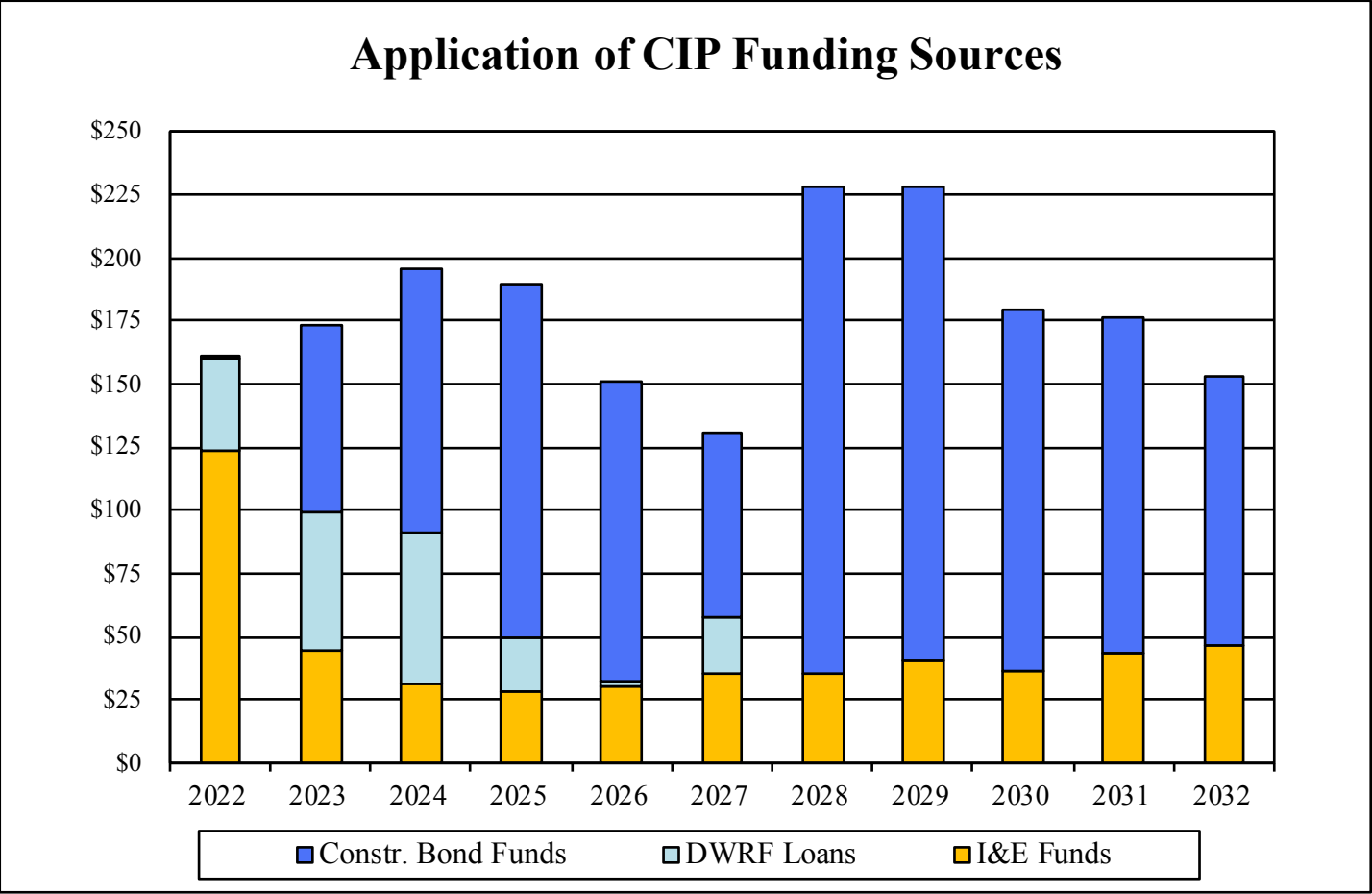
(d) Reserved

(e) Includes amounts to provide funding to the DWSD CIP.

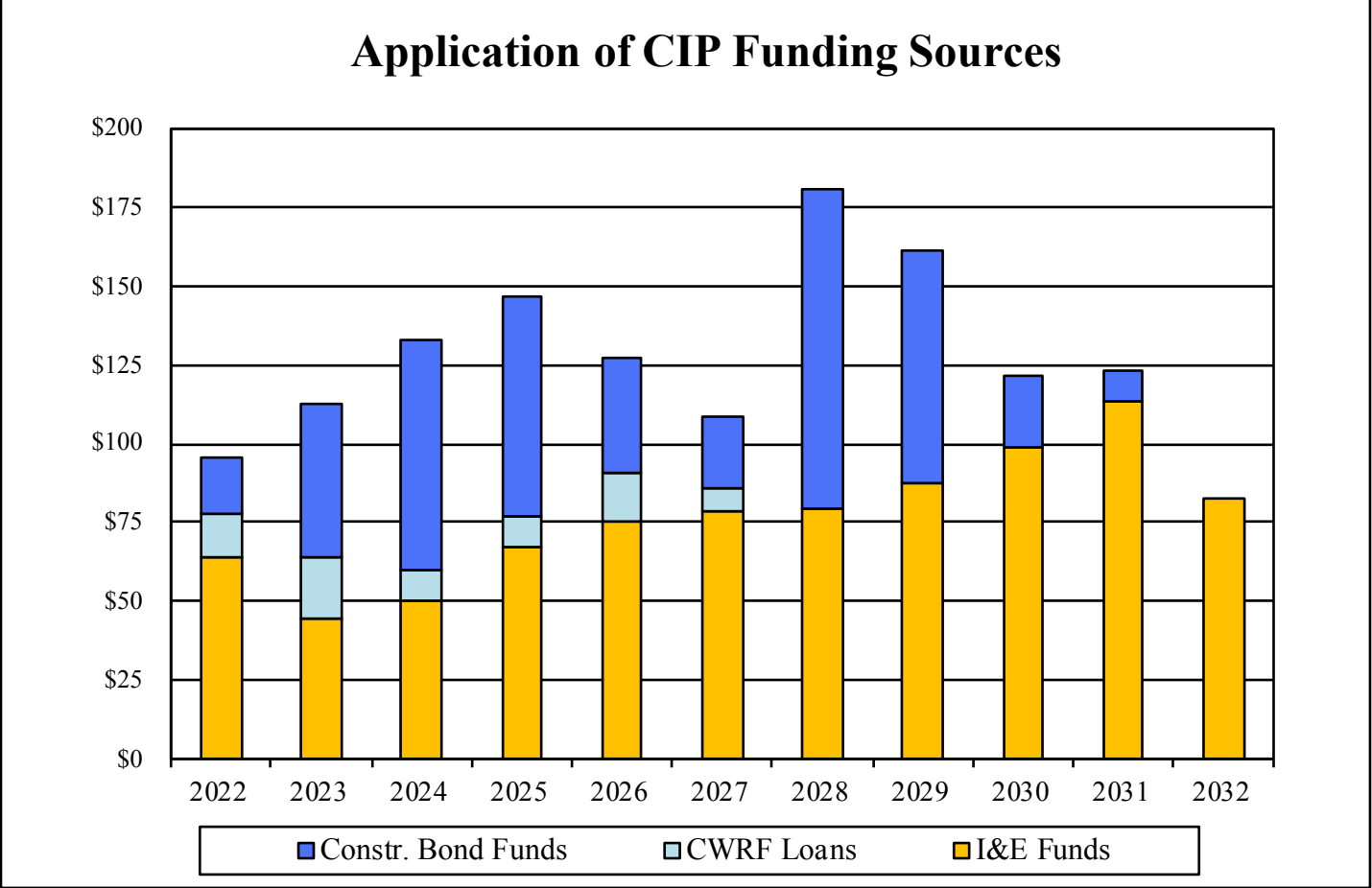
(f) Assumes amounts will be required from bond proceeds to fund debt service reserve fund.

(g) Total column reflects estimated balance available June 30, 2021.

(h) Total column reflects estimated balance available June 30, 2032.

