



Audit Committee Meeting
Monday, June 26, 2023 at 8:00 a.m.
www.glwater.org

[Join Zoom Meeting](#)

Meeting ID: **840 7731 2854** Passcode: **953576**

US Toll-free: **888 788 0099 or 877 853 5247**

AGENDA

Note: Binders #1 and #2 were combined and the binder has been renumbered.

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES
 - A. May 26, 2023 (Page 1)
5. PUBLIC PARTICIPATION
6. OLD BUSINESS
7. NEW BUSINESS
 - A. *Action Item:* 4th Quarter Budget Amendments (Page 7)
 - B. *Action Item:* Procurement Policy Revision (Page 59)
 - C. *Action Item:* Bad Debt Recovery Credit Program (Page 86)
8. REPORTS
 - A. CFO Report - Verbal
 - B. Monthly Financial Report for March 2023 (Page 108)
 - C. Business Inclusion and Diversity Program Update (Page 109)
 - D. Charges Outreach & Modeling Update (Page 113)
 - E. Affordability & Assistance Update (Page 114)
 - i. Quarterly WRAP Report (Page 116)
 - F. Quarterly Construction Work in Progress Report through (Page 121) March 31, 2023
 - G. Semi-Annual Debt Report through March 31, 2023 (Page 138)
 - H. Annual Pension Report (Page 153)
 - I. Update: Economic Outlook Task Force (Page 365)
9. COMMUNICATIONS
 - A. The Procurement Pipeline for June 2023 (Page 372)
10. LOOK AHEAD
 - A. Next Audit Committee Meeting: July 28, 2023, at 8:00 a.m.
11. OTHER MATTERS
12. ADJOURNMENT



Great Lakes Water Authority

735 Randolph Street
Detroit, Michigan 48226
glwater.legistar.com

Meeting Minutes - Draft

Audit Committee

Friday, May 26, 2023

8:00 AM

Zoom Telephonic Meeting

Zoom Telephonic Meeting

Join Zoom Meeting:

[https://glwater.zoom.us/j/88517239006?](https://glwater.zoom.us/j/88517239006?pwd=MFhJUmp4NXpRWEE2YVVJMDVNUGdvdz09)

[pwd=MFhJUmp4NXpRWEE2YVVJMDVNUGdvdz09](https://glwater.zoom.us/j/88517239006?pwd=MFhJUmp4NXpRWEE2YVVJMDVNUGdvdz09)

Join By Telephone

US Toll-Free:

877 853 5247; or 888 788 0099

Meeting ID: 885 1723 9006

Passcode: 767982

1. Call To Order

Chairperson Baker called the meeting to order at 8:00 a.m.

2. Quorum Call

Present: 3 - Chairperson Brian Baker, Director Gary Brown, and Director Jaye Quadrozzi

3. Approval of Agenda

Nicolette Bateson, Chief Financial Officer/Treasurer, requested to move item 8.F. (Quarterly Investment Report) to item 7.A.

Chairperson Baker requested a Motion to Approve the Agenda as Amended.

Motion By: Gary Brown

Support By: Jaye Quadrozzi

Action: Approved as Amended

The motion carried by a unanimous vote.

4. Approval of Minutes

A. [2023-170](#) Minutes of April 28, 2023

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [4A April 28, 2023 Audit Committee Meeting Minutes](#)

Chairperson Baker requested a Motion to Approve the Minutes of the April 28, 2023 Audit Committee Meeting.

Motion By: Jaye Quadrozzi

Support By: Gary Brown

Action: Approved

The motion carried by a unanimous vote.

5. Public Comment

There were no public comments.

6. Old Business

None

7. New Business

A. [2023-210](#) Quarterly Investment Report
(8.F.)

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [8F1 Quarterly Investment Report Cover Memo May 2023](#)
[8F2 GLWA Quarterly Report March 2023 Final](#)

Motion By: Gary Brown

Support By: Jaye Quadrozzi

Action: Received and Filed

The motion carried by a unanimous vote.

- B. [2023-179](#) Resolution Regarding Approval of Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue Bonds in an Aggregate Amount Not to Exceed \$20,900,000 (Ordinance 2023-03 / Series 2023 SRF-2 / DWSD 7656-01 Water Main Replacement WS-732)**

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [7A3 Series Ordinance 2023-03 DWRF 7656-01 Water Main Repl. \(WS-732\)](#)
[7A4 Resolution Approving 2023-03 DWRF Series Ordinance DWSD 7656-01 Water Main Repl. \(WS-732\)](#)

Motion By: Jaye Quadrozzi

Support By: Gary Brown

Action: Recommended for Approval to the Board of Directors

Agenda of June 28, 2023

The motion carried by a unanimous vote.

- C. [2023-180](#) Resolution Regarding Approval of Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue Bonds in an Aggregate Amount Not to Exceed \$21,800,000 (Ordinance 2023-04 / Series 2023 SRF-3 / DWSD 7657-01 Water Main Replacement WS-733)**

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [7B3 Series Ordinance 2023-04 DWRF - DWSD 7657-01 Water Main Repl. \(WS-733\)](#)
[7B4 Resolution Approving 2023-04 DWRF Series Ordinance DWSD 7657-01 Water Main Repl. \(WS-733\)](#)

Motion By: Gary Brown

Support By: Jaye Quadrozzi

Action: Recommended for Approval to the Board of Directors

Agenda of June 28, 2023

The motion carried by a unanimous vote.

**D. [2023-181](#) **Contract No. 2204949 Municipal Advisory Services
O & M****

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [7C3 Procurement Board Report-RFP](#)
[2023-181 Attachment 1](#)

Motion By: Jaye Quadrozzi

Support By: Gary Brown

Action: Recommended for Approval to the Board of Directors

Agenda of June 28, 2023

The motion carried by a unanimous vote.

E. [2023-182](#)

Proposed Amendment to GLWA Contract CS-195 effective July 1, 2023 with The Foster Group for Annual Financial Management Consulting at a not-to-exceed amount of \$525,000 for a one-year contract, and for task order Bond Transaction System Consultant Services not-to-exceed \$325,000

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [7C3 Procurement Board Report-RFP](#)

Motion By: Jaye Quadrozzi

Support By: Gary Brown

Action: Recommended for Approval to the Board of Directors

Agenda of June 28, 2023

The motion carried by a unanimous vote

**F. [2023-204](#) **Resolution Adopting the Biennial FY 2024 & FY 2025 Budget, Board Item
2023-054 - Clerical Error****

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [7E1 2023-054 Board Letter Biennial Budget - no changes](#)
[7E2 Resolution 2023-054 Corrected](#)

Motion By: Jaye Quadrozzi

Support By: Brian Baker

Action: Received and Filed

The motion carried by a unanimous vote.

8. Reports

A. [2023-205](#) CFO Report

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [8A1 CFO Report May 2023](#)

Motion By: Gary Brown

Support By: Jaye Quadrozzi

Action: Received and Filed

The motion carried by a unanimous vote.

B. [2023-206](#) Monthly Financial Report for February 2023

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [8B February 2023 Financial Report_Tagetik](#)

Motion By: Jaye Quadrozzi

Support By: Gary Brown

Action: Received and Filed

The motion carried by a unanimous vote.

C. [2023-207](#) Business Inclusion and Diversity Program Update

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [8C Business Inclusion and Diversity Program Update](#)

Motion By: Gary Brown

Support By: Jaye Quadrozzi

Action: Received and Filed

The motion carried by a unanimous vote.

D. [2023-208](#) Charges Outreach & Modeling Update

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [8E Charges Outreach and Modeling Update - 05.26.23](#)

Motion By: Jaye Quadrozzi

Support By: Gary Brown

Action: Received and Filed

The motion carried by a unanimous vote.

E. [2023-209](#) Affordability & Assistance Update

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [8D Affordability and Assistance Update](#)

Motion By: Gary Brown

Support By: Jaye Quadrozzi

Action: Received and Filed

The motion carried by a unanimous vote.

9. Communications**A. [2023-211](#) The Procurement Pipeline for May 2023**

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [9A The Procurement Pipeline for May 2023](#)

No Action Taken

10. Look Ahead

The next Audit Committee Meeting is scheduled for Friday, June 23, 2023 at 8:00 a.m.

11. Other Matters

There were no other matters.

12. Adjournment

Chairperson Baker requested a Motion to Adjourn.

Motion By: Gary Brown

Support By: Jaye Quadrozzi

Action: Approved

The motion carried by a unanimous vote.

There being no further business, the meeting was adjourned at 9:13 a.m.



Financial Services Audit Committee Communication

Date: June 26, 2023

To: Great Lakes Water Authority Audit Committee

From: Lisa L. Mancini, Financial Planning & Analysis Manager

Re: FY 2023 Fourth Quarter Budget Amendments through June 30, 2023, and Proposed Budget Amendment Resolution

Background: In accordance with the budget amendment policy, articles, and by-laws for the Great Lakes Water Authority, a quarterly budget amendment report is presented for review by the Audit Committee. When budget amendments are required at the appropriation level as defined by the corresponding fiscal year budget adoption resolution, the Audit Committee reviews the proposed budget amendments and forwards to the Board of Directors with a recommendation.

Analysis: See attached report.

Proposed Action: The Audit Committee recommends that the Board of Directors for the Great Lakes Water Authority adopt the proposed budget resolution for the fourth quarter FY 2023 budget amendments.

..Title

Resolution to Approve the FY 2023 Fourth Quarter Budget Amendments

..Body

Agenda of: June 28, 2023

Item No.: **2023-232**

Amount: N/A

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Suzanne R. Coffey, P.E.
Chief Executive Officer
Great Lakes Water Authority

DATE: June 28, 2023

RE: **Resolution to Approve the FY 2023 Fourth Quarter Budget Amendments**

MOTION

Upon recommendation of Nicolette Bateson, Chief Financial Officer/Treasurer, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA), approves the **FY 2023 Fourth Quarter Budget Amendments as presented**; and authorizes the Chief Executive Officer to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

The founding legal documents for the Great Lakes Water Authority (GLWA) provide a structure for budget preparation, adoption, and amendment. The Board of Directors adopts a biennial budget by resolution which specifies appropriation amounts which may be modified through budget amendments. To the extent that there is a proposed amendment of the budget among the appropriation categories, the matter is brought to

the Audit Committee for review and consideration of a recommendation to the Board of Directors for their consideration for approval.

JUSTIFICATION

Attached is the communication to the Audit Committee, dated June 26, 2023, which presents the proposed budget amendments for the fourth quarter of FY 2023. The reports included in this communication include the following.

1. Quarterly Budget Amendment Report for FY 2023 ending June 30, 2023.
2. Resolution Adopting the Budget Amendments through the Fourth Quarter of FY 2023.

BUDGET IMPACT

The overall budget, despite amendment, continues to be balanced.

COMMITTEE REVIEW

This matter was reviewed by the Audit Committee at its meeting on June 26, 2023. The Audit Committee [*insert action*] that the Board of Directors for the Great Lakes Water Authority adopt the proposed FY 2023 fourth quarter budget amendments.

SHARED SERVICES IMPACT

The impact of the fourth quarter FY 2023 budget amendments is an increase of \$79,900 to OPS-008 – Systems Control Center, Detroit Only Pump Stations/CSO. This is due to increased maintenance activities at the Belle Isle, Fischer, and Woodmere pumping stations, and the Belle Isle Combined Sewer Overflow (CSO). In addition, there was a \$10,000 decrease to the Treasury Bank Fees agreement to align the budget with the actual bank fees being charged for FY 2023.



Date: June 26, 2023

To: Great Lakes Water Authority Audit Committee

From: Lisa L. Mancini, Financial Planning & Analysis Manager

Re: FY 2023 Fourth Quarter Budget Amendments through June 30, 2023, and Proposed Budget Amendment Resolution

Background: In accordance with the budget amendment policy, articles, and by-laws for the Great Lakes Water Authority, a quarterly budget amendment report is presented for review by the Audit Committee. When budget amendments are required at the appropriation level as defined by the corresponding fiscal year budget adoption resolution, the Audit Committee will review the proposed budget amendments and forward to the Board of Directors with a recommendation.

Analysis: Highlights of the FY 2023 fourth quarter budget amendments include the following.

- A. Net increase to the Water System revenues of \$3.1 million (Table 1A)
 - \$3.0 million revenue increase – The increase in water demand usage through the fourth quarter of FY 2023 caused, at least in part, by higher-than-normal temperatures and lower-than-normal precipitation during the last quarter of FY 2023.
 - \$0.1 million revenue increase – Other earnings adjustment based on activity to date for energy rebates, radio tower lease payments received, scrap metal sales, insurance proceeds (damage incurred due to the June/July 2021 wet weather events), and other miscellaneous receipts. The source of revenue for this category fluctuates from year to year.
- B. There is an increase to the Water Operations & Maintenance (O&M) Expense of \$7.6 million. (Table 1A). The primary drivers for this increase are as follows.
 - Utilities - \$4.8 million increase – Electric is the primary driver in this category with an increase of \$4.0 million. This increase is due to the increased charge for kWh and increased usage partially due to the lower-than-normal precipitation during the last quarter of FY 2023.

- Capital Program Allocation - \$0.9 million increase – This is the portion of Personnel costs which are attributed to the Capital Improvement Plan. The amount in this category is shown as negative as this is a “contra” account which represents an offset to the Personnel costs section of the O&M budget. During FY 2023, the actual hours reported by engineers working on capital projects came in less than what was forecasted.
- Chemicals - \$0.8 million increase – Chemical costs, primarily Chlorine, Phosphoric Acid, Hydrofluorosilicic Acid (Fluoride), and Alum, incurred significant cost increases due to supply issues. The budget for chemicals was amended in the second quarter of FY 2023. An additional adjustment is being made with the fourth quarter amendments.
- The realignment in the allocation of Centralized Services and Administrative & Other Services from Wastewater to Water Operations - \$3.1 million increase – This realignment is primarily due to the increase in the utilization of water contracts and decrease in sewer contracts – Increases: HDR Michigan, Lakeshore Global, and Rickman contracts (repair work on the 14 mile and 120” water main breaks and other water transmission repair work), ramp up of the linear system integrity program (LSIP), Hydromax (valve exercising); Decrease: Inland Waters (sewer repair contract).
- The Water System Operations Unallocated Reserves, at the time of the FY 2023 budget adoption, was at \$2.3 million. This amount was only slightly reduced for the second quarter budget amendment and is insufficient to cover the increases noted in the bullet points above.

C. Net increase to the Sewer System revenues of \$1.7 million (Table 1B)

- \$0.5 million revenue increase – This represents an adjustment to the bad debt expense estimate related to payments received from Highland Park.
- \$1.2 million revenue increase – Other earnings adjustment based on activity to date for insurance proceeds (damage incurred due to the June/July 2021 wet weather events) and other miscellaneous receipts. The source of revenue for this category fluctuates from year to year.

D. There is an increase to the Sewer Operations & Maintenance Expense of \$0.9 million. (Table 1B). The primary drivers for this increase are as follows.

- Utilities - \$4.2 million increase – Gas is the primary driver in this category with an increase of \$2.9 million due to the increase in cost and usage. Other contributors to the increase in Utilities are Electric - \$0.6 million and Water Service - \$0.5 million. Water meters have been repaired and replaced at the WRRF (Water Resource Recovery Facility) and bills which had previously contained estimated readings are now being received with actual readings.

The actual readings are coming in higher than the estimated readings. In addition, a new water billing structure was implemented in early FY 2023 which has resulted in an increase in the water billing rate. The budget for the water service was amended in the second quarter of FY 2023. An additional adjustment is being made with the fourth quarter amendments. The wastewater facilities impacted most substantially by this rate increase are the WRRF, Oakwood Combined Sewer Overflow, Conner Creek Combined Sewer Overflow, and the Biosolids Dryer Facility (BDF).

- Supplies & Other - \$1.1 million increase – Due to increase in equipment repairs needed due to reliability and criticality considerations.
- Personnel - \$1.5 million decrease – Due to the timing of filling vacant positions, especially those that are hard to fill in this tight labor market. In addition, there was a decrease in the utilization of the facilities maintenance contract to fill vacant positions as existing GLWA team members have assumed some of the required maintenance tasks.
- The realignment in the allocation of Centralized Services and Administrative & Other Services from Wastewater to Water Operations - \$3.1 million decrease – See explanation in item B above.
- The Wastewater System Operations Unallocated Reserves, at the time of the FY 2023 budget adoption, was at \$3.1 million. This category was adjusted for both the first and second quarter FY 2023 budget amendments. The net result was a significant reduction to the adopted amount. The current balance is insufficient to cover the increase noted in the bullet point above.

- E. Construction Funds - Grant Revenues (SRF Loans) (Tables 4A and 4B) - The amount budgeted for draws of State Revolving Fund (SRF) Loans for both the water (\$12.1 million increase) and sewer (\$19.7 million decrease) construction funds have been adjusted to reflect the timing of project design and construction activity.
- F. Construction Funds – Capital Improvement Plan (CIP) (Tables 4A and 4B) - The Capital Spending Ratio for the water capital improvement plan is forecasted to decrease from 116.2% (estimate for the 2nd quarter FY 2023 budget amendment) to 107.0% which equates to \$17.8 million. The Capital Spending Ratio for the sewer capital improvement plan was decreased from 110.7% (estimate for the 2nd quarter FY 2023 budget amendment) to 86.2% which equates to \$30.8 million. These adjustments were based on a review of the spend projections for FY 2023 and discussions with project personnel.

The attached budget amendment report is organized in the following manner.

1. Appropriation Level - Revenue Requirement - Water and Sewer Systems

- A. Water System General Operating Fund*
- B. Sewer System General Operating Fund*
- C. Total Operating Fund Level – Water System and Sewer System (Supplemental Information)*
- D. Enterprise-wide Core Groups (Supplemental Information)*
- E. Enterprise-wide Operations & Maintenance Account Type (Supplemental Information)*
- F. Unallocated Reserve by Core Group (Supplemental Information)*

2. Appropriation Level – Debt Service – Water and Sewer Systems

- A. Water System Debt Service Coverage Calculation*
- B. Sewer System Debt Service Coverage Calculation*

3. Appropriation Level – Improvement & Extension Fund – Water and Sewer Systems

- A. Water System Improvement & Extension Fund*
- B. Sewer System Improvement & Extension Fund*

4. Appropriation Level – Construction Fund – Water and Sewer Systems

- A. Water System Construction Fund*
- B. Sewer System Construction Fund*

A budget amendment resolution reflecting the budget amendments is attached.



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Table 1A - Appropriation Level - Revenue Requirement – Water System General Operating

Water System	FY 2023 Board Adopted Budget	Total 1st Quarter FY 2023 Amendments	Total 2nd Quarter FY 2023 Amendments	Total 3rd Quarter FY 2023 Amendments	Total 4th Quarter FY 2023 Amendments	FY 2023 Amended Budget	FY 2023 Activity Thru 4/30/2023
Revenues							
Suburban Wholesale Customer Charges	\$ 333,219,000	\$ (1,105,700)	\$ -	\$ -	\$ 3,000,000	\$ 335,113,300	\$ 280,778,200
Less: Bad Debt Expense	(1,257,000)	-	-	-	-	\$ (1,257,000)	-
Retail Service Charges	22,985,900	(151,600)	-	-	-	22,834,300	19,037,000
Investment Earnings	948,700	5,921,200	2,800,300	-	-	9,670,200	5,311,400
Other Revenues	175,000	-	700,000	-	120,000	995,000	980,000
Total Revenues	\$ 356,071,600	\$ 4,663,900	\$ 3,500,300	\$ -	\$ 3,120,000	\$ 367,355,800	\$ 306,106,600
Revenue Requirements							
Operations & Maintenance Expense	\$ 144,847,700	\$ -	\$ 4,300,000	\$ -	\$ 7,600,000	\$ 156,747,700	\$ 124,923,800
General Retirement System Legacy Pension	6,048,000	-	-	-	-	6,048,000	5,040,000
Debt Service	150,337,100	490,200	(772,000)	-	-	150,055,300	127,877,800
General Retirement System Accelerated Pension	6,268,300	-	-	-	-	6,268,300	5,223,600
Extraordinary Repair & Replacement Deposit	-	-	-	-	200,000	200,000	-
Water Residential Assistance Program Contribution	1,770,500	-	-	-	-	1,770,500	1,475,400
Regional System Lease	22,500,000	-	-	-	-	22,500,000	18,750,000
DWSD Budget Shortfall Pending	-	-	-	-	-	-	-
Improvement & Extension Fund Transfer Pending	24,300,000	4,173,700	(27,700)	-	(4,680,000)	23,766,000	23,714,200
Total Revenue Requirements	\$ 356,071,600	\$ 4,663,900	\$ 3,500,300	\$ -	\$ 3,120,000	\$ 367,355,800	\$ 307,004,800
Net Actual to Date	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (898,200)



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level – Revenue Requirement – Water System General Operating Budget Amendment Explanation	
Revenues	
Suburban Wholesale Customer Charges	<i>The budget amendment proposed is due to increased water demand usage due, in part, by the higher-than-normal temperatures and lower-than-normal precipitation during the last quarter of FY 2023.</i>
Bad Debt	<i>No budget amendment is required.</i>
Retail Services Charges	<i>No budget amendment is required.</i>
Investment Earnings	<i>No budget amendment is required.</i>
Other Revenues	<i>The budget amendment proposed is based on activity to date for energy rebates, radio tower lease payments received, scrap metal sales, insurance proceeds (damage incurred due to the June/July 2021 wet weather events), and other miscellaneous receipts. This source of revenue fluctuates from year to year.</i>
Revenue Requirements (Expenditures)	
Operations & Maintenance Expense	<i>The Water O&M budget is being increased by \$7.6 million to cover the shortfall projected for FY 2023 (details can be found in the Highlights section beginning on the first page of this document).</i>
General Retirement System Legacy Pension	<i>No budget amendment is required. Budget and funding are on a fixed schedule.</i>
Debt Service	<i>No budget amendment is required. Budget and funding are based on SRF schedules (timing of the draws).</i>
General Retirement System Legacy Pension – Accelerated Payment	<i>No budget amendment is required. Budget and funding are on a fixed schedule.</i>
Extraordinary Repair & Replacement Deposit	<i>This is a formulaic requirement in the Master Bond Ordinance. Additional amounts are required in this fund based on the FY 2024 approved budget.</i>



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level – Revenue Requirement – Water System General Operating Budget Amendment Explanation	
Water Residential Assistance Program Contribution	<i>No budget amendment is required. Budget is fixed at time of budget adoption.</i>
Regional System Lease	<i>No budget amendment is required. Lease payment is established in accordance with terms of the lease.</i>
DWSD Budget Shortfall Pending	<i>No budget amendment is proposed at this time.</i>
Improvement & Extension Fund Transfer Pending	<i>Represents annual funding for pay-as-you-go capital improvement program. Budget amendments to revenues, bad debt, investment earnings, O&M expense, debt service, and DWSD budget shortfall affect this line item.</i>



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Table 1B - Appropriation Level - Revenue Requirement – Sewer System General Operating

Sewer System	FY 2023 Board Adopted Budget	Total 1st Quarter FY 2023 Amendments	Total 2nd Quarter FY 2023 Amendments	Total 3rd Quarter FY 2023 Amendments	Total 4th Quarter FY 2023 Amendments	FY 2023 Amended Budget	FY 2023 Activity Thru 4/30/2023
Revenues							
Suburban Wholesale Customer Charges	\$ 280,824,000	\$ (5,416,800)	\$ -	\$ -	\$ -	\$ 275,407,200	\$ 229,696,900
Less: Bad Debt Expense	(5,420,500)	3,020,500	1,400,000	-	500,000	(500,000)	-
Retail Service Charges	191,042,200	-	-	-	-	191,042,200	159,201,800
Industrial Waste Control Charges	8,420,000	-	-	-	-	8,420,000	6,988,300
Pollutant Surcharges	4,950,800	-	-	-	-	4,950,800	3,980,100
Investment Earnings	1,155,600	7,615,600	4,760,900	-	-	13,532,100	8,980,700
Other Revenues	400,000	-	770,000	-	1,185,000	2,355,000	2,194,500
Total Revenues	\$ 481,372,100	\$ 5,219,300	\$ 6,930,900	\$ -	\$ 1,685,000	\$ 495,207,300	\$ 411,042,300
Revenue Requirements							
Operations & Maintenance Expense	\$ 184,052,600	\$ 10,769,900	\$ 8,400,000	\$ -	\$ 900,000	\$ 204,122,500	\$ 164,556,200
General Retirement System Legacy Pension	10,824,000	-	-	-	-	10,824,000	9,020,000
Debt Service	205,638,100	5,717,100	1,153,900	-	-	212,509,100	179,237,600
General Retirement System Accelerated Pension	11,620,700	-	-	-	-	11,620,700	9,683,900
Extraordinary Repair & Replacement Deposit	-	-	-	-	-	-	-
Water Residential Assistance Program Contribution	2,394,200	-	-	-	-	2,394,200	1,995,200
Regional System Lease	27,500,000	-	-	-	-	27,500,000	22,916,600
DWSD Budget Shortfall Pending	-	-	-	-	-	-	-
Improvement & Extension Fund Transfer Pending	39,342,500	(11,267,700)	(2,623,000)	-	785,000	26,236,800	22,084,200
Total Revenue Requirements	\$ 481,372,100	\$ 5,219,300	\$ 6,930,900	\$ -	\$ 1,685,000	\$ 495,207,300	\$ 409,493,700
Net Actual to Date	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,548,600



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level – Revenue Requirement – Sewer System General Operating Budget Amendment Explanation	
Revenues	
Suburban Wholesale Customer Charges	<i>No budget amendment is required.</i>
Bad Debt	<i>The proposed amendment represents and adjustment to the bad debt expense estimate related to payments received from Highland Park.</i>
Retail Services Charges	<i>No budget amendment is required.</i>
Industrial Waste Control Charges	<i>No budget amendment is required.</i>
Pollutant Surcharges	<i>No budget amendment is required.</i>
Investment Earnings	<i>No budget amendment is required.</i>
Other Revenues	<i>The budget amendment proposed is based on activity to date for insurance proceeds (damage incurred due to the June/July 2021 wet weather events) and other miscellaneous receipts. This source of revenue fluctuates from year to year.</i>
Revenue Requirements (Expenditures)	
Operations & Maintenance Expense	<i>The Sewer O&M budget is being increased by \$0.9 million to cover the additional shortfall projected for FY 2023 (details can be found in the Highlights section beginning on the first page of this document).</i>
General Retirement System Legacy Pension	<i>No budget amendment is required. Budget and funding are on a fixed schedule.</i>
Debt Service	<i>No budget amendment is required. Budget and funding are based on SRF schedules (timing of the draws).</i>
General Retirement System Legacy Pension – Accelerated Payment	<i>No budget amendment is required. Budget and funding are on a fixed schedule.</i>
Extraordinary Repair & Replacement Deposit	<i>No budget amendment is required. This is a formulaic requirement in the Master Bond Ordinance. Based on adopted and amended budget, no adjustment is required.</i>



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level – Revenue Requirement – Sewer System General Operating Budget Amendment Explanation	
Water Residential Assistance Program Contribution	<i>No budget amendment is required. Budget is fixed at time of budget adoption.</i>
Regional System Lease	<i>No budget amendment is required. Lease payment is established in accordance with terms of the lease.</i>
DWSD Budget Shortfall Pending	<i>No budget amendment is proposed at this time.</i>
Improvement & Extension Fund Transfer Pending	<i>Represents annual funding for pay-as-you-go capital improvement program. Budget amendments to revenues, bad debt, investment earnings, debt service, and DWSD budget shortfall affect this line item.</i>



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Table 1C - Supplemental Information – Operating Fund Level - Water System and Sewer System

System	FY 2023 Board Adopted Budget	Total 1st Quarter FY 2023 Amendments	Total 2nd Quarter FY 2023 Amendments	Total 3rd Quarter FY 2023 Amendments	Total 4th Quarter FY 2023 Amendments	FY 2023 Amended Budget	FY 2023 Activity Thru 4/30/2023
Water System	\$ 144,847,700	\$ -	\$ 4,300,000	\$ -	\$ 7,600,000	\$ 156,747,700	\$ 124,923,800
Sewer System	184,052,600	10,769,900	8,400,000	-	900,000	204,122,500	164,556,200
Total	\$ 328,900,300	\$ 10,769,900	\$ 12,700,000	\$ -	\$ 8,500,000	\$ 360,870,200	\$ 289,480,000

Totals may be off due to rounding.

As shown in the table above, there are no budget amendments for transfers of resources between the water and sewer funds. It is unforeseen that such an amendment would occur as each system is accounted for as a stand-alone entity. The purpose of this table is to transparently report that funds from one system do not provide budget support to the other system.



Quarterly Budget Amendment Report FY 2023 Ending June 30, 2023

Table 1D - Supplemental Information - Enterprise-wide Core Groups

O&M Major Budget Categories (Core Groups)	FY 2023 Board Adopted Budget	Total 1st Quarter FY 2023 Amendments	Total 2nd Quarter FY 2023 Amendments	Total 3rd Quarter FY 2023 Amendments	Total 4th Quarter FY 2023 Amendments	FY 2023 Amended Budget	FY 2023 Activity Thru 4/30/2023
A Water System Operations	\$ 76,518,200	\$ -	\$ 4,300,000	\$ -	\$ 4,519,000	\$ 85,337,200	\$ 69,516,600
B Wastewater System Operations	113,197,500	10,769,900	8,400,000	-	3,981,000	136,348,400	112,302,200
C Centralized Services	104,502,900	-	-	-	-	104,502,900	81,249,300
D Administrative & Other Services	34,681,700	-	-	-	-	34,681,700	26,411,900
Total	\$ 328,900,300	\$ 10,769,900	\$ 12,700,000	\$ -	\$ 8,500,000	\$ 360,870,200	\$ 289,480,000

Totals may be off due to rounding.

A subset of the operating funds are core groups that account for A) direct cost of water operations, B) direct cost of sewer operations, C) centralized services (E.g., field services, security, information technology, facilities, and fleet), D) administrative services (E.g., finance, public affairs, general counsel, and organizational development). The costs of the latter two categories are allocated to the water and sewer systems based upon an internal cost allocation plan that is performed on an annual basis.

Through the fourth quarter FY 2023, the following amendments are being proposed (details can be found in the Highlights section beginning on the first page of this document).

- The allocation of the C-Centralized Services and D-Administrative & Other Services amended budget between water and sewer has been reviewed and an amendment is being proposed to move \$3.1 million from the overall Sewer System Operations to the overall Wastewater System Operations. This realignment is primarily due to the increase in the utilization of water contracts and decrease in sewer contracts.
- A-Water System Operations - The Water O&M budget is being increased an additional \$4.5 million to cover the shortfall projected in FY 2023
- B-Wastewater System Operations - The Sewer O&M budget is being increased \$4.0 million to cover the shortfalls projected for FY 2023

For more activity within these groups, see *Supplemental Information - Enterprise-wide Operations & Maintenance Department and Account Level Amendments (Addendum 1)*.



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Table 1E - Supplemental Information - Enterprise-wide Operations & Maintenance Account Type

O&M Expense Categories (Account Type)	FY 2023 Board Adopted Budget	Total 1st Quarter FY 2023 Amendments	Total 2nd Quarter FY 2023 Amendments	Total 3rd Quarter FY 2023 Amendments	Total 4th Quarter FY 2023 Amendments	FY 2023 Amended Budget	FY 2023 Activity Thru 4/30/2023
Personnel Costs	\$ 122,144,300	\$ (367,200)	\$ (2,774,800)	\$ -	\$ (2,856,900)	\$ 116,145,400	\$ 94,414,000
Utilities	51,007,400	4,910,100	9,597,700	-	9,106,500	74,621,700	61,258,000
Chemicals	16,118,600	7,663,000	4,694,300	-	1,048,900	29,524,800	24,597,000
Supplies & Other	34,911,800	-	209,700	-	1,041,100	36,162,600	29,568,000
Contractual Services	104,579,200	1,413,300	(14,200)	-	646,700	106,625,000	82,376,000
Capital Program Allocation	(4,376,200)	-	740,000	-	1,500,900	(2,135,300)	(1,777,000)
Shared Services	(2,925,000)	1,424,100	-	-	(69,900)	(1,570,800)	(956,000)
Unallocated Reserve	7,440,200	(4,273,400)	247,300	-	(1,917,300)	1,496,800	-
Total	\$ 328,900,300	\$ 10,769,900	\$ 12,700,000	\$ -	\$ 8,500,000	\$ 360,870,200	\$ 289,480,000

Totals may be off due to rounding.

The table above presents the Operations & Maintenance budget by the major expense categories (account type).

For additional detail and the explanation of the key changes to the FY 2023 budget within these categories, see *Supplemental Information - Enterprise-wide Operations & Maintenance Department and Account Level Amendments (Addendum 1)*.