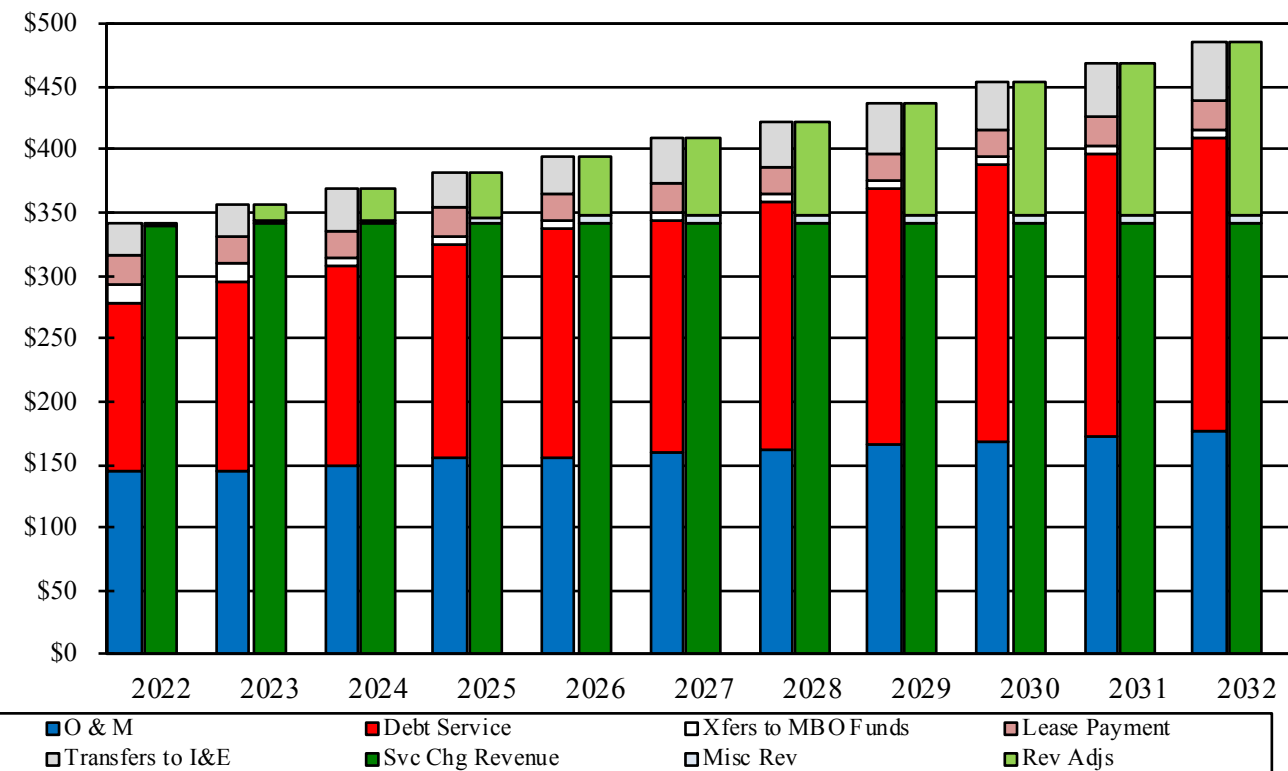


	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
I&E Funds	123.8	44.2	31.6	28.3	29.8	35.2	35.8	40.9	36.4	43.1	46.8
DWRP Loans	36.5	55.0	59.4	21.4	2.4	22.5	-	-	-	-	-
Constr. Bond Funds	0.0	73.6	104.5	139.8	119.0	72.8	192.5	187.7	142.8	133.3	106.6
I&E <i>Spend</i> % of Total	77%	26%	16%	15%	20%	27%	16%	18%	20%	24%	31%
I&E <i>Deposit</i> % of Tot	17%	14%	17%	15%	19%	27%	16%	18%	20%	25%	31%



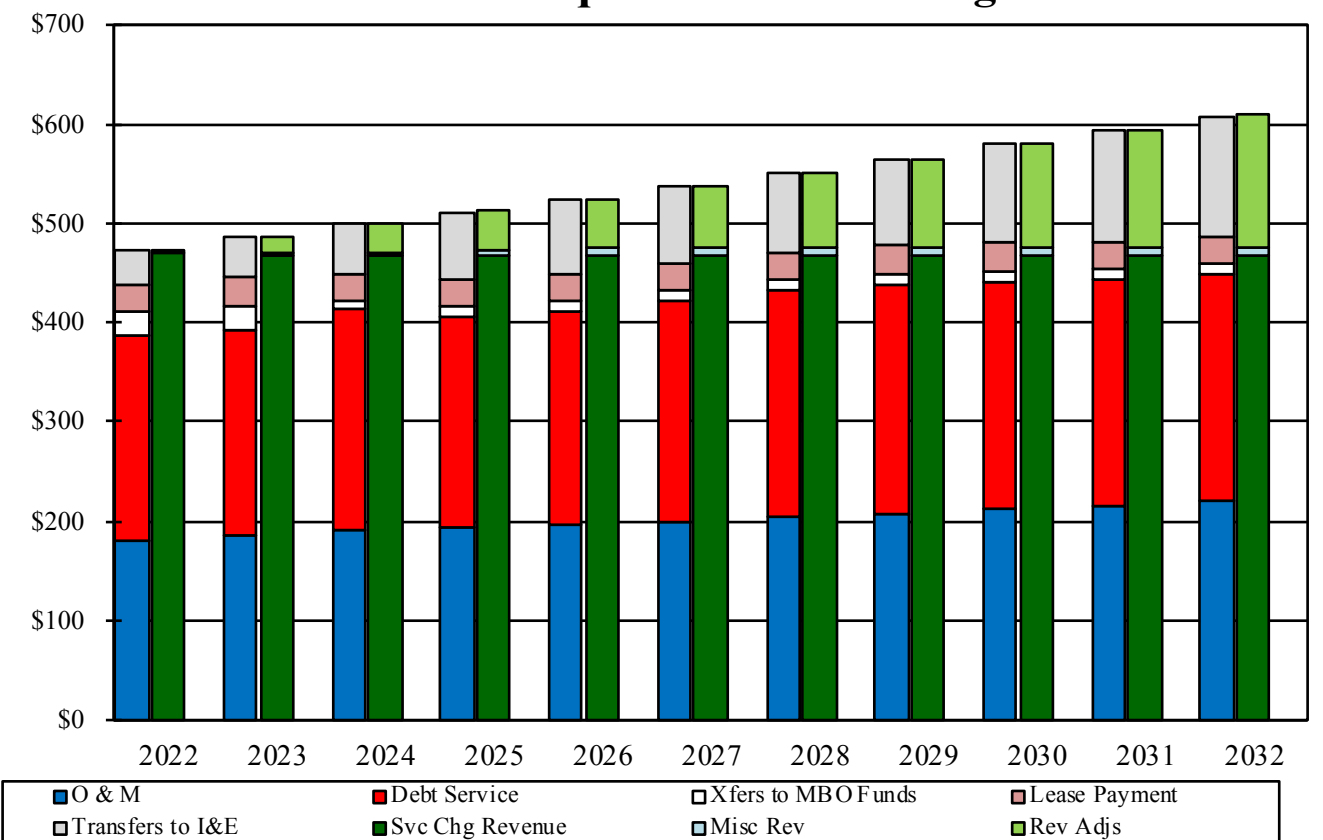
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
I&E Funds	63.9	44.9	49.8	66.9	75.5	78.6	79.6	87.6	99.2	113.2	82.8
CWRF Loans	14.1	18.7	10.2	9.8	15.4	7.2	-	-	-	-	-
Constr. Bond Funds	17.4	49.3	73.3	69.8	36.1	22.9	101.5	73.4	22.5	10.2	-
I&E <i>Spend</i> % of Total	67%	40%	37%	46%	59%	72%	44%	54%	81%	92%	100%
I&E <i>Deposit</i> % of Tot	36%	37%	37%	46%	59%	72%	44%	54%	81%	91%	147%

Revenue Requirement Financing Plan



	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
REVENUE											
Svc. Chg. Revenue	340.4	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3
Charge Adjustments		3.7%	3.3%	3.0%	3.0%	3.6%	3.5%	3.6%	3.5%	3.6%	3.6%
Revenue from Adjs		12.7	24.2	35.1	46.4	60.2	74.5	89.3	104.4	120.3	136.7
Other	1.7	1.1	2.0	4.1	6.1	6.1	6.2	6.2	6.3	6.3	6.3
Total Revenue	342.1	356.1	368.5	381.4	394.8	408.6	422.9	437.7	453.0	468.9	485.3
BUDGET											
O&M Expense	143.9	144.8	148.7	154.3	155.6	159.2	162.3	165.6	168.9	172.3	175.7
Debt Service	135.1	150.3	159.2	170.6	181.0	185.6	195.7	202.9	218.9	224.3	233.9
Xfers to MBO Funds	14.0	14.1	5.5	6.3	6.4	6.3	6.2	6.2	6.3	6.3	6.4
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	26.6	24.3	32.6	27.7	29.3	35.1	36.2	40.4	36.4	43.5	46.8
Total BUDGET	342.1	356.1	368.5	381.4	394.8	408.6	422.9	437.7	453.0	468.9	485.3
Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Revenue Requirement Financing Plan



	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
REVENUE											
Svc. Chg. Revenue	471.0	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6
Charge Adjustments		3.7%	2.3%	2.0%	2.1%	2.5%	2.5%	2.5%	2.6%	2.6%	2.5%
Revenue from Adjs		17.1	28.2	38.4	48.8	62.0	75.4	89.2	103.5	118.1	132.7
Other	1.9	1.6	2.7	5.0	7.3	7.3	7.4	7.3	7.2	7.0	7.3
Total Revenue	472.9	487.4	499.5	512.0	524.8	537.9	551.4	565.2	579.3	593.8	608.6
BUDGET											
O&M Expense	181.3	187.1	192.4	193.6	196.8	200.0	204.0	208.1	212.3	216.5	220.8
Debt Service	205.0	205.6	220.7	212.5	214.2	221.0	229.3	231.4	229.8	227.2	227.5
Xfers to MBO Funds	24.8	24.9	9.4	11.2	11.2	10.9	10.7	10.7	10.7	10.7	10.7
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	34.3	42.3	49.5	67.2	75.1	78.5	79.8	87.5	99.0	111.9	122.1
Total BUDGET	472.9	487.3	499.5	512.0	524.8	537.9	551.4	565.1	579.3	593.7	608.6
Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

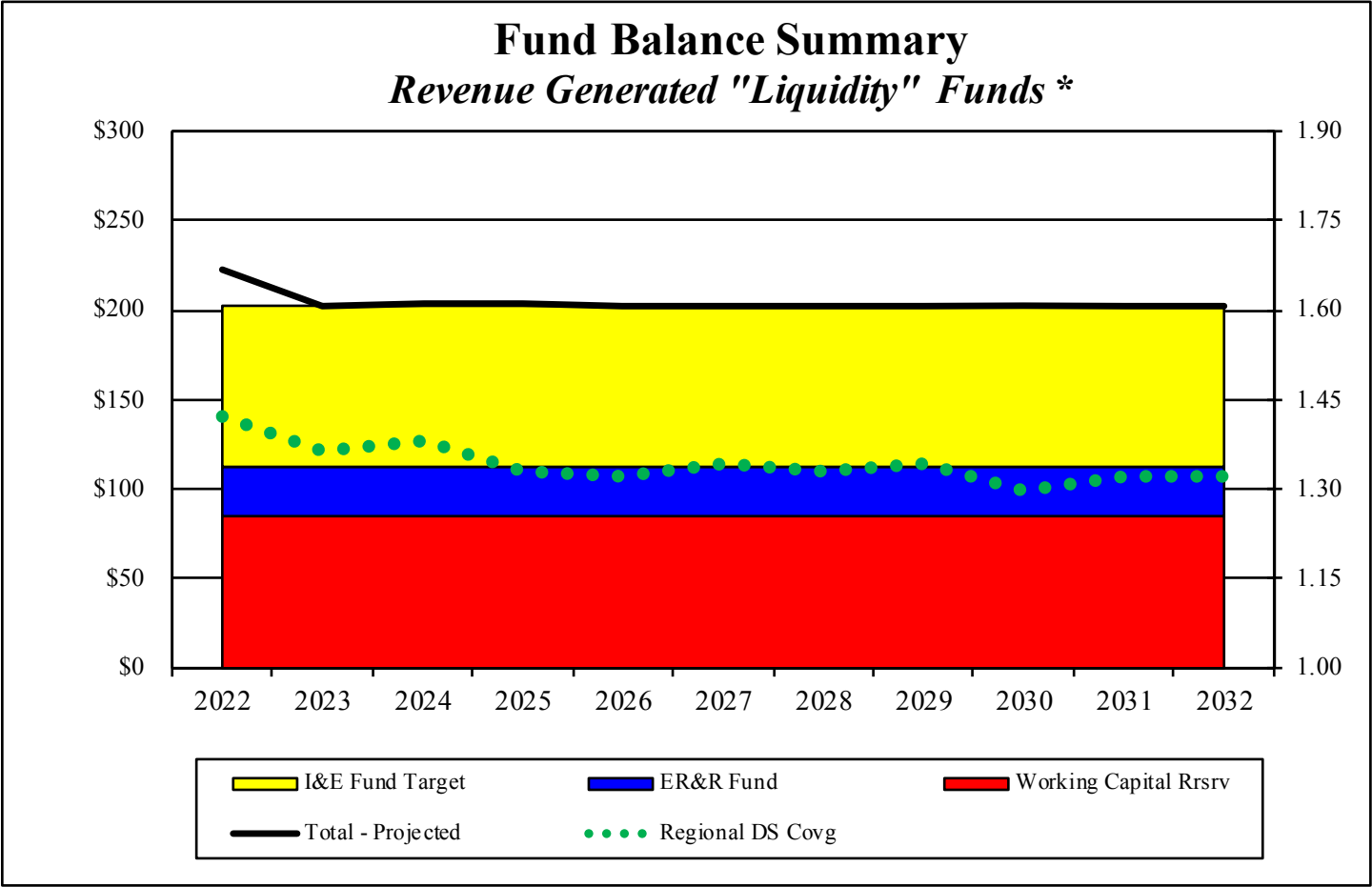
Line No.	Item	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Revenue (a)												
1	Operating Revenue Under Existing Charges	340.4	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3
<u>Projected Revenue from Adjustments</u>												
2	FY 2023: 3.7%		12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
3	FY 2024: 3.3%			11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
4	FY 2025: 3.0%				10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
5	FY 2026: 3.0%					11.3	11.3	11.3	11.3	11.3	11.3	11.3
6	FY 2027: 3.6%						13.9	13.9	13.9	13.9	13.9	13.9
7	FY 2028: 3.5%							14.2	14.2	14.2	14.2	14.2
8	FY 2029: 3.6%								14.8	14.8	14.8	14.8
9	FY 2030: 3.5%									15.2	15.2	15.2
10	FY 2031: 3.6%										15.9	15.9
11	FY 2032: 3.5%											16.4
12	Total Projected Revenue from Water Charges	340.4	354.9	366.5	377.4	388.7	402.5	416.8	431.5	446.7	462.6	479.0
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	1.5	1.0	1.8	3.9	5.9	5.9	6.0	6.0	6.1	6.1	6.1
15	Total Revenue Available	342.1	356.1	368.5	381.4	394.8	408.6	422.9	437.7	453.0	468.9	485.3
Revenue Requirements												
16	Transfer to GLWA Regional O&M Account	143.9	144.8	148.7	154.3	155.6	159.2	162.3	165.6	168.9	172.3	175.7
17	Transfer to GLWA Pension O&M Account	6.0	6.0	-	-	-	-	-	-	-	-	-
18	Total O&M Expense	150.0	150.9	148.7	154.3	155.6	159.2	162.3	165.6	168.9	172.3	175.7
19	Debt Service Allocation - Regional System	135.1	150.3	159.2	170.6	181.0	185.6	195.7	202.9	218.9	224.3	233.9
20	Non-Operating Portion of Pension Obligation	5.4	5.4	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
21	B & C Note Non-Operating Payments	0.9	0.9	0.9	1.7	1.6	1.4	1.3	1.3	1.2	1.2	1.2
22	Transfer to Pension Obligation Payment Fund	6.3	6.3	3.6	4.4	4.4	4.2	4.1	4.0	4.0	4.0	4.0
23	Transfer to WRAP Fund	1.7	1.8	1.8	1.9	2.0	2.0	2.1	2.2	2.3	2.3	2.4
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	Transfer to GLWA Regional I&E Account	26.6	24.3	32.6	27.7	29.3	35.1	36.2	40.4	36.4	43.5	46.8
26	Total Revenue Requirements	342.1	356.1	368.5	381.4	394.8	408.6	422.9	437.7	453.0	468.9	485.3
27	Indicated Balance (Deficiency)	-	-	-	-	-	-	-	-	-	-	-
28	Projected Debt Service Coverage Ratio (Regional)	1.42	1.36	1.38	1.33	1.32	1.34	1.33	1.34	1.30	1.32	1.32
29	<i>Net Revenues (15) - (18)</i>	192.1	205.2	219.8	227.1	239.1	249.4	260.6	272.1	284.1	296.6	309.6
30	<i>Revenues Remaining after Debt Service (29)-(19)</i>	57.0	54.8	60.6	56.5	58.2	63.9	64.9	69.2	65.2	72.3	75.7
31	<i>Applied to MBO Reserve Funds (22,23)</i>	(8.0)	(8.0)	(5.5)	(6.3)	(6.4)	(6.3)	(6.2)	(6.2)	(6.3)	(6.3)	(6.4)
32	<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)
33	<i>Available for I&E Fund (29) - (30,31,32)</i>	26.6	24.3	32.6	27.7	29.3	35.1	36.2	40.4	36.4	43.5	46.8

(a) From Table 3. Based on application of FY 2022 charges for 2022 through 2032.