For an additional view of the Operations & Maintenance budget by expense category (account type) and by departmental level, see *Supplemental Information - Enterprise-wide Operations & Maintenance Account Type and Departmental Level Amendments (Addendum 2)*.



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Table 1F - Supplemental Information - Unallocated Reserve by Core Group

	FY 2023 Board Adopted Budget	Total 1st Quarter FY 2023 Amendments	Total 2nd Quarter FY 2023 Amendments	Total 3rd Quarter FY 2023 Amendments	Total 4th Quarter FY 2023 Amendments	FY 2023 Amended Budget
O&M Unallocated Reserves						
Water System Operations	\$ 2,284,700	\$ -	\$ (9,300)	\$ -	\$ (1,674,900)	\$ 600,500
Wastewater System Operations	3,055,500	(3,055,200)	302,600	-	22,300	325,200
Centralized Services	1,600,000	(1,218,200)	-	-	154,700	536,500
Administrative & Other Services	500,000	-	(46,000)	-	(419,400)	34,600
Total	\$ 7,440,200	\$ (4,273,400)	\$ 247,300	\$ -	\$ (1,917,300)	\$ 1,496,800

Totals may be off due to rounding.

An Unallocated Reserve account is established for each of the four core groups. Budget is assigned to these accounts to cover expenditures not known at the time the budget is developed (merit increases, fluctuations within maintenance contracts and usage of utilities and chemicals, projects and initiatives not planned at the time the initial budget was developed, etc.). It is GLWA's internal budget directive for each area, group, and team to manage their needs to an amount within the initial budget. If required, an amendment is made from the unallocated reserve. If an area does not require as much funding as was established in the original budget, that department's budgeted expenses are reduced, and the unallocated reserve is increased.

For additional information on the FY 2023 changes to the unallocated reserve, see *Supplemental Information - Enterprise-wide Operations & Maintenance Department and Account Level Amendments (Addendum 1)*.



Quarterly Budget Amendment Report FY 2023 Ending June 30, 2023

Table 2A - Appropriation Level – Debt Service Coverage Calculation – Water System

Water System - Debt Service Coverage Calculation	FY 2023 Adopted Budget	1st Quarter FY 2023 Amendments Regional System	Final Adjustment to FY 2023 Local System Budget	FY 2023 Amended Budget	2nd Quarter FY 2023 Amendments Regional System	2nd Quarter FY 2023 Amendments Local System	FY 2023 Amended Budget	3rd Quarter FY 2023 Amendments Regional System	3rd Quarter FY 2023 Amendments Local System	FY 2023 Amended Budget	4th Quarter FY 2023 Amendments Regional System	4th Quarter FY 2023 Amendments Local System	FY 2023 Amended Budget
Revenues													
1 Regional System Wholesale Revenues	\$354,947,900	\$ (1,257,300)	\$ -	\$353,690,600	\$ -	\$ -	\$353,690,600	\$ -	\$ -	\$353,690,600	\$ 3,000,000	\$ -	\$356,690,600
2 Local System Revenues	70,104,100	-	18,061,300	88,165,400	-	-	88,165,400	-	-	88,165,400	-	-	88,165,400
3 Miscellaneous Revenue (Local System)	3,900,000	-	800	3,900,800	-	-	3,900,800	-	-	3,900,800	-	-	3,900,800
4 Non-Operating Revenue (Regional System)	1,123,700	5,921,200	-	7,044,900	3,500,300	-	10,545,200	-	-	10,545,200	120,000	-	10,665,200
5 Total Revenues	\$430,075,700	\$ 4,663,900	\$ 18,062,100	\$452,801,700	\$ 3,500,300	\$ -	\$456,302,000	\$ -	\$ -	\$456,302,000	\$ 3,120,000	\$ -	\$459,422,000
Revenue Requirements													
Operations & Maintenance Expense													
6 Regional System Wholesale Expenses	\$144,847,700	\$ -	\$ -	\$144,847,700	\$ 4,300,000	\$ -	\$149,147,700	\$ -	\$ -	\$149,147,700	\$ 7,600,000	\$ -	\$156,747,700
7 Local System Expenses	30,490,000	-	12,091,600	42,581,600	-	-	42,581,600	-	-	42,581,600	-	-	42,581,600
8 GRS Pension allocable to Regional System	6,048,000	-	-	6,048,000	-	-	6,048,000	-	-	6,048,000	-	-	6,048,000
9 GRS Pension allocable to Local System	4,272,000	-	-	4,272,000	-	-	4,272,000	-	-	4,272,000	-	-	4,272,000
10 Total Operations & Maintenance Expense	185,657,700	-	12,091,600	197,749,300	4,300,000	-	202,049,300	-	-	202,049,300	7,600,000	-	209,649,300
11 Net Revenues after Operations & Maintenance Expense	\$244,418,000	\$ 4,663,900	\$ 5,970,500	\$255,052,400	\$ (799,700)	\$ -	\$254,252,700	\$ -	\$ -	\$254,252,700	\$ (4,480,000)	\$ -	\$249,772,700
Debt Service by Lien													
12 Senior Lien Bonds	\$135,939,700	\$ (2,166,600)	\$ -	\$133,773,100	\$ -	\$ -	\$133,773,100	\$ -	\$ -	\$133,773,100	\$ -	\$ -	\$133,773,100
13 Second Lien Bonds	47,200,100	2,917,100	-	50,117,200	-	-	50,117,200	-	-	50,117,200	-	-	50,117,200
14 SRF Junior Lien Bonds	10,061,800	(258,900)	-	9,802,900	(772,000)	(156,500)	8,874,400	-	-	8,874,400	-	-	8,874,400
15 Total Debt Service	\$193,201,600	\$ 491,600	\$ -	\$193,693,200	\$ (772,000)	\$ (156,500)	\$192,764,700	\$ -	\$ -	\$192,764,700	\$ -	\$ -	\$192,764,700
Debt Service Coverage													
16 Senior Lien Bonds (11)/(12)	1.80	0.06	0.04	1.91	(0.01)	0.00	1.90	0.00	0.00	1.90	(0.03)	0.00	1.87
17 Second Lien Bonds (11)/[(12)+(13)]	1.33	0.02	0.03	1.39	(0.00)	0.00	1.38	0.00	0.00	1.38	(0.02)	0.00	1.36
18 SRF Junior Lien Bonds (11)/(15)	1.27	0.02	0.03	1.32	(0.00)	0.00	1.32	0.00	0.00	1.32	(0.02)	0.00	1.30

* Rows highlighted in light grey in the above table are designed to align with the DWSD Budget. The approved GLWA budget was based on preliminary DWSD budget information.

** Total Debt Service, highlighted in dark grey (Row 15) in the above table, is adopted by the GLWA Board.



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level - Debt Service - Water System Debt Service Coverage Calculation Budget Amendment Explanation	
Total Debt Service	<i>For purposes of Debt Service coverage, we look at the combined Regional and Local (DWSD) revenue less operations & maintenance (O&M) expense to determine net revenues to calculate the Debt Service Coverage. The Board adopts the Debt Service amount shown on line 15 of the Water System Debt Service Coverage Calculation table on the previous page. This is the amount necessary to pay the principal of and interest on all Regional Water System bonds and to restore any reserves therefore established in the Master Bond Ordinance. No budget amendment is being proposed for the fourth quarter FY 2023.</i>



Quarterly Budget Amendment Report FY 2023 Ending June 30, 2023

Table 2B - Appropriation Level – Debt Service Coverage Calculation – Sewer System

Sewer System - Debt Service Coverage Calculation	FY 2023 Adopted Budget	1st Quarter FY 2023 Amendments Regional System	Final Adjustment to FY 2023 Local System Budget	FY 2023 Amended Budget	2nd Quarter FY 2023 Amendments Regional System	2nd Quarter FY 2023 Amendments Local System	FY 2023 Amended Budget	3rd Quarter FY 2023 Amendments Regional System	3rd Quarter FY 2023 Amendments Local System	FY 2023 Amended Budget	4th Quarter FY 2023 Amendments Regional System	4th Quarter FY 2023 Amendments Local System	FY 2023 Amended Budget
Revenues													
1 Regional System Wholesale Revenues	\$479,816,500	\$ (2,396,300)	\$ -	\$477,420,200	\$ 1,400,000	\$ -	\$478,820,200	\$ -	\$ -	\$478,820,200	\$ 500,000	\$ -	\$479,320,200
2 Local System Revenues	96,467,800	-	(17,897,700)	78,570,100	-	-	78,570,100	-	-	78,570,100	-	-	78,570,100
3 Miscellaneous Revenue (Local System)	7,640,000	-	(1,300)	7,638,700	-	-	7,638,700	-	-	7,638,700	-	-	7,638,700
4 Non-Operating Revenue (Regional System)	1,555,600	7,615,600	-	9,171,200	5,530,900	-	14,702,100	-	-	14,702,100	1,185,000	-	15,887,100
5 Total Revenues	\$585,479,900	\$ 5,219,300	\$ (17,899,000)	\$572,800,200	\$ 6,930,900	\$ -	\$579,731,100	\$ -	\$ -	\$579,731,100	\$ 1,685,000	\$ -	\$581,416,100
Revenue Requirements													
Operations & Maintenance Expense													
6 Regional System Wholesale Expenses	\$184,052,600	\$ 10,769,900	\$ -	\$194,822,500	\$ 8,400,000	\$ -	\$203,222,500	\$ -	\$ -	\$203,222,500	\$ 900,000	\$ -	\$204,122,500
7 Local System Expenses	63,390,000	-	(11,993,600)	51,396,400	-	-	51,396,400	-	-	51,396,400	-	-	51,396,400
8 GRS Pension allocable to Regional System	10,824,000	-	-	10,824,000	-	-	10,824,000	-	-	10,824,000	-	-	10,824,000
9 GRS Pension allocable to Local System	2,856,000	-	-	2,856,000	-	-	2,856,000	-	-	2,856,000	-	-	2,856,000
10 Total Operations & Maintenance Expense	261,122,600	10,769,900	(11,993,600)	259,898,900	8,400,000	-	268,298,900	-	-	268,298,900	900,000	-	269,198,900
11 Net Revenues after Operations & Maintenance Expense	\$324,357,300	\$ (5,550,600)	\$ (5,905,400)	\$312,901,300	\$ (1,469,100)	\$ -	\$311,432,200	\$ -	\$ -	\$311,432,200	\$ 785,000	\$ -	\$312,217,200
Debt Service by Lien													
12 Senior Lien Bonds	\$149,780,900	\$ 1,749,800	\$ -	\$151,530,700	\$ 1,664,100	\$ -	\$153,194,800	\$ -	\$ -	\$153,194,800	\$ -	\$ -	\$153,194,800
13 Second Lien Bonds	36,738,500	3,108,600	-	39,847,100	-	-	39,847,100	-	-	39,847,100	-	-	39,847,100
14 SRF Junior Lien Bonds	51,084,400	891,300	-	51,975,700	(510,200)	(110,700)	51,354,800	-	-	51,354,800	-	-	51,354,800
15 Total Debt Service	\$237,603,800	\$ 5,749,700	\$ -	\$243,353,500	\$ 1,153,900	\$ (110,700)	\$244,396,700	\$ -	\$ -	\$244,396,700	\$ -	\$ -	\$244,396,700
Debt Service Coverage													
16 Senior Lien Bonds (11)/(12)	2.17	(0.06)	(0.04)	2.06	(0.03)	0.00	2.03	0.00	0.00	2.03	0.01	0.00	2.04
17 Second Lien Bonds (11)/[(12)+(13)]	1.74	(0.07)	(0.03)	1.63	(0.02)	0.00	1.61	0.00	0.00	1.61	0.00	0.00	1.62
18 SRF Junior Lien Bonds (11)/(15)	1.37	(0.06)	(0.02)	1.29	(0.01)	0.00	1.27	0.00	0.00	1.27	0.00	0.00	1.28

* Rows highlighted in light grey in the above table are designed to align with the DWSD Budget. The approved GLWA budget was based on preliminary DWSD budget information.

** Total Debt Service, highlighted in dark grey (Row 15) in the above table, is adopted by the GLWA Board.



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level - Debt Service - Sewer System Debt Service Coverage Calculation Budget Amendment Explanation	
Total Debt Service	<i>For purposes of Debt Service coverage, we look at the combined Regional and Local (DWSD) revenue less operations & maintenance (O&M) expense to determine net revenues to calculate the Debt Service Coverage. The Board adopts the Debt Service amount shown on line 15 of the Sewer System Debt Service Coverage Calculation table on the previous page. This is the amount necessary to pay the principal of and interest on all Regional Sewer System bonds and to restore any reserves therefore established in the Master Bond Ordinance. No budget amendment is being proposed for the fourth quarter FY 2023.</i>



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Table 3A - Appropriation Level – Improvement & Extension Fund – Water System

Water Improvement & Extension Fund	FY 2023 Board Adopted Budget	Total 1st Quarter FY 2023 Amendments	Total 2nd Quarter FY 2023 Amendments	Total 3rd Quarter FY 2023 Amendments	Total 4th Quarter FY 2023 Amendments	FY 2023 Amended Budget	FY 2023 Activity Thru 4/30/2023
Revenues							
Water System Transfers In from General Operating	\$ 24,300,000	\$ 4,173,700	\$ (27,700)	\$ -	\$ (4,680,000)	\$ 23,766,000	\$ 23,714,200
Earnings on Investments (a)	-	1,888,200	880,500	-	-	2,768,700	1,229,900
Net Use (Increase) of Reserves	19,888,000	(15,409,100)	6,817,200	-	(49,028,300)	(37,732,200)	-
Total Revenues	\$ 44,188,000	\$ (9,347,200)	\$ 7,670,000	\$ -	\$ (53,708,300)	\$ (11,197,500)	\$ 24,944,100
Expenditures							
Water System Revenue Transfers Out (a)	\$ -	\$ 1,888,200	\$ 880,500	\$ -	\$ -	\$ 2,768,700	\$ 1,597,300
Capital Spending - Other	-	-	-	-	3,503,400	3,503,400	2,153,700
Capital Outlay	15,452,600	-	-	-	(9,882,500)	5,570,100	6,164,800
Revenue Financed Capital - Transfer to/(from) Construction Fund	28,735,400	(11,235,400)	6,789,500	-	(47,329,200)	(23,039,700)	(23,039,700)
Total Expenditures	\$ 44,188,000	\$ (9,347,200)	\$ 7,670,000	\$ -	\$ (53,708,300)	\$ (11,197,500)	\$ (13,123,900)

(a) Note: As outlined in the Master Bond Ordinance, the investment earnings in the I&E Fund are transferred to the Receiving Fund. The impact is to reduce revenue required from charges when calculating the annual Revenue Requirement budget.

Appropriation Level – Improvement & Extension Fund – Water System Budget Amendment Explanation	
Revenues	
Transfers In from General Operating	<i>The proposed budget amendment is to match the amount available for transfer from the FY 2023 revenue requirement based upon general operating fund performance. (see I&E Fund Transfer Pending line on the Appropriation Level-Revenue Requirement-Water System General Operating table).</i>



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level – Improvement & Extension Fund – Water System Budget Amendment Explanation	
Earnings on Investments	<i>No budget amendment is required. Note: There is a corresponding transfer of earnings back to the general operating fund as allowed by the Master Bond Ordinance. The net effect on the I&E Fund is zero as the earnings are budgeted and accounted for in the operating fund to lower revenue requirement for charges.</i>
Net Use (Source) of Reserves	<i>This amount represents the net amount of revenues less expenses. A negative amount represents an increase in reserves from current year activity rather than a use of reserves.</i>
Expenditures	
Water System Revenue Transfers Out (Earnings on Investments)	<i>No budget amendment is required. Note: This line offsets Earnings on Investments and represents the transfer of earnings back to the general operating fund as allowed by the Master Bond Ordinance. Any variance in activity between the two lines represents a timing difference.</i>
Capital Spending - Other	<i>This line represents an adjustment to the projects in the Board adopted capital improvement plan (CIP) that do not meet the criteria for debt financing as well as other unique, nonrecurring projects/purchases for the betterment of the system.</i>
Capital Outlay	<i>The proposed budget amendment reflects the decrease in spending which is primarily driven by the change in project start dates and project scope.</i>
Revenue Financed Capital – Transfer to/(from) Construction Fund	<i>The proposed budget amendment reflects a rebalancing of use of I&E and Construction funds for Capital Projects including the transfer of SRF loan funds received in the Construction Fund for projects previously funded by I&E. The FY 2023 activity reflects adjustments to true-up activity in prior years when Construction Funds were not available. This rebalancing occurred as a result of transitioning from fully funding the Capital Improvement Program with 100% I&E funds to Construction Bond funds after the bond transaction closing in September 2022.</i>



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Table 3B - Appropriation Level - Improvement & Extension Fund – Sewer System

Sewer Improvement & Extension Fund	FY 2023 Board Adopted Budget	Total 1st Quarter FY 2023 Amendments	Total 2nd Quarter FY 2023 Amendments	Total 3rd Quarter FY 2023 Amendments	Total 4th Quarter FY 2023 Amendments	FY 2023 Amended Budget	FY 2023 Activity Thru 4/30/2023
Revenues							
Sewer System Transfers In from General Operating	\$ 39,342,500	\$ (11,267,700)	\$ (2,623,000)	\$ -	\$ 785,000	\$ 26,236,800	\$ 22,084,200
Receipt of DWSD Shortfall Loan Interest	-	-	-	-	-	-	-
Earnings on Investments (a)	-	2,016,500	1,379,200	-	-	3,395,700	1,783,300
Net Use (Increase) of Reserves	5,549,500	8,322,800	(13,781,700)	-	(19,359,500)	(19,268,900)	-
Total Revenues	\$ 44,892,000	\$ (928,400)	\$ (15,025,500)	\$ -	\$ (18,574,500)	\$ 10,363,600	\$ 23,867,500
Expenditures							
Sewer System Revenue Transfers Out (a)	\$ -	\$ 2,016,500	\$ 1,379,200	\$ -	\$ -	\$ 3,395,700	\$ 1,759,600
Capital Spending - Other	-	2,389,700	1,730,900	-	3,627,400	7,748,000	4,447,400
Capital Outlay	18,447,100	-	(3,635,600)	-	(8,180,800)	6,630,700	4,443,000
Revenue Financed Capital - Transfer to/(from) Construction Fund	26,444,900	(5,334,600)	(14,500,000)	-	(14,021,100)	(7,410,800)	(7,410,800)
Total Expenditures	\$ 44,892,000	\$ (928,400)	\$ (15,025,500)	\$ -	\$ (18,574,500)	\$ 10,363,600	\$ 3,239,200

(a) Note: As outlined in the Master Bond Ordinance, the investment earnings in the I&E Fund are transferred to the Receiving Fund. The impact is to reduce revenue required from charges when calculating the annual Revenue Requirement budget.

Appropriation Level – Improvement & Extension Fund – Sewer System Budget Amendment Explanations	
Revenues	
Transfers In from General Operating	<i>The proposed budget amendment is to match the amount available for transfer from the FY 2023 revenue requirement based upon general operating fund performance. (see I&E Fund Transfer Pending line on the Appropriation Level-Revenue Requirement-Sewer System General Operating table).</i>
Receipt of DWSD Shortfall Loan Interest	<i>No budget amendment is required. This line represents the interest earnings on Notes Receivable, when applicable, for DWSD Sewer System Shortfall to the payment schedule.</i>



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level – Improvement & Extension Fund – Sewer System Budget Amendment Explanations	
Earnings on Investments	<i>No budget amendment is required. Note: There is a corresponding transfer of earnings back to the general operating fund as allowed by the Master Bond Ordinance. The net effect on the I&E Fund is zero as the earnings are budgeted and accounted for in the operating fund to lower revenue requirement for charges.</i>
Net Use (Source) of Reserves	<i>This amount represents the net amount of revenues less expenditures. A negative amount represents an increase in reserves from current year activity rather than a use of reserves.</i>
Expenditures	
Sewer System Revenue Transfers Out (Earnings on Investments)	<i>No budget amendment is required. Note: This line offsets Earnings on Investments and represents the transfer of earnings back to the general operating fund as allowed by the Master Bond Ordinance. Any variance in activity between the two lines represents a timing difference.</i>
Capital Spending – Other	<i>This line represents an adjustment to the projects in the Board adopted capital improvement plan (CIP) that do not meet the criteria for debt financing as well as other unique, nonrecurring projects/purchases for the betterment of the system.</i>
Capital Outlay	<i>The proposed budget amendment reflects the decrease in spending which is primarily driven by the change in project start dates and project scope.</i>
Revenue Financed Capital – Transfer to/(from) Construction Fund	<i>The proposed budget amendment reflects a rebalancing of use of I&E and Construction funds for Capital Projects including the transfer of SRF loan funds received in the Construction Fund for projects previously funded by I&E. The FY 2023 activity reflects adjustments to true-up activity in prior years when Construction Funds were not available. This rebalancing occurred as a result of transitioning from fully funding the Capital Improvement Program with 100% I&E funds to Construction Bond funds after the bond transaction closing in September 2022.</i>



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Table 4A - Appropriation Level – Construction Fund – Water System

Water Construction Fund	FY 2023 Board Adopted Budget	Total 1st Quarter FY 2023 Amendments	Total 2nd Quarter FY 2023 Amendments	Total 3rd Quarter FY 2023 Amendments	Total 4th Quarter FY 2023 Amendments	FY 2023 Amended Budget	FY 2023 Activity Thru 4/30/2023
Revenues							
Transfer (to)/from Improvement & Extension Fund	\$ 28,735,400	\$ (11,235,400)	\$ 6,789,500	\$ -	\$ (47,329,200)	\$ (23,039,700)	\$ (23,039,700)
Bond Proceeds	-	225,000,000	-	-	-	225,000,000	225,050,200
Bond Fund Earnings on Investments	128,800	749,000	3,688,000	-	-	4,565,800	4,915,200
Grant Revenues (SRF Loans)	54,992,000	71,838,000	(43,963,000)	-	12,133,000	95,000,000	78,995,700
Other Revenue - Sale of Assets	-	-	-	-	185,300	185,300	185,300
Net Use (Increase) of Reserves	71,644,800	(247,476,600)	64,899,500	-	17,182,900	(93,749,400)	-
Total Revenues	\$ 155,501,000	\$ 38,875,000	\$ 31,414,000	\$ -	\$ (17,828,000)	\$ 207,962,000	\$ 286,106,700
Expenditures							
Transfer Out	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 89,600
Capital Improvement Plan (a)	194,376,000	-	31,414,000	-	(17,828,000)	207,962,000	168,089,600
Capital Spend Rate Adjustment	(38,875,000)	38,875,000	-	-	-	-	-
Total Expenditures (a)	\$ 155,501,000	\$ 38,875,000	\$ 31,414,000	\$ -	\$ (17,828,000)	\$ 207,962,000	\$ 168,179,200
<i>(a) Plus Direct I&E Projects</i>	-	-				-	
<i>Total CIP Expenditures</i>	<i>155,501,000</i>	<i>38,875,000</i>				<i>207,962,000</i>	
<i>Total Published Capital Improvement Plan</i>	<i>194,376,000</i>					<i>194,376,000</i>	
<i>Capital Spending Ratio</i>	<i>80.0%</i>					<i>107.0%</i>	

(a) Note: As outlined in the Master Bond Ordinance, the investment earnings in the I&E Fund are transferred to the Receiving Fund. The impact is to reduce revenue required from charges when calculating the annual Revenue Requirement budget.



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level – Construction Fund – Water System Budget Amendment Explanations	
Revenues	
Transfers (to)/from Improvement & Extension Fund	<i>The proposed budget amendment is to match the amount available for transfer to the FY 2023 Improvement & Extension Fund (see Revenue Financed Capital-Operating Transfer from Construction Fund line on the Appropriation Level-Improvement & Extension Fund-Water System table). The proposed budget amendment reflects a rebalancing of use of I&E and Construction funds for Capital Projects including the transfer of SRF loan funds received in the Construction Fund for projects previously funded by I&E.</i>
Bond Proceeds	<i>No budget amendment is required.</i>
Earnings on Investments	<i>No budget amendment is required.</i>
Grant Revenues (State Revolving Fund Loans)	<i>State Revolving Fund (SRF) loan disbursements are on a reimbursement basis. The amount and timing of revenues fluctuates with project expenditures incurred. The proposed amendment reflects the timing of project design and construction activity. Details related to the SRF projects are presented in the semiannual debt report. The most recent semiannual debt report is presented in the June 2023 Audit Committee binder which provides details related to the SRF funding and associated projects.</i>
Other Revenue – Sale of Assets	<i>This amount represents the proceeds received from the sale of the McKinstry warehouse and land. The allocation of the proceeds between water and sewer was consistent with the original cost allocation at the time of acquisition. Note that the original purchase was funded by bond proceeds. For that reason, the proceeds from the sale are being returned to the Construction fund.</i>
Net Use (Source) of Reserves	<i>This amount represents the net amount of revenues less expenditures. A “use of reserves” indicates a spend down of prior year reserves. The amount has been amended to reflect the anticipated decrease in the Capital spend rate from 116.2% to 107.0% as well as the increased revenues from SRF loans and transfer to the I&E fund.</i>
Expenditures	



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level – Construction Fund – Water System Budget Amendment Explanations	
Capital Improvement Plan	<i>This line represents an adjustment to the Capital Spend Ratio for the Water Capital Improvement Plan which is forecasted to decrease from 116.2% to 107.0%. This adjustment is based on a review of the spend projections for FY 2023 and discussions with project personnel.</i>
Capital Spend Rate Assumption Adjustment	<i>The proposed budget amendment represents the decrease in the projected Capital Spend Rate for the Water CIP from 116.2% (second quarter budget amendment projection) to 107.0% (based on review of actual spend for FY 2023). The Board of Directors adopts a capital spending ratio assumption (SRA) which allows the realities of capital program delivery to align with the financial plan. The SRA is an analytical approach to bridge the total dollar amount of projects in the CIP with what can realistically be spent due to limitations beyond GLWA's control and/or delayed for nonbudgetary reasons. Those limitations, whether financial or non-financial, necessitate the SRA for budgetary purposes, despite the prioritization established. Amendments to the spend rate assumption are made to align the projected financial use of resources with revised capital improvement plan spending forecasts. The Capital Spend Rate for the Water CIP was amended for the first quarter from 80.0% (projection at the time of the FY 2023 budget adoption) to 100.0%. The second quarter amendment increased the Capital Spend Rate to 116.2%. No amendment was made for the third quarter. The most recent quarterly construction work-in-progress (CWIP) report is presented in the June 2023 Audit Committee binder.</i>



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Table 4B - Appropriation Level – Construction Fund – Sewer System

Sewer Construction Fund	FY 2023 Board Adopted Budget	Total 1st Quarter FY 2023 Amendments	Total 2nd Quarter FY 2023 Amendments	Total 3rd Quarter FY 2023 Amendments	Total 4th Quarter FY 2023 Amendments	FY 2023 Amended Budget	FY 2023 Activity Thru 4/30/2023
Revenues							
Transfer (to)/from Improvement & Extension Fund	\$ 26,444,900	\$ (5,334,600)	\$ (14,500,000)	\$ -	\$ (14,021,100)	\$ (7,410,800)	\$ (7,410,800)
Bond Proceeds	-	225,000,000	-	-	-	225,000,000	225,023,300
Bond Fund Earnings on Investments	86,200	820,000	3,897,600	-	-	4,803,800	5,662,700
Grant Revenues (SRF Loans)	18,720,000	31,317,000	(10,287,000)	-	(19,750,000)	20,000,000	16,368,200
Contributed Capital	-	-	-	-	2,176,000	2,176,000	2,176,000
Other Revenue - Sale of Assets	-	-	-	-	1,140,700	1,140,700	1,140,700
Net Use (Increase) of Reserves	49,197,900	(222,709,100)	34,399,400	-	(377,600)	(139,489,400)	-
Total Revenues	\$ 94,449,000	\$ 29,093,300	\$ 13,510,000	\$ -	\$ (30,832,000)	\$ 106,220,300	\$ 242,960,100
Expenditures							
Transfer Out	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 62,700
Capital Improvement Plan (a)	125,932,000	(2,389,700)	13,510,000	-	(30,832,000)	106,220,300	77,807,700
Capital Spend Rate Adjustment	(31,483,000)	31,483,000	-	-	-	-	-
Total Expenditures (a)	\$ 94,449,000	\$ 29,093,300	\$ 13,510,000	\$ -	\$ (30,832,000)	\$ 106,220,300	\$ 77,870,400
<i>(a) Plus Direct I&E Projects</i>	-	2,389,700	-	-	-	2,389,700	
<i>Total CIP Expenditures</i>	<i>94,449,000</i>	<i>31,483,000</i>				<i>108,610,000</i>	
<i>Total Published Capital Improvement Plan</i>	<i>125,932,000</i>					<i>125,932,000</i>	
<i>Capital Spending Ratio</i>	<i>75.0%</i>					<i>86.2%</i>	

(b) Note: As outlined in the Master Bond Ordinance, the investment earnings in the I&E Fund are transferred to the Receiving Fund. The impact is to reduce revenue required from charges when calculating the annual Revenue Requirement budget.



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level – Construction Fund – Sewer System Budget Amendment Explanations	
Revenues	
Transfers (to)/from Improvement & Extension Fund	<i>The proposed budget amendment is to match the amount available for transfer from the FY 2023 Improvement & Extension Fund (see Revenue Financed Capital-Operating Transfer to Construction Fund line on the Appropriation Level-Improvement & Extension Fund-Sewer System table). The proposed budget amendment reflects a rebalancing of use of I&E and Construction funds for Capital Projects including the transfer of SRF loan funds received in the Construction Fund for projects previously funded by I&E.</i>
Bond Proceeds	<i>No budget amendment is required.</i>
Earnings on Investments	<i>No budget amendment is required.</i>
Grant Revenues (State Revolving Fund Loans)	<i>State Revolving Fund (SRF) loan disbursements are on a reimbursement basis. The amount and timing of funds fluctuates with project expenditures incurred. The proposed amendment reflects the timing of project design and construction activity. Details related to the SRF projects are presented in the semiannual debt report. The most recent semiannual debt report is presented in the June 2023 Audit Committee binder which provides details related to the SRF funding and associated projects.</i>
Contributed Capital	<i>This amount represents GLWA's portion of the contribution received for capital improvements outlined in an agreement with the Evergreen Farmington Sewer District.</i>
Other Revenue – Sale of Assets	<i>This amount represents the proceeds received from the sale of the McKinstry warehouse and land. The allocation of the proceeds between water and sewer was consistent with the original cost allocation at the time of acquisition. Note that the original purchase was funded by bond proceeds. For that reason, the proceeds from the sale are being returned to the Construction fund.</i>



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level – Construction Fund – Sewer System Budget Amendment Explanations	
Net Use (Source) of Reserves	<i>This amount represents the net amount of revenues less expenditures. A “use of reserves” indicates a spend down of prior year reserves. The amount has been amended to reflect the anticipated decrease in the Capital spend rate from 110.7% to 86.2% as well as the decreased revenues from SRF loans, the increase in other revenues, and the transfer to the I&E fund.</i>
Expenditures	
Capital Improvement Plan	<i>This line represents an adjustment to the Capital Spend Ratio for the Sewer Capital Improvement Plan which is forecasted to decrease from 110.7% to 86.2%. This adjustment is based on a review of the spend projections for FY 2023 and discussions with project personnel.</i>



Quarterly Budget Amendment Report
FY 2023 Ending June 30, 2023

Appropriation Level – Construction Fund – Sewer System Budget Amendment Explanations

Capital Spend Rate Adjustment

*The proposed budget amendment represents the decrease in the projected Capital Spend Rate for the Sewer CIP from 110.7% (second quarter budget amendment projection) to 86.2% (based on review of actual spend for FY 2023). The Board of Directors adopts a capital spending ratio assumption (SRA) which allows the realities of capital program delivery to align with the financial plan. The SRA is an analytical approach to bridge the total dollar amount of projects in the CIP with what can realistically be spent due to limitations beyond GLWA's control and/or delayed for nonbudgetary reasons. Those limitations, whether financial or non-financial, necessitate the SRA for budgetary purposes, despite the prioritization established. Amendments to the spend rate assumption are made to align the projected financial use of resources with revised capital improvement plan spending forecasts. The Capital Spend Rate for the Sewer CIP was amended for the first quarter from 75.0% (projection at the time of the FY 2023 budget adoption) to 100.0%. The second quarter amendment increased the Capital Spend Rate to 110.7%. No amendment was made for the third quarter. The most recent quarterly construction work-in-progress (CWIP) report is presented in the **June 2023 Audit Committee binder**.*



ADDENDUM 1

Supplemental Information –

Enterprise-wide Operations & Maintenance Department and Account Level Amendments

The summary of budget amendments for operations & maintenance (department and account level amendments) are organized by the four core groups. The FY 2023 fourth quarter budget amendments result in an increase to A - Water System Operations and B - Sewer System Operations and net zero changes to the remaining two categories: C - Centralized Services and D - Administrative & Other Services.