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

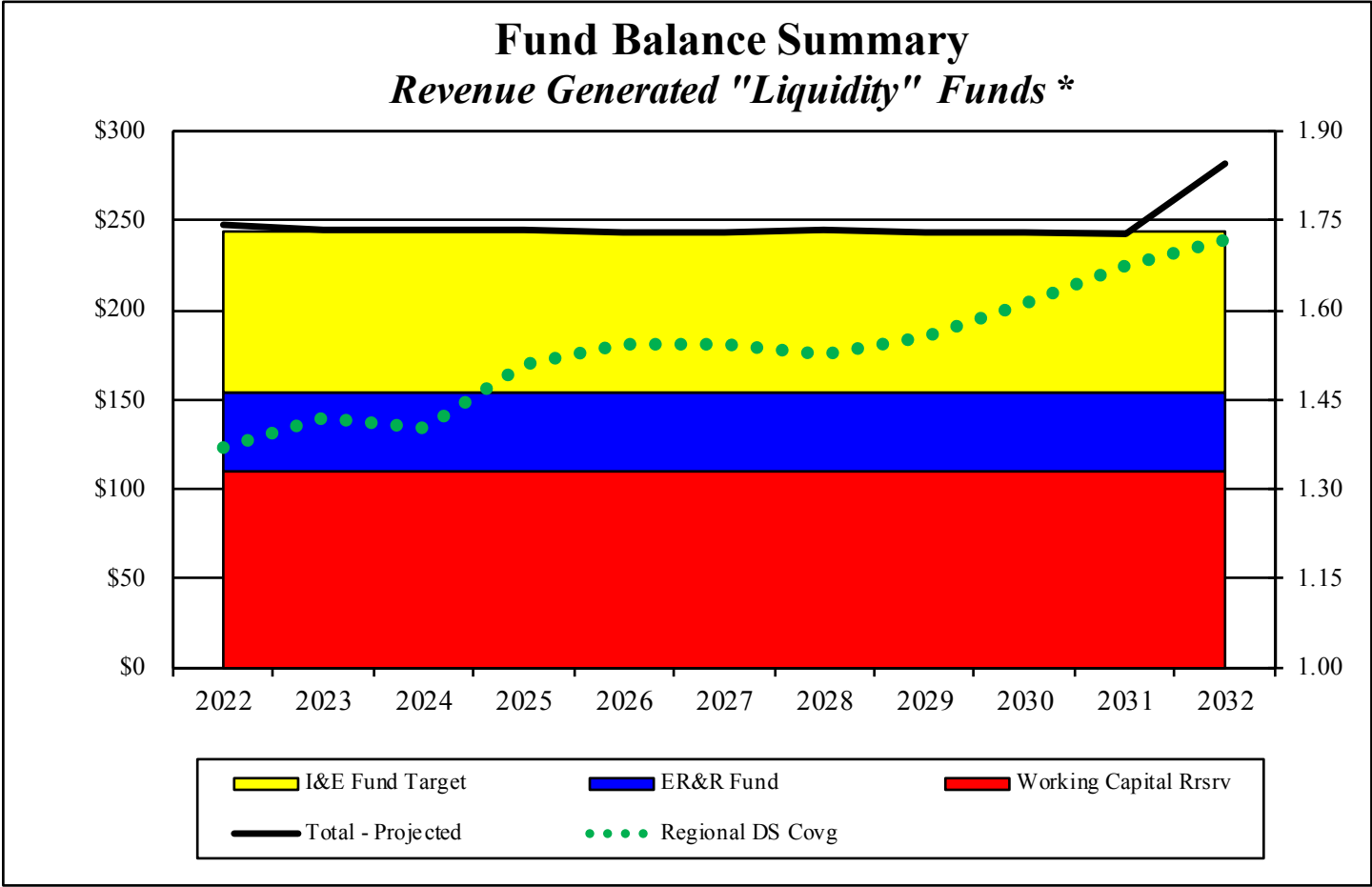
Line No.	Item	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Revenue (a)												
1	Operating Revenue Under Existing Charges	471.0	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6
<u>Projected Revenue from Adjustments</u>												
2	FY 2023: 3.7%		17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1
3	FY 2024: 2.3%			11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
4	FY 2025: 2.0%				10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
5	FY 2026: 2.1%					10.5	10.5	10.5	10.5	10.5	10.5	10.5
6	FY 2027: 2.5%						13.1	13.1	13.1	13.1	13.1	13.1
7	FY 2028: 2.5%							13.4	13.4	13.4	13.4	13.4
8	FY 2029: 2.5%								13.9	13.9	13.9	13.9
9	FY 2030: 2.6%									14.3	14.3	14.3
10	FY 2031: 2.6%										14.7	14.7
11	FY 2032: 2.5%											14.5
12	Total Operating Revenue	471.0	485.8	496.8	507.0	517.5	530.6	544.0	557.9	572.1	586.8	601.3
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	1.5	1.2	2.3	4.6	6.9	6.9	7.0	6.9	6.8	6.6	6.9
15	Total Revenue Available	472.9	487.4	499.5	512.0	524.8	537.9	551.4	565.2	579.3	593.8	608.6
Revenue Requirements												
16	Transfer to GLWA Regional O&M Account	181.3	187.1	192.4	193.6	196.8	200.0	204.0	208.1	212.3	216.5	220.8
17	Transfer to GLWA Pension O&M Account	10.8	10.8	-	-	-	-	-	-	-	-	-
18	Total O&M Expense	192.1	197.9	192.4	193.6	196.8	200.0	204.0	208.1	212.3	216.5	220.8
19	Debt Service Allocation - Regional System	205.0	205.6	220.7	212.5	214.2	221.0	229.3	231.4	229.8	227.2	227.5
20	Non-Operating Portion of Pension Obligation	9.7	9.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
21	B & C Note Non-Operating Payments	2.0	2.0	2.0	3.7	3.6	3.3	2.9	2.9	2.8	2.7	2.7
22	Transfer to Pension Obligation Payment Fund	11.6	11.6	6.9	8.7	8.6	8.2	7.9	7.8	7.8	7.7	7.6
23	Transfer to WRAP Fund	2.4	2.4	2.5	2.6	2.6	2.7	2.8	2.8	2.9	3.0	3.0
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	Transfer to GLWA Regional I&E Account	34.3	42.3	49.5	67.2	75.1	78.5	79.8	87.5	99.0	111.9	122.1
26	Total Revenue Requirements	472.9	487.3	499.5	512.0	524.8	537.9	551.4	565.1	579.3	593.7	608.6
27	Indicated Balance (Deficiency)	-	-	-	-	-	-	-	-	-	-	-
28	Projected Debt Service Coverage Ratio (Regional)	1.37	1.41	1.39	1.50	1.53	1.53	1.51	1.54	1.60	1.66	1.70
29	<i>Net Revenues (15) - (18)</i>	280.8	289.5	307.1	318.5	328.0	337.9	347.4	357.1	367.1	377.3	387.8
30	<i>Revenues Remaining after Debt Service (29)-(19)</i>	75.8	83.8	86.5	106.0	113.8	116.9	118.0	125.7	137.2	150.1	160.3
31	<i>Applied to MBO Reserve Funds (22,23)</i>	(14.0)	(14.0)	(9.4)	(11.2)	(11.2)	(10.9)	(10.7)	(10.7)	(10.7)	(10.7)	(10.7)
32	<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)
33	<i>Available for I&E Fund (29) - (30,31,32)</i>	34.3	42.3	49.5	67.3	75.1	78.5	79.9	87.5	99.1	112.0	122.2

(a) From Table 3. Based on application of FY 2022 charges for 2022 through 2032.



	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Fund Balance Minimums											
Working Capital Rrsr	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0
ER&R Fund	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
I&E Fund Target	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
Total - Minimums	202.5	202.5	202.5	202.5	202.5	202.5	202.5	202.5	202.5	202.5	202.5
Projections											
Working Capital Rrsr	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0
ER&R Fund	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
I&E Fund	110.2	90.3	91.3	90.6	90.2	90.1	90.5	90.1	90.0	90.4	90.4
Total - Projected	222.7	202.8	203.8	203.1	202.7	202.6	203.0	202.6	202.5	202.9	202.9
Projected > Minimum	20.2	0.3	1.3	0.6	0.2	0.1	0.5	0.1	0.0	0.4	0.4
Regional DS Covg	1.42	1.36	1.38	1.33	1.32	1.34	1.33	1.34	1.30	1.32	1.32

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



	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Fund Balance Minimums											
Working Capital Rrsr	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0
ER&R Fund	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0
I&E Fund Target	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
Total - Minimums	244.0	244.0	244.0	244.0	244.0	244.0	244.0	244.0	244.0	244.0	244.0
Projections											
Working Capital Rrsr	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0
ER&R Fund	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0
I&E Fund	93.2	90.6	90.3	90.6	90.1	90.0	90.2	90.1	90.0	88.6	127.9
Total - Projected	247.2	244.6	244.3	244.6	244.1	244.0	244.2	244.1	244.0	242.6	281.9
Projected > Minimum	3.2	0.6	0.3	0.6	0.1	(0.0)	0.2	0.1	(0.0)	(1.4)	37.9
Regional DS Covg	1.37	1.42	1.40	1.51	1.54	1.54	1.53	1.56	1.61	1.67	1.72

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

Water Table 6

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

Line No.	Fiscal Year Ended June 30,										
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
<u>Working Capital Reserve (b)</u>											
1	Beginning Balance	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0
2	Deposit from Operations	-	-	-	-	-	-	-	-	-	-
3	Ending Balance	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0
<u>Budget Stabilization Fund (a)</u>											
4	Beginning Balance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
5	Deposits / (Withdrawals)	-	-	-	-	-	-	-	-	-	-
6	Ending Balance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
<u>ER&R Fund (a)</u>											
7	Beginning Balance	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
8	Transfers In	-	-	-	-	-	-	-	-	-	-
9	Ending Balance	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
<u>I&E Fund (c)</u>											
10	Beginning Balance	207.5	110.2	90.3	91.3	90.6	90.2	90.1	90.5	90.1	90.4
11	Budgeted Capital Outlay	(17.0)	(15.5)	(13.4)	(10.4)	(9.6)	(9.0)	(10.0)	(10.0)	(10.0)	(10.0)
12	Transfer to Construction Fund	(106.8)	(28.7)	(18.2)	(17.9)	(20.2)	(26.1)	(25.8)	(30.9)	(26.4)	(33.1)
13	Subtotal prior to Revenue Transfer	83.6	66.0	58.7	63.0	60.9	55.0	54.3	49.6	53.6	46.9
14	Deposits from Revenues (c)	26.6	24.3	32.6	27.7	29.3	35.1	36.2	40.4	36.4	43.5
15	Ending Balance	110.2	90.3	91.3	90.6	90.2	90.1	90.5	90.1	90.4	90.4
<u>Total Revenue Generated Funds (d)</u>											
16	Beginning Balance	322.0	224.7	204.8	205.8	205.1	204.7	204.6	205.0	204.6	204.5
17	Net Sources and Uses	(97.3)	(19.9)	1.0	(0.6)	(0.5)	(0.0)	0.3	(0.4)	(0.0)	0.4
18	Ending Balance	224.7	204.8	205.8	205.1	204.7	204.6	205.0	204.6	204.5	204.9
19	Days Cash on Hand (e)	565	511	500	480	475	465	456	447	438	430
<u>Other Funds</u>											
20	Bond Reserve (excludes Surety)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
21	Construction Bond Fund	-	-	-	-	-	-	-	-	-	-
22	Construction Fund	188.3	114.8	10.6	128.5	10.8	200.2	9.8	152.4	11.1	117.0
23	Total Funds	417.4	324.1	220.8	338.1	219.9	409.4	219.3	361.4	220.2	326.5
24	Subtotal w/o Construction Funds	229.2	209.3	210.3	209.6	209.2	209.1	209.5	209.1	209.0	209.4

(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 6.

Sewer Table 6

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

Line No.	Fiscal Year Ended June 30,										
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
<u>Working Capital Reserve (b)</u>											
1	Beginning Balance	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0
2	Deposit from Operations	-	-	-	-	-	-	-	-	-	-
3	Ending Balance	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0
<u>Budget Stabilization Fund (a)</u>											
4	Beginning Balance	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
5	Deposits / (Withdrawals)	-	-	-	-	-	-	-	-	-	-
6	Ending Balance	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>											
7	Beginning Balance	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0
8	Transfers In	-	-	-	-	-	-	-	-	-	-
9	Ending Balance	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0
<u>I&E Fund (c)</u>											
10	Beginning Balance	122.4	93.2	90.6	90.3	90.6	90.1	90.0	90.2	90.1	88.6
11	Budgeted Capital Outlay	(16.0)	(18.4)	(11.6)	(8.1)	(8.7)	(10.3)	(10.0)	(10.0)	(10.0)	(10.0)
12	Transfer to Construction Fund	(48.0)	(26.4)	(38.2)	(58.8)	(66.8)	(68.3)	(69.6)	(77.6)	(89.2)	(103.2)
13	Subtotal prior to Revenue Transfer	58.5	48.3	40.8	23.3	15.1	11.5	10.4	2.6	(9.1)	(23.3)
14	Deposits from Revenues (c)	34.3	42.3	49.5	67.2	75.1	78.5	79.8	87.5	99.0	111.9
15	Other Deposits (d)	0.4	-	-	-	-	-	-	-	-	-
16	Ending Balance	93.2	90.6	90.3	90.6	90.1	90.0	90.2	90.1	90.0	88.6
<u>Total Revenue Generated Funds (e)</u>											
17	Beginning Balance	281.4	252.2	249.6	249.3	249.6	249.1	249.0	249.2	249.1	247.6
18	Net Sources and Uses	(29.6)	(2.6)	(0.3)	0.3	(0.4)	(0.1)	0.2	(0.1)	(0.2)	39.3
19	Ending Balance	251.8	249.6	249.3	249.6	249.1	249.0	249.2	249.1	249.0	286.9
20	Days Cash on Hand (f)	497	477	463	461	453	445	437	428	420	409
<u>Other Funds</u>											
21	Bond Reserve (excludes Surety)	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
22	Construction Bond Fund	-	-	-	-	-	-	-	-	-	-
23	Construction Fund	21.3	24.6	36.7	40.1	18.0	17.6	50.7	41.4	11.3	5.1
24	Total Funds	791.0	772.5	770.3	771.8	740.9	732.8	757.8	739.7	700.7	682.8
25	Subtotal w/o Construction Funds	769.7	747.8	733.7	731.7	722.9	715.2	707.1	698.3	689.5	677.7

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

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

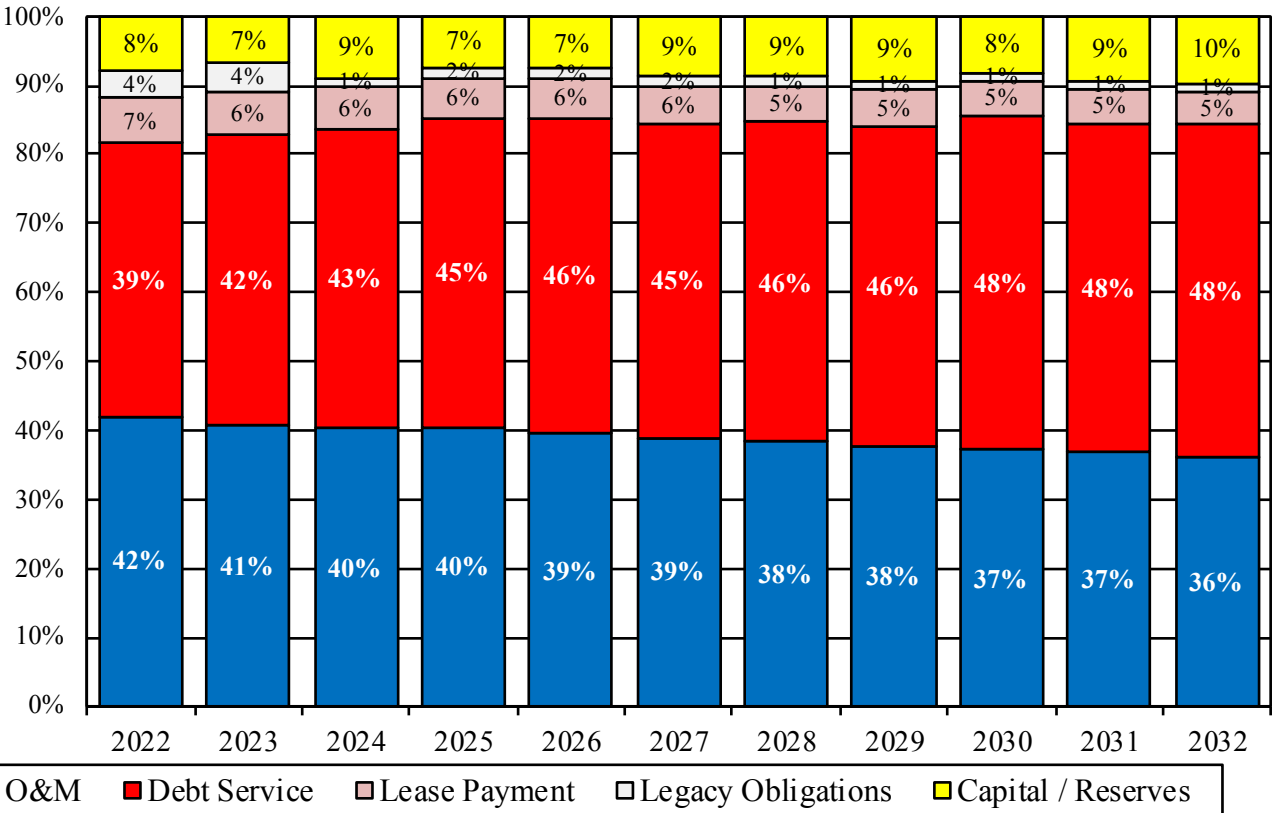
(c) Only includes GLWA Regional I&E Account. Does not include Lease Payment transferred to DWSD Local I&E Account.

(d) Repayment of DWSD loan receivable.

(e) 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.

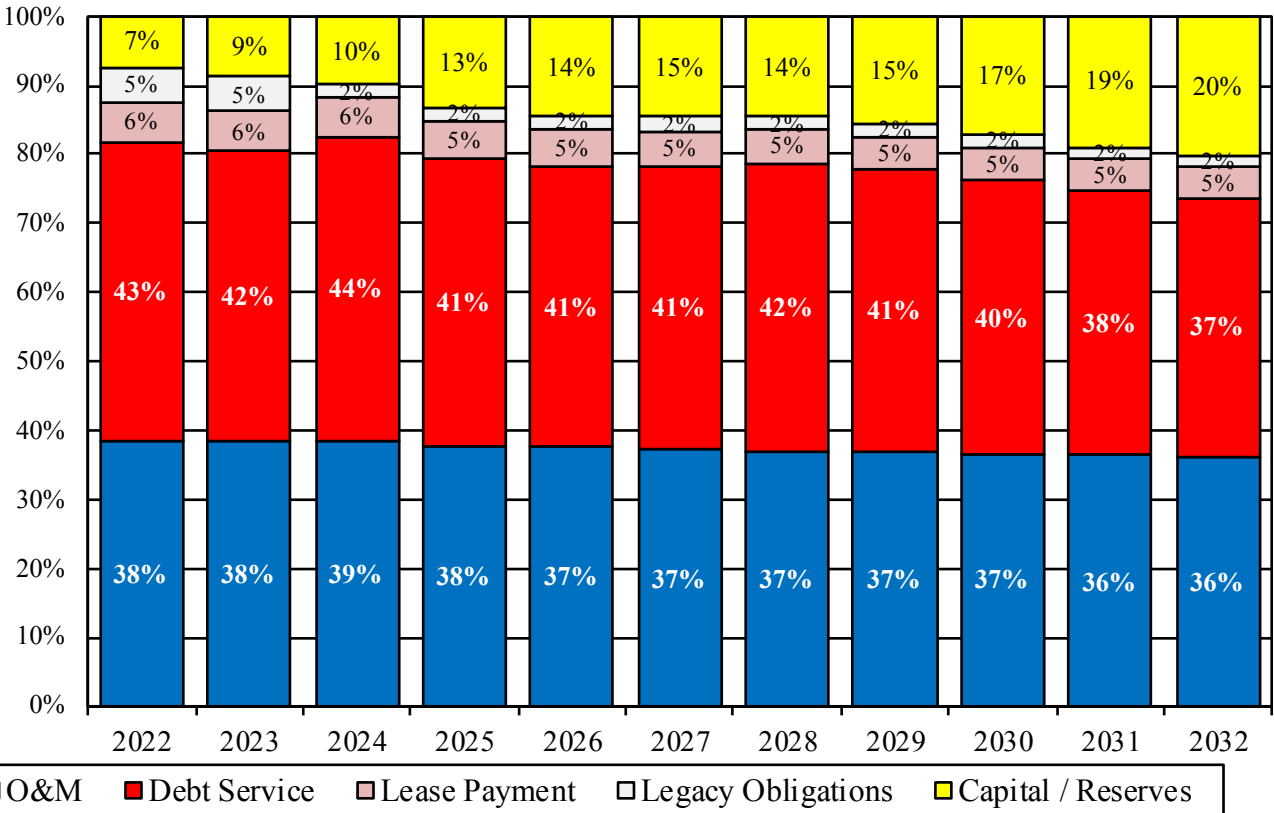
(f) Excludes Budget Stabilization Fund amounts from Line 6.