GLWA's internal budget directive is for each area, group, and team to manage their needs to an amount within the initial budget. To the extent that is not possible, an amendment is made from the unallocated reserve. If savings are incurred, or an area appears to not require as much funding as established in the original budget, that department's budgeted expenses are reduced, and the unallocated reserve is increased. In administering the budget, there are several refinements to departments and account categories. An explanation of key items is included in the table in Addendum 1.

Items greater than \$500,000 include the following (see the table on the following page).

- A – Water System Operations – Net change = \$4.5 million
 - Utilities – Increase of \$4.8 million – Details can be found in *Addendum 2 – Supplemental Information – Enterprise-wide Operations & Maintenance Account Type and Department Level Amendments*.
 - Capital Program Allocation – Increase of \$0.9 million – This is the portion of Personnel costs which are attributed to the Capital Improvement Plan. The amount in this category is shown as negative as this is a “contra” account which represents an offset to the Personnel costs section of the O&M budget. During FY 2023, the actual hours reported by engineers working on capital projects came in less than what was forecasted.
 - Chemicals – Increase of \$0.8 million – Adjustment for increase in chemical costs, primarily Chlorine, Phosphoric Acid, Hydrofluorosilicic Acid (Fluoride), and Alum based on estimated usage in FY 2023. The budget for chemicals was amended in the second quarter of FY 2023. An additional adjustment is being made with the fourth quarter amendments.
 - Unallocated Reserves – Decrease of \$1.7 million – The Unallocated Reserves were utilized for the refinement of various account categories within the Water Operations area, primarily utilities. The total amount of Unallocated

ADDENDUM 1

Supplemental Information – Enterprise-wide Operations & Maintenance Department and Account Level Amendments

Reserves (\$2.3 million at the time of the FY 2023 budget approval) was insufficient to cover the increases that have been experienced in FY 2023, especially to utilities and chemicals. An increase in the O&M budget for the overall Water System is, therefore, being requested.

- B – Wastewater System Operations – Net change = \$4.0 million.
 - Utilities – Increase of \$4.2 million – Details can be found in *Addendum 2 – Supplemental Information – Enterprise-wide Operations & Maintenance Account Type and Department Level Amendments*.
 - Supplies & Other – Increase of \$1.1 million – This increase is primarily due to the increased need for the repairs to, and replacement of, equipment. Increases include Conner Creek Combined Sewer Overflow – replacement of stop logs (\$0.4 million increase); Fairview Pumping Station – increase in pump and other equipment repairs due to damage resulting from the June/July 2021 wet weather events (\$0.5 million increase); Wastewater Primary Process – equipment repairs to improve the rack & grit system and primary clarification (\$1.6 million increase). Decreases include Wastewater Incineration Process – equipment repairs under the refractory inspection contract delayed while the scope for this contract is under review (\$1.1 million decrease); Wastewater Operations – HVAC costs coming in under budget (\$0.4 million decrease);
 - Capital Program Allocation – Increase of \$0.5 million – This is the portion of Personnel costs which are attributed to the Capital Improvement Plan. The amount in this category is shown as negative as this is a “contra” account which represents an offset to the Personnel costs section of the O&M budget. During FY 2023, the actual hours reported by engineers working on capital projects came in less than what was forecasted.
 - Personnel – Decrease of \$1.5 million – This decrease is due to the timing of filling vacant positions, especially those that are hard to fill in this tight labor market. In addition, there was a decrease in the utilization of the facilities maintenance contract being used to fill vacant positions as existing GLWA team members have assumed some of the required maintenance tasks.
 - Contractual Services – Decrease of \$0.5 million – As was identified in the Personnel section, above, there was a decrease in the utilization of the facilities maintenance contract being used to fill vacant positions as existing GLWA team members have assumed some of the required maintenance tasks.

ADDENDUM 1

Supplemental Information –

Enterprise-wide Operations & Maintenance Department and Account Level Amendments

- C – Centralized Services – Net change = zero
 - Contractual Services – Increase of \$1.0 million – The primary drivers for the increase in this category are as follows: Increased utilization by Systems Control of the specialize services contracts for the remote site work on sewer level sensors (\$1.8 million increase); increase utilization of the HED Michigan contract for the 14 Mile road water main break (\$1.3 million increase); additional support needed from AECOM for the Capital Improvement Plan (\$0.9 million increase); a reduction in the utilization of as-needed contracts by Facility Operations (\$0.6 million decrease); a reduction in several Information Technology contracts (Trimble Unity implementation contract and Magnolia Rivers GIS contract - \$0.8 million decrease); the AT&T Global Network Services contract is coming in lower than budget (\$1.5 million decrease).
 - Personnel – Decrease of \$0.8 million – This decrease is primarily due to the delay in filling vacant positions, especially those that are hard to fill in this tight labor market.
 - Supplies & Other – Decrease of \$0.6 million – The primary driver for the decrease in this category is the reduced need for Oracle Database licenses (\$0.3 million decrease).

- D – Administrative & Other Services – Net change = zero – The primary change in this area is an increase in Contractual Services of \$0.6 million. This increase is primarily due to the following: Enterprise Risk Management and Safety (\$0.4 million decrease) due to the reduced usage of the NTH Environmental Health and Safety Compliance Services contract (usage varies from year to year); and the Enterprise Risk Management Insurance Fund (\$1.0 million increase) due to increases in the business insurance premiums.

ADDENDUM 1

*Supplemental Information –
Enterprise-wide Operations & Maintenance Department and Account Level Amendments*

The table below shows the fourth quarter FY 2023 budget amendments per Expense Category for the four core groups.

Major Budget Categories and Expense Categories	Total 4th Quarter FY 2023 Amendments
A Water System Operations	4,519,000
Capital Program Allocation	854,300
Chemicals	774,100
Contractual Services	(422,000)
Personnel	(256,000)
Supplies & Other	470,000
Unallocated Reserve	(1,674,900)
Utilities	4,773,500
B Wastewater System Operations	3,981,000
Capital Program Allocation	455,400
Chemicals	274,800
Contractual Services	(520,300)
Personnel	(1,489,300)
Shared Services	(79,900)
Supplies & Other	1,082,000
Unallocated Reserve	22,300
Utilities	4,236,000
C Centralized Services	-
Capital Program Allocation	191,200
Contractual Services	992,000
Personnel	(808,700)
Supplies & Other	(559,200)
Unallocated Reserve	154,700
Utilities	30,000
D Administrative & Other Services	-
Contractual Services	597,000
Personnel	(302,900)
Shared Services	10,000
Supplies & Other	48,300
Unallocated Reserve	(419,400)
Utilities	67,000
Grand Total	8,500,000

ADDENDUM 1

Supplemental Information
Enterprise-wide Operations & Maintenance Department and Account Level Amendments

Departmental and Account Level Amendments		Total 4th Quarter FY 2023	Explanation of Key Items
A Water System Operations		4,519,000	
Adams Road Pumping Station		80,000	
Supplies & Other		(60,000)	
Utilities		140,000	
COO - Water Operations & Field Services		8,000	
Personnel		(20,000)	
Supplies & Other		28,000	
Eastside Pumping Station		19,000	
Supplies & Other		(6,000)	
Utilities		25,000	
Electric Ave Pumping Station		8,000	
Utilities		8,000	
Ford Rd Pumping Station		92,000	
Utilities		92,000	
Franklin Road Pumping Station		280,000	
Supplies & Other		(20,000)	
Utilities		300,000	Increased electric usage and an increased demand charge have resulted in higher billing.
Haggerty Road Pumping Station		30,000	
Utilities		30,000	
Imlay Pumping Station		-	
Supplies & Other		100,000	
Utilities		(100,000)	
Joy Road Pumping Station		100,000	
Supplies & Other		(30,000)	
Utilities		130,000	
Lake Huron Water Plant		1,037,300	
Chemicals		(18,700)	
Contractual Services		280,000	Increase due to Chartier - Lagoon A maintenance and Brown & Caldwell - Pilot Plant work
Personnel		20,000	
Supplies & Other		66,000	
Utilities		690,000	Electric: Lake Huron Water Plant hit higher peak demand factor in August of 2022 which resulted in increased expenses through FY 2023; overall increase in KWH charges and power supply cost recovery charges; and increase of pumping due to dry weather events this spring causing higher cost than prior years. Gas: Commodity cost increased significantly
Michigan Ave Pumping Station		60,000	
Supplies & Other		(10,000)	
Utilities		70,000	
Newburgh Pumping Station		80,000	
Utilities		80,000	
North Service Center Pumping Station		295,000	
Utilities		295,000	Electric: Increased electric usage and an increased demand charge have resulted in higher billing. Gas: Increased gas use during heating months
Northeast Water Plant		1,387,000	
Chemicals		60,000	
Contractual Services		125,000	
Personnel		14,000	
Supplies & Other		69,000	
Utilities		1,119,000	Electric: Northeast Water Plant primarily, along with Springwells Water Plant, picked up some of the pumping effort during the 102 inch main break in 2022 that was diverted from Lake Huron Water Plant; overall increase in kWh charges and power supply cost recovery charges, and increase of pumping due to dry weather events this spring causing higher cost than prior years. Gas: Commodity cost increased significantly. Sewer: increase is driven by stormwater drainage charges increasing annually.
Northwest Pumping Station		50,000	
Supplies & Other		30,000	
Utilities		20,000	
Orion Township Pumping Station		120,000	
Supplies & Other		110,000	
Utilities		10,000	
Rochester Pumping Station		29,500	
Supplies & Other		5,000	
Utilities		24,500	
Schoolcraft Pumping Station		65,000	
Supplies & Other		10,000	
Utilities		55,000	
Southwest Water Plant		(105,700)	
Capital Program Allocation		35,000	
Chemicals		4,300	
Contractual Services		(190,000)	
Personnel		(190,000)	
Supplies & Other		(42,000)	
Utilities		277,000	Gas: Commodity cost increased significantly. Sewer: increase is driven by stormwater drainage charges increasing annually, also due to actual sewer disposal expenses that are driven by the cleaning of the pit and how much dredging is completed.
Springwells Water Plant		76,300	
Capital Program Allocation		(10,700)	

ADDENDUM 1

Supplemental Information
Enterprise-wide Operations & Maintenance Department and Account Level Amendments

Departmental and Account Level Amendments	Total 4th Quarter FY 2023 Amendments	Explanation of Key Items
Chemicals	340,000	Increases mostly due to increasing prices for chemicals, including a significant increase in Phosphoric acid from November 2022 to March 2023. Also due to increase usage in early spring for Turbidity resulting in an increased use of Alum and Chlorine
Contractual Services	(1,030,000)	Decrease due to Mobile Dredging contract. FY 2023 budget was based upon previous years' expenses and the potential for utilization of the contract at this location. It has been determined that these services will not be needed at this location in FY 2023.
Personnel	(10,000)	
Supplies & Other	80,000	
Utilities	707,000	Electric: Springwells Water Plant, along with Northeast Water Plant, picked up some of the pumping effort during the 102 inch main break in 2022 that was diverted from Lake Huron Water Plant; overall increase in kWh charges and power supply cost recovery charges, and increase of pumping due to dry weather events this spring causing higher cost than prior years. Gas: Commodity cost increased significantly along with increased usage due to a natural gas power air conditioning system (blast chiller).
Water Director	(13,000)	
Contractual Services	(15,000)	
Personnel	(50,000)	
Supplies & Other	52,000	
Water Engineering	512,000	
Capital Program Allocation	830,000	Actual hours reported by engineers working on capital projects is less than forecasted.
Contractual Services	(300,000)	Reduction in the anticipated expenses for PMA Consultants - Capital Improvement project.
Personnel	(10,000)	
Supplies & Other	(8,000)	
Water Quality	128,500	
Chemicals	73,500	
Contractual Services	(15,000)	
Personnel	70,000	
Water System Operations Unallocated Reserves	(1,674,900)	
Unallocated Reserve	(1,674,900)	Unallocated Reserve was used for the refinement of various account categories within the Water Operations area, primarily Utilities.
Water Works Park	1,564,000	
Chemicals	315,000	Increases mostly due to increasing prices for chemicals, including a significant increase in Phosphoric acid from November 2022 to March 2023. Also due to increase usage in early spring for Turbidity resulting in an increased use of Alum and Chlorine
Contractual Services	723,000	Increase due to increased utilization of Weiss Construction screen rehabilitation project and Arcadis Comprehensive corrosion control project.
Personnel	(80,000)	
Supplies & Other	210,000	
Utilities	396,000	Electric: Increase due to an overall increase in KWH charges and power supply cost recovery charges. Also, increase of pumping due to dry weather events this spring causing higher cost than prior years. Gas: Commodity cost increased significantly. Sewer: increase is driven by stormwater drainage charges increasing annually.
West Chicago Rd Pumping Station	5,000	
Utilities	5,000	
West Service Center Pumping Station	155,000	
Supplies & Other	(50,000)	
Utilities	205,000	
Wick Road Pumping Station	33,000	
Supplies & Other	(60,000)	
Utilities	93,000	
Ypsilanti Pumping Station	98,000	
Supplies & Other	(4,000)	
Utilities	102,000	
B Wastewater System Operations	3,981,000	
7 Mile Combined Sewer Overflow	117,900	
Chemicals	(1,900)	
Contractual Services	(32,200)	
Supplies & Other	157,200	
Utilities	(5,200)	
Baby Creek Combined Sewer Overflow	(429,100)	
Chemicals	(21,800)	
Contractual Services	(32,400)	
Supplies & Other	(326,500)	Reductions in repairs at this CSO facility due to priority repairs at other facilities related to condition and criticality considerations.
Utilities	(48,400)	
BDF, COF & Hauling	1,122,500	
Contractual Services	181,000	
Personnel	(130,500)	
Utilities	1,072,000	Increase due to increased cost per MBTU for natural gas.
Belle Isle Combined Sewer Overflow	(17,500)	
Chemicals	(5,100)	
Contractual Services	500	
Shared Services	(14,900)	
Supplies & Other	2,000	
Belle Isle Pumping Station	-	
Shared Services	(10,000)	

ADDENDUM 1

Supplemental Information
Enterprise-wide Operations & Maintenance Department and Account Level Amendments

Departmental and Account Level Amendments	Total 4th Quarter FY 2023 Amendments	Explanation of Key Items
Supplies & Other	10,000	
Chief Operating Officer Wastewater	(322,100)	
Capital Program Allocation	40,600	
Contractual Services	(416,000)	Reduction due to transfer of work force development program to actual training costs under supplies & other
Personnel	(120,900)	
Supplies & Other	174,200	
Combined Sewer Overflow	(583,100)	
Contractual Services	(409,700)	Reduced use of facilities maintenance contract (Lakeshore Global #2102834).
Personnel	(171,000)	
Supplies & Other	(2,400)	
Conner Creek Combined Sewer Overflow	(181,000)	
Chemicals	(808,700)	Reduction in use of hypochlorite due to higher-than-normal temperatures and lower-than-normal precipitation during later half of FY 2023.
Contractual Services	(26,600)	
Supplies & Other	386,100	Increase due to the project for the replacement of stop logs (Ballard Marine); this project was not known at the time that the FY 2023 budget was developed.
Utilities	268,200	
Conner Pumping Station	14,000	
Supplies & Other	(46,000)	
Utilities	60,000	
Fairview Pumping Station	561,000	
Supplies & Other	480,000	Increase in pump and other equipment repairs due to damage resulting from the June/July 2021 wet weather events.
Utilities	81,000	
Fischer Pumping Station	-	
Shared Services	(23,000)	
Supplies & Other	23,000	
Freud Pumping Station	(48,500)	
Supplies & Other	(45,000)	
Utilities	(3,500)	
Hubble Southfield CSO	(46,600)	
Chemicals	(88,200)	
Contractual Services	(6,800)	
Supplies & Other	110,600	
Utilities	(62,200)	
Industrial Waste Control	(227,700)	
Contractual Services	(59,200)	
Personnel	(102,900)	
Supplies & Other	(65,600)	
Leib Combined Sewer Overflow	(15,000)	
Chemicals	17,300	
Contractual Services	(52,100)	
Supplies & Other	42,900	
Utilities	(23,100)	
Northeast Pumping Station	160,000	
Utilities	160,000	
Oakwood Combined Sewer Overflow	102,900	
Chemicals	(123,500)	
Contractual Services	17,500	
Supplies & Other	(51,400)	
Utilities	260,300	
Oakwood Pumping Station	50,000	
Supplies & Other	60,000	
Utilities	(10,000)	
Puritan Fenkell Combined Sewer Overflow	126,600	
Chemicals	(32,900)	
Contractual Services	(37,100)	
Supplies & Other	200,100	
Utilities	(3,500)	
St Aubin Combined Sewer Overflow	113,100	
Chemicals	5,700	
Contractual Services	51,600	
Supplies & Other	56,400	
Utilities	(600)	
Wastewater Dewatering Process	(517,300)	
Chemicals	52,100	
Contractual Services	101,700	
Personnel	(258,400)	
Supplies & Other	(412,700)	Equipment repair costs coming in under budget for gas sensors, bull gear repair & blower unit replacements.
Wastewater Director	(640,500)	
Chemicals	4,100	
Contractual Services	17,200	
Personnel	(390,500)	Reduced use of facilities maintenance contract to fill vacant positions (Lakeshore Global #2102834); positions will be filled at later time.
Supplies & Other	(271,300)	

ADDENDUM 1

Supplemental Information
Enterprise-wide Operations & Maintenance Department and Account Level Amendments

Departmental and Account Level Amendments	Total 4th Quarter FY 2023 Amendments	Explanation of Key Items
Wastewater Engineering	12,700	
Capital Program Allocation	414,800	Actual hours reported by engineers working on capital projects is less than forecasted.
Contractual Services	(160,400)	
Personnel	(246,200)	
Supplies & Other	4,500	
Wastewater Fire Damage	199,000	
Supplies & Other	199,000	
Wastewater Incineration Process	(1,185,800)	
Chemicals	(44,700)	Reduced equipment repairs under refractory inspection contract 2000917 to 2 incinerators; scope of the repairs for this contract is under review.
Contractual Services	(22,100)	
Personnel	28,600	
Supplies & Other	(1,147,600)	
Wastewater Laboratories	53,500	
Chemicals	22,300	
Contractual Services	(20,100)	
Personnel	(50,000)	
Supplies & Other	101,300	
Wastewater Operations	2,015,400	
Chemicals	(5,100)	Reduced facilities maintenance expenditures - HVAC costs below forecast.
Contractual Services	(43,500)	
Personnel	(29,100)	
Supplies & Other	(397,900)	
Utilities	2,491,000	Increased cost per MBTU for natural gas and the KWH for electricity.
Wastewater Primary Process	1,451,300	
Chemicals	(400,700)	Average monthly usage has decreased below the forecast.
Contractual Services	(24,800)	
Personnel	252,500	Increase in equipment repairs needed due to reliability and criticality considerations; improving rack & grit system and primary clarification.
Supplies & Other	1,624,300	
Wastewater Process Control	(613,100)	
Contractual Services	166,100	Reduction due to 6 FTE positions not filled during FY 2023
Personnel	(436,700)	
Supplies & Other	(342,500)	Reduced scheduled equipment replacement that will be covered under new Emerson contract 2101167.
Wastewater Secondary Process	2,686,100	
Chemicals	1,705,900	Unit cost of Chlorine based chemicals increased due to supplier constraints.
Contractual Services	280,100	
Personnel	165,800	Emergency replacement of aeration deck Pannels under JOC J2-05.
Supplies & Other	534,300	
Wastewater System Operations Unallocated Reserves	22,300	
Unallocated Reserve	22,300	
Woodmere Pumping Station	-	
Contractual Services	7,000	
Shared Services	(32,000)	
Supplies & Other	25,000	
C Centralized Services	-	
Asset Management	748,000	
Contractual Services	1,255,000	Driven primarily by vendor HDR Michigan with increased activity on 14 mile road main break.
Personnel	(488,000)	
Supplies & Other	(19,000)	
Capital Improvement Planning	221,200	
Capital Program Allocation	191,200	Additional AECOM support needed than was originally anticipated in the FY 2022 budget.
Contractual Services	885,000	
Personnel	(843,700)	
Supplies & Other	(11,300)	
Centralized Services Unallocated Reserves	154,700	
Unallocated Reserve	154,700	
Chief Planning Officer	(33,400)	
Personnel	(20,000)	
Supplies & Other	(13,400)	
Energy, Research & Innovation	(339,900)	
Personnel	(175,000)	
Supplies & Other	(164,900)	
Facility Operations	(605,000)	
Contractual Services	(645,000)	Utilization of contract services varies from year to year based on need.
Personnel	(150,000)	
Supplies & Other	190,000	
Field Service Operations	961,400	
Contractual Services	124,500	Increased utilization of overtime and promotion of several team members within Field Services.
Personnel	800,000	
Supplies & Other	36,900	
Fleet Operations	418,500	
Contractual Services	275,000	
Supplies & Other	143,500	
Info Tech Business Productivity Systems	104,000	
Contractual Services	110,000	

ADDENDUM 1

Supplemental Information
Enterprise-wide Operations & Maintenance Department and Account Level Amendments

Total 4th Quarter FY 2023		
Departmental and Account Level Amendments	Amendments	Explanation of Key Items
Personnel	(112,000)	
Supplies & Other	106,000	
Info Tech Enterprise Asset Mgmt Systems	(808,000)	
Contractual Services	(795,000)	Reduced utilization of the Trimble Unity Implementation contract and GIS Professional Service contract with Magnolia Rivers.
Personnel	(9,000)	
Supplies & Other	(4,000)	
Info Technology Infrastructure	(1,867,000)	
Contractual Services	(1,550,000)	Actual costs for the AT&T Global Network Services contract have come in under budget.
Supplies & Other	(317,000)	Repair & Maintenance Hardware decrease for Oracle Database Licensing due to declining need for as many licenses.
Info Technology Project Management Office	189,500	
Personnel	186,000	
Supplies & Other	3,500	
Info Technology Security & Risk	4,000	
Supplies & Other	4,000	
Info Technology Service Delivery	(279,500)	
Personnel	(20,500)	
Supplies & Other	(259,000)	
Office of the CIO	157,000	
Contractual Services	(15,000)	
Personnel	165,000	
Supplies & Other	7,000	
Security and Integrity	468,000	
Contractual Services	200,000	
Personnel	268,000	
Supplies & Other	-	
System Resiliency	145,000	
Personnel	140,000	
Supplies & Other	5,000	
Systems Analytics	(1,007,000)	
Contractual Services	(374,500)	Utilization of the Applied Science contract for sewer dye testing is less than anticipated.
Personnel	(622,000)	PCI transitional labor requirements were lower than projected
Supplies & Other	(20,500)	
Utilities	10,000	
Systems Operations Control	2,052,000	
Contractual Services	1,830,000	Increased utilization of 2004889 - Specialized Services contract and implementation of contracts for remote site work on sewer level sensors that are needed to insure system resiliency that were not budgeted for (projects came into place during FY 2023)
Personnel	410,000	Increased utilization of overtime and promotion of several team members within Systems Control.
Supplies & Other	(208,000)	
Utilities	20,000	
Systems Planning	(257,900)	
Contractual Services	(210,000)	
Personnel	(15,500)	
Supplies & Other	(32,400)	
Systems Planning & Development	(371,600)	
Contractual Services	(98,000)	
Personnel	(267,000)	
Supplies & Other	(6,600)	
Transformation	(54,000)	
Personnel	(55,000)	
Supplies & Other	1,000	
D Administrative & Other Services	-	
Administrative Services Unallocated Reserves	(419,400)	
Unallocated Reserve	(419,400)	Unallocated Reserve was used for the refinement of various account categories within the Administrative & Other Services area, primarily related to the contractual services.
Board of Directors	(12,800)	
Personnel	2,100	
Supplies & Other	(14,900)	
CFO Services	83,800	
Contractual Services	19,200	
Personnel	62,900	
Supplies & Other	1,700	
Chief Executive Officer	-	
Contractual Services	(35,000)	
Personnel	32,100	
Supplies & Other	2,900	
Chief Financial Officer	(192,900)	
Contractual Services	(50,500)	
Personnel	(124,300)	
Supplies & Other	(18,100)	
Enterprise Risk Management and Safety	(400,000)	
Contractual Services	(400,000)	Less than projected costs for Environmental Health and Safety coverage (NTH Consultants).
Enterprise Risk Mgt. Insurance Fund	1,050,000	
Contractual Services	1,050,000	Increase in costs for the Risk Management Insurance Coverage policies with Marsh USA Inc.

ADDENDUM 1

Supplemental Information
Enterprise-wide Operations & Maintenance Department and Account Level Amendments

Total 4th Quarter FY 2023		
Departmental and Account Level Amendments	Amendments	Explanation of Key Items
Financial Management & Planning	(441,000)	
Contractual Services	(45,000)	
Personnel	(395,700)	Vacancies being filled at slower pace than planned.
Supplies & Other	(300)	
Financial Reporting & Accounting	(362,700)	
Contractual Services	(221,700)	
Personnel	(76,100)	
Supplies & Other	(64,900)	
General Counsel	468,000	
Contractual Services	401,500	Tapering litigation and investigation costs from the June 2021 flood event.
Personnel	93,000	
Supplies & Other	(26,500)	
Logistics and Materials	79,500	
Contractual Services	7,000	
Personnel	(70,000)	
Supplies & Other	75,500	
Utilities	67,000	
OD Administration	126,000	
Contractual Services	120,000	
Supplies & Other	6,000	
OD Talent Management	(112,000)	
Contractual Services	(161,000)	
Supplies & Other	49,000	
OD Training	(14,000)	
Contractual Services	(164,000)	
Personnel	5,000	
Supplies & Other	145,000	
Procurement Director	109,600	
Contractual Services	180,000	
Personnel	30,000	
Supplies & Other	(100,400)	
Treasury	(102,800)	
Contractual Services	(133,500)	
Personnel	35,600	
Shared Services	10,000	
Supplies & Other	(14,900)	
Chief Administrative Officer	140,700	
Contractual Services	30,000	
Personnel	102,500	
Supplies & Other	8,200	
Grand Total	8,500,000	

Totals may be off due to rounding



ADDENDUM 2

Supplemental Information –

Enterprise-wide Operations & Maintenance Account Type and Department Level Amendments

The table in Addendum 2 summarizes the FY 2023 fourth quarter budget amendments for operations & maintenance by the major expense categories (account type). An explanation of key items is included in the table in Addendum 2.

The primary increase in budget for the fourth quarter FY 2023 was in utilities.

- A – Water System Operations – Increase of \$4.8 million
 - Electric - Increase of \$4.0 million – This increase is due to the increased charge for kWh and increased usage partially due to the lower-than-normal precipitation during the last quarter of FY 2023.
 - Gas – Increase of \$0.6 million – Due to the increase in cost of this commodity.
- B – Wastewater System Operations – Increase of \$4.2 million
 - Gas – Increase of \$2.9 million – Due to increase in cost and usage. Hearth inspections and construction work has required that, at times, all incinerators be operating in production mode. This was also the requirement during the NPDES permit stack testing and belt redesign testing.
 - Electric – Increase of \$0.6 million - This increase is due to the increased charge for kWh. The budget for the water service was amended in the first quarter of FY 2023. An additional adjustment is being made with the fourth quarter amendments.
 - Water Service – Increase of \$0.5 million. Meters have been repaired and replaced at the WRRF (Water Resource Recovery Facility) and bills which had previously contained estimated readings are now being received with actual readings. The actual readings are coming in higher than the estimated readings. In addition, a new water billing structure was implemented in early FY 2023 which has resulted in an increase in the water billing rate. The budget for the water service was amended in the second quarter of FY 2023. An additional adjustment is being made with the fourth quarter amendments. The wastewater facilities impacted most substantially by this rate increase are the WRRF, Oakwood Combined Sewer Overflow, Conner Creek Combined Sewer Overflow, and the Biosolids Dryer Facility (BDF).

ADDENDUM 2*Supplemental Information –**Enterprise-wide Operations & Maintenance Account Type and Department Level Amendments*

Utilities		Total 4th Quarter FY 2023 Amendments
A	Water System Operations	4,773,500
	Electric	3,979,000
	Gas	605,000
	Sewage Service	189,500
B	Wastewater System Operations	4,236,000
	Electric	580,300
	Gas	2,861,100
	Sewage Service	258,100
	Water Service	536,500
C	Centralized Services	30,000
	Electric	30,000
D	Administrative & Other Services	67,000
	Electric	60,000
	Gas	22,000
	Sewage Service	(15,000)
Grand Total		9,106,500

ADDENDUM 2

Supplemental Information
Enterprise-wide Operations & Maintenance
Account Type and Department Level Amendments

Expense Categories and Departmental Level Amendments	Total 4th Quarter FY 2023 Amendments	Explanation of Key Items
Capital Program Allocation	1,500,900	
Capital Improvement Planning	191,200	
Chief Operating Officer Wastewater	40,600	
Southwest Water Plant	35,000	
Springwells Water Plant	(10,700)	
Wastewater Engineering	414,800	Actual hours reported by engineers working on capital projects is less than forecasted.
Water Engineering	830,000	Actual hours reported by engineers working on capital projects is less than forecasted.
Chemicals	1,048,900	
7 Mile Combined Sewer Overflow	(1,900)	
Baby Creek Combined Sewer Overflow	(21,800)	
Belle Isle Combined Sewer Overflow	(5,100)	
Conner Creek Combined Sewer Overflow	(808,700)	Reduction in use of hypochlorite due to higher-than-normal temperatures and lower-than-normal precipitation during later half of FY 2023.
Hubble Southfield CSO	(88,200)	
Lake Huron Water Plant	(18,700)	
Leib Combined Sewer Overflow	17,300	
Northeast Water Plant	60,000	
Oakwood Combined Sewer Overflow	(123,500)	
Puritan Fenkell Combined Sewer Overflow	(32,900)	
Southwest Water Plant	4,300	
Springwells Water Plant	340,000	Increases mostly due to increasing prices for chemicals, including a significant increase in Phosphoric acid from November 2022 to March 2023. Also due to increase usage due to turnover season in early spring for Turbidity increases use of Alum and Chlorine
St Aubin Combined Sewer Overflow	5,700	
Wastewater Dewatering Process	52,100	
Wastewater Director	4,100	
Wastewater Incineration Process	(44,700)	
Wastewater Laboratories	22,300	
Wastewater Operations	(5,100)	
Wastewater Primary Process	(400,700)	Average monthly usage has decreased below the forecast.
Wastewater Secondary Process	1,705,900	Unit cost of chemicals increased due to supplier constraints.
Water Quality	73,500	
Water Works Park	315,000	Increases mostly due to increasing prices for chemicals, including a significant increase in Phosphoric acid from November 2022 to March 2023. Also due to increase usage due to turnover season in early spring for Turbidity increases use of Alum and Chlorine
Contractual Services	646,700	
7 Mile Combined Sewer Overflow	(32,200)	
Asset Management	1,255,000	Driven primarily by vendor HDR Michigan with increased activity on 14 mile road main break.
Baby Creek Combined Sewer Overflow	(32,400)	
BDF, COF & Hauling	181,000	
Belle Isle Combined Sewer Overflow	500	
Capital Improvement Planning	885,000	Additional AECOM support needed than was originally anticipated in the FY 2022 budget.
CFO Services	19,200	
Chief Executive Officer	(35,000)	
Chief Financial Officer	(50,500)	
Chief Operating Officer Wastewater	(416,000)	Reduction due to transfer of work force development program to actual training costs under supplies & other
Combined Sewer Overflow	(409,700)	Reduced use of facilities maintenance contract (Lakeshore Global #2102834).
Conner Creek Combined Sewer Overflow	(26,600)	
Enterprise Risk Management and Safety	(400,000)	Less than projected costs for Environmental Health and Safety coverage (NTH Consultants).
Enterprise Risk Mgt. Insurance Fund	1,050,000	Increase in costs for the Risk Management Insurance Coverage policies with Marsh USA Inc.
Facility Operations	(645,000)	Utilization of contract services varies from year to year based on need.
Field Service Operations	124,500	
Financial Management & Planning (formerly Financial Planning & Accounting)	(45,000)	
Fleet Operations	(221,700)	
Fleet Operations	275,000	
General Counsel	401,500	Tapering litigation and investigation costs from the June 2021 flood event.
Hubble Southfield CSO	(6,800)	
Industrial Waste Control	(59,200)	
Info Tech Business Productivity Systems	110,000	
Info Tech Enterprise Asset Mgmt Systems	(795,000)	Reduced utilization of the Trimble Unity Implementation contract and GIS Professional Service contract with Magnolia Rivers.
Info Technology Infrastructure	(1,550,000)	Actual costs for the AT&T Global Network Services contract have come in under budget.
Lake Huron Water Plant	280,000	Increase due to Chartier - Lagoon A maintenance and Brown & Caldwell - Pilot Plant work
Leib Combined Sewer Overflow	(52,100)	
Logistics and Materials	7,000	
Northeast Water Plant	125,000	
Oakwood Combined Sewer Overflow	17,500	
OD Administration	120,000	
OD Talent Management	(161,000)	
OD Training	(164,000)	
Office of the CIO	(15,000)	
Procurement Director	180,000	