Relative Revenue Requirement Distribution

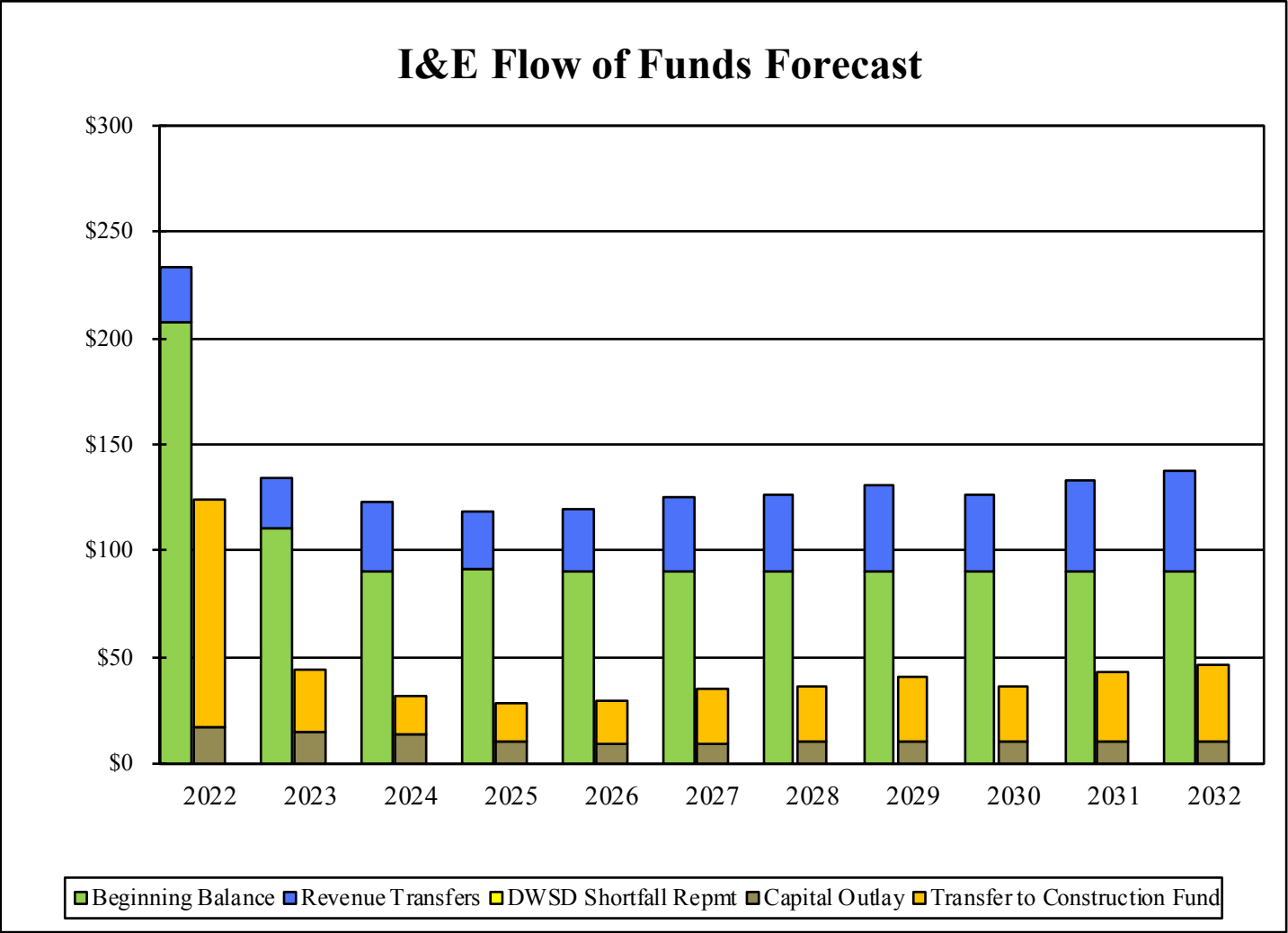


	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>
O&M	143.9	144.8	148.7	154.3	155.6	159.2	162.3	165.6	168.9	172.3	175.7
Debt Service	135.1	150.3	159.2	170.6	181.0	185.6	195.7	202.9	218.9	224.3	233.9
Lease Payment	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Legacy Obligations	14.0	14.1	5.5	6.3	6.4	6.3	6.2	6.2	6.3	6.3	6.4
Capital / Reserves	26.6	24.3	32.6	27.7	29.3	35.1	36.2	40.4	36.4	43.5	46.8
Total	342.1	356.1	368.5	381.4	394.8	408.6	422.9	437.7	453.0	468.9	485.3

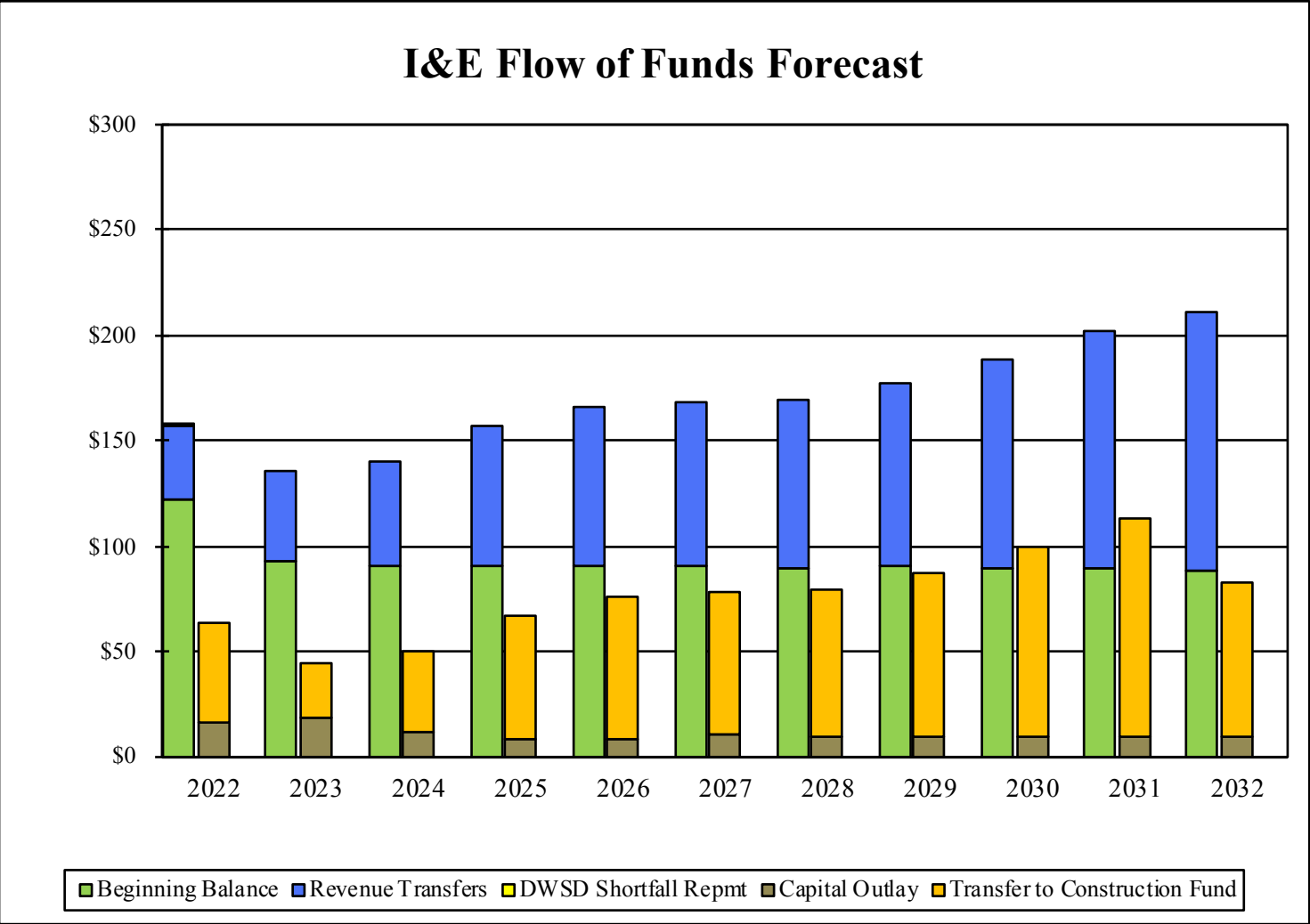
Relative Revenue Requirement Distribution



	<u>2022</u>	<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>
O&M	181.3	187.1	192.4	193.6	196.8	200.0	204.0	208.1	212.3	216.5	220.8
Debt Service	205.0	205.6	220.7	212.5	214.2	221.0	229.3	231.4	229.8	227.2	227.5
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	24.9	9.4	11.2	11.2	10.9	10.7	10.7	10.7	10.7	10.7
Capital / Reserves	34.3	42.3	49.5	67.2	75.1	78.5	79.8	87.5	99.0	111.9	122.1
Total	472.9	487.3	499.5	512.0	524.8	537.9	551.4	565.1	579.3	593.7	608.6



	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Beginning Balance	207.5	110.2	90.3	91.3	90.6	90.2	90.1	90.5	90.1	90.0	90.4
Capital Outlay	(17.0)	(15.5)	(13.4)	(10.4)	(9.6)	(9.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)
Transfer to Constr	(106.8)	(28.7)	(18.2)	(17.9)	(20.2)	(26.1)	(25.8)	(30.9)	(26.4)	(33.1)	(36.8)
Initial Balance	83.6	66.0	58.7	63.0	60.9	55.0	54.3	49.6	53.6	46.9	43.6
Revenue Transfers	26.6	24.3	32.6	27.7	29.3	35.1	36.2	40.4	36.4	43.5	46.8
Ending Balance	110.2	90.3	91.3	90.6	90.2	90.1	90.5	90.1	90.0	90.4	90.4

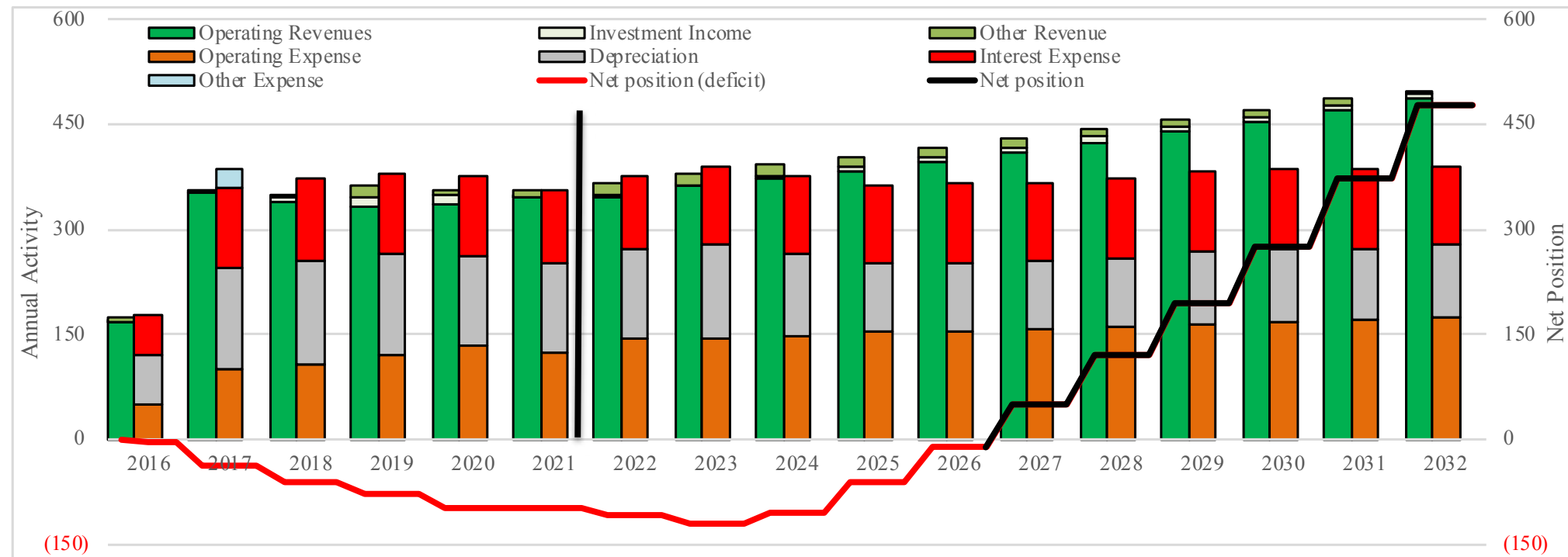


	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Beginning Balance	122.4	93.2	90.6	90.3	90.6	90.1	90.0	90.2	90.1	90.0	88.6
Capital Outlay	(16.0)	(18.4)	(11.6)	(8.1)	(8.7)	(10.3)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)
Transfer to Constr	(48.0)	(26.4)	(38.2)	(58.8)	(66.8)	(68.3)	(69.6)	(77.6)	(89.2)	(103.2)	(72.8)
Initial Balance	58.5	48.3	40.8	23.3	15.1	11.5	10.4	2.6	(9.1)	(23.3)	5.8
Revenue Transfers	34.3	42.3	49.5	67.2	75.1	78.5	79.8	87.5	99.0	111.9	122.1
DWSD Shortfall Repmt	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ending Balance	93.2	90.6	90.3	90.6	90.1	90.0	90.2	90.1	90.0	88.6	127.9

PRELIMINARY SECOND DISCUSSION DRAFT

Page W-10

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



	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<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>
	<i>Act.</i>	<i>Act.</i>	<i>Act.</i>	<i>Act.</i>	<i>Act.</i>	<i>Act.</i>	<i>Est.</i>	<i>Proj.</i>	<i>Proj.</i>	<i>Proj.</i>	<i>Proj.</i>	<i>Proj.</i>	<i>Proj.</i>	<i>Proj.</i>	<i>Proj.</i>	<i>Proj.</i>	<i>Proj.</i>
1 Total operating revenues	167.7	351.7	338.3	331.6	334.3	344.6	347.2	361.8	373.4	384.2	395.5	409.3	423.6	438.4	453.5	469.4	485.8
2 Operating expenses	49.5	101.7	108.5	119.8	132.5	123.6	143.9	144.8	148.7	154.3	155.6	159.2	162.3	165.6	168.9	172.3	175.7
3 Depreciation/Amortization	71.3	144.1	146.1	144.1	130.7	126.8	129.2	135.3	117.0	97.5	97.5	94.6	97.2	102.0	101.4	99.5	101.4
4 Total operating expenses	120.8	245.9	254.6	264.0	263.3	250.5	273.1	280.2	265.7	251.9	253.2	253.8	259.5	267.6	270.3	271.7	277.2
5 Operating income	46.8	105.9	83.7	67.6	71.0	94.1	74.1	81.6	107.7	132.3	142.3	155.6	164.1	170.8	183.2	197.7	208.6
Nonoperating revenue (expenses)																	
6 Earnings on investments	0.4	1.8	6.1	14.8	13.7	0.8	1.6	1.1	2.2	5.1	7.3	7.0	8.1	8.4	7.7	7.8	7.3
7 Interest Expense - Bonded Debt	(56.5)	(113.7)	(118.2)	(114.2)	(111.3)	(106.3)	(104.2)	(110.7)	(108.9)	(110.9)	(112.2)	(112.9)	(113.8)	(115.4)	(116.8)	(115.5)	(113.8)
8 Other Non-Operating	5.2	6.4	4.4	15.3	7.0	10.5	17.2	16.6	15.7	14.7	13.6	12.4	11.1	9.8	7.7	5.6	3.5
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
7 Change in net position	(4.1)	(32.4)	(24.0)	(16.4)	(19.5)	(0.9)	(11.3)	(11.4)	16.7	41.3	51.0	62.0	69.4	73.6	81.8	95.7	105.6
10 Net position (deficit), beginning of yea	0.0	(4.1)	(36.5)	(60.4)	(76.9)	(96.4)	(97.3)	(108.5)	(120.0)	(103.3)	(62.0)	(11.0)	51.0	120.4	194.0	275.8	371.5
11 Net position (deficit), end of year	(4.1)	(36.5)	(60.4)	(76.9)	(96.4)	(97.3)	(108.5)	(120.0)	(103.3)	(62.0)	(11.0)	51.0	120.4	194.0	275.8	371.5	477.1

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PRELIMINARY SECOND DISCUSSION DRAFT