ADDENDUM 2

Supplemental Information
Enterprise-wide Operations & Maintenance
Account Type and Department Level Amendments

Expense Categories and Departmental Level Amendments	Total 4th Quarter FY 2023 Amendments	Explanation of Key Items
Puritan Fenkell Combined Sewer Overflow	(37,100)	
Security and Integrity	200,000	
Southwest Water Plant	(190,000)	
Springwells Water Plant	(1,030,000)	Decrease due to Mobile Dredging contract. FY 2023 budget was based upon previous years' expenses and the potential for utilization of the contract at this location. It has been determined that these services will not be needed at this location in FY 2023.
St Aubin Combined Sewer Overflow	51,600	
Systems Analytics	(374,500)	Utilization of the Applied Science contract for sewer dye testing is less than anticipated.
Systems Operations Control	1,830,000	Increased utilization of 2004889 - Specialized Services contract and implementation of contracts for remote site work on sewer level sensors that are needed to insure system resiliency that were not budgeted for (projects came into place during FY 2023)
Systems Planning	(210,000)	
Systems Planning & Development	(98,000)	
Treasury	(133,500)	
Wastewater Dewatering Process	101,700	
Wastewater Director	17,200	
Wastewater Engineering	(160,400)	
Wastewater Incineration Process	(22,100)	
Wastewater Laboratories	(20,100)	
Wastewater Operations	(43,500)	
Wastewater Primary Process	(24,800)	
Wastewater Process Control	166,100	
Wastewater Secondary Process	280,100	
Water Director	(15,000)	
Water Engineering	(300,000)	Reduction in the anticipated expenses for PMA Consultants - Capital Improvement project.
Water Quality	(15,000)	
Water Works Park	723,000	Increase due to increased utilization of Weiss Construction screen rehabilitation project and Arcadis Comprehensive corrosion control project.
Woodmere Pumping Station	7,000	
Chief Administrative Officer	30,000	
Personnel	(2,856,900)	
Asset Management	(488,000)	Vacancies being filled at slower pace than planned.
BDF, COF & Hauling	(130,500)	
Board of Directors	2,100	
Capital Improvement Planning	(843,700)	Vacancies being filled at slower pace than planned.
CFO Services	62,900	
Chief Executive Officer	32,100	
Chief Financial Officer	(124,300)	
Chief Operating Officer Wastewater	(120,900)	
Chief Planning Officer	(20,000)	
Combined Sewer Overflow	(171,000)	
COO - Water Operations & Field Services	(20,000)	
Energy, Research & Innovation	(175,000)	
Facility Operations	(150,000)	
Field Service Operations	800,000	Increased utilization of overtime and promotion of several team members within Field Services.
Financial Management & Planning	(395,700)	Vacancies being filled at slower pace than planned.
Financial Reporting & Accounting	(76,100)	
General Counsel	93,000	
Industrial Waste Control	(102,900)	
Info Tech Business Productivity Systems	(112,000)	
Info Tech Enterprise Asset Mgmt Systems	(9,000)	
Info Technology Project Management Office	186,000	
Info Technology Service Delivery	(20,500)	
Lake Huron Water Plant	20,000	
Logistics and Materials	(70,000)	
Northeast Water Plant	14,000	
OD Training	5,000	
Office of the CIO	165,000	
Procurement Director	30,000	
Security and Integrity	268,000	
Southwest Water Plant	(190,000)	
Springwells Water Plant	(10,000)	
System Resiliency	140,000	
Systems Analytics	(622,000)	PCI transitional labor requirements were lower than projected
Systems Operations Control	410,000	Increased utilization of overtime and promotion of several team members within Systems Control.
Systems Planning	(15,500)	
Systems Planning & Development	(267,000)	
Transformation	(55,000)	
Treasury	35,600	
Wastewater Dewatering Process	(258,400)	
Wastewater Director	(390,500)	Reduced use of facilities maintenance contract to fill vacant positions (Lakeshore Global #2102834); positions will be filled at later time.
Wastewater Engineering	(246,200)	

ADDENDUM 2

Supplemental Information
Enterprise-wide Operations & Maintenance
Account Type and Department Level Amendments

Expense Categories and Departmental Level Amendments	Total 4th Quarter FY 2023 Amendments	Explanation of Key Items
Wastewater Incineration Process	28,600	
Wastewater Laboratories	(50,000)	
Wastewater Operations	(29,100)	
Wastewater Primary Process	252,500	
Wastewater Process Control	(436,700)	Reduction due to 6 FTE positions not filled during FY 2023
Wastewater Secondary Process	165,800	
Water Director	(50,000)	
Water Engineering	(10,000)	
Water Quality	70,000	
Water Works Park	(80,000)	
Chief Administrative Officer	102,500	
Shared Services	(69,900)	
Belle Isle Combined Sewer Overflow	(14,900)	
Belle Isle Pumping Station	(10,000)	
Fischer Pumping Station	(23,000)	
Treasury	10,000	
Woodmere Pumping Station	(32,000)	
Supplies & Other	1,041,100	
7 Mile Combined Sewer Overflow	157,200	
Adams Road Pumping Station	(60,000)	
Asset Management	(19,000)	
Baby Creek Combined Sewer Overflow	(326,500)	Reductions in repairs at this CSO facility priority repairs at other facilities due to condition and criticality considerations.
Belle Isle Combined Sewer Overflow	2,000	
Belle Isle Pumping Station	10,000	
Board of Directors	(14,900)	
Capital Improvement Planning	(11,300)	
CFO Services	1,700	
Chief Executive Officer	2,900	
Chief Financial Officer	(18,100)	
Chief Operating Officer Wastewater	174,200	
Chief Planning Officer	(13,400)	
Combined Sewer Overflow	(2,400)	
Conner Creek Combined Sewer Overflow	386,100	Increase due to the project for the replacement of stop logs (Ballard Marine); this project was not known at the time that the FY 2023 budget was developed.
Conner Pumping Station	(46,000)	
COO - Water Operations & Field Services	28,000	
Eastside Pumping Station	(6,000)	
Energy, Research & Innovation	(164,900)	
Facility Operations	190,000	
Fairview Pumping Station	480,000	Increase in pump and other equipment repairs due to damage resulting from the June/July 2021 wet weather events.
Field Service Operations	36,900	
Financial Management & Planning (formerly Financial Planning & Reporting & Accounting)	(300)	
Fischer Pumping Station	(64,900)	
Fleet Operations	23,000	
Franklin Road Pumping Station	143,500	
Freud Pumping Station	(20,000)	
General Counsel	(45,000)	
Hubble Southfield CSO	(26,500)	
Imlay Pumping Station	110,600	
Industrial Waste Control	100,000	
Info Tech Business Productivity Systems	(65,600)	
Info Tech Enterprise Asset Mgmt Systems	106,000	
Info Technology Infrastructure	(4,000)	
Info Technology Project Management Office	(317,000)	Repair & Maintenance Hardware decrease for Oracle Database Licensing due to declining need for as many licenses.
Info Technology Security & Risk	3,500	
Info Technology Service Delivery	4,000	
Joy Road Pumping Station	(259,000)	
Lake Huron Water Plant	(30,000)	
Leib Combined Sewer Overflow	66,000	
Logistics and Materials	42,900	
Michigan Ave Pumping Station	75,500	
Northeast Water Plant	(10,000)	
Northwest Pumping Station	69,000	
Oakwood Combined Sewer Overflow	30,000	
Oakwood Pumping Station	(51,400)	
OD Administration	60,000	
OD Talent Management	6,000	
OD Training	49,000	
Office of the CIO	145,000	
	7,000	

ADDENDUM 2

Supplemental Information
Enterprise-wide Operations & Maintenance
Account Type and Department Level Amendments

Expense Categories and Departmental Level Amendments	Total 4th Quarter FY 2023 Amendments	Explanation of Key Items
Orion Township Pumping Station	110,000	
Procurement Director	(100,400)	
Puritan Fenkell Combined Sewer Overflow	200,100	
Rochester Pumping Station	5,000	
Schoolcraft Pumping Station	10,000	
Southwest Water Plant	(42,000)	
Springwells Water Plant	80,000	
St Aubin Combined Sewer Overflow	56,400	
System Resiliency	5,000	
Systems Analytics	(20,500)	
Systems Operations Control	(208,000)	
Systems Planning	(32,400)	
Systems Planning & Development	(6,600)	
Transformation	1,000	
Treasury	(14,900)	
Wastewater Dewatering Process	(412,700)	Equipment repair costs coming in under budget for gas sensors, bull gear repair & blower unit replacements.
Wastewater Director	(271,300)	
Wastewater Engineering	4,500	
Wastewater Fire Damage	199,000	
Wastewater Incineration Process	(1,147,600)	Reduced equipment repairs under refractory inspection contract 2000917 to 2 incinerators; scope of the repairs for this contract is under review.
Wastewater Laboratories	101,300	
Wastewater Operations	(397,900)	Reduced facilities maintenance expenditures - HVAC costs below forecast.
Wastewater Primary Process	1,624,300	Increase in equipment repairs needed due to reliability and criticality considerations; improving rack & grit system and primary clarification.
Wastewater Process Control	(342,500)	Reduced scheduled equipment replacement that will be covered under new Emerson contract 2101167.
Wastewater Secondary Process	534,300	Emergency replacement of aeration deck Pannels under JOC J2-05.
Water Director	52,000	
Water Engineering	(8,000)	
Water Works Park	210,000	
West Service Center Pumping Station	(50,000)	
Wick Road Pumping Station	(60,000)	
Woodmere Pumping Station	25,000	
Ypsilanti Pumping Station	(4,000)	
Chief Administrative Officer	8,200	
Unallocated Reserve	(1,917,300)	
Administrative Services Unallocated Reserves	(419,400)	Unallocated Reserve was used for the refinement of various account categories within the Administrative & Other Services area, primarily related to the contractual services.
Centralized Services Unallocated Reserves	154,700	
Wastewater System Operations Unallocated Reserves	22,300	
Water System Operations Unallocated Reserves	(1,674,900)	Unallocated Reserve was used for the refinement of various account categories within the Water Operations area, primarily Utilities.
Utilities	9,106,500	
7 Mile Combined Sewer Overflow	(5,200)	
Adams Road Pumping Station	140,000	
Baby Creek Combined Sewer Overflow	(48,400)	
BDF, COF & Hauling	1,072,000	Increase due to increased cost per MBTU for natural gas.
Conner Creek Combined Sewer Overflow	268,200	
Conner Pumping Station	60,000	
Eastside Pumping Station	25,000	
Electric Ave Pumping Station	8,000	
Fairview Pumping Station	81,000	
Ford Rd Pumping Station	92,000	
Franklin Road Pumping Station	300,000	Increased electric usage and an increased demand charge have resulted in higher billing.
Freud Pumping Station	(3,500)	
Haggerty Road Pumping Station	30,000	
Hubble Southfield CSO	(62,200)	
Imlay Pumping Station	(100,000)	
Joy Road Pumping Station	130,000	
Lake Huron Water Plant	690,000	Electric: Lake Huron Water Plant hit higher peak demand factor in August of 2022 which resulted in increased expenses through FY 2023; overall increase in KWH charges and power supply cost recovery charges; and increase of pumping due to dry weather events this spring causing higher cost than prior years. Gas: Commodity cost increased significantly
Leib Combined Sewer Overflow	(23,100)	
Logistics and Materials	67,000	
Michigan Ave Pumping Station	70,000	
Newburgh Pumping Station	80,000	
North Service Center Pumping Station	295,000	Electric: Increased electric usage and an increased demand charge have resulted in higher billing. Gas: Increased gas use during heating months
Northeast Pumping Station	160,000	

ADDENDUM 2

Supplemental Information
Enterprise-wide Operations & Maintenance
Account Type and Department Level Amendments

Expense Categories and Departmental Level Amendments	Total 4th Quarter FY 2023 Amendments	Explanation of Key Items
Northeast Water Plant	1,119,000	Electric: Northeast Water Plant primarily, along with Springwells Water Plant, picked up some of the pumping effort during the 102 inch main break in 2022 that was diverted from Lake Huron Water Plant; overall increase in kWh charges and power supply cost recovery charges, and increase of pumping due to dry weather events this spring causing higher cost than prior years. Gas: Commodity cost increased significantly. Sewer: increase is driven by stormwater drainage charges increasing annually.
Northwest Pumping Station	20,000	
Oakwood Combined Sewer Overflow	260,300	
Oakwood Pumping Station	(10,000)	
Orion Township Pumping Station	10,000	
Puritan Fenkell Combined Sewer Overflow	(3,500)	
Rochester Pumping Station	24,500	
Schoolcraft Pumping Station	55,000	
Southwest Water Plant	277,000	Gas: Commodity cost increased significantly. Sewer: increase is driven by stormwater drainage charges increasing annually, also due to actual sewer disposal expenses that are driven by the cleaning of the pit and how much dredging is completed.
Springwells Water Plant	707,000	Electric: Springwells Water Plant, along with Northeast Water Plant, picked up some of the pumping effort during the 102 inch main break in 2022 that was diverted from Lake Huron Water Plant; overall increase in kWh charges and power supply cost recovery charges, and increase of pumping due to dry weather events this spring causing higher cost than prior years. Gas: Commodity cost increased significantly along with increased usage due to a natural gas power air conditioning system (blast chiller).
St Aubin Combined Sewer Overflow	(600)	
Systems Analytics	10,000	
Systems Operations Control	20,000	
Wastewater Operations	2,491,000	Increased cost per MBTU for natural gas and the KWH for electricity.
Water Works Park	396,000	Electric: Increase due to an overall increase in KWH charges and power supply cost recovery charges. Also, increase of pumping due to dry weather events this spring causing higher cost than prior years. Gas: Commodity cost increased significantly. Sewer: increase is driven by stormwater drainage charges increasing annually.
West Chicago Rd Pumping Station	5,000	
West Service Center Pumping Station	205,000	
Wick Road Pumping Station	93,000	
Ypsilanti Pumping Station	102,000	
Grand Total	8,500,000	

Totals may be off due to rounding

Great Lakes Water Authority

Resolution 2023-232

Resolution Adopting the Budget Amendments through the Fourth Quarter of FY 2023

By Board Member:

WHEREAS The Great Lakes Water Authority (“GLWA” or the “Authority”) assumed the operation of the regional water and sewer systems on January 1, 2016 (the “Effective Date”) pursuant to Water System and Sewer System Lease Agreements between the GLWA and the City of Detroit dated June 12, 2015; and

WHEREAS In accordance with the by-laws of the GLWA, further defined by its budget amendment policy, the Board shall amend the budget as needed based upon a quarterly report from the Chief Financial Officer; and

WHEREAS The GLWA Board adopted the FY 2023 budget on February 23, 2022, for the twelve-month fiscal year beginning July 1, 2022;

WHEREAS Following a review of the budget amendment report through the FY 2023 Fourth Quarter, the appropriations established with the adoption of the general operating budget for the water system and the sewer system are amended as shown in the table below;

General Operating				
Appropriation Category				
Revenues	Water System		Sewer System	
	Adopted	Amended	Adopted	Amended
Suburban Wholesale Customer Charges	\$ 333,219,000	\$ 335,113,300	\$ 280,824,000	275,407,200
Less: Bad Debt	(1,257,000)	No Change	(5,420,500)	(500,000)
Retail Service Charges	22,985,900	22,834,300	191,042,200	No Change
Industrial Waste Control Charges	-	-	8,420,000	No Change
Pollutant Surcharges	-	-	4,950,800	No Change
Investment Earnings	948,700	9,670,200	1,155,600	13,532,100
Other Revenues	175,000	995,000	400,000	2,355,000
Total Revenues	<u>\$ 356,071,600</u>	<u>\$ 367,355,800</u>	<u>\$ 481,372,100</u>	<u>\$ 495,207,300</u>
Revenue Requirements				
Operations & Maintenance Expense	\$ 144,847,700	156,747,700	\$ 184,052,600	\$ 204,122,500
General Retirement System Legacy Pension	6,048,000	No Change	10,824,000	No Change
Debt Service	150,337,100	150,055,300	205,638,100	212,509,100
General Retirement System Accelerated Pension	6,268,300	No Change	11,620,700	No Change
Extraordinary Repair & Replacement Deposit	-	200,000	-	No Change
Water Residential Assistance Program Contribution	1,770,500	No Change	2,394,200	No Change
Regional System Lease	22,500,000	No Change	27,500,000	No Change
DWSD Budget Shortfall Pending	-	No Change	-	No Change
Improvement & Extension Fund Transfer	24,300,000	23,766,000	39,342,500	26,236,800
Total Revenue Requirements	<u>\$ 356,071,600</u>	<u>\$ 367,355,800</u>	<u>\$ 481,372,100</u>	<u>\$ 495,207,300</u>

WHEREAS Following a review of the budget amendment report through the FY 2023 Fourth Quarter, the appropriations established with the adoption of the amounts necessary to pay the principal of and interest on all Regional bonds and to restore any reserves therefore established in the Master Bond Ordinance for the water system and the sewer system are amended as shown in the table below;

Debt Service Coverage Calculation				
Appropriation Category	Water System		Sewer System	
	Adopted	Amended	Adopted	Amended
Debt Service by Lien				
Senior Lien Bonds	135,939,700	133,773,100	149,780,900	153,194,800
Second Lien Bonds	47,200,100	50,117,200	36,738,500	39,847,100
SRF Junior Lien Bonds	10,061,800	8,874,400	51,084,400	51,354,800
Total Debt Service	<u>\$ 193,201,600</u>	<u>\$ 192,764,700</u>	<u>\$ 237,603,800</u>	<u>\$ 244,396,700</u>

WHEREAS Following a review of the budget amendment report through the FY 2023 Fourth Quarter, the appropriations established with the adoption of the improvement and extension fund budget for the water system and the sewer system are amended as shown in the table below;

Improvement & Extension Fund				
Appropriation Category	Water System		Sewer System	
	Adopted	Amended	Adopted	Amended
Revenues				
Transfers In from General Operating	\$ 24,300,000	\$ 23,766,000	\$ 39,342,500	\$ 26,236,800
Receipt of DWSD Shortfall Loan	-	-	-	-
Earnings on Investments	-	2,768,700	-	3,395,700
Net Use of Reserves	19,888,000	(37,732,200)	5,549,500	(19,268,900)
Total Revenues	<u>\$ 44,188,000</u>	<u>\$ (11,197,500)</u>	<u>\$ 44,892,000</u>	<u>\$ 10,363,600</u>
Expenditures				
Water/Sewer System Revenue Transfers Out	\$ -	\$ 2,768,700	\$ -	\$ 3,395,700
Capital Spending - Other	-	3,503,400	-	7,748,000
Capital Outlay	15,452,600	5,570,100	18,447,100	6,630,700
Revenue Financed Capital - Operating				
Transfer to Construction Fund	28,735,400	(23,039,700)	26,444,900	(7,410,800)
Total Expenditures	<u>\$ 44,188,000</u>	<u>\$ (11,197,500)</u>	<u>\$ 44,892,000</u>	<u>\$ 10,363,600</u>

WHEREAS Following a review of the budget amendment report through the FY 2023 Fourth Quarter, the appropriations established with the adoption of the construction fund budget for the water system and the sewer system are amended as shown in the table below;

Construction Fund				
Appropriation Category	Water System		Sewer System	
Revenues	Adopted	Amended	Adopted	Amended
Transfer from Improvement & Extension Fund	\$ 28,735,400	(23,039,700)	\$ 26,444,900	(7,410,800)
Bond Proceeds	-	225,000,000	-	225,000,000
Grant Revenues (SRF Loans)	54,992,000	95,000,000	18,720,000	20,000,000
Earnings on Investments	128,800	4,565,800	86,200	4,803,800
Contributed Capital	-	-	-	2,176,000
Other Revenue - Sale of Assets	-	185,300	-	1,140,700
Net (Use) Increase of Reserves	71,644,800	(93,749,400)	49,197,900	(139,489,400)
Total Revenues	<u>\$ 155,501,000</u>	<u>\$ 207,962,000</u>	<u>\$ 94,449,000</u>	<u>\$ 106,220,300</u>
Expenditures				
Project Expenditures	\$ 194,376,000	207,962,000	\$ 125,932,000	106,220,300
Capital Spend Rate Adjustment	\$ (38,875,000)	-	\$ (31,483,000)	-
Total Expenditures	<u>\$ 155,501,000</u>	<u>\$ 207,962,000</u>	<u>\$ 94,449,000</u>	<u>\$ 106,220,300</u>
Capital Spending Ratio	80.0%	107.0%	75.0%	86.2%

WHEREAS The GLWA Audit Committee reviewed the budget amendments at its meeting on June 26, 2023; and

WHEREAS An affirmative vote of 5 Board Members is necessary for the adoption of this Resolution,

NOW THEREFORE BE IT:

RESOLVED That the GLWA Board approves the FY 2023 Fourth Quarter Budget Amendments; and be it finally

RESOLVED That the Chief Executive Officer, and the Chief Financial Officer/Treasurer are authorized to take such other action as may be necessary to accomplish the intent of this resolution.



Financial Services Audit Committee Communication

Date: June 26, 2023

To: Great Lakes Water Authority Audit Committee

From: Nicolette N. Bateson, Chief Financial Officer & Treasurer

Re: Proposed Procurement Policy Amendment

Background/Analysis: See attached draft Board Letter.

Proposed Action: The GLWA Audit Committee recommends that the proposed Procurement Policy Amendment be approved by the Board of Directors and be effective upon approval by the Board.

..Title

Proposed GLWA Procurement Policy Amendment

..Body

Agenda of: June 28, 2023

Item No.: 2023-233

Amount: N/A

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Suzanne R. Coffey, P.E.
Chief Executive Officer
Great Lakes Water Authority

DATE: June 28, 2023

RE: Proposed GLWA Procurement Policy Amendment

MOTION

Upon recommendation of Nicolette Bateson, Chief Financial Officer/Treasurer, Financial Services, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA), approves the Proposed Amendment to the Procurement Policy with an immediate effective date and authorizes the Chief Executive Officer (CEO) to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

In the Board adopted [Procurement Policy](#), GLWA's Business Inclusion and Diversity (B.I.D.) Program provides for both a "Business Inclusion & Diversity Plan" (Section 4.6) (scored as pass or fail) and a "Economic Equity and Development" (Section 4.7) (scored according to a three point criteria). These provisions are included below.

4.6 Business Inclusion and Diversity Plan

GLWA is committed to providing business opportunities to vendors who honor the values of inclusion and diversity in selecting their business partners. To foster these values, the solicitation selection will require vendors to submit, for all solicitations budgeted at \$1 million or more, a Business Inclusion & Diversity Plan that addresses

their efforts to include Minority-owned Business Enterprise (MBE), Woman-owned Business Enterprise (WBE), Small Business Enterprise (SBE), and Socially and Economically Disadvantaged Business Enterprise (DBE) subcontractors.

- a. In support of this commitment, the vendor agrees to ensure that, with regard to any contract entered into pursuant to this procurement policy, inclusion and diversity business enterprises will be afforded full opportunity and will not be discriminated against on the basis of race, color, gender, age, disability, religion, ancestry, marital status, sexual orientation, national origin or place of birth. In recognition of this, the vendor will take steps to ensure maximum participation by qualified diversity businesses in a manner and to the degree that it equals or exceeds standards for its other customers and/or clients.
- b. The vendor shall provide methods to maximize opportunity for diversity participation and reporting methods that indicate firms invited, firms recommended for award and other pertinent information.

4.7 Economic Equity and Development

As a regional water authority, GLWA is committed to providing economic development opportunities to the state of Michigan and Territory Area and in both services provided and as a partner to the business community.

- a. To foster economic development, for all solicitations, solicitation scoring scales will include the following for a business presence:
 - i. State of Michigan 1%
 - ii. Territory Area 1%, with a cumulative total of 2% for Territory Area and state business presence
 - iii. Disadvantaged GLWA Territory business enterprise 1%, with a cumulative total of 3% for Territory Area, state, and disadvantaged business presence within Territory area.
- b. State business presence is defined as those businesses that would be eligible as a Certified Michigan Based Business as defined by the State of Michigan law as administered by the Department of Technology, Management, & Budget.
- c. This section does not prohibit action that must be taken to establish or maintain eligibility for any federal program if ineligibility would result in a loss of federal funds to the state.

JUSTIFICATION

Due to a peak in potential federal grant funding opportunities, the Procurement Team has conducted a proactive assessment of all current policies, procedures, and programs to identify those that may conflict with federal grant requirements. The purpose of this review is to reduce risk of forfeiting rare federal funding dollars as a result of business process or other related compliance matters.

Provision 4.7(a) and (b) conflicts with federal guideline requirements which prohibit the use of location-based preference policies in the award of a contract. Under provision 4.7(a), percentage points are awarded to the vendor's overall score based on their geographical presence in the state of Michigan, GLWA's service area, and in certain designated economically disadvantaged areas within GLWA's service area.

As noted in GLWA's Procurement Policy, provision 4.7(c) "does not prohibit action that must be taken to establish or maintain eligibility for any federal program if ineligibility would result in a loss of federal funds to the state." The challenge is that the source of a project's funding is not always clear at the time of a solicitation's formal advertisement. We have come across this type of issue in the past year, and were able to successfully navigate through the matter, but likely would not prevail in the future. For this reason, we are recommending the removal of this provision 4.7 for geographic presence in its entirety at this time. We would continue to track this information and report it in the monthly B.I.D. report that is presented to the Audit Committee. It should also be noted that provision 4.7 has made a difference in the vendor awarded on one occasion out of 66 solicitations since scored geographic location requirements were established.

Provision 4.6 of GLWA's B.I.D. Program, which requires vendors to submit a written document detailing efforts to include small, disadvantaged, and minority-owned businesses as subcontractors for all solicitations budgeted at \$1 million or more, does not conflict with federal guideline requirements and will remain an active component of the B.I.D requirements as it is not scored criteria that impacts vendor selection by awarding points.

Therefore, if the Board adopts this proposed amendment to the Procurement Policy, beginning July 1, 2023, provision 4.6 will continue to be applied to all formal GLWA solicitations and provision 4.7 will no longer be applied during the evaluation and scoring of B.I.D. Program qualifying solicitations.

A marked-up version of the GLWA Procurement Policy with proposed changes follows this Board Letter.

FINANCIAL PLAN IMPACT

None.

COMMITTEE REVIEW

This item was presented to the Audit Committee at its meeting on June 26, 2023

SHARED SERVICES IMPACT

This item does not impact the shared services agreement between GLWA and DWSD.



PROCUREMENT POLICY

WORKING Draft

June 26, 2023

Audit Committee Discussion of Proposed Procurement Policy Amendment



Table of Contents

SECTION 1 - INTRODUCTION	1
1.1 Purpose.....	1
1.2 Scope.....	1
1.3 Exclusions	1
1.4 Responsibility.....	1
1.5 Review and Revisions	1
1.6 Ethics and Code of Conduct.....	2
1.6.1 Representatives.....	2
1.6.2 Board Members.....	2
1.6.3 Vendors.....	2
1.7 Competency	2
1.8 Definitions	3
SECTION 2 - AUTHORITY.....	8
2.1 Contracting Authority.....	8
2.2 Management of Procurement	8
2.3 Delegation of Authority	8
SECTION 3 – EMERGENCY PROCUREMENTS.....	8
3.1 Waiver of Competitive Procurement	8
3.2 Documentation of Emergency Procurement.....	8
3.3 Report to Board	8
SECTION 4 – COMPETITIVE BIDDING.....	9
4.1 Procurement of Goods and/or Services.....	9
4.2 Exceptions to Competitive Bidding.....	9
4.3 Funding Sources	9
4.4 Pre-Qualification of Vendors	9
4.5 Concentration of Risk Evaluation.....	9
4.6 Business Inclusion and Diversity Plan	9
4.7 Economic Equity and Development.....	10
4.8 Intergovernmental Agreements and Cooperative Procurements.....	10
SECTION 5 – SOLICITATION DEVELOPMENT.....	10
5.1 Solicitation Development and Advertisement	10
5.2 Methods of Solicitation	10
5.3 Vendor Involvement in Preparing the Solicitation	11
5.4 Professional Services.....	11



5.5	Capital Program Methods and Alternatives	11
5.5.1	Traditional Project Delivery Methods	11
5.5.2	Alternative Technical Proposals (ATP)	11
5.5.3	Value Engineering (VE)	11
5.5.4	Alternative Project Delivery Methods (APDM)	11
5.6	Risk Management.....	11
5.7	Insurance	11
5.8	Bonds.....	12
SECTION 6 – PUBLIC SOLICITATION.....		12
6.1	Advertisement.....	12
6.2	Right to Amend, Withdraw or Cancel.....	12
SECTION 7 – VENDOR RESPONSE.....		12
7.1	Response to Solicitation	12
7.2	Responses Submitted After Due Date and Time	12
SECTION 8 – VENDOR SELECTION		12
8.1	Evaluation Methods.....	13
8.2	Evaluation Team.....	13
8.3	Protest.....	13
SECTION 9 – CONTRACT DEVELOPMENT		14
9.1	Required Documents	14
9.2	Contract Renewals	14
9.3	Vendor Performance.....	14
9.4	Assumed Contracts	15
SECTION 10 – CONTRACT APPROVAL.....		15
10.1	Approval Requirements	15
10.2	Unauthorized Purchases	15
Table 1.	Approval Requirements	15
SECTION 11 – CONTRACT ADMINISTRATION		17
11.1	Contract Administration.....	17
11.2	Change Directive (CD)	17
11.3	Liquidated Damages.....	17
SECTION 12 – CONTRACT COMPLIANCE		17
12.1	Contract Compliance.....	17
12.2	Federal Uniform Guidance Procurement Standards.....	17
SECTION 13 – VENDOR SUSPENSION/DEBARMENT		17
13.1	Imposing Suspension/Debarment.....	17



13.1.1 Vendor Suspension.....19

13.1.2 Vendor Debarment19

13.1.3 Suspension or Debarment Protest.....19



SECTION 1 - INTRODUCTION

1.1 Purpose

This Policy shall be known as the Great Lakes Water Authority (GLWA) Procurement Policy. The purpose of this Policy is to define the parameters for procurement of, and contracting for, Goods and/or Services.

1.2 Scope

This Policy shall govern all GLWA procurement activities and encompass all phases of the procurement process. This Policy is implemented through Procedures. If there are additional procurement requirements for federal or state funded projects or initiatives, then those additional provisions shall also apply. This Policy applies to all current Vendors, and Potential Vendors and any Subcontractors. This Policy shall not apply to matters involving the procurement of Goods or Services that are specifically excluded or exempted within this Policy.

1.3 Exclusions

Exclusions to this Policy include (a) the selection of an independent certified public accounting firm to perform financial audits¹ and (b) the following Board adopted policies: (i) Investment Policy, (ii) Debt Management Policy, (iii) Settlement Policy, (iv) Asset Disposal Policy, and (v) any other Board-adopted policy which states that it is excluded from this Policy.

1.4 Responsibility

The CEO, CFO, and the CPO are responsible for guaranteeing the effective implementation of this Policy. The CEO is responsible for enforcing this Policy by taking all necessary measures to guarantee its purpose is accomplished. The CPO is responsible for establishing Procedures in accordance with this Policy and training Representatives on both the Policy and Procedures. The CPO is a role defined by this Policy that is assigned to a Representative by the CEO based upon a recommendation from the CFO.

1.5 Review and Revisions

This Policy may be amended from time-to-time, as is necessary, to meet GLWA's Procurement needs. No later than five (5) years after the Board's approval of this Policy, GLWA administration shall conduct a comprehensive review of this Policy, report to the Board on the results of that review, and if necessary, recommend amendments or revisions to the Policy for the Board's review and approval.

Policy revisions, if any, will be made available to the public. A history of Policy revisions, comprised of Board approved dates and a generalized reason for the same, shall be maintained by the CPO.

¹ See Articles of Incorporation, Article 7(J).



1.6 Ethics and Code of Conduct

At every phase of procurement, this Policy and its Procedures shall insure public trust by establishing, maintaining, and enforcing business practices that promote fair, ethical, and financially sound procurement practices.

1.6.1 Representatives

Representatives shall be free from real or perceived Conflicts of Interest that could adversely impact their judgment, objectivity, or fiduciary responsibilities to GLWA and the public or otherwise adversely impact GLWA's reputation. All procurements shall be conducted in compliance with the Articles of Incorporation, this Policy and its related Procedures, and other GLWA policies and procedures, and applicable laws.

Representatives shall immediately report their own and others' real or perceived Conflict of Interest to their supervisor, the CPO and their respective Executive Leadership Team Member.

Each December, the Board, the Executive Leadership, the CPO, and all procurement personnel shall complete a Conflict of Interest form. The CPO shall maintain the form in the CPO's official records.

1.6.2 Board Members

For Solicitations or for Solicitations which the Board member has been advised or believes will be solicited within the next sixty (60) days, the Board member is discouraged from having any contact with Potential Vendors related to the Solicitation. In the event contact is made, the Board member shall, as soon as possible, report that contact at the next regularly scheduled Board meeting. In addition, Board members shall not participate in the development of Solicitations and shall not participate as an Evaluator for any Solicitation, except for the selection of an independent certified public accounting firm to conduct annual financial audits.

1.6.3 Vendors

For a Solicitation or for Solicitations which a current or Potential Vendor has been advised or believes will be solicited within the next sixty (60) days, all Vendor contact relative to that Solicitation shall solely be with the Buyer. Potential Vendors that contact Representatives, other than the Buyer identified in the Solicitation, relative to the Solicitation prior to award could be subject to disciplinary action, that could include the disqualification from the Solicitation, termination of existing Contracts or Assumed Contracts, debarment and/or suspension.

1.7 Competency

The CPO shall ensure that Representatives are competent, as well as know and understand this Policy and its related Procedures to implement procurement activities efficiently, objectively, and accurately.



1.8 Definitions

- a) Articles of Incorporation – The GLWA Articles of Incorporation.
- b) Assumed Contract – A contract or purchase order with a vendor that was originally executed by the Detroit Water & Sewerage Department and assumed by GLWA on the operational effective date of GLWA on January 1, 2016. Amendments, extensions, and renewals of assumed contracts are subject to the approval levels established by this Policy.
- c) Best Value - A procurement method that emphasizes value over price by assessing the return that can be achieved based on the total life cycle cost of the item. This may include an analysis of the functionality of the item and/or cost-benefit analysis to define the best combinations of quality, services, time, and cost considerations over the useful life of the acquired item.
- d) Blanket Purchase Orders - A blanket purchase order allows for multiple delivery dates over a pre-determined period of time with negotiated standardized pricing. Blanket purchase orders are used where there is a recurring need or for emergency procurements.
- e) Board – the Board of Directors of GLWA and the governing body to which the CEO and the CPO are accountable for establishing, maintaining, and monitoring procurement functions within the parameters of this Policy.
- f) Buyer – Representative authorized by the CPO to purchase, or contract for Goods and Services.
- g) CACO – The Chief Administrative and Compliance Officer of GLWA.
- h) CEO – The Chief Executive Officer of GLWA.
- i) CFO - The Chief Financial Officer/Treasurer of GLWA.
- j) Chief Security and Integrity Officer - The Chief Security and Integrity Officer of GLWA.
- k) Competitive Bids or Bidding – A transparent procurement method by which Potential Vendors are invited to bid in an open solicitation of the scope, specifications, Evaluation Criteria, and terms and conditions of a proposed Contract. Bids are sealed until after the posted due date and time.
- l) Competitive Quotations – A procurement method in which pricing is requested from several Potential Vendors and the most responsive one is chosen. Competitive quotations are generally used for Small Purchases as an Invitation to Quote (ITQ).
- m) Concentration of Risk Evaluation – An evaluation of operational risk when a Vendor provides too great a percentage of a Good or Service that could negatively impact GLWA operations if that Vendor encountered a failure to deliver a Good or Service.
- n) Conflict of Interest – A potential situation that may undermine the impartiality of a person because of the possibility of a divergence between the person's self-interest as well as their professional and public interest.



- o) Contract – A written agreement in which GLWA agrees to acquire Goods or Services from a Vendor in exchange for consideration. These written agreements specify each party’s obligations in relation to the transaction. Contracts shall also include any Purchase Order and Assumed Contract.
- p) Contract Amendment – Any modification to the Contract which includes the following examples.
 - Contract Extension– An action to extend a Contract expiration date.
 - Contract Renewal – An action to exercise a Contract renewal option.
 - Contract Price Increase – An action to increase a Contract price.
 - Change Order – A modification to the scope of work, time, and/or price in a construction, design build, or progressive design build Contract.
- q) Cooperative Procurement – The use of a publicly solicited purchasing program, in which GLWA is extended or extends the same pricing and terms of a contract for the purchase of Goods or Services.
- r) CPO - The Chief Procurement Officer of GLWA.
- s) Economically and Socially Disadvantaged Business Enterprise (DBE) – A business owned, operated, and controlled by African Americans, Hispanics, Native Americans, Asian-Pacific and Asian Subcontinent Asian Americans, women, or disabled individuals. Proof of DBE certification will be accepted from a federal agency, the State of Michigan, or a Michigan local unit of government.
- t) Economically Disadvantaged Territory Area Business Enterprise (EDTAFE) – A business which is:
 - i. Located in the GLWA Territory Area; and
 - ii. Located in a municipality designated as having one (1) of the five (5) lowest median household incomes in that respective county as defined by the U.S. Census Bureau every five (5) years.
- u) Economically Feasible - The benefit of a course of action outweighs the cost of that action.
- v) Emergency Procurement – A procurement method available when there exists an imminent threat of public health and welfare or to prevent an imminent violation of a required environmental permit or Administrative Consent Order under emergency conditions where Competitive Bidding and prior authorization would be impossible or impractical under the circumstances.
- w) Enterprise Risk Management – GLWA’s operating group within the Administrative & Compliance Services Area.
- x) Evaluation Criteria - Qualitative factors that Evaluators will use to evaluate and score a proposal to select the most-qualified Vendor. The factors may include past performance, references, management and technical capability, price, quality, and performance requirements.
- y) Evaluator - A member of a committee established to conduct the evaluation of



proposals, interviews, and negotiations during the Solicitation process for a Good or Service.

- z) Executive Leadership – The CEO, CFO, CACO, Chief Security and Integrity Officer, General Counsel, Chief Operating Officer - Water and Field Services, Chief Operating Officer - Wastewater, Chief Planning Officer, Chief Organizational Development Officer, Chief Public Affairs Officer, and Chief Information Officer of GLWA.
- cc) General Counsel – The General Counsel of GLWA.
- dd) GLWA – The Great Lakes Water Authority.
- ee) Goods – Any fixtures, items of furniture, supplies, materials, equipment, other personal property, and other items of a similar nature provided to GLWA.
- ff) Initial Term – The original, approved length of the Contract excluding Contract Renewals and/or Contract Extensions.
- gg) Intergovernmental Agreement – An agreement between GLWA and another governmental entity or entities.
- hh) Job Order Contract - A Contract for a specified time period for Goods or Services based the subsequent issuance of defined, written orders based upon previously bid or negotiated fees and unit prices.
- ii) Letter of Intent - An instrument used to commence work on a project that is emergent in nature, or Contract negotiations continual or where the Contract has not been fully executed. The CPO shall authorize Letters of Intent.
- jj) Liquidated Damages - A specific amount of compensation that GLWA may recover in the event the Vendor fails to complete the project in accordance with the Contract terms.
- kk) Minority Business Enterprise (MBE) – A business that is at least 51% minority-owned operated and controlled. Proof of MBE certification will be accepted from a federal agency, the state of Michigan, or a Michigan local unit of government.
- ll) Notice of Intent to Award – Notification by GLWA to a Vendor of its intended contract award. The Contract still must be formally approved.
- mm) Notice to Proceed – Issued by the CPO indicating an approved Contract has been executed and work may begin.
- nn) Policy – This document setting forth the terms and conditions of the Board approved procurement policy.
- oo) Pre-Qualification - The screening of Potential Vendors in which such factors as financial capability, reputation, and management are considered to develop a list of qualified businesses who may then be allowed to submit bids and/or proposals.
- pp) Procedures - The document that sets forth the procedures by which the objectives of this Policy shall be carried out.
- qq) Professional Services – Services rendered by members of a recognized profession or possessing a special skill or professional license. Such services are generally acquired to obtain information, advice, training, or direct assistance.
 - i. Architect or Engineer (A/E) Professional Services - Services that require performance by a registered architect or engineer. Professional services of an architectural or engineering nature that are associated with research, planning, development, and design for construction, alteration, or repair.
- rr) Purchase Order (PO) - A short form of Contract indicating types, quantities,



- payment terms and prices for Goods or Services.
- ss) Qualifications-Based Selection (QBS) – An evaluation method that facilitates the selection of A/E Professional Services based on qualifications and competence in relation to the scope and needs of a particular project.
 - tt) Real Estate – Land, buildings, and appurtenances that is permanently affixed to the land. Fixtures include buildings, fences, and anything attached to buildings such as plumbing, heating, and light fixtures.
 - uu) Representatives – Authorized individuals acting on behalf of GLWA including, but not limited to: GLWA Board of Directors, management, employees, authorized contractors, agents and Evaluators.
 - vv) Request for Bid (RFB) – The Solicitation document used for Competitive Bidding the purchase of Goods and Services, awarding the Contract to the Vendor on a Low Bid evaluation method.
 - ww) Request for Information (RFI) - A non-binding method whereby a jurisdiction publishes via newspaper, Internet, or direct mail its need for input from interested parties for an upcoming solicitation. A procurement practice used to obtain comments, feedback, or reactions from potential responders (suppliers, contractors) prior to the issuing of a solicitation. Generally, price or cost is not required. Feedback may include best practices, industry standards, technology issues, etc.
 - xx) Request for Proposal (RFP) – The Solicitation document used in the competitive proposal process in which the proposals are evaluated based on their technical standards and other criteria. Negotiations with Potential Vendors, prior to final selection and award of a contract, is permissible.
 - yy) Request for Qualifications (RFQ) – The Solicitation document used to obtain qualifications from Potential Vendors in advance of the issuance of an RFB or an RFP.
 - zz) Requestor – The GLWA area, group, team, or stakeholder group for whom the Buyer collaborates with in procuring requested goods or services for use in carrying out the Requestor's functional responsibilities.
 - aaa) Scope of Work – Initiated by the Requestor and is a written description of the entity's needs and desired outcomes for the procurement and becomes the basis for any resulting solicitation.
 - bbb) Services – The performance of tasks to support GLWA. The performance of tasks shall be qualitatively different from anything necessarily done in connection with the sale of Goods or the performance of another service. Services include Professional Services, utilities, insurance, printing, information technology, janitorial, fleet management, construction, maintenance, real estate, legal, staffing services and any other services needed by GLWA.
 - ccc) Small Business Enterprise (SBE) – A business that meets the size standards as defined by the U.S. Small Business Administration. Proof of SBE certification will be accepted from a federal agency, the state of Michigan, or a Michigan local unit of government.
 - ddd) Small Purchase - A procurement that does not exceed \$50,000 and may be accomplished through informal quotations, benchmarking, or Specialized Procurement. Procurement requirements shall not be artificially divided to



constitute a Small Purchase. ITQ and telephone calls, which are documented, are acceptable methods of soliciting quotations.

- eee) Solicitation - A RFB, RFI, RFP, RFQ and competitive quotation requests for Small Purchases or any document used by the Buyer to obtain competitive bids or proposals for the purpose of entering a Contract.
- fff) Specialized Procurement – A procurement in which there may be multiple sources of supply, but one Vendor possesses the unique ability or capability to meet the requirements of the Solicitation and/or where a unique expertise is provided by a Vendor that is unattainable in the market in a competitive environment. Specialized Procurements require written justification by the Requestor and must be approved by the CEO, CEO's designee, or the CPO and must take into consideration Best Value. This decision to designate a procurement as a Specialized Procurement may be based on lack of competition, monopoly market, proprietary product or technology, licensing, copyright, standardization, warranty, or a supplier's unique capability.
- ggg) Subcontractor– A person or business which has a contract with a Vendor to provide some portion of the Goods or Services and which does not hold a suspended or debarred status.
- hhh) Territory Area – The municipalities where GLWA provides water supply and sewage disposal services.
- iii) Women Business Enterprise (WBE)- A business that is at least 51% woman-owned operated and controlled. Proof of WBE certification will be accepted from a federal agency, the state of Michigan, or a Michigan local unit of government.
- jjj) Vendor – A contractor, supplier, affiliate, subsidiary, parent company or other business entity that provides Goods or Services.
 - i. Potential Vendor – A person or entity that submits a response to a Solicitation.
 - ii. Qualified Vendor – A Vendor that a) meets, or exceeds, the specifications prescribed in the Solicitation, b) has not defaulted on a previous Contract or Assumed Contract, c) has not been suspended or disbarred as defined in Section 12, and d) is not excluded pursuant to GLWA By-Laws, Article XIII – Conflicts of Interest, Section 2, which “prohibits the GLWA from entering into contracts with any individual who has been convicted of a criminal offense with respect to governmental contracting or any other crime that negatively reflects on the person’s business integrity.”
 - iii. Responsible Vendor – A status achieved when a Potential Vendor meets every minimum qualification, or other requirement, in the applicable Solicitation and does not hold a status of suspended or debarred.
 - iv. Responsive Vendor – A status achieved when a Potential Vendor timely submits bid, proposal or response conforms to all material requirements of the Solicitation.
- kkk) Vendor Debarment – See Section 13.1.2
- lll) Vendor Suspension – See Section 13.1.1



SECTION 2 - AUTHORITY

2.1 Contracting Authority

Prior to the execution, the Board shall approve the award of all Contracts or Contract Amendments where: (a) the Contract price exceeds \$1,000,000, or (b) the term exceeds five (5) years. The Contract shall not be purposefully divided to avoid Board approval. A Contract Amendment which reduces the total cost and/or time of the Contract shall be exempt from this requirement.

2.2 Management of Procurement

The CPO shall manage the procurement of Goods and/or Services. Except for Emergency Procurements, oral agreements are expressly prohibited and unenforceable against GLWA. Except for Emergency Procurements, GLWA only becomes financially and legally responsible when the Contract is fully executed. Work shall not begin until a Notice to Proceed and/or a Purchase Order is provided to the approved, Qualified Vendor.

2.3 Delegation of Authority

The CEO delegates his/her authority to the CPO to manage the procurement of Goods and/or Services. The CEO's delegation of authority to the CPO can be revoked at any time. The CEO shall advise the Board of the revocation as a written communication.

SECTION 3 – EMERGENCY PROCUREMENTS

3.1 Waiver of Competitive Procurement

GLWA shall not be required to use competitive procurement for an Emergency Procurement. However, in the event of an Emergency Procurement, competitive procedures, as practicable, should be used to procure the Goods and/or Services.

3.2 Documentation of Emergency Procurement

- a. In the event of an emergency requiring use of an Emergency Procurement, the Buyer authorizing an Emergency Procurement shall, as soon as possible but no later than 24 hours following that authorization, provide written notice to the CPO and CEO of the basis for the determination to utilize an Emergency Procurement.
- b. If a Vendor is supplying Goods and/or Services pursuant to an Emergency Procurement, the Vendor shall as quickly as possible be given an authorized Letter of Intent or Purchase Order from the CPO stating the Emergency Procurement and that a Contract will be issued as soon as circumstances allow. GLWA is not financially, or otherwise responsible, for Goods and/or Services, unless authorized by the CPO.
- c. Blanket Purchase Orders may be used for Emergency Procurements.

3.3 Report to Board

The CEO or the CEO's designee shall generate a report to include details surrounding the emergency procurement and budgetary impact for submittal to the Board at or before the next regularly scheduled Board Meeting.



SECTION 4 – COMPETITIVE BIDDING

4.1 Procurement of Goods and/or Services

Procurement shall be performed using financially responsible methods, ethics, fair and best business practices to promote competitiveness and provide the public with outstanding services and products, and which efficiently and effectively meet the needs of GLWA.

Unless an exception applies, all procurements shall use competitive transparent procurement methods to secure the best value for GLWA. Exceptions to Competitive Bidding shall follow all other provisions to this Policy.

4.2 Exceptions to Competitive Bidding

Exceptions to Competitive Bidding include: (a) Specialized Procurements, (b) Emergency Procurements, and (c) Intergovernmental Agreements and Cooperative Procurements.

Specialized Procurements and Emergency Procurements require the written approval of the CEO, the CEO's designee, the CPO or the CPO's designee. Information technology and legal Services are considered Specialized Procurements.

4.3 Funding Sources

Prior to the initiation of the procurement, the funding source must be established within an approved budget and approved by the CFO or the CFO's designee. Funding sources may include Operation & Maintenance funds, bond proceeds, federal, and/or state funding. Funding sources which have their own stated laws, regulations, and/or terms must be followed throughout the procurement process.

4.4 Pre-Qualification of Vendors

Pre-qualification of Vendors permits a shortened period of a Vendor's response for Services where a limited response to the underlying scope of work and cost are provided by the Potential Vendor. A Job Order Contract is the type of contract that may be used after prequalifying vendors.

4.5 Concentration of Risk Evaluation

A Concentration of Risk Evaluation and strategies to mitigate any risk must be considered prior to issuance of a Contract Award. Strategies may include additional goods and/or services specific due-diligence, split awards, and geographic concentration.

4.6 Business Inclusion and Diversity Plan

GLWA is committed to providing business opportunities to vendors who honor the values of inclusion and diversity in selecting their business partners. To foster these values, the solicitation selection will require vendors to submit, for all solicitations budgeted at \$1 million or more, a Business Inclusion & Diversity Plan that addresses their efforts to include Minority-owned Business Enterprise (MBE), Woman-owned Business Enterprise (WBE), Small Business Enterprise (SBE), and Socially and Economically Disadvantaged Business Enterprise (DBE) subcontractors.



- a. In support of this commitment, the vendor agrees to ensure that, with regard to any contract entered into pursuant to this procurement policy, inclusion and diversity business enterprises will be afforded full opportunity and will not be discriminated against on the basis of race, color, gender, age, disability, religion, ancestry, marital status, sexual orientation, national origin or place of birth. In recognition of this, the vendor will take steps to ensure maximum participation by qualified diversity businesses in a manner and to the degree that it equals or exceeds standards for its other customers and/or clients.
- b. The vendor shall provide methods to maximize opportunity for diversity participation and reporting methods that indicate firms invited, firms recommended for award and other pertinent information.

4.7 Intergovernmental Agreements and Cooperative Procurements

The CEO or the CEO's designee may enter into intergovernmental agreements with other local units of government to achieve regional infrastructure objectives increase efficiency, reduce administrative expenses, and to leverage economies of scale.

The CEO or the CPO may select Vendors available through the use of Cooperative Procurements.

All procurements via intergovernmental agreements or Cooperative Procurements are subject to the same approval requirements as other procurements.

GLWA may sponsor, conduct, or administer a Cooperative Procurement program.

SECTION 5 – SOLICITATION DEVELOPMENT

5.1 Solicitation Development and Advertisement

Solicitations shall be developed in a manner that allows and promotes open competition.

The Buyer's authority is to facilitate, inform, control, and manage the solicitation process. The Requestor's role is to interact only with the Buyer to provide the Solicitation's content to ensure that operational objectives, criteria for success, and operational considerations are clearly conveyed to the Vendor community by the Buyer. The Solicitation issued by the Buyer must provide sufficient information for Potential Vendors to provide cost-effective responses for a preferred outcome.

5.2 Methods of Solicitation

Unless there is an exclusion or exception applies, GLWA shall procure all Goods and/or Services using the Solicitations as outlined in this Policy.



5.3 Vendor Involvement in Preparing the Solicitation

Vendors engaged or contracted to prepare the Solicitation, including the scope of work, shall be precluded from bidding on the Solicitation as a Vendor or as a Subcontractor.

5.4 Professional Services

A/E Professional Services shall be in accordance with a competitive QBS method of procurement. Further, all other Professional Services, including legal, accounting, information technology and actuarial services, shall be in accordance with a Best Value method of procurement.

5.5 Capital Program Methods and Alternatives

The capital investment intensive nature of GLWA's operations necessitates the procurement process to provide for contracting methods and alternatives that should be identified in the Solicitation to foster innovation and best practices in the delivery of the capital program.

5.5.1 Traditional Project Delivery Methods

Traditional contracting methods may include design-bid-build or design build.

5.5.2 Alternative Technical Proposals (ATP)

In addition to submitting a technical proposal in accordance with the Solicitation to be considered Responsible Vendors, Potential Vendors are encouraged (where specified in the solicitation) to provide an alternative proposal(s) that may better meet the needs of GLWA. The alternative proposal may include evolving technology not contemplated in the Solicitation, but still meets the overall scope of the project.

5.5.3 Value Engineering (VE)

In addition to submitting a technical proposal in accordance with the Solicitation to be considered Responsible Vendors, Potential Vendors may also submit an alternative proposal that provides a more economical, efficient, and/or effective approach to the scope of work specified in the solicitation. Any cost savings should be clearly identified.

5.5.4 Alternative Project Delivery Methods (APDM)

Non-traditional contracting methods (Alternative Project Delivery Methods) provide for the Potential Vendor to participate in or advise on the design or may be entirely responsible for the design. The Potential Vendor's selection is based on qualifications or best value and may include construction management or an alliance between two or more entities to deliver the project.

5.6 Risk Management

GLWA shall mitigate risks such as limitations of liability, retainage, indemnities, warranties, terms of payment, termination, and bonding requirements through the Contract terms and conditions. Deviations to risk responsibility will not be accepted without specific approval by the General Counsel in appropriate consultation with Enterprise Risk Management and Procurement, prior to Contract award.

5.7 Insurance



Contract insurance requirements will be detailed in each Solicitation. To be considered a Responsible Vendor, the Potential Vendor shall possess and maintain the required insurances which meets or exceeds the Contract's terms and conditions for each insurance policy during the term of the contract at its sole expense. In some instances, a Vendor must also maintain specified insurance policies after the conclusion of a Contract for the duration specified in the Contract. GLWA shall be named insured on such policies.

Deviations to the insurance requirement will not be accepted without specific approval from Enterprise Risk Management, in writing, prior to Contract award.

5.8 Bonds

Bonds may be required to protect GLWA from Potential Vendors withdrawing their bids prior to the end of their bid validity period, refusing to sign the contract; failure to perform; failing to pay Subcontractors; or providing faulty workmanship/materials. The type of bond required (bid, warranty, performance or payment) is based upon a recommendation from the Enterprise Risk Management and will be indicated in the Solicitation.

SECTION 6 – PUBLIC SOLICITATION

6.1 Advertisement

Solicitations shall be advertised electronically, and/or using other media as determined by GLWA that promotes vendor participation and fair competition.

6.2 Right to Amend, Withdraw or Cancel

GLWA reserves the right to amend, withdraw or cancel a Solicitation, without any financial or legal obligation to a Potential Vendor, prior to Contract or reject any or all bids if it is determined that such action is in the best interests of GLWA.

GLWA may allow a Vendor to withdraw a bid/submittal if requested at any time prior to the Solicitation opening.

SECTION 7 – VENDOR RESPONSE

7.1 Response to Solicitation

To participate in the Solicitation process, Potential Vendors shall submit a response to the Solicitation in the method, format, and time frame specified. The response shall be signed by an individual that has the authority to bind the Potential Vendor to a Contract.

7.2 Responses Submitted After Due Date and Time

Potential Vendor's responses submitted after the due date and time shall be immediately rejected. The rejected response will not be opened, considered for award of contract, or evaluated.

SECTION 8 – VENDOR SELECTION

GLWA shall assess Solicitation responses to determine, in its sole discretion, the most



Responsive and Responsible Vendor(s) that will meet or exceed the requirements of the Solicitation while obtaining the most value for GLWA.

8.1 Evaluation Methods

There are three major scoring methods that may be used under this Policy:

- 1) Low Bid – A RFB award based on the lowest, Qualified, Responsive, and Responsible Vendor
- 2) QBS – An award for A/E Professional Services based on demonstrated qualifications competence through the QBS process. After the Potential Vendor has been selected using the QBS process, the fee proposal will be analyzed for competitiveness and may be negotiated. GLWA shall have the right to exclude a Potential Vendor from consideration if the parties cannot agree to a fair and reasonable price.
- 3) All Factors – A RFP award based on predetermined evaluation factors and weights. These factors and weights shall be tailored to each procurement and include only those factors that will have an impact on the source selection decision. These factors and weights are identified in the Solicitation.

8.2 Evaluation Team

Prior to issuance of the Solicitation, the Requestor shall nominate Evaluators who will be presented to the CPO or CPO's designee for approval. Where applicable, the Requestor will also be responsible to recruit Evaluators from its member partner community. Evaluators shall be technically proficient in the field that is the subject of the procurement and/or end users of the procurement. To participate in the evaluation of proposals, each nominated Evaluator shall sign an Ethics and Confidentiality agreement for each evaluation team for which they are nominated. Solicitation drafters may be Evaluators.

8.3 Protest

A Potential Vendor, who has submitted a response to a Solicitation and is not awarded a Contract after participating in the Solicitation, may protest the award of the Contract by filing a written notice of protest with the CPO within seven (7) business days after the Notice of Intent to Award. The written notice of protest shall reference the Solicitation number and the detailed reason for the protest.

- a) Upon receiving a protest, the CPO shall immediately suspend the Contract award process until the protest has been resolved.
- b) The protest shall be reviewed by the CPO in an expeditious manner. The CPO shall determine to either accept or reject the protest within seven (7) business days after the date the protest was received.
- c) If the CPO accepts the protest, he/she shall act accordingly. If the CPO rejects the protest, he/she shall notify the Potential Vendor of the decision and inform the Potential Vendor of their right to appeal to the CACO. The protestor will have three (3) business days from the notification of the protest decision to appeal by email notification.



- d) Upon receiving an appeal of a protest decision made by the CPO, the CACO shall review the appeal and determine to either accept or reject the protest within fourteen (14) business days after the date the appeal was received. If the CACO accepts the protest, he shall notify the protester and the CPO of that decision, and the CPO shall act in accordance with the CACO's findings. If the CACO rejects the protest, they shall notify the protestor of the decision. The CACO's determination shall be final.
- e) Items excluded from Protests and Appeals include:
 - i. Small Purchases;
 - ii. Emergency Procurements;
 - iii. Cooperative Procurements;
 - iv. Specialized Procurements;
 - v. Intergovernmental Agreements;
 - vi. Failure of a Vendor or Potential Vendor to submit response to a Solicitation by the date and time specified;
 - vii. Failure of a Vendor or Potential Vendor to provide documents required to accompany a bid or proposal;
 - viii. Failure of a Vendor or Potential Vendor to have a required bid bond accompany a bid;
 - ix. Failure of a Vendor or Potential Vendor to submit an appeal within the time defined in this Policy;
 - x. Failure of a Vendor or Potential Vendor to meet minimum or mandatory requirements;
 - xi. A Vendor or Potential Vendor who has a performance rating of unacceptable; and
 - xii. A Vendor or Potential Vendor who has a status of debarred or suspended during any stage of the Solicitation through the Contract award or at the time of the bid protest.

SECTION 9 – CONTRACT DEVELOPMENT

9.1 Required Documents

The Vendor shall produce all required documents including, but not limited to, performance bonds, insurance, and licenses. If the Vendor is unwilling or unable to produce required documents in the time frame required by GLWA, GLWA reserves the right to rescind and/or revoke the award without financial or legal obligation to the Vendor.

9.2 Contract Renewals

GLWA may, in its sole discretion, exercise Contract renewal options referenced in the Contract or Assumed Contract. Prior to a Contract Renewal, GLWA shall consider the Vendor's performance in complying with the Contract. A Vendor must execute a Contract Amendment before providing Goods and/or Services for any renewal option.

9.3 Vendor Performance



Contracts may not be executed if a Vendor or Potential Vendor has a history of non-performance with GLWA, another governmental entity, or utility. Communication of Vendor performance will be documented by Requestors with a form provided by the CPO. The CPO will maintain a centralized vendor performance file.

9.4 Assumed Contracts

GLWA form of contracts will be executed when Assumed Contracts are eligible for renewal or extension.

SECTION 10 – CONTRACT APPROVAL

Contract approvals shall comply with Table 1, Approval Requirements, below. In the absence of appropriate approval, no agreement exists between GLWA and any Vendor. Prior to the request for approval, all Contracts shall be evaluated by the Enterprise Risk Management for insurance requirements. In addition, the Contract shall be approved as to form by the General Counsel.

10.1 Approval Requirements

Contracts and any Contract Amendments shall be recognized as “Authorized” when approval requirements have been met in accordance with Table 1. Contracts shall not be divided or fragmented to circumvent the approval requirements in this Policy.

When executing a Contract Amendment, the Buyer shall determine the new Contract value to ascertain the Representative who has the authority to encumber the funds, utilizing Table 1, below.

10.2 Unauthorized Purchases

GLWA shall not be liable financially or otherwise responsible for any unauthorized procurements.

Table 1. Approval Requirements

Description	Value at Time of: (i) Initial Term or (ii) Contract Amendment ¹	Representative with Authority to Encumber Funds
Contracts for no more than five (5) years of which the Initial Term cannot exceed three (3) years for Goods and/or Services.	Less than \$25,000	Procurement Specialist
	Between \$25,000 & \$99,999	Procurement Management Professional

¹ Contract Amendment shall include any Contract Extension, Contract Renewal, Contract Price Increase, and Change Order.



	Between \$100,000 & \$299,999	Procurement Manager
	Between \$300,000 & \$499,999	CPO
	Between \$500,000 & \$999,999	CEO
	\$1,000,000 or Greater	Board
Contracts for no more than five (5) years of which the Initial Term cannot exceed three (3) years for leases of Real Estate or personal property.	Between \$1 & \$499,999	CPO
	Between \$500,000 & \$999,999	CEO
Description	Contract Total Value	Representative with Authority to Encumber Funds
Contracts for and/or leases of Real Estate or personal property.	\$1,000,000 or Greater	Board
Contracts for the purchase or sale of Real Estate.	Any Value	Board
Contracts which exceeds a total Contract term of five (5) years or where the Initial Term exceeds three (3) years.	Any Value	Board
Emergency Procurements. (The CEO of an Emergency Procurement must generate a report to include details surrounding the Emergency Procurement and submit it to the Board at or before the next Board Meeting)	\$1,000,000 or Greater	CEO or CPO



SECTION 11 – CONTRACT ADMINISTRATION

11.1 Contract Administration

The CPO shall supervise, administer, and oversee every GLWA approved Contract. The CPO is authorized to adopt systems, procedures, standards, performance evaluation tools, and reporting of Vendors.

Each procurement may be monitored to assure execution of the Contract within the approved budget and scope within the terms of the procurement, the Articles of Incorporation, as well as federal and state procurement law.

11.2 Change Directive (CD)

A CD is a written order generated by the project manager directing a change in the project and stating a proposed basis for adjustment to an approved Contract allowance. All CDs must be approved by the CPO or the CPO's designee prior to the start of work.

11.3 Liquidated Damages

Where Liquidated Damages are specified and/or sought out, they shall only be imposed by the CPO or the CEO.

SECTION 12 – CONTRACT COMPLIANCE

12.1 Contract Compliance

A Vendor shall supply Goods and/or Services conforming to the specifications and performance requirements of the award. Failure to perform within the specification and performance requirements may result in Contract termination at any time by the CEO or CPO.

12.2 Federal Uniform Guidance Procurement Standards

All projects funded in full, or in part, by federal funds, are subject to the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Federal Procurement Standards CFR 200.318 – 200.326 or as may be amended). The CPO shall establish procedures to incorporate the required federal provisions for federally funded projects, regardless of the amount of funding.

SECTION 13 – VENDOR SUSPENSION/DEBARMENT

13.1 Imposing Suspension/Debarment

GLWA shall solicit responses from, award Contracts to, and consent to the use of Subcontractor who are Responsible Vendors and comply with this Policy. GLWA may suspend or debar Vendors², at GLWA's discretion, for purposes related to: the good of the public interest; maintaining the integrity of the bidding, contracting and procurement

² For purposes of this section, a Vendor includes (1) the business or individual providing the Good or Service, (2) the business' executive leadership and (3) the business' employees and Subcontractors that interact with Representatives.



processes; and protecting public trust and confidence in GLWA's operations. Suspensions and debarments will not be arbitrarily imposed. GLWA may suspend or debar a Vendor based on a finding that the Vendor is not a Responsible Vendor and shall report said finding to the Legal Committee in writing. The CEO and the CPO have the authority to suspend or debar a Vendor, with suspension being the first step to debarment. Causes which may result in a finding that a Vendor is not a Responsible Vendor include:

- a) An indictment or conviction of the Vendor under any federal, state or local law for any offense indicating a lack of business integrity, dishonesty, theft, bribery, extortion, bid rigging, contract or purchase order rigging, money laundering or fraudulent conduct;
- b) An indictment or conviction of the Vendor under any federal, state or local law for any serious criminal offense that affects the Vendor's responsibility as a Vendor;
- c) Judgment of civil liability entered against the Vendor in any federal, state or local proceeding based upon facts indicating a lack of business integrity, dishonesty, theft, bribery, extortion, bid rigging, contract or purchase order rigging, money laundering or fraudulent conduct;
- d) Results or preliminary findings of an investigation of the Vendor initiated by the GLWA, federal, state or local law enforcement department, municipality or agency involving allegations of a lack of business integrity, dishonesty, theft, bribery, extortion, bid rigging, contract or purchase order rigging, money laundering, fraudulent conduct or any other serious misconduct;
- e) Results or a preliminary finding of an investigation of the Vendor using of an unauthorized Subcontractor;
- f) A preliminary finding of an investigation that the Vendor engaged in theft, bribery, extortion, bid rigging, contract or purchase order rigging, money laundering or fraudulent conduct in connection with a Contract or Assumed Contract;
- g) A preliminary finding of an investigation that the Vendor submitted, made or caused to be made a false, deceptive or fraudulent material statement in connection with a bid, certification, proposal, application, change order, charge, invoice, cost estimate, or payment request related to a Contract or Assumed Contract;
- h) Refusal by the Vendor to reasonably cooperate with the GLWA in connection with an investigation related to a Contract or Assumed Contract;
- i) Failure by the Vendor to report to the Buyer any activity by elected officials, employees, or persons acting on their behalf related to a Contract or Assumed Contract that the Vendor reasonably suspects to be improper, unethical or illegal;
- j) Demonstrated discrimination on the basis, including but not limited to race, religion, sexual orientation, marital status, gender, national origin or military status by the Vendor.
- k) Unlawful restraint or limitation on competition by the Vendor;
- l) Violation of a material term by the Vendor of a Contract or Assumed Contract;
- m) History of documented unsatisfactory performance by the Vendor;
- n) Violation of any local, state, or federal statute by the Vendor;
- o) Violation of any applicable ethics standards, including the ethical standards set forth



in the profession for which a Vendor is licensed and/or certified b; and

- p) Any other conduct or activity by the Vendor that has a harmful impact upon the integrity of procurement process or public trust and confidence in the GLWA operations.

13.1.1 Vendor Suspension

Vendors are immediately prohibited from participating in any GLWA procurement activity pending completion of an investigation initiated by the CPO.

If it is determined that there was a violation, a suspension shall be imposed for no less than thirty (30) days and no more than twelve (12) months from the date of said determination.

13.1.2 Vendor Debarment

A Vendor that has been convicted of a criminal offense incident to the application for or performance of a contract or subcontract with GLWA or a local government, state or federal governmental entity or with a Vendor who has been held liable in a civil proceeding or has been convicted of a criminal offense that negatively reflects on the Vendor's business integrity, based on a finding of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or violation of state or federal antitrust statutes, or similar laws shall be precluded from entering into a procurement with GLWA for all time.

For any other reason, not listed in the preceding paragraph, the debarment period shall be for no less than one (1) year and no more than five (5) years. During this time, a Vendor is not eligible to participate in any GLWA procurement activity.

13.1.3 Suspension or Debarment Protest

A Vendor who has been suspended or debarred may file a written notice of protest with the CPO within seven (7) business days after the date of the suspension or debarment. The written notice of protest shall reference the notice and the basis for the protest.

The protest shall be reviewed by a third-party hearing officer selected by the CEO in an expeditious manner. The decision of the third-party hearing officer shall be final.



Financial Services Audit Committee Communication

Date: June 26, 2023

To: Great Lakes Water Authority Audit Committee

From: Nicolette N. Bateson, CPA, Chief Financial Officer & Treasurer

Re: Proposed Resolution 2023-234 - Highland Park Bad Debt Recovery Credits
Methodology and Authorization to Apply Bad Debt Expense Recovery Credits to FY
2024 Charges

Background & Analysis: See attached draft Great Lakes Water Authority ("GLWA") Board letter.

Proposed Action: The GLWA Audit Committee recommends that the Great Lakes Water Authority Board of Directors approve the proposed Resolution #2023-234 to:

1. Establish the Highland Park Bad Debt Recovery Credit Methodology;
2. Authorize staff to apply credits to Member Partner accounts totaling \$1 million in the first quarter of FY 2024 as outlined in the above methodology and related Schedule of Member Partner Bad Debt Recovery Credits #2023-1; and
3. Authorize the Chief Executive Officer to take such other action as may be necessary to accomplish the intent of this vote.

..Title

Resolution Regarding Approval of the Highland Park Bad Debt Recovery Credits Methodology and Approval of Schedule of Member Partner Bad Debt Recovery Credits #2023-1 Totaling \$1,000,000

..Body

Agenda of: June 28, 2023

Item No.: 2023-234

Amount: \$1,000,000

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Suzanne R. Coffey, P.E.
Chief Executive Officer
Great Lakes Water Authority

DATE: June 28, 2023

RE: Resolution Regarding Approval of the Highland Park Bad Debt Recovery Credits Methodology and Approval of Schedule of Member Partner Bad Debt Recovery Credits #2023-1 Totaling \$1,000,000

MOTION

Upon recommendation of Nicolette N. Bateson, Chief Financial Officer & Treasurer, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA), adopts Resolution #2023-### to:

- 1. Approve the Highland Park Bad Debt Recovery Credits Methodology;**
- 2. Authorize staff to apply credits totaling \$1 million in the first quarter of FY 2024 as outlined in the above methodology and related Schedule of Member Partner Bad Debt Recovery Credits #2023-1; and**

3. Authorize the Chief Executive Officer to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

In accordance with contractual terms for service, Member Partner communities are responsible funding bad debt expense. Over an extended period of time, Member Partner communities have been charged for bad debt expense related to partial non-payment by the City of Highland Park. Simultaneously, litigation with Highland Park has occurred as it relates to water, sewer, and industrial waste control service charges. Extensive writings and communications are available related to these matters. The purpose of this memo is to focus on positive recent developments between the City of Highland Park and GLWA where both parties entered into an “Interim Agreement” which includes the following excerpted provisions:

- “Highland Park agrees to pay and deliver to GLWA \$1,000,000 by June 9, 2023, subject to city council approval at the Highland Park city council meeting on June 5, 2023. This amount will be applied to the Judgment in the 2014 Case or to a settlement if one is reached by October 1, 2023.”
- “The Parties understand the State intends to file a position statement with the Court in the 2014 Case stating its support for the stay of proceedings and explaining why the State is involved and intends to participate in the efforts to resolve this matter and reach a resolution. The Parties will work in good faith toward a comprehensive solution to all issues.”

JUSTIFICATION

The City of Highland Park made the \$1,000,000 payment on June 9, 2023 as agreed. Given that this payment is in relation to aged balances for which Member Partner communities funded via a bad debt expense line item in the service charges calculation, it is appropriate to credit their accounts in a consistent manner. Further, it is anticipated that resolution of this matter may result in additional payments. For this reason, a Highland Park Bad Debt Recovery Credits Methodology and a Schedule of Member Partner Bad Debt Recovery Credits #2023-1 have been prepared for consideration by the Board of Directors.

Highland Park Bad Debt Recovery Credits Methodology

Last year, GLWA asked its charges and financial consultant from The Foster Group to document an analysis of amounts that had been directly included in Water and Sewer

Charges to GLWA's first-tier Member Partners related to Highland Park bad debt. That information was subsequently utilized to inform all first-tier Member Partners of such amounts. The framework established by that analysis was widely shared and reviewed with Member Partner communities. It was also anticipated at the time that allocation of future bad debt recovery for payments related to Highland Park services would align with that analysis. See attached memo from The Foster Group which provides further details.

The overall allocation is 87.4% Sewer System and 12.6% Water System based on a proportional share of what was included in previous years' charges for services to first-tier Member Partners. Also attached to that memo was a schedule which identifies a percentage for each Member Partner community. It is recommended that these percentages be established as a key element of a "Highland Park Bad Debt Recovery Credits Methodology" to expedite the handling of future credits, acknowledging that the actual credits would not be applied without Board Member approval due to the budget impact and that it is considered a charge setting decision requiring five affirmative votes for approval.

Schedule of Member Partner Bad Debt Recovery Credits #2023-1

Consistent with the methodology described above, a schedule of "Member Partner Bad Debt Expense Recovery Credits #2023-1" is recommended to be applied to the August 2023 bills for July 2023 services. This timing will allow for setting up this credit mechanism in the billing system and communication and engagement with Member Partners.

BUDGET IMPACT

The financial impact of reimbursing Member Partners for recovery of bad debt is largely neutral for GLWA. The budget impact spans multiple fiscal years of bad debt accumulation whereas the bad debt recovery credit is in future years. The annual budget impact is manageable and will be reflected in budget amendments for the first quarter of FY 2024.

COMMITTEE REVIEW

This matter was reviewed by the GLWA Audit Committee at its meeting on June 26, 2023. The Audit Committee *[insert action]* that the Great Lakes Water Authority Board of Directors *[insert action]* the proposed Resolution #2023-XXX to:

1. Establish the Highland Park Bad Debt Recovery Credits Methodology;
2. Authorize staff to apply credits totaling \$1 million in the first quarter of FY 2024 as outlined in the above methodology and related Schedule of Member Partner Bad

Debt Recovery Credits #2023-1; and

3. Authorize the Chief Executive Officer to take such other action as may be necessary to accomplish the intent of this vote.

SHARED SERVICES IMPACT

This item does not impact the shared services agreement between GLWA and DWSD.

Great Lakes Water Authority

Resolution 2023-234

**RE: Approval of the Highland Park Bad Debt Recovery Credits Methodology and
Approval of Schedule of Member Partner Bad Debt Recovery Credits #2023-1
totaling \$1 Million**

By Board Member: _____

- Whereas** The City of Highland Park and the Great Lakes Water Authority (“GLWA”) entered into an “Interim Agreement” in June 2023; and
- Whereas** A provision of the Interim Agreement states: “Highland Park agrees to pay and deliver to GLWA \$1,000,000 by June 9, 2023, subject to city council approval at the Highland Park city council meeting on June 5, 2023. This amount will be applied to the Judgment in the 2014 Case or to a settlement if one is reached by October 1, 2023.”; and
- Whereas** An additional provision of the Interim Agreement states: “the Parties understand the State intends to file a position statement with the Court in the 2014 Case stating its support for the stay of proceedings and explaining why the State is involved and intends to participate in the efforts to resolve this matter and reach a resolution. The Parties will work in good faith toward a comprehensive solution to all issues.”; and
- Whereas** The City of Highland Park made the \$1,000,000 payment on June 9, 2023 as agreed; and
- Whereas** This payment is in relation to aged balances for which Member Partner communities funded via a bad debt expense line item in the service charges calculation, it is appropriate to credit individual Member Partner accounts in a consistent manner; and
- Whereas** The comprehensive solution of all issues may result in additional payments and it is desirable to have a clear and consistent methodology for calculating credits to Member Partner accounts; and
- Whereas** GLWA’s charges and financial consultant from The Foster Group prepared a Highland Park Bad Debt Analysis dated June 20, 2023 of amounts that had been directly included in Water and Sewer Charges to GLWA’s first-tier Member Partners related to Highland Park bad debt; and

Whereas The Highland Park Bad Debt Analysis determined that the overall allocation is 87.4% Sewer System and 12.6% Water System, based on a proportional share of what was included in previous years' charges for services to first-tier Member Partners; and

Whereas The Highland Park Bad Debt Analysis identified a proportional share for each first-tier Member Partner is shown on Attachment 1 - Highland Park Bad Debt Recovery Shares.

NOW THEREFORE BE IT:

RESOLVED The Bad Debt Recovery Credits Methodology is established whereby payments related to recovery of Highland Park Bad debt expense funded by Member Partners is allocated 87.4% Sewer System and 12.6% Water System; and

RESOLVED Within the allocation to sewer or water system, each Member Partner's share has been identified and reported on Attachment 1 - Highland Park Bad Debt Analysis shares for use in calculating any credits; and

RESOLVED Utilizing the allocation percentage and shares, authorize GLWA administration to apply credits totaling \$1 million in the first quarter of FY 2024 as outlined in the above methodology and as specifically identified in the related Schedule of Member Partner Bad Debt Recovery Credits #2023-1 for the \$1,000,000 payment made by Highland Park on June 9, 2023; and

RESOLVED That the Chief Executive Officer is authorized to take such other action as may be necessary to accomplish the intent of this vote.

Attachment 1 - Highland Park Bad Debt Recovery Shares

Sewer System - 87.4% of total Bad Debt Expense Recovery
 Payments allocated in the following manner (relative share)

1	OMID	23.22%
2	Rouge Valley	20.81%
3	Oakland GWK	18.22%
4	Evergreen Farmington	12.51%
5	SE Macomb San Dist	9.73%
6	Dearborn	7.77%
7	Grosse Pointe Farms	1.03%
8	Grosse Pointe Park	0.68%
9	Melvindale	0.54%
10	Farmington	0.43%
11	Center Line	0.35%
12	Allen Park	0.28%
13	Highland Park	2.11%
14	Hamtramck	1.73%
15	Grosse Pointe	0.41%
16	Harper Woods	0.11%
17	Redford Township	0.07%
18	Wayne County #3	0.01%
19	Total	<u>100.00%</u>

Attachment 1 - Highland Park Bad Debt Recovery Shares

Water System - 12.6% of total Bad Debt Expense Recovery
 Payments allocated in the following manner (relative share)

1	Allen Park	0.66%
2	Almont Village	0.06%
3	Ash Township	0.23%
4	Belleville	0.08%
5	Berlin Township	0.21%
6	Brownstown Township	1.02%
7	Bruce Township	0.08%
8	Burtchville Township	0.09%
9	Canton Township	2.86%
10	Center Line	0.13%
11	Chesterfield Township	1.16%
12	Clinton Township	2.17%
13	Commerce Township	1.02%
14	Dearborn	3.09%
15	Dearborn Heights	1.02%
16	Eastpointe	0.43%
17	Ecorse	0.42%
18	Farmington	0.29%
19	Farmington Hills	2.52%
20	Ferndale	0.28%
21	Flat Rock	0.38%
22	Flint	3.16%
23	Fraser	0.34%
24	Garden City	0.47%
25	Gibraltar	0.10%
26	Greenwood Township (DTE)	0.15%
27	Grosse Ile Township	0.33%
28	Grosse Pt. Park	0.41%
29	Grosse Pt. Shores	0.18%
30	Grosse Pt. Woods	0.39%
31	Hamtramck	0.21%
32	Harper Woods	0.24%
33	Harrison Township	0.43%
34	Hazel Park	0.20%
35	Highland Park	0.00%
36	Huron Township	0.41%
37	Imlay City	0.38%

Attachment 1 - Highland Park Bad Debt Recovery Shares

Water System - 12.6% of total Bad Debt Expense Recovery
 Payments allocated in the following manner (relative share)

38	Imlay Township (Single User)	0.00%
39	Inkster	0.40%
40	Keego Harbor	0.08%
41	Lapeer	0.43%
42	Lenox Township	0.08%
43	Lincoln Park	0.62%
44	Livonia	3.44%
45	Macomb Township	3.45%
46	Madison Heights	0.55%
47	Mayfield Township (KAMAX)	0.01%
48	Melvindale	0.18%
49	New Haven, Village of	0.11%
50	NOCWA	6.33%
51	Northville	0.23%
52	Northville Township	1.59%
53	Novi	2.55%
54	Oak Park	0.38%
55	Oakland GWK Drain District	0.02%
56	Plymouth	0.30%
57	Plymouth Township	1.26%
58	Redford Township	0.89%
59	River Rouge	0.19%
60	Riverview	0.24%
61	Rockwood	0.08%
62	Romeo	0.07%
63	Romulus	1.14%
64	Roseville	0.74%
65	Royal Oak Township	0.06%
66	Shelby Township	3.97%
67	SOCWA	6.51%
68	South Rockwood	0.03%
69	Southgate	0.62%
70	St. Clair Shores	0.84%
71	Sterling Heights	4.24%
72	Sumpter Township	0.19%
73	Sylvan Lake	0.07%
74	Taylor	1.30%

Attachment 1 - Highland Park Bad Debt Recovery Shares

Water System - 12.6% of total Bad Debt Expense Recovery
 Payments allocated in the following manner (relative share)

75	Trenton	0.50%
76	Troy	3.84%
77	Utica	0.16%
78	Van Buren Township	0.95%
79	Walled Lake	0.24%
80	Warren	2.88%
81	Washington Township	0.64%
82	Wayne	0.84%
83	West Bloomfield Township	2.95%
84	Westland	1.73%
85	Wixom	0.70%
86	Woodhaven	0.47%
87	Ypsilanti Comm Util Auth	2.92%
88	Total Suburban Wholesale	<u>87.54%</u>
89	Detroit	<u>12.46%</u>
90	TOTAL	<u><u>100.00%</u></u>

tFg

THE FOSTER GROUP

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

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

MEMORANDUM

Highland Park Bad Debt Recovery Credit

June 20, 2023

To: Randal Brown, Nicolette Bateson

From: Bart Foster

You have asked for recommendations regarding potential application of a specific recent payment GLWA has received from Highland Park. It is my understanding that GLWA has received an initial payment of \$1 million to be applied for potential settlement of past due amounts. It is my further understanding that GLWA intends to apply this \$1 million as credits to individual Member Partner Water and Sewer bills early in FY 2024, effectively to refund a portion of the amounts included in past charges for Highland Park bad debt expense. The question at hand is how to assign the relative credits to the individual customers.

Last year, I documented the results of my analysis of amounts that had been directly included in Water and Sewer Charges to GLWA’s first tier Member Partners. That documentation was subsequently utilized to inform all Member Partners of such amounts. I believe the framework established by that analysis provides the appropriate mechanism for crediting customers for this initial recovery, and for any subsequent amounts that GLWA opts to return to Member Partners.

Over many of the past several years GLWA has directly included amounts totaling approximately \$41 million in wholesale sewer and water charges designed to address Highland Park’s bad debt expense. Such amounts are summarized in the first column below.

	Amounts Included in <u>Charges</u>	Relative <u>Allocation</u>	Initial Recovery <u>Credit</u>
Total	\$40,808,900		\$1,000,000
Allocable to Sewer	\$35,656,400	87.4%	\$874,000
Allocable to Water	\$5,152,500	12.6%	\$126,000

The Water figures reflect amounts included in charges from FY 2019 through FY 2022. The Sewer figures reflect amounts dating back to FY 2008, which continued intermittently through

Highland Park Bad Debt Recovery Credit

June 20, 2023

Page 2

FY 2022¹. The documentation from last year indicated how much of these totals had been included in Water and Sewer Charges to each Member Partner community. I recommend that GLWA establish individual Member Partner credits that are equal to their “share” of amounts paid in (based on the originally approved service charge schedules). By this approach, \$874,000 of the initial \$1 million recovery credit will be applied to Sewer Member Partner communities and the remaining \$126,000 will be applied to Water Member Partner communities.

Each customer community’s individual share of the initial credit is set forth in the accompanying exhibits.

I am prepared to discuss this matter at your convenience.

¹ The originally approved FY 2023 Water and Sewer Charges contained additional amounts. These amounts were subsequently removed from the final FY 2023 Water and Sewer Charges by the GLWA Board.

Highland Park Bad Debt Synopsis
Allocation of Initial Recovery Credit to **Water and Sewer** Member Partners

	(1)	(2)	(3)
	Cumulative Amount in Charges thru FY 2022 <i>(a)</i>	Relative Share of Highland Park Bad Debt	Initial Recovery Credit
<u>Water Charges</u>			
Macomb	\$1,127,700	21.9%	\$27,400
Oakland	1,471,900	28.6%	36,100
Wayne <i>(excl. Detroit)</i>	1,516,100	29.4%	36,900
Other	394,600	7.7%	9,700
Detroit	642,200	12.5%	15,900
Total	\$5,152,500	100.0%	\$126,000
<u>Sewer Charges</u>			
Macomb <i>(b)</i>	\$8,565,900	24.0%	\$209,900
Oakland <i>(c)</i>	14,419,900	40.4%	353,500
Wayne <i>(excl. Detroit)</i>	12,670,600	35.5%	310,600
Other	NA	NA	NA
Detroit	NA	NA	NA
Total	\$35,656,400	100.0%	\$874,000
<u>Combined Water and Sewer Charges</u>			
Macomb <i>(b)</i>	\$9,693,600	23.8%	\$237,300
Oakland <i>(c)</i>	15,891,800	38.9%	389,600
Wayne <i>(excl. Detroit)</i>	14,186,700	34.8%	347,500
Other	394,600	1.0%	9,700
Detroit	642,200	1.6%	15,900
Total	\$40,808,900	100.0%	\$1,000,000
Industrial Waste Control *			0
			\$1,000,000

* Highland Park IWC Bad Debt was not directly included in charges to any customer

(a) Reflects different historical time frames for Water and Sewer Charges.

(b) Includes 60% of Sewer amounts for the Oakland Macomb Interceptor Drain District

(c) Includes 40% of Sewer amounts for the Oakland Macomb Interceptor Drain District

Highland Park Bad Debt Synopsis
Table 1 - Allocation of Initial Recovery Credit to **Water** Member Partners

	(1)	(2)	(3)
	Cumulative Amount in Charges FY 2019 thru <u>FY 2022</u> (a)	Relative Share of Highland Park Bad <u>Debt</u>	Initial Recovery <u>Credit</u> (b)
1 Allen Park	\$33,900	0.66%	\$800
2 Almont Village	3,300	0.06%	100
3 Ash Township	11,700	0.23%	300
4 Belleville	4,300	0.08%	100
5 Berlin Township	10,600	0.21%	300
6 Brownstown Township	52,500	1.02%	1,300
7 Bruce Township	3,900	0.08%	100
8 Burtchville Township	4,700	0.09%	100
9 Canton Township	147,400	2.86%	3,600
10 Center Line	6,500	0.13%	200
11 Chesterfield Township	59,900	1.16%	1,500
12 Clinton Township	112,000	2.17%	2,700
13 Commerce Township	52,300	1.02%	1,300
14 Dearborn	159,100	3.09%	3,900
15 Dearborn Heights	52,600	1.02%	1,300
16 Eastpointe	21,900	0.43%	500
17 Ecorse	21,500	0.42%	500
18 Farmington	14,700	0.29%	400
19 Farmington Hills	129,600	2.52%	3,200
20 Ferndale	14,300	0.28%	300
21 Flat Rock	19,500	0.38%	500
22 Flint *	162,600	3.16%	4,000
23 Fraser	17,500	0.34%	400
24 Garden City	24,400	0.47%	600
25 Gibraltar	5,400	0.10%	100
26 Greenwood Township (DTE)	7,700	0.15%	200
27 Grosse Ile Township	16,900	0.33%	400
28 Grosse Pt. Park	20,900	0.41%	500
29 Grosse Pt. Shores	9,400	0.18%	200
30 Grosse Pt. Woods	20,200	0.39%	500
31 Hamtramck	10,600	0.21%	300
32 Harper Woods	12,200	0.24%	300
33 Harrison Township	22,200	0.43%	500
34 Hazel Park	10,300	0.20%	300
35 Highland Park (c)	0	0.00%	0
36 Huron Township	21,300	0.41%	500
37 Imlay City	19,500	0.38%	500
38 Imlay Township (Single User)	100	0.00%	0
39 Inkster	20,400	0.40%	500
40 Keego Harbor	4,300	0.08%	100
41 Lapeer	21,900	0.43%	500
42 Lenox Township	4,000	0.08%	100
43 Lincoln Park	32,000	0.62%	800
44 Livonia	177,500	3.44%	4,300
45 Macomb Township	177,700	3.45%	4,300
46 Madison Heights	28,200	0.55%	700
47 Mayfield Township (KAMAX)	500	0.01%	0
48 Melvindale	9,200	0.18%	200
49 New Haven, Village of	5,700	0.11%	100
50 NOCWA	326,400	6.33%	8,000
51 Northville	11,800	0.23%	300
52 Northville Township	81,900	1.59%	2,000
53 Novi	131,200	2.55%	3,200

Highland Park Bad Debt Synopsis
Table 1 - Allocation of Initial Recovery Credit to Water Member Partners

	(1)	(2)	(3)
	Cumulative Amount in Charges FY 2019 thru <u>FY 2022</u> (a)	Relative Share of Highland Park Bad <u>Debt</u>	Initial Recovery <u>Credit</u> (b)
54 Oak Park	19,800	0.38%	500
55 Oakland GWK Drain District	1,000	0.02%	0
56 Plymouth	15,400	0.30%	400
57 Plymouth Township	65,000	1.26%	1,600
58 Redford Township	45,700	0.89%	1,100
59 River Rouge	9,800	0.19%	200
60 Riverview	12,400	0.24%	300
61 Rockwood	4,100	0.08%	100
62 Romeo	3,600	0.07%	100
63 Romulus	58,600	1.14%	1,400
64 Roseville	37,900	0.74%	900
65 Royal Oak Township	3,000	0.06%	100
66 Shelby Township	204,300	3.97%	5,000
67 SOCWA	335,500	6.51%	8,200
68 South Rockwood	1,600	0.03%	0
69 Southgate	32,100	0.62%	800
70 St. Clair Shores	43,200	0.84%	1,100
71 Sterling Heights	218,300	4.24%	5,300
72 Sumpter Township	9,600	0.19%	200
73 Sylvan Lake	3,400	0.07%	100
74 Taylor	67,000	1.30%	1,600
75 Trenton	25,800	0.50%	600
76 Troy	197,700	3.84%	4,800
77 Utica	8,100	0.16%	200
78 Van Buren Township	48,700	0.95%	1,200
79 Walled Lake	12,200	0.24%	300
80 Warren	148,200	2.88%	3,600
81 Washington Township	32,800	0.64%	800
82 Wayne	43,500	0.84%	1,100
83 West Bloomfield Township	151,800	2.95%	3,700
84 Westland	89,300	1.73%	2,200
85 Wixom	36,200	0.70%	900
86 Woodhaven	24,200	0.47%	600
87 Ypsilanti Comm Util Auth	150,400	2.92%	3,700
88 Total Suburban Wholesale	4,510,300	87.54%	110,100
89 Detroit	642,200	12.46%	15,900
90 TOTAL	\$5,152,500	100.00%	\$126,000
<u>Summary by County</u>			
Macomb	\$1,127,700	21.89%	\$27,400
Oakland	1,471,900	28.57%	36,100
Wayne (excl. Detroit)	1,516,100	29.42%	36,900
Other	394,600	7.66%	9,700
Detroit	642,200	12.46%	15,900
Total	\$5,152,500	100.00%	\$126,000

(a) Based on amounts allocated in approved charges. Does not reflect impacts of variances in actual purchased volumes.

(b) Allocation of initial \$1 million combined Water / Sewer recovery payment.

(c) Highland Park is NOT allocated responsibility for, NOR charged, an amount related to the Water debt they create - as they have never made a payment.

Highland Park Bad Debt Synopsis

Table 2 - Allocation of Initial Recovery Credit to **Sewer** Member Partners

	(1)	(2)	(3)
	Cumulative Amount in Charges FY 2008 thru <u>FY 2022</u> (a)	Relative Share of Highland Park Bad <u>Debt</u>	Initial Recovery <u>Credit</u> (b)
1 OMID	\$8,281,000	23.22%	\$202,900
2 Rouge Valley	7,420,000	20.81%	181,900
3 Oakland GWK	6,495,000	18.22%	159,200
4 Evergreen Farmington	4,459,200	12.51%	109,300
5 SE Macomb San Dist	3,471,100	9.73%	85,100
6 Dearborn	2,769,000	7.77%	67,900
7 Grosse Pointe Farms	368,300	1.03%	9,000
8 Grosse Pointe Park	241,300	0.68%	5,900
9 Melvindale	192,600	0.54%	4,700
10 Farmington	153,300	0.43%	3,800
11 Center Line	126,200	0.35%	3,100
12 Allen Park	98,200	0.28%	2,400
13 Highland Park (c)	753,700	2.11%	18,500
14 Hamtramck	616,200	1.73%	15,100
15 Grosse Pointe	145,500	0.41%	3,600
16 Harper Woods	37,500	0.11%	900
17 Redford Township	24,300	0.07%	600
18 Wayne County #3	4,000	0.01%	100
19 Total	\$35,656,400	100.00%	\$874,000
<u>Summary by County</u>			
Macomb	\$8,565,900	24.02%	\$209,900
Oakland	14,419,900	40.44%	353,500
Wayne (excl. Detroit)	12,670,600	35.54%	310,600
Other	NA	NA	NA
Detroit	NA	NA	NA
Total	\$35,656,400	100.00%	\$874,000

(a) Based on amounts allocated in approved charges. Does not reflect impacts of variances in actual contributed wastewater volumes.

(b) Allocation of initial \$1 million combined Water / Sewer recovery payment.

(c) Yes, Highland Park is allocated responsibility for, and charged, an amount related to the Sewer bad debt they create - reflecting the partial payments they have made.



Bad Debt Recovery Credits #2023-1

Calculated Consistent with the Methodology
Established by the Bad Debt Recovery Methodology in
Board Resolution #2023-###

Presented to the Board of Directors
June 28, 2023

Bad Debt Recovery Credits #2023-1
Sewer System by Member Partner
For Credit to July 2023 Billing

Payment Received		June 9, 2023	\$ 1,000,000
Basis for Sewer / Water Spilt			
	Amount Included in <u>Charges</u>	Relative Allocation	Recovery Credit
Total Sewer and Water	\$ 40,808,900	100.0%	\$ 1,000,000
Allocable to Sewer	35,656,400	87.4%	874,000
Allocable to Water	5,152,500	12.6%	126,000
Allocation Among Member Partners			
	Cumulative Amount in Charges FY 2008 thru <u>FY 2022</u> (a)	Relative Share of Highland Park Bad <u>Debt</u>	#2023-1 Recovery Credit
1 OMID	\$8,281,000	23.22%	\$202,900
2 Rouge Valley	7,420,000	20.81%	181,900
3 Oakland GWK	6,495,000	18.22%	159,200
4 Evergreen Farmington	4,459,200	12.51%	109,300
5 SE Macomb San Dist	3,471,100	9.73%	85,100
6 Dearborn	2,769,000	7.77%	67,900
7 Grosse Pointe Farms	368,300	1.03%	9,000
8 Grosse Pointe Park	241,300	0.68%	5,900
9 Melvindale	192,600	0.54%	4,700
10 Farmington	153,300	0.43%	3,800
11 Center Line	126,200	0.35%	3,100
12 Allen Park	98,200	0.28%	2,400
13 Highland Park (c)	753,700	2.11%	18,500
14 Hamtramck	616,200	1.73%	15,100
15 Grosse Pointe	145,500	0.41%	3,600
16 Harper Woods	37,500	0.11%	900
17 Redford Township	24,300	0.07%	600
18 Wayne County #3	4,000	0.01%	100
19 Total	<u>\$35,656,400</u>	<u>100.00%</u>	<u>\$874,000</u>
<u>Summary by County</u>			
Macomb	\$8,565,900	24.02%	\$209,900
Oakland	14,419,900	40.44%	353,500
Wayne (excl. Detroit)	12,670,600	35.54%	310,600
Other	NA	NA	NA
Detroit	<u>NA</u>	<u>NA</u>	<u>NA</u>
Total	<u>\$35,656,400</u>	<u>100.00%</u>	<u>\$874,000</u>
(a) Based on amounts allocated in approved charges. Does not reflect impacts of variances in actual contributed wastewater volumes.			
(b) Highland Park was allocated responsibility for, and charged, an amount related to the <u>Sewer</u> bad debt - reflecting the partial payments they have made.			

Bad Debt Recovery Credits #2023-1
Water System by Member Partner
For Credit to July 2023 Billing

Payment Received		June 9, 2023	\$ 1,000,000
Basis for Sewer / Water Spilt			
	Amount	Relative	Recovery
	Included in	Allocation	Credit
	<u>Charges</u>		
Total Sewer and Water	\$ 40,808,900	100.0%	\$ 1,000,000
Allocable to Sewer	35,656,400	87.4%	874,000
Allocable to Water	5,152,500	12.6%	126,000
Allocation Among Member Partners			
	Cumulative	Relative	
	Amount in	Share of	
	Charges	Highland	
	FY 2019 thru	Park Bad	#2023-1
	<u>FY 2022</u>	<u>Debt</u>	Recovery
	(a)		Credit
1 Allen Park	\$33,900	0.66%	\$800
2 Almont Village	3,300	0.06%	100
3 Ash Township	11,700	0.23%	300
4 Belleville	4,300	0.08%	100
5 Berlin Township	10,600	0.21%	300
6 Brownstown Township	52,500	1.02%	1,300
7 Bruce Township	3,900	0.08%	100
8 Burtchville Township	4,700	0.09%	100
9 Canton Township	147,400	2.86%	3,600
10 Center Line	6,500	0.13%	200
11 Chesterfield Township	59,900	1.16%	1,500
12 Clinton Township	112,000	2.17%	2,700
13 Commerce Township	52,300	1.02%	1,300
14 Dearborn	159,100	3.09%	3,900
15 Dearborn Heights	52,600	1.02%	1,300
16 Eastpointe	21,900	0.43%	500
17 Ecorse	21,500	0.42%	500
18 Farmington	14,700	0.29%	400
19 Farmington Hills	129,600	2.52%	3,200
20 Ferndale	14,300	0.28%	300
21 Flat Rock	19,500	0.38%	500
22 Flint *	162,600	3.16%	4,000
23 Fraser	17,500	0.34%	400
24 Garden City	24,400	0.47%	600
25 Gibraltar	5,400	0.10%	100
26 Greenwood Township (DTE)	7,700	0.15%	200
27 Grosse Ile Township	16,900	0.33%	400
28 Grosse Pt. Park	20,900	0.41%	500
29 Grosse Pt. Shores	9,400	0.18%	200
30 Grosse Pt. Woods	20,200	0.39%	500
31 Hamtramck	10,600	0.21%	300

Allocation Among Member Partners			
	Cumulative Amount in Charges FY 2019 thru FY 2022 (a)	Relative Share of Highland Park Bad Debt	#2023-1 Recovery Credit
32 Harper Woods	12,200	0.24%	300
33 Harrison Township	22,200	0.43%	500
34 Hazel Park	10,300	0.20%	300
35 Highland Park	0	0.00%	0
36 Huron Township	21,300	0.41%	500
37 Imlay City	19,500	0.38%	500
38 Imlay Township (Single User)	100	0.00%	0
39 Inkster	20,400	0.40%	500
40 Keego Harbor	4,300	0.08%	100
41 Lapeer	21,900	0.43%	500
42 Lenox Township	4,000	0.08%	100
43 Lincoln Park	32,000	0.62%	800
44 Livonia	177,500	3.44%	4,300
45 Macomb Township	177,700	3.45%	4,300
46 Madison Heights	28,200	0.55%	700
47 Mayfield Township (KAMAX)	500	0.01%	0
48 Melvindale	9,200	0.18%	200
49 New Haven, Village of	5,700	0.11%	100
50 NOCWA	326,400	6.33%	8,000
51 Northville	11,800	0.23%	300
52 Northville Township	81,900	1.59%	2,000
53 Novi	131,200	2.55%	3,200
54 Oak Park	19,800	0.38%	500
55 Oakland GWK Drain District	1,000	0.02%	0
56 Plymouth	15,400	0.30%	400
57 Plymouth Township	65,000	1.26%	1,600
58 Redford Township	45,700	0.89%	1,100
59 River Rouge	9,800	0.19%	200
60 Riverview	12,400	0.24%	300
61 Rockwood	4,100	0.08%	100
62 Romeo	3,600	0.07%	100
63 Romulus	58,600	1.14%	1,400
64 Roseville	37,900	0.74%	900
65 Royal Oak Township	3,000	0.06%	100
66 Shelby Township	204,300	3.97%	5,000
67 SOCWA	335,500	6.51%	8,200
68 South Rockwood	1,600	0.03%	0
69 Southgate	32,100	0.62%	800
70 St. Clair Shores	43,200	0.84%	1,100
71 Sterling Heights	218,300	4.24%	5,300
72 Sumpter Township	9,600	0.19%	200
73 Sylvan Lake	3,400	0.07%	100
74 Taylor	67,000	1.30%	1,600
75 Trenton	25,800	0.50%	600
76 Troy	197,700	3.84%	4,800
77 Utica	8,100	0.16%	200

Allocation Among Member Partners			
	Cumulative Amount in Charges FY 2019 thru FY 2022 (a)	Relative Share of Highland Park Bad Debt	#2023-1 Recovery Credit
78 Van Buren Township	48,700	0.95%	1,200
79 Walled Lake	12,200	0.24%	300
80 Warren	148,200	2.88%	3,600
81 Washington Township	32,800	0.64%	800
82 Wayne	43,500	0.84%	1,100
83 West Bloomfield Township	151,800	2.95%	3,700
84 Westland	89,300	1.73%	2,200
85 Wixom	36,200	0.70%	900
86 Woodhaven	24,200	0.47%	600
87 Ypsilanti Comm Util Auth	150,400	2.92%	3,700
88 Total Suburban Wholesale	4,510,300	87.54%	110,100
89 Detroit	642,200	12.46%	15,900
90 TOTAL	<u>\$5,152,500</u>	<u>100.00%</u>	<u>\$126,000</u>
<u>Summary by County</u>			
Macomb	\$1,127,700	21.89%	\$27,400
Oakland	1,471,900	28.57%	36,100
Wayne (excl. Detroit)	1,516,100	29.42%	36,900
Other	394,600	7.66%	9,700
Detroit	642,200	12.46%	15,900
Total	<u>\$5,152,500</u>	<u>100.00%</u>	<u>\$126,000</u>
(a) Based on amounts allocated in approved charges. Does not reflect impacts of variances in actual purchased volumes.			

GLWA

Great Lakes Water Authority



Monthly Financial Report Binder

March 2023

**Presented to the
Great Lakes Water Authority
Audit Committee on June 26, 2023**

TABLE OF CONTENTS

Executive Summary Dashboard	1
Budget to Actual Analysis.....	3
Basic Financial Statements	9
Financial Activity Charts.....	17
Financial Operations Key Performance Indicators.....	20
Bank Reconciliations.....	20
Liquidity	21
Budget to Financial Statements Crosswalk.....	23
Capital Improvement Plan Financial Summary	27
Master Bond Ordinance Transfers	30
Cash and Investments.....	37
Retail Revenues, Receivables, & Collections	41
Wholesale Billings, Receivables, & Collections.....	47
Trust Receipts and Disbursements	53
Appendix	
Aged Accounts Receivable Report.....	A-1
Highland Park Life-to-Date Billings & Collections	B-1

Key Financial Metrics

The table below provides key report highlights and flags the financial risk of a budget shortfall by year-end as follows: No Risk (green) - Potential (yellow) - Likely (red)

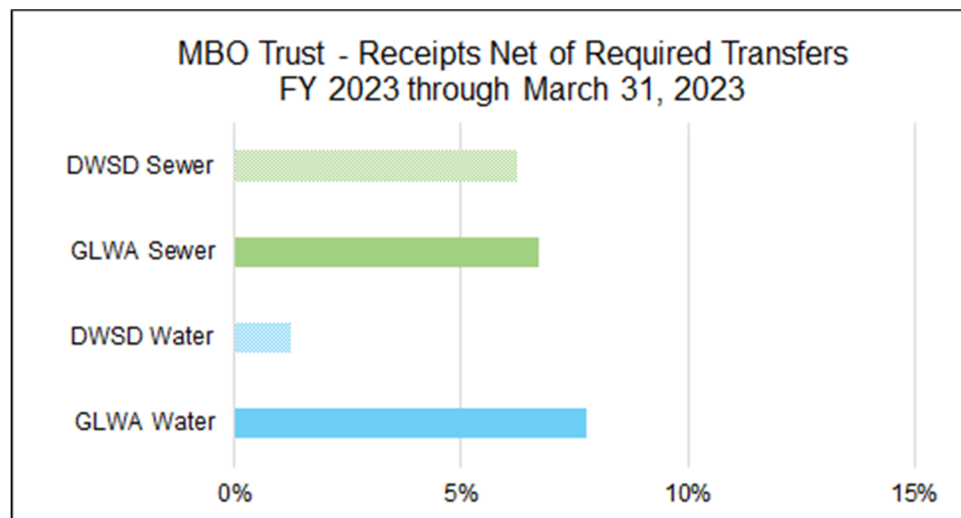
Each variance is monitored by the Great Lakes Water Authority (GLWA) management and, where appropriate, operating and/or budget priorities are re-evaluated. Staff reviews the need for budget amendments quarterly and requests necessary amendments when required based on the most current information available. This report reflects second quarter budget amendments approved by the GLWA Board of Directors on April 26, 2023.

For the current period, investment income, water capital spend, and sewer capital spend all reflect variances to budget outside the normal range. Investment income earned continues to increase monthly and is anticipated to achieve budget expectations by yearend. GLWA staff will continue to monitor capital spend to determine if additional budget amendments will be necessary.

As of March 31, 2023					
Metric	FY 2023 Budget	FY 2023 Amended Budget	FY 2023 Actual	Variance from Financial Plan	Report Page Reference
Wholesale Water Billed Revenue (\$M)	\$252.9	\$252.9	\$254.6	1%	48
Wholesale Water Billed Usage (mcf)	10,049,000	10,049,000	10,153,000	1%	
Wholesale Sewer Billed Revenue (\$M)	\$206.0	\$206.0	\$206.0	0%	50
Wholesale Water Operations & Maintenance (\$M)	\$108.6	\$111.9	\$113.1	1%	5
Wholesale Sewer Operations & Maintenance (\$M)	\$138.0	\$152.4	\$148.6	-2%	
Investment Income (\$M)	\$1.7	\$24.4	\$22.0	-10%	37
Water Prorated Capital Spend w/SRA* (\$M)	\$116.6	\$169.3	\$154.0	-9%	28
Sewer Prorated Capital Spend w/SRA* (\$M)	\$94.4	\$104.6	\$74.0	-29%	29

*SRA refers to the capital spending ratio assumption which allows capital program delivery realities to align with the financial plan.

Master Bond Ordinance (MBO) Trust Net Receipts (page 53)



Net cash flow receipts remain positive for GLWA Water and Sewer. This means that all legal commitments of the MBO Trust and the lease payment are fully funded – and that positive cash flow is available for additional capital

program funding in subsequent year(s). DWSD Water reports a surplus of \$1.1 million and DWSD Sewer reports a surplus of \$14.2 million of net receipts over disbursements through March 2023.

Budget to Actual Analysis (page 3)

- FY 2023 information includes the second quarter budget amendments which were approved by the GLWA Board of Directors on April 26, 2023. Budget amendments were not required for the third quarter FY 2023.
- The total Revenue Requirements are on target through March 2023.
- The total overall Operations & Maintenance expenses are at 74.3% of budget through March 2023 which is slightly below the pro-rata benchmark of 75.0%. This positive variance equates to a dollar amount of \$2.5 million.

Basic Financial Statements (page 9)

- The Basic Financial Statements are prepared on a full accrual basis and reflect preliminary, unaudited results.
- Operating income for March 2023 is \$60.5 million for the Water fund (22.2% of total revenues) and \$86.2 million for the Sewer fund (23.8 % of total revenues).
- Water Net Position increased by \$ 11.0 million, and Sewage Disposal Net Position increased by \$ 21.8 million for the year to date through March 2023.

Capital Improvement Plan Financial Summary (page 27)

- The Water system is below the amended 116.2% Capital Spend Ratio assumption.
- The Sewer system is also below the amended 110.7% Capital Spend Ratio assumption.

Master Bond Ordinance Transfers (page 30)

- For March, transfers of \$13.7 million and \$19.0 million were completed for the GLWA Water and Sewer funds, respectively.
- Also, for March, transfers of \$6.0 million and \$6.0 million were completed for the DWSD Water and Sewer funds, respectively.

Cash Balances & Investment Income (page 37)

- Total cash & investments are \$582 million for Water and \$655 million in the Sewer fund.
- Total, combined, cumulative, FY 2023 investment income through March is \$22.0 million.

DWSD Retail Revenues, Receivables & Collections (page 41)

- Water usage through March 31, 2023 is 110.03% and revenues are 106.82% of budget.
- Sewer usage through March 31, 2023 is 104.04% and revenues are 100.71% of budget.
- Combined accounts receivable balances for the water and sewer funds report an increase of \$45.1 million over the prior year.
- Past dues over 180 days make up of 67.7% the total accounts receivable balance. The current bad debt allowance covers 102.5% of past dues over 60 days.

GLWA Wholesale Billing, Receivables & Collections (page 47)

- GLWA accounts receivable past due balance net of Highland Park is 8.91% of the total accounts receivable balance, with the majority of that balance related to one water account dispute currently under discussion.
- The Highland Park past due balance is \$54.7 million. It includes \$40.9 million for wastewater treatment services, \$1.9 million for industrial waste control services, and \$11.9 million for water supply services. Highland Park made a catch-up payment of \$1.7 million on June 3, 2022 and has continued to make additional, monthly payments since that time totaling \$3.9 million as of March 31, 2023.

Questions? Contact the Office of the Chief Financial Officer at CFO@glwater.org.



The Monthly Budget to Actual Analysis report includes the following three sections.

1. Revenue Requirements Budget Basis Analysis
2. Operations & Maintenance Budget – Major Budget Categories
3. Alignment of Operations & Maintenance Budget Priorities – Expense Variance Analysis

The FY 2023 information presented in these sections includes the second quarter FY 2023 budget amendments which were approved by the GLWA Board of Directors on April 26, 2023. Budget amendments were not processed for the third quarter FY 2023.

Revenue Requirements Budget Basis Analysis

GLWA's annual revenue requirements represent the basis for calculating Member Partner charges and aligns with the Master Bond Ordinance flow of funds categories. The budget basis is not the same as the full accrual basis used for financial reporting although the revenues and operations and maintenance expenses are largely reported on an accrual basis. The primary difference between the revenue requirements budget basis to the financial reporting basis is the treatment of debt service, legacy pension obligations, and lease related activities. The Revenue Requirements Basis is foundational to GLWA's daily operations, financial plan, and of most interest to key stakeholders.

Table 1A – Water Revenue Requirements Budget and **Table 1B – Sewer Revenue Requirements Budget** presents a year-over-year budget to actual performance report. The revenue requirements budget is accounted for in the operations and maintenance fund for each system. Since this report is for March 2023, the pro-rata benchmark is 75.0% (9 of 12 months of the fiscal year).

Items noted below are highlighted in gold on Tables 1A (Water) and 1B (Sewer).

1. **Revenues:** For FY 2023, the *water* system, at 75.1%, is slightly above the pro-rata benchmark for total revenues while the *sewer* system, at 74.9%, is slightly below the target. Detailed schedules related to revenues are provided in the *Wholesale Billings, Collections, and Receivables* section of this financial report binder.

Water revenues presented in Table 1A differ from those presented in *Table 2 – Statement of Revenues, Expenses and Changes in Net Position* found in the *Basic Financial Statement* section of this report. Water Revenues presented in Table 1A for revenue requirement purposes are reduced by the monthly payment to the City of Flint for a license to raw water rights under the Flint Raw Water Contract as documented in Appendix A-2 of the [Flint Water Agreement](#). Through March 31, 2023, these payments total \$4.8 million for FY 2023.

2. **Investment Earnings:** For both systems, investment earnings are below the pro-rata benchmark for FY 2023; the *water* system is at 55.3%; while the *sewer* system is at 55.3%. Detailed analysis of investment earnings activity to date can be found in the *Cash & Investment Income* section of this financial report binder.
3. **Other Revenues:** These are one-time and unusual items that do not fit an established revenue category. Both the *water* and *sewer* systems actual amount will vary from budget due to the nature of the items recorded in this category.
4. **Operations & Maintenance Expense:** Actual expenses¹ for *both* systems have variances from the pro-rata benchmark. The *water* system is slightly above the pro-rata benchmark for FY 2023 at 75.9%. The *sewer* system O&M expenses, at 73.1%, is below the pro-rata benchmark.
5. **Debt Service:** For FY 2023, both systems are slightly above the pro-rata benchmark for debt service; the *water* system is at 76.7% while the *sewer* system is at 75.6%. The activity is based on the payment schedules adjusted for the State Revolving Fund loans that are still being drawn down.
6. **Operating Reserve Deposit:** GLWA has established a target balance in the O&M Fund of 45 days of operating expense which works in tandem with the I&E Funds to provide liquidity to the utility. Adequate funding is in place to meet this requirement; therefore, it is expected that additional transfers to this reserve will not be required in FY 2023.
7. **DWSD Budget Shortfall Pending:** To the extent that the local (DWSD) system experiences budgetary shortfalls as defined by the Water & Sewer Services Agreement, the GLWA budget is impacted.² Steps to proactively detect, and ideally prevent, this shortfall scenario were put into place with the 2018 Memorandum of Understanding (dated June 27, 2018). For FY 2022, DWSD management successfully implemented a formal plan to end the year with positive net cash flows for both the DWSD *water* system and the DWSD *sewer* system. For FY 2023, neither the DWSD *water* system nor the DWSD *sewer* system have a budgetary shortfall through March 31, 2023. GLWA and DWSD staff meet regularly to discuss steps to mitigate shortfalls, when they occur, as outlined in the 2018 MOU.
8. **Improvement & Extension (I&E) Fund Transfer Pending:** The contribution to the I&E Fund is for improvements, enlargements, extensions, or betterment of the *water* and *sewer* systems.
9. **Other Revenue Requirements:** The remaining revenue requirements for *both* systems are funded on a 1/12th basis each month in accordance with the Master Bond Ordinance.
10. **Overall:** Total revenue requirements for *both* systems are in line with the benchmark.

¹The tables in this analysis reflect actual amounts spent. If this analysis was on a master bond ordinance (MBO) basis, like that used for calculating debt service coverage, O&M "expense" would equal the pro-rata budget because 1/12 of the O&M budget is transferred monthly outside the MBO trust to an O&M bank account.

² As a reminder, the monthly O&M transfer for MBO purposes is at 1/12 of the budget to a DWSD O&M bank account outside the trust. Actual budget may be less than that amount providing an actual positive variance for DWSD.

Table 1A – Water Revenue Requirements Budget (year-over-year) – (\$000)

	FY 2022 AMENDED BUDGET	FY 2022 ACTIVITY THRU 3/31/2022	Percent Year-to- Date	FY 2023 BOARD ADOPTED BUDGET	FY 2023 AMENDED BUDGET	FY 2023 ACTIVITY THRU 3/31/2023	Percent Year-to- Date
Water System							
Revenues							
Suburban Wholesale Customer Charges	\$ 315,011	\$ 237,680	75.5%	\$ 331,962	\$ 330,856	\$ 249,911	75.5%
Retail Service Charges	21,697	16,273	75.0%	22,986	22,834	17,138	75.1%
Investment Earnings	1,924	1,469	76.3%	949	9,670	5,350	55.3%
Other Revenues	684	719	105.1%	175	875	978	111.8%
Total Revenues	\$ 339,316	\$ 256,141	75.5%	\$ 356,072	\$ 364,236	\$ 273,377	75.1%
Revenue Requirements							
Operations & Maintenance Expense	\$ 143,934	\$ 97,451	67.7%	\$ 144,848	\$ 149,148	\$ 113,130	75.9%
General Retirement System Legacy Pension	6,048	4,536	75.0%	6,048	6,048	4,536	75.0%
Debt Service	135,121	101,508	75.1%	150,337	150,055	115,113	76.7%
General Retirement System Accelerated Pension	6,268	4,701	75.0%	6,268	6,268	4,701	75.0%
Extraordinary Repair & Replacement Deposit	-	-	0.0%	-	-	-	0.0%
Water Residential Assistance Program Contribution	1,706	1,279	75.0%	1,771	1,771	1,328	75.0%
Regional System Lease	22,500	16,875	75.0%	22,500	22,500	16,875	75.0%
Operating Reserve Deposit	-	-	0.0%	-	-	-	0.0%
DWSD Budget Shortfall Pending Improvement & Extension Fund Transfer Pending	-	-	0.0%	-	-	-	0.0%
	23,740	20,337	85.7%	24,300	28,446	21,348	75.0%
Total Revenue Requirements	\$ 339,316	\$ 246,688	72.7%	\$ 356,072	\$ 364,236	\$ 277,031	76.1%
Net Difference		\$ 9,453				\$ (3,655)	
<i>Recap of Net Positive Variance</i>							
Revenue Variance		\$ 1,654				\$ 200	
Revenue Requirement Variance		7,799				(3,854)	
Overall Variance		\$ 9,453				\$ (3,655)	

Table 1B – Sewer Revenue Requirements Budget (year-over-year) – (\$000)

	FY 2022 AMENDED BUDGET	FY 2022 ACTIVITY THRU 3/31/2022	Percent Year-to- Date	FY 2023 BOARD ADOPTED BUDGET	FY 2023 AMENDED BUDGET	FY 2023 ACTIVITY THRU 3/31/2023	Percent Year-to- Date
Sewer System							
Revenues							
Suburban Wholesale Customer Charges	\$ 268,130	\$ 204,270	76.2%	\$ 275,404	\$ 274,407	\$ 206,677	75.3%
Retail Service Charges	188,662	141,497	75.0%	191,042	191,042	143,282	75.0%
Industrial Waste Control Charges	8,325	6,218	74.7%	8,420	8,420	6,278	74.6%
Pollutant Surcharges	5,089	3,738	73.5%	4,951	4,951	3,716	75.1%
Investment Earnings	1,876	1,197	63.8%	1,156	13,532	7,479	55.3%
Other Revenues	538	378	70.3%	400	1,170	2,153	184.1%
Total Revenues	\$ 472,620	\$ 357,299	75.6%	\$ 481,372	\$ 493,522	\$ 369,586	74.9%
Revenue Requirements							
Operations & Maintenance Expense	\$ 191,909	\$ 140,598	73.3%	\$ 184,053	\$ 203,223	\$ 148,616	73.1%
General Retirement System Legacy Pension	10,824	8,118	75.0%	10,824	10,824	8,118	75.0%
Debt Service	204,985	154,297	75.3%	205,638	212,509	160,579	75.6%
General Retirement System Accelerated Pension	11,621	8,716	75.0%	11,621	11,621	8,716	75.0%
Extraordinary Repair & Replacement Deposit	-	-	0.0%	-	-	-	0.0%
Water Residential Assistance Program Contribution	2,358	1,769	75.0%	2,394	2,394	1,796	75.0%
Regional System Lease	27,500	20,625	75.0%	27,500	27,500	20,625	75.0%
Operating Reserve Deposit	-	-	0.0%	-	-	-	0.0%
DWSD Budget Shortfall Pending Improvement & Extension Fund Transfer Pending	-	-	0.0%	-	-	-	0.0%
	23,424	25,335	108.2%	39,343	25,452	20,400	80.2%
Total Revenue Requirements	\$ 472,620	\$ 359,458	76.1%	\$ 481,372	\$ 493,522	\$ 368,849	74.7%
Net Difference		\$ (2,159)				\$ 737	
<i>Recap of Net Positive Variance</i>							
Revenue Variance		\$ 2,834				\$ (556)	
Revenue Requirement Variance		(4,993)				1,293	
Overall Variance		\$ (2,159)				\$ 737	

All amounts are unaudited unless otherwise noted.

GLWA Audit Committee June 26, 2023

Operations & Maintenance Budget – Major Budget Categories

The year-over-year benchmark ratio as of March 31, 2023, is 75.0% (nine months). When comparing FY 2023 to FY 2022 in **Table 2 – Operations & Maintenance Budget – Major Budget Categories**, the overall spending is higher in FY 2023.

In addition to the four major budget categories, an internal charge cost center for employee benefits is shown in the table below. If the number is positive, it indicates that the internal cost allocation rate charges to other cost centers is not sufficient. A negative number indicates a surplus in the internal cost center. A moderate surplus is preferred as it provides a hedge for mid-year benefit program cost adjustments (premiums adjust on January 1 each year) as well as managing risk as the program is partially self-insured.

Table 2 – Operations & Maintenance Budget – Major Budget Categories – (\$000)

Major Budget Categories	FY 2022 AMENDED BUDGET	FY 2022 ACTIVITY THRU 3/31/2022	Percent Year-to- Date	FY 2023 BOARD ADOPTED BUDGET	FY 2023 AMENDED BUDGET	FY 2023 ACTIVITY THRU 3/31/2023	Percent Year-to- Date
Water	\$ 76,422	\$ 56,746	74.3%	\$ 76,518	\$ 80,818	\$ 62,490	77.3%
Sewer	120,971	88,711	73.3%	113,198	132,367	101,556	76.7%
Centralized	103,846	68,909	66.4%	104,503	104,503	73,908	70.7%
Administrative	34,603	23,708	68.5%	34,682	34,682	23,823	68.7%
Employee Benefits	-	(24)	0.0%	-	-	(31)	0.0%
Total O&M Budget	\$ 335,843	\$ 238,050	70.9%	\$ 328,900	\$ 352,370	\$ 261,746	74.3%

Totals may be off due to rounding

Alignment of Operations & Maintenance Budget Priorities – Expense Variance Analysis

The purpose of **Table 3 – Operations & Maintenance Expense Variance Analysis** is to evaluate whether the actual spend rate within a natural cost category is in alignment with the budget. Given the effort to develop an accurate budget, a variance is a red flag of a *potential* budget amendment or misalignment of priorities.

Total: In total, the overall O&M expenses are at 74.3% which is slightly below the pro-rata benchmark of 75.0%. This positive variance equates to a dollar amount of \$2.5 million. The expense category commentary is provided below for items highlighted on Table 3.

Personnel Costs: The overall category is slightly under the pro-rata benchmark; coming in at 72.6% through March 2023.

Utilities: The overall category is above the pro-rata benchmark; coming in at 84.2% through March 2023. Variances within this category, when they occur, are not unexpected as usage varies throughout the year.

- **Electric** is higher than the pro-rata benchmark, coming in at 80.5%. The FY 2023 budget was adjusted for the increase to the charge for kWh, however, an additional budget amendment was processed for the second quarter FY 2023. It should be noted that variances are not unexpected as usage varies throughout the year. The first three months of GLWA's fiscal year (July, August, and September) are typically peak months for the usage of electricity. June, the last month of GLWA's fiscal year, is typically a peak month as well.
- **Gas** is coming in at 109.5% which is higher than the benchmark of 75.0%. Variances within this category are not unexpected as usage varies throughout the year. The FY 2023 budget was adjusted for the increase in both usage as well as for the cost of natural gas MMBTU. Further review of this category is being conducted.
- **Sewage service** is higher than the benchmark, coming in at 103.8%. Increased usage has been reported at the WRRF (in part due to bills being received for actual meter readings when in the past the bills had been estimated), the Biosolids Dryer Facility (BDF), and the Southwest Water Plant. A second quarter FY 2023 budget amendment was processed for this service and this category continues to be closely monitored.
- **Water service** is slightly lower than the benchmark, coming in at 74.4%. As meters have been repaired or replaced at the WRRF, the billings that previously reported estimated readings have been replaced with actual readings. The actual readings have been coming in higher than the estimated billings. In addition, a new water billing structure was implemented in early FY 2023 which has resulted in an increase in the water billing rate. A second quarter FY 2023 budget amendment was processed for this service and this category continues to be closely monitored.

Chemicals: This category is slightly higher than the pro-rate benchmark; coming in at 76.7% through March 2023. The FY 2023 budget has been amended for both systems to adjust for the rising chemical costs and this category continues to be closely monitored.

Supplies & Other: This category is lower than the benchmark; coming in at 72.7% through March 2023. Given that the nature of the items in this category are subject to one-time expenses that do not occur evenly throughout the year, variances are not unexpected. A review of this category is being conducted.

Contractual Services: The overall category is lower than the pro-rata benchmark; coming in at 71.0% through March 2023. Variances in this category, when they occur, are not unexpected as the usage of contracts varies throughout the year (projects scheduled to begin during the latter half of the year as well as contracts that are on an as needed basis). Budget amendments will be processed for those projects in which the actual start dates have been delayed from that in which they were budgeted.

Capital Program Allocation: This category is lower than the benchmark; coming in at 44.0% through March 2023. The amount in the Capital Program Allocation account is shown as negative as this is a “contra” account which represents an offset to the Personnel Costs section of the Operations & Maintenance (O&M) budget. A review of this category is being conducted.

Shared Services: This category is lower than the benchmark; coming in at 55.3% through March 2023. The shared services reimbursement is comprised of both labor (tracked via BigTime) and expenses, such as annual fees for software licensing. Staff from both GLWA and DWSD have been working together to evaluate and refine the budget for the shared services agreements. Based on these evaluations, adjustments have been made to both the billings and accounting accruals to reflect the forecasted activity more accurately for FY 2023. In addition, it is important to note that some of the shared services agreements are not billed at a monthly rate of 1/12 of the annual budgeted amount and activity includes true-up billings from prior years.

Table 3 – Operations & Maintenance Expense Variance Analysis – (\$000)

Expense Categories	FY 2022 AMENDED BUDGET	FY 2022 ACTIVITY THRU 3/31/2022	Percent Year-to- Date at 3/31/2022	FY 2022 ACTIVITY THRU 6/30/2022	Percent Year-to- Date at 6/30/2022	FY 2023 AMENDED BUDGET	FY 2023 PRORATED BUDGET (9 MONTHS)	FY 2023 ACTIVITY THRU 3/31/2023	Percent Year-to- Date 3/31/2023	FY 2023 PRORATED BUDGET LESS FY 2023 ACTIVITY
Entity-wide										
Salaries & Wages	\$ 66,113	\$ 48,578	73.5%	\$ 63,901	76.0%	\$ 71,755	\$ 53,816	\$ 53,257	74.2%	\$ 559
Workforce Development	869	588	67.7%	844	69.7%	1,342	1,006	974	72.6%	33
Overtime	8,126	6,094	75.0%	8,113	75.1%	7,007	5,255	6,450	92.1%	(1,195)
Employee Benefits	25,956	19,213	74.0%	24,206	79.4%	27,869	20,902	18,678	67.0%	2,224
Transition Services	10,805	7,753	71.8%	9,990	77.6%	11,030	8,272	7,080	64.2%	1,192
Employee Benefits Fund	-	(24)	0.0%	-	0.0%	-	-	(32)	0.0%	32
Personnel Costs	111,869	82,203	73.5%	107,053	76.8%	119,002	89,252	86,407	72.6%	2,845
Electric	43,950	33,001	75.1%	43,755	75.4%	43,314	32,486	34,889	80.5%	(2,403)
Gas	7,081	5,273	74.5%	8,665	60.9%	8,553	6,415	9,370	109.5%	(2,955)
Sewage Service	2,510	1,842	73.4%	2,568	71.8%	2,596	1,947	2,695	103.8%	(749)
Water Service	5,841	3,592	61.5%	4,669	76.9%	11,052	8,289	8,224	74.4%	66
Utilities	59,383	43,708	73.6%	59,656	73.3%	65,515	49,136	55,178	84.2%	(6,041)
Chemicals	19,842	14,199	71.6%	20,382	69.7%	28,476	21,357	21,831	76.7%	(474)
Supplies & Other	35,034	22,679	64.7%	29,711	76.3%	35,122	26,341	25,529	72.7%	812
Contractual Services	111,198	79,052	71.1%	107,527	73.5%	105,978	79,484	75,230	71.0%	4,254
Capital Program Allocation	(2,684)	(1,930)	71.9%	(2,632)	73.3%	(3,636)	(2,727)	(1,601)	44.0%	(1,126)
Shared Services	(3,202)	(1,862)	58.2%	(2,398)	77.7%	(1,501)	(1,126)	(830)	55.3%	(296)
Unallocated Reserve	4,402	-	0.0%	-	0.0%	3,414	2,561	-	0.0%	2,561
Total Expenses	\$ 335,843	\$ 238,050	70.9%	\$ 319,300	74.6%	\$ 352,370	\$ 264,278	\$ 261,744	74.3%	\$ 2,534
<i>Totals may be off due to rounding</i>										



The Basic Financial Statements report includes the following four tables.

1. Statement of Net Position - All Funds Combined
2. Statement of Revenues, Expenses and Changes in Net Position – All Funds Combined
3. Supplemental Schedule of Operations & Maintenance Expenses -All Funds Combined
4. Supplemental Schedule of Nonoperating Expenses – All Funds Combined

At a macro level GLWA has two primary funds for financial reporting purposes: *Water Fund* and *Sewage Disposal Fund*. These funds represent the combined total of four sub-funds for each system that are used internally to properly account for sources and uses of funds. Those sub-funds for each system are: *Operations & Maintenance Fund*, *Improvement & Extension Fund*, *Construction Fund*, and *Capital Asset Fund*.

The June 2022 comparative amounts shown in the tables below are presented based on final audited figures.

Statement of Net Position – All Funds Combined

Explanatory notes follow the Statement of Net Position shown in Table 1 below.

Table 1 – Statement of Net Position - All Funds Combined
As of March 31, 2023
(\$000)

	Water	Sewage Disposal	Total Business-type Activities	Comparative June 30, 2022
Assets				
Cash - unrestricted (a)	\$ 187,676	\$ 250,669	\$ 438,345	\$ 347,655
Cash - restricted (a)	116,658	76,791	193,449	113,378
Investments - unrestricted (a)	65,298	65,767	131,065	185,209
Investments - restricted (a)	185,317	281,314	466,631	144,445
Accounts Receivable	78,545	86,137	164,682	175,133
Due from (to) Other Funds (b)	5,490	(5,490)	-	-
Other Assets (c)	676,616	410,280	1,086,896	1,077,698
Cash held FBO DWSD Advance	-	-	-	-
Capital Assets, net of Depreciation	1,214,448	2,016,644	3,231,093	3,432,437
Land	293,617	126,816	420,433	420,750
Construction Work in Process (e)	416,102	266,291	682,393	467,190
Total assets	3,239,766	3,575,220	6,814,986	6,363,896
Deferred Outflows (f)	46,283	115,441	161,724	182,497
Liabilities				
Liabilities - Liabilities-ST	151,708	170,715	322,424	354,055
Due to (from) Other Funds (b)	-	-	-	-
Other Liabilities (h)	1,993	5,379	7,372	7,500
Cash Held FBO DWSD (d)	18,249	27,582	45,832	20,470
Liabilities - Long-Term (i)	3,167,139	3,537,267	6,704,406	6,263,510
Total liabilities	3,339,090	3,740,943	7,080,033	6,645,535
Deferred Inflows (f)	45,249	37,957	83,206	120,157
Total net position (j)	\$ (98,290)	\$ (88,240)	\$ (186,530)	\$ (219,299)

Totals may be off due to rounding

In general, the Statement of Net Position reflects a mature organization with no unexpected trends.

An ongoing challenge is the Net Position Deficit. The underlying causes took years to build (largely heavy use of debt to finance capital asset investment versus a strategic blend of debt, state revolving funds, and cash). The effect is reflected in GLWA's high debt interest expense. The GLWA is regularly updating the FY 2032 forecast which helps to provide a pathway to a positive Net Position in the future.

Footnotes to Statement of Net Position

- a. *Cash and Investments* are reported at market value. Investments at June 30, 2022 are also reported at market value. The March 31, 2023 values differ from the Cash and Investment section of this Financial Report Binder due to timing of certain items recognized on a cash versus accrual basis.
- b. *Due from Other Funds* and *Due to Other Funds* are shown at gross for sub-fund activity.
- c. *Other Assets* primarily consists of the contractual obligation receivable from DWSD related to reimbursement of bonded indebtedness for local system improvements.
- d. *Cash Held FBO Advance (for benefit of) DWSD* and *Cash Held FBO DWSD* represents the net difference between DWSD retail cash received from customers and net financial commitments as outlined in the Master Bond Ordinance.
- e. *Construction Work in Process* represents the beginning balance of CWIP plus any construction spending during the fiscal year. The balance will fluctuate based on the level of spend less any capitalizations or write-offs.
- f. *Deferred Inflow* and *Deferred Outflow* relate mainly to financing activity and GLWA's share of the legacy General Retirement System (GRS) pension obligation.
- g. *Liabilities - Short-term* include accounts payable, retainage payable, and certain accrued liabilities. Some items, such as compensated absences and worker's compensation, are reviewed periodically but only adjusted in the interim if there is a material change.
- h. *Other Liabilities* account for the cash receipts set aside for the Budget Stabilization Fund and the Water Residential Assistance Program.
- i. *Liabilities – Long-term* include bonds payable, lease payable, and legacy General Retirement System pension liabilities.
- j. *Net Position Deficit* is defined by accounting standards as the residual of all other elements presented in a statement of financial position. It is the difference between (a) assets and deferred outflows of resources and (b) liabilities and deferred inflows of resources. A net deficit occurs when the liabilities and deferred inflows exceed assets and deferred outflows. GLWA's net deficit is largely driven by an increase in depreciation expense because of the increase in the acquisition valuation approach for recording capital asset values in the opening Statement of Net Position on January 2016. Efforts are underway to evaluate the net operating effect of this matter over the long term.

Statement of Revenues, Expenses and Changes in Net Position

– All Funds Combined

This statement, shown in Table 2, is presented in summary format. The accrual basis of revenues and operations and maintenance expense vary from the revenue requirement basis presented in the *Budget to Actual Analysis* and the *Wholesale Billings, Receivables & Collections* sections of the March 2023 Financial Report Binder. Prior year ending balances are provided in the June 30, 2022 column as a reference for comparative purposes. Explanatory notes follow this statement.

Water revenues presented below in Table 2 differ from those presented in *Table 1A – Water Revenue Requirement Budget* found in the *Budget to Actual Analysis* section of this report because water revenues presented in Table 1A for revenue requirement purposes are reduced by the monthly payment to the City of Flint for a license to raw water rights.

Table 2 – Statement of Revenues, Expenses and Changes in Net Position
– All Funds Combined
For the Nine Months ended March 31, 2023
(\$000)

	Water	Percent of Revenue	Sewage Disposal	Percent of Revenue	Total Business- Type Activities	Comparative June 30, 2022
Revenue						
Wholesale customer charges	\$ 254,746	93.6%	\$ 206,677	57.2%	\$ 461,423	\$ 591,840
Local system charges	17,138	6.3%	143,282	39.6%	160,420	210,360
Industrial waste charges		0.0%	6,278	1.7%	6,278	8,300
Pollutant surcharges		0.0%	3,716	1.0%	3,716	5,182
Other revenues	373	0.1%	1,490	0.4%	1,863	664
Total Revenues	272,257	100.0%	361,443	100.0%	633,700	816,345
Operating expenses						
Operations and Maintenance	114,058	41.9%	151,927	42.0%	265,985	324,735
Depreciation	95,022	34.9%	122,987	34.0%	218,009	281,210
Amortization of intangible assets	2,675	1.0%	330	0.1%	3,005	4,006
Total operating expenses	211,755	77.8%	275,243	76.2%	486,999	609,951
Operating Income	60,502	22.2%	86,200	23.8%	146,701	206,394
Total Nonoperating (revenue) expense	49,526	18.2%	64,406	17.8%	113,932	215,561
Increase/(Decrease) in Net Position	10,976	4.0%	21,794	6.0%	32,769	(9,167)
Net Position (deficit), beginning of year	(109,266)		(110,033)		(219,299)	(210,132)
Net position (deficit), end of year	\$ (98,290)		\$ (88,240)		\$ (186,530)	\$ (219,299)
<i>Totals may be off due to rounding</i>						

All amounts are unaudited unless otherwise noted.

GLWA Audit Committee June 26, 2023

Water Fund

- ✓ The increase in Water Fund Net Position is \$11.0 million.
- ✓ Wholesale water customer charges of \$254.7 million account for 93.6% of Water System revenues.
- ✓ Operating expenses of \$211.8 million represent 77.8% of total operating revenue. Depreciation is the largest operating expense at \$95.0 million or 44.9% of operating expense.
- ✓ Amortization of intangible assets represents activity for raw water rights.
- ✓ Operating income after operating expenses (including depreciation) equals \$60.5 million or 22.2% of operating revenue.
- ✓ The largest category within nonoperating activities is bonded debt interest expense of \$62.8 million (this equates to the bonded debt interest expense less the offset from DWSD contractual obligation income).

Sewage Disposal Fund

- ✓ The increase in the Sewage Disposal Fund Net Position is \$21.8 million.
- ✓ Wholesale customer charges of \$206.7 million account for 57.2% of Sewer System revenues. Wholesale customer charges are billed one-twelfth each month based on an agreed-upon historical average “share” of each customer’s historical flows which are formally revisited on a periodic basis. The result is no revenue shortfall or overestimation.
- ✓ Local system (DWSD) charges of \$143.3 million account for 39.6% of total operating revenues. These are also billed at one-twelfth of the annual revenue requirement.
- ✓ Operating expenses of \$275.2 million represent 76.2% of total operating revenue. Depreciation is the largest operating expense at \$123.0 million or 44.7% of total operating expense.
- ✓ Amortization of intangible assets represents activity for a warehouse lease.
- ✓ Operating income after operating expenses (including depreciation) equals \$86.2 million or 23.8% of operating revenue.
- ✓ The largest category within nonoperating activities is bonded debt interest expense of \$73.3 million (this equates to the bonded debt interest expense less the offset from DWSD contractual obligation income).

Supplemental Schedule of Operations & Maintenance Expenses – All Funds Combined

This Supplemental Schedule of Operations & Maintenance Expenses (O&M) schedule is shown below in Table 3. This accrual basis of operations and maintenance expense may vary from the revenue requirement basis presented in the *Budget to Actual Analysis* section of the March 2023 Financial Report Binder. Explanatory notes follow this schedule.

**Table 3 – Supplemental Schedule of Operations & Maintenance Expenses
– All Funds Combined
For the Nine Months ended March 31, 2023
(\$000)**

	Water	Percent of Total	Sewage Disposal	Percent of Total	Total Business- Type Activities	Percent of Total
Operating Expenses						
Personnel						
Salaries & Wages	19,508	17.1%	41,803	27.5%	61,311	23.1%
Overtime	4,067	3.6%	2,384	1.6%	6,450	2.4%
Benefits	13,053	11.4%	5,593	3.7%	18,646	7.0%
Total Personnel	<u>\$ 36,627</u>	<u>32.1%</u>	<u>\$ 49,780</u>	<u>32.8%</u>	<u>\$ 86,407</u>	<u>32.5%</u>
Utilities						
Electric	22,698	19.9%	12,191	8.0%	34,889	13.1%
Gas	1,492	1.3%	7,878	5.2%	9,370	3.5%
Sewage	652	0.6%	2,043	1.3%	2,695	1.0%
Water	5	0.0%	8,220	5.4%	8,224	3.1%
Total Utilities	<u>\$ 24,846</u>	<u>21.8%</u>	<u>\$ 30,332</u>	<u>20.0%</u>	<u>\$ 55,178</u>	<u>20.7%</u>
Chemicals	9,324	8.2%	12,508	8.2%	21,831	8.2%
Supplies and other	8,904	7.8%	16,261	10.7%	25,165	9.5%
Contractual services	35,964	31.5%	43,991	29.0%	79,956	30.1%
Capital Adjustment	-	0.0%	-	0.0%	-	0.0%
Capital program allocation	(880)	-0.8%	(721)	-0.5%	(1,601)	-0.6%
Intergovernmental Agreement	-	0.0%	(121)	-0.1%	(121)	0.0%
Shared services allocation	(727)	-0.6%	(104)	-0.1%	(830)	-0.3%
Operations and Maintenance Expenses	<u>\$ 114,058</u>	<u>100.0%</u>	<u>\$ 151,927</u>	<u>100.0%</u>	<u>\$ 265,985</u>	<u>100.0%</u>

Totals may be off due to rounding

All amounts are unaudited unless otherwise noted.

GLWA Audit Committee June 26, 2023

- ✓ Core expenses for water and sewage disposal systems are utilities (20.7% of total O&M expenses) and chemicals (8.2% of total O&M expenses).
- ✓ Personnel costs (32.5% of total O&M expenses) include all salaries, wages, and benefits for employees as well as staff augmentation contracts that fill a vacant position (contractual transition services).
- ✓ Contractual services (30.1%) includes:
 - Water System costs of sludge removal and disposal services at the Northeast, Southwest and Springwells Water Treatment Plants (approximately \$3.0 million);
 - Sewage Disposal System costs for the operation and maintenance of the biosolids dryer facility (approximately \$12.5 million); and
 - Centralized and administrative contractual costs allocated to both systems for information technology, building maintenance, field, planning and other services.
- ✓ The Capital Program Allocation, Intergovernmental Agreement and Shared Services Allocation are shown as negative amounts because they are 'contra' expense accounts representing offsets to associated costs in other Operations and Maintenance expense categories.

Supplemental Schedule of Nonoperating Expenses – All Funds Combined

The Supplemental Schedule of Nonoperating Expenses – All Funds Combined is shown in Table 4. Explanatory notes follow this schedule.

Table 4 – Supplemental Schedule of Nonoperating Expenses – All Funds Combined
For the Nine Months ended March 31, 2023
(\$000)

	Water	Sewage Disposal	Total Business- type Activities	Comparative June 30, 2022
Nonoperating (Revenue)/Expense				
Interest income contractual obligation	\$ (18,475)	\$ (12,296)	\$ (30,770)	\$ (42,120)
Interest income DWSD Shortfall	-	-	-	(145)
Investment earnings	(9,926)	(12,587)	(22,513)	(3,735)
Net (incr) decr in fair value of invstmt	(2,534)	(3,667)	(6,201)	9,119
Other nonoperating revenue	(605)	(664)	(1,269)	(476)
Interest Expense				
Bonded debt	81,261	85,642	166,902	212,284
Lease obligation	12,617	15,421	28,039	37,836
Other obligations	3,215	1,226	4,441	6,077
Total interest expense	97,094	102,289	199,383	256,197
Other non-capital expense	-	-	-	-
Memorandum of Understanding	-	-	-	-
Capital Contribution	-	(2,176)	(2,176)	(6,991)
Amortization, issuance costs, debt	(10,569)	2,433	(8,136)	(13,318)
(Gain) loss on disposal of capital assets	275	1,842	2,117	322
Loss on impairment of capital assets	-	-	-	-
Water Residential Assistance Program	1,711	2,552	4,263	2,793
Legacy pension expense	(7,444)	(13,322)	(20,765)	13,915
Total Nonoperating (Revenue)/Expense	\$ 49,526	\$ 64,406	\$ 113,932	\$ 215,561

Totals may be off due to rounding

- ✓ Interest income on contractual obligation relates to the portion of the total GLWA debt obligation attributable to DWSD. This interest income offsets the total debt interest expense paid by GLWA on behalf of both entities monthly.
- ✓ Interest income DWSD shortfall represents interest from a budgetary shortfall loan from fiscal years 2016, 2017 and 2018 and is paid in accordance with the 2018 Memorandum of Understanding (MOU). This loan was paid in full in FY 2022.
- ✓ Investment earnings in this report are reflected at book value. Any differences between the Basic Financial report and Cash and Investment section of this Financial Report binder are due to accrued interest.

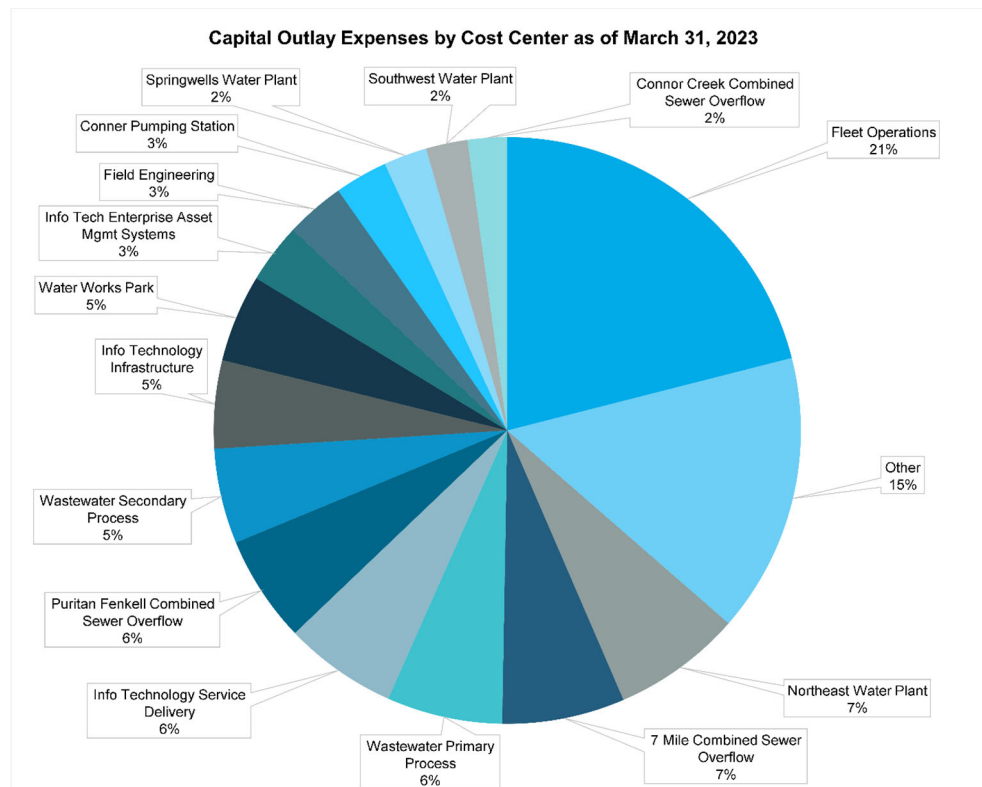
- ✓ Net (increase) decrease in fair value of investments consists of market value of investments and realized gain/loss on sale of investments. FY 2021 market value adjustments for Water and Sewer total \$1.5 million and \$1.0 million, respectively. FY 2022 market value adjustments for Water and Sewer total \$2.8 million and \$3.9 million, respectively. Any difference is due to realized gain or loss on investments.
- ✓ Interest expense, the largest category of nonoperating expenses, is made up of three components:
 - Bonded debt;
 - Lease obligation for the regional assets from the City of Detroit; and
 - Other obligations such as an obligation payable to the City of Detroit for an allocation BC Notes related to assumed DWSD liabilities; acquisition of raw water rights related to the KWA Pipeline.
- ✓ FY 2023 other non-operating income primarily represents FEMA Covid-19 grant income for the Water and Sewage Disposal systems.
- ✓ The FY 2023 capital contribution in Nonoperating (revenue) expense represents funds from the Evergreen Farmington Sewer District for a maximum discharge capacity of 227 cubic feet per second (cfs) to the regional sewer system.
- ✓ The FY 2022 capital contribution in Nonoperating (revenue) expense represents \$7.0 million from the Oakland Macomb Interceptor Drainage District for assets placed in service during FY 2022.
- ✓ FY 2023 Sewage Disposal loss on disposal of capital assets includes sale of McKinstry warehouse.
- ✓ For FY 2023, GLWA is recognizing non-operating pension revenue rather than expense as a result of improved investment earnings for the plan.

Financial Activity Charts

Chart 1 – Capital Outlay – Water and Sewer System Combined

Capital Outlay represents purchases of equipment, software, and small facility improvement projects. It *excludes* any capital investment which is included in the monthly construction work-in-progress report related to the Capital Improvement Program. Some items span several months so the entire cost may not have been incurred yet. In addition, items are capitalized only if they meet GLWA's capitalization policy.

Through March 31, 2023, total capital outlay spend is \$8.7 million. Following this chart is a sample list of projects and purchases from the total spend of \$8.7 million:



Note: Due to rounding totals may not equal 100%.

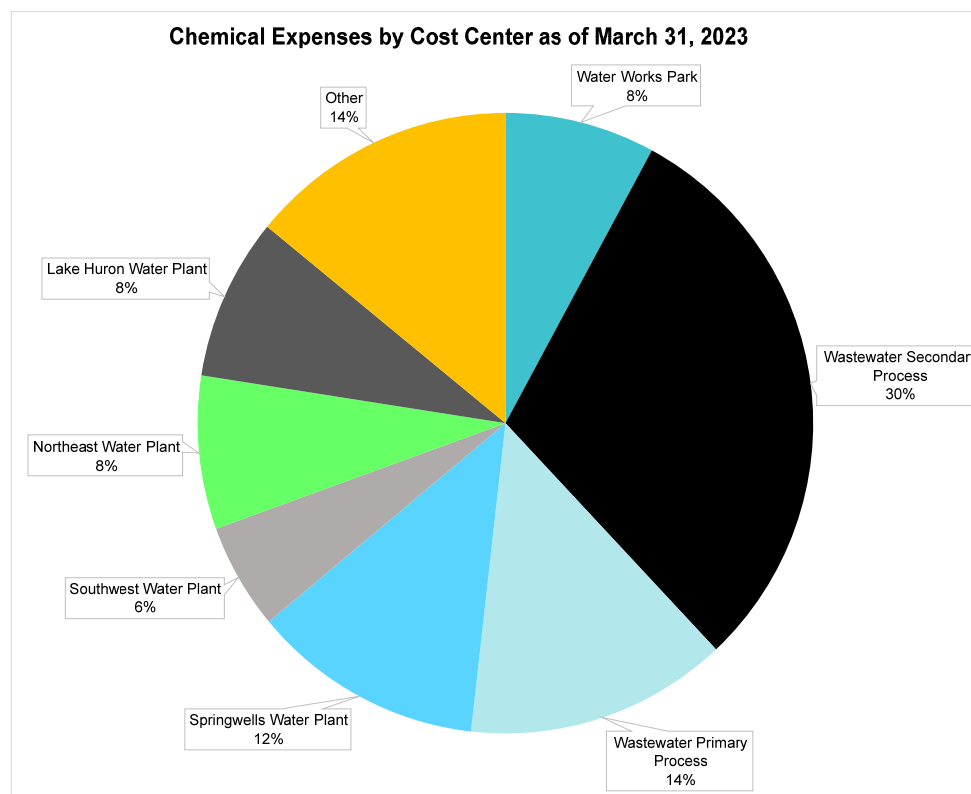
Water Operations: Northeast Water treatment plant loss of flow and head measurement (\$521k); Overhead door repair (\$160k); EDS Dashboard (\$86k); furniture for multiple sites (\$77k); metering pump repairs (\$57k); pumps (\$50k); composite cylinders (\$45k); tank pressure transmitter (\$42k) and CAAS Cube ELISA System (\$37k).

Wastewater Operations: CSO actuator replacement (\$991k); Water intake improvements (\$372k); Rotork replacements (\$188k); WRRF Electrical Buildings project (\$163k); Scum hopper (\$153k); WRRF Actuator (\$132k); Pulsafeeders (\$121k); Gas detection unit (\$121k); Complex A pump replacement (\$110k); Instrumentation and controls (\$103k); Water Champ (\$97k); Terrain litter vacuum (\$95k); Puritan-Fenkell courtyard accessibility improvements (\$84k); Flygt Mixer (\$73k); CSO PQM Meters (\$73k); Wastewater pumps (\$71k); Connor Creek replacement actuators (\$54k); Gate valve actuators (\$50k); Electric actuator (\$50k); Rotork units (\$42k) and rotork actuators (\$35k).

Centralized & Administrative Facilities: Trucks and vehicles (\$1.6m); Computer hardware (\$500k); Software (\$343k); Cloud Backup Project (\$322k); charging stations (\$177k); Pressure transmitter (\$87k); transmitter (\$46k); maintenance renewal (\$37k) and radios (\$36k).

Chart 2 – Chemical Expenses – Water and Sewer System Combined

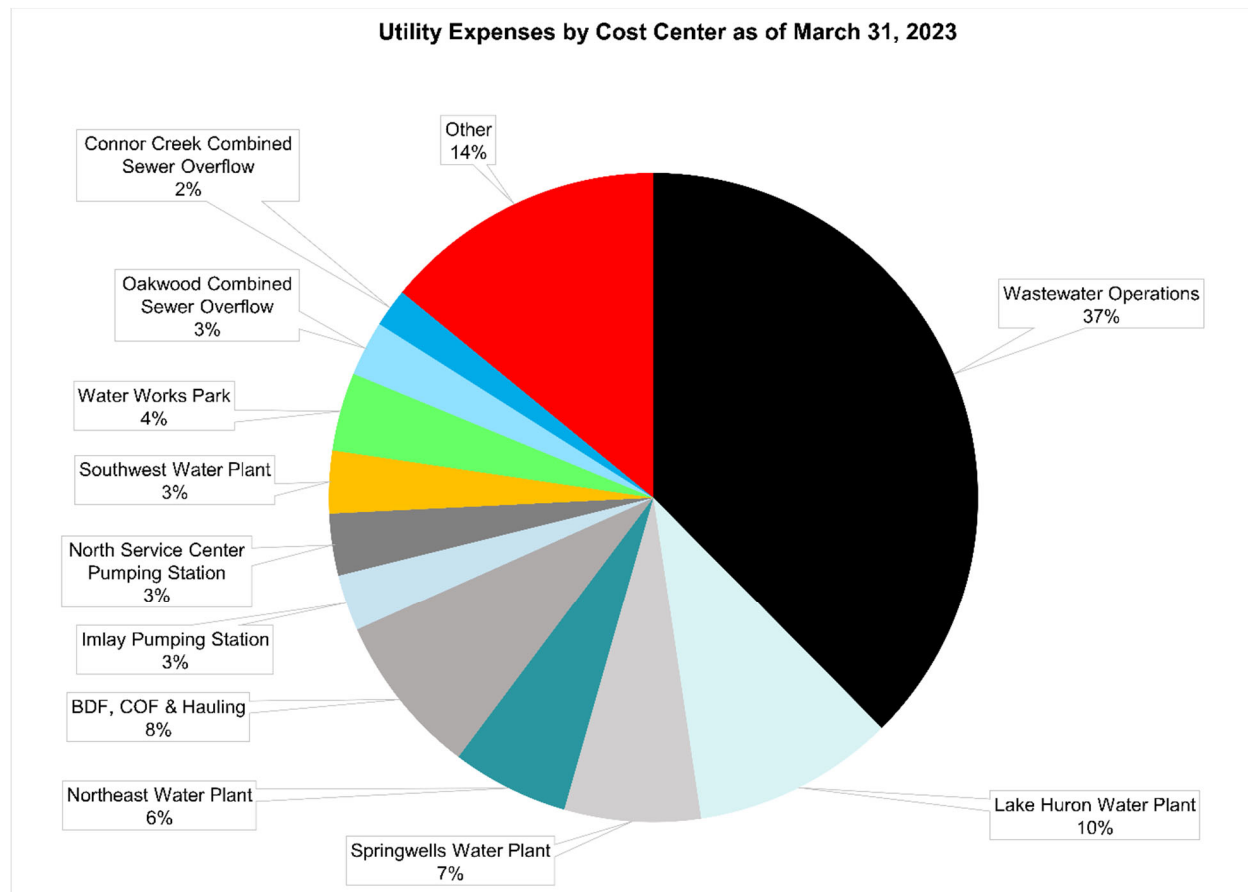
Chemical expenses are \$21.8 million through March 31, 2023. The allocation is shown in the chart below and remains consistent with prior periods.



Note: “Other” includes Combined Sewer Overflow (CSO), portions of the Wastewater process and two departments from Water. Due to rounding totals may not equal 100%.

Chart 3 – Utility Expenses – Water and Sewer System Combined

Utility expenses are \$55.2 million through March 31, 2023. The allocation is shown in the chart below and consistent with prior periods.



Note: Due to rounding totals may not equal 100%.



Financial Operations KPI

This key performance indicator shown in **Chart 1 – Bank Reconciliation Completion Status** below provides a measure of the progress made in the month-end close process which includes bank reconciliations with a completed status at month end. Through March 31, 2023 all reconciliations are up-to-date and complete.

There were no accounts inactivated in the general ledger accounts since February 2023.

Chart 1 – Bank Reconciliation Completion Status

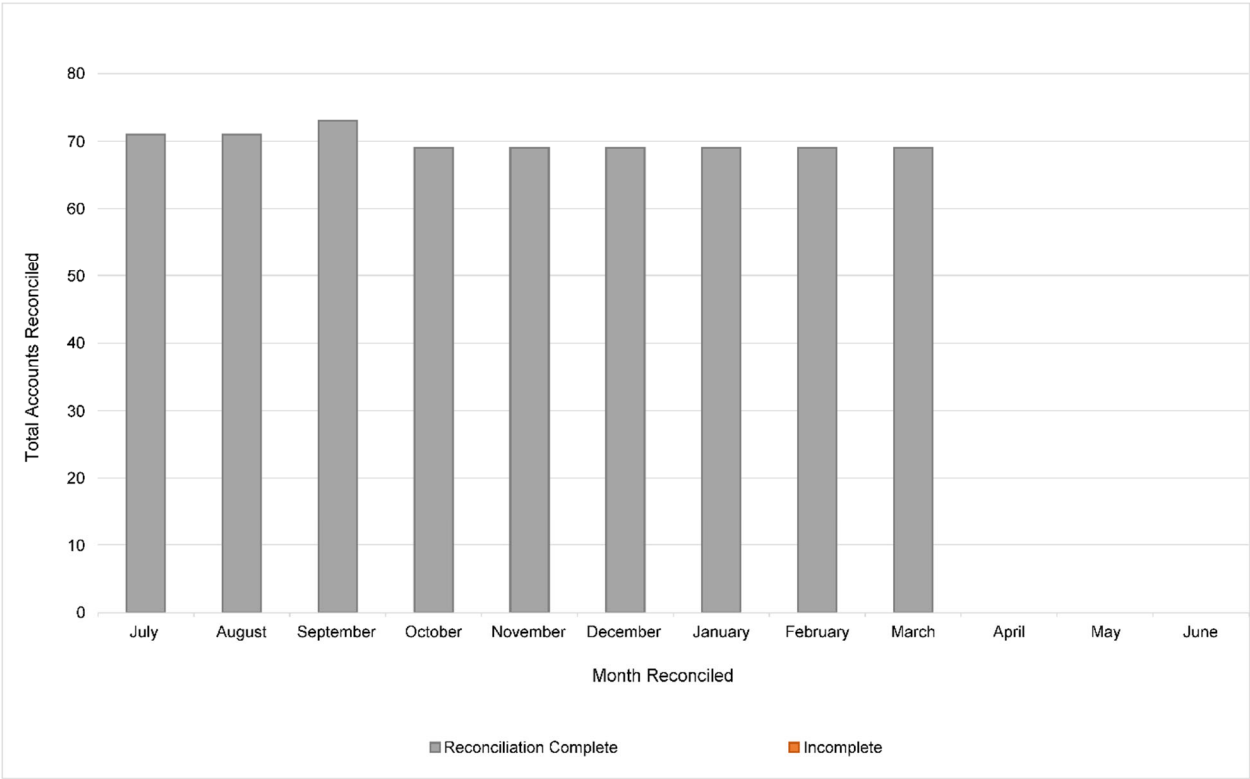


Table 1 – Fiscal Year 2023 GL Cash Account Rollforward

Total GL Cash accounts as of July 1, 2022	72
New GL Cash accounts	2
Inactivated GL Cash accounts	(5)
Total GL Cash accounts as of March 31, 2023	69

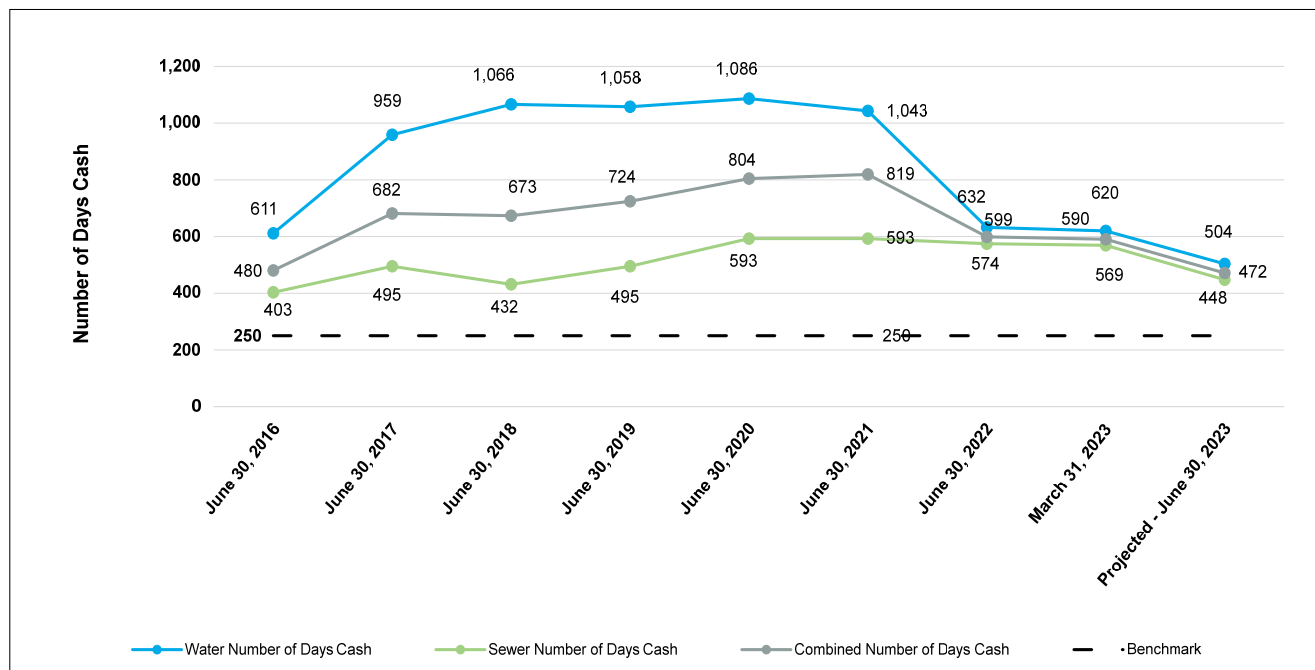


Financial Operations KPI - Liquidity

This key performance indicator shown in **Chart 1 – Historical Schedule of Days Cash on Hand – Liquidity – Regional System** and **Table 1 – Schedule of Days Cash on Hand – Liquidity – Regional System** below provides a measure of a utility's ability to meet expenses, cope with emergencies and navigate business interruptions. Liquidity is one of several key metrics monitored by bond rating agencies reflecting an organization's financial strength. A best practice benchmark for this key performance indicator is greater than 250 days cash on hand as shown by the dashed line in Chart 1 below.

Both GLWA Water and Sewer funds continue to exceed this target with Water at 620 and Sewer at 569 days cash on hand as of March 31, 2023. These balances remain strong for the regional system but did decrease in FY 2022 as I&E funds were used as planned to fund capital improvement projects. A September 2022 revenue bond transaction has replenished the construction bond fund and reduced the emphasis on I&E funding. The FY 2023 projection is calculated based on values from the GLWA FY 2023 – 2027 Budget & Five-Year