Page S-10

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
	Act.	Act.	Act.	Act.	Act.	Act.	Est.	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	486.2	497.2	507.4	517.9	531.0	544.4	558.2	572.5	587.2	601.7
2 Operating expenses	84.4	151.3	176.4	174.0	176.9	178.1	181.3	187.1	192.4	193.6	196.8	200.0	204.0	208.1	212.3	216.5	220.8
3 Depreciation/Amortization	86.0	185.6	187.3	168.5	152.9	150.9	156.9	161.8	151.5	139.9	136.0	125.0	127.9	131.3	127.8	117.0	112.0
4 Total operating expenses	170.4	336.9	363.6	342.6	329.9	329.0	338.2	348.8	343.9	333.5	332.8	325.0	332.0	339.4	340.1	333.5	332.8
5 Operating income	60.1	168.9	110.0	126.9	136.8	141.8	133.2	137.3	153.3	173.9	185.1	206.0	212.4	218.8	232.4	253.6	268.9
Nonoperating revenue (expenses)																	
6 Earnings on investments	1.1	2.2	5.3	11.8	11.7	0.5	1.6	1.2	2.6	5.2	7.3	7.3	8.1	7.8	7.0	6.7	6.9
7 Interest Expense - Bonded Debt	(56.5)	(113.7)	(118.2)	(136.8)	(132.6)	(112.6)	(109.3)	(111.2)	(107.4)	(104.2)	(100.9)	(98.7)	(96.0)	(91.9)	(88.0)	(82.1)	(76.2)
8 Other Non-Operating	(17.2)	(51.7)	(46.9)	(7.5)	(17.1)	(17.4)	(25.1)	(25.6)	(25.9)	(26.3)	(26.8)	(27.3)	(27.8)	(28.3)	(28.9)	(29.6)	(30.2)
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
7 Change in net position	(12.6)	(55.8)	(50.0)	(5.6)	(1.2)	12.3	0.4	1.8	22.5	48.6	64.7	87.4	96.7	106.3	122.5	148.7	169.4
10 Net position (deficit), beginning of year	0.0	(12.6)	(68.4)	(118.3)	(123.9)	(125.2)	(112.9)	(112.4)	(110.6)	(88.1)	(39.5)	25.2	112.5	209.3	315.6	438.1	586.8
11 Net position (deficit), end of year	(12.6)	(68.4)	(118.3)	(123.9)	(125.2)	(112.9)	(112.4)	(110.6)	(88.1)	(39.5)	25.2	112.5	209.3	315.6	438.1	586.8	756.2

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MEMORANDUM

Highland Park Bad Debt Expense Review
Executive Summary

December 15, 2021

To: Nicolette Bateson

From: Bart Foster

A brief update on Highland Park bad debt expense, and how it impacts charges to other GLWA Member Partners. More thorough discussion and analysis is documented elsewhere.

- The year-end working papers supporting the FY 2021 audit reveal an “allowance for doubtful accounts” for Highland Park totaling approximately \$49.1 million, and a resulting FY 2021 bad debt expense of approximately \$4.16 million, as summarized below.

Highland Park Bad Debt Amounts

	Allowance for Doubtful Accts		Change (a)
	<u>6/30/20</u>	<u>6/30/21</u>	
Sewer	34,584,627	37,509,475	2,924,848
Sewer Industrial Waste Control (b)	1,710,779	1,758,201	47,422
Water	<u>8,634,075</u>	<u>9,821,920</u>	<u>1,187,845</u>
Total (b)	44,929,481	49,089,596	4,160,115

(a) The change in the allowance is equivalent to the bad debt expense during the fiscal year, unless any accounts receivable were written off during the year.

(b) Estimated - prior balance includes a small amount not related to Highland Park.

The remainder of this document discusses Water and Sewer impacts separately.

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Highland Park Bad Debt Expense Review
Executive Summary

December 15, 2021
Page 2

Water

- Starting with the FY 2017 Water service charges, we began effectively increasing charges to ALL Member Partners (including Detroit) by amounts equivalent to Highland Park's allocated revenue requirement.
- The FY 2021 Water bad debt expense for Highland Park was \$1.19 million, which was consistent with the amount we included in the FY 2021 charges.
- The proposed FY 2023 Water Charges include the entire revenue requirement allocated to Highland Park as a "bad debt revenue requirement" allocable to all Member Partners, including Detroit.

Sewer

- As shown in the table below, payment performance improved in FYs 2018 and 2019, but fell off during FY 2020 and 2021, and no payments have been made during FY 2022.

<u>Highland Park Sewer Payment History</u>	<u>Billings</u>	<u>Payments</u>	<u>Net</u>	<u>Balance</u>	<u>Collection Rate</u>
FY 2012				10,207,956	
FY 2013	4,987,635	2,206,211	2,781,424	12,989,380	44%
FY 2014	6,980,442	1,612,633	5,367,809	18,357,189	23%
FY 2015	5,553,123	1,444,623	4,108,500	22,465,689	26%
FY 2016	5,612,167	2,022,335	3,589,832	26,055,521	36%
FY 2017	5,802,000	2,309,186	3,492,814	29,548,335	40%
FY 2018	5,657,101	4,108,108	1,548,993	31,097,328	73%
FY 2019	5,617,100	5,241,583	375,517	31,472,845	93%
FY 2020	5,665,400	3,026,117	2,639,283	34,112,128	53%
FY 2021	5,708,400	2,783,552	2,924,848	37,036,976	49%
FY 2022 (5 months)	2,239,200	0	2,239,200	39,276,176	0%
Cumulative	53,822,568	24,754,348	29,068,220		46%
FY 2013 - FY 2017	28,935,367	9,594,988	19,340,379		33%
FY 2018 - FY 2019	11,274,201	9,349,691	1,924,510		83%
FY 2020 - FY 2022	13,613,000	5,809,669	7,803,331		43%

- Through the end of FY 2019, (via a combination of *prospective* bad debt recovery and bad debt *true up* recovery) Member Partners had been charged approximately \$324,500 more than the actual bad debt incurred by Highland Park. We'll refer to that figure as the "**Cumulative Balance**" herein.
- By the end of FY 2020, this figure was close to zero.
- Subsequently, the Board deferred implementation of the FY 2021 Charges, leaving the FY 2020 Charges (and the ~ \$188,000 per month of bad debt related amounts that they contained) in effect for the first six months of FY 2021. As a result, suburban wholesale Member Partners were charged an additional \$1.13 million in bad debt related charges that would not have been collected had the FY 2021 Charges been implemented as originally scheduled.

Highland Park Bad Debt Expense Review
Executive Summary

December 15, 2021
Page 3

- We took this information into consideration when designing the FY 2022 Sewer Charges. When we developed the FY 2022 suburban wholesale Sewer charges we did not include any amounts related to Highland Park Sewer bad debt in the charges.
 - This decision was supported, in part, due to the COVID environment and by a desire to implement the FY 2022 SHARES in a revenue neutral fashion.*
- The FY 2021 Sewer bad debt expense for Highland Park was \$2.92 million. This figure increased the Cumulative Balance to \$1.85 million as of June 30, 2021. This amount is technically due from Suburban Wholesale Member Partners via a surcharge to their allocated FY 2023 revenue requirements.

HP Bad Debt Collected in Sewer Charges					
	<u>Bad Debt Prospective</u>	<u>Bad Debt True Up</u>	<u>Total Bad Debt Collected</u>	<u>Bad Debt Incurred</u>	<u>Cumulative Balance</u>
pre 2016				17,295,300	17,295,300
2016	5,569,200	0	5,569,200	2,975,200	14,701,300
2017	5,600,000	3,459,100	9,059,100	2,782,200	8,424,400
2018	4,390,000	2,810,600	7,200,600	2,100,800	3,324,600
2019	2,780,000	1,871,300	4,651,300	1,002,200	(324,500)
2020	2,260,800	0	2,260,800	2,643,900	58,600
2021 *	<u>2,440,400</u>	<u>(1,310,000)</u>	<u>1,130,400</u>	<u>2,924,800</u>	1,853,000
Subtotal	23,040,400	6,831,000	29,871,400	31,724,400	1,853,000
2022	0	0	0	5,350,000	7,203,000
2023 **	5,350,000	0	5,350,000	5,350,000	7,203,000

* Via continuation of the FY 2020 Charges for the first 6 months of FY 2021.

** Assumes strategy to recover ~ one year of HP billings during FY 2023. **PRELIMINARY**

- If Highland Park makes no payments during FY 2022 the Cumulative Balance will grow to \$7.2 million, since no surcharge amounts were included in the FY 2022 charges.
- Assuming the non-payment continues, the Cumulative Balance could grow to \$12.5 million by the end of FY 2023. We believe it would be reasonable to include that entire amount and make the System “whole” via the FY 2023 charges, we would have to include over \$13 million as a revenue requirement. That approach would result in a 5.0% charge increase (all else being equal) for the Wholesale Sewer Member Partners (again not Detroit) – before consideration of any budget or other charge related considerations.
- In accordance with our recent discussions, we have included one year’s worth of billing to Highland Park as a “bad debt surcharge” to Suburban Wholesale Member Partners in the proposed FY 2023 Sewer Charges. We believe that this is reasonable approach. It will result in an approximate 2.0% “surcharge” to Suburban Wholesale Member

Highland Park Bad Debt Expense Review
Executive Summary

December 15, 2021
Page 4

Partners during FY 2023. The Sewer Charge calculations in the documentation summarizing our FY 2023 Service Charge Recommendations embrace this approach.

- Note that under current (non) payment performance this approach is forecasted to still result in a Cumulative Balance of \$7.2 million at the end of FY 2023.

We are prepared to discuss this matter at your convenience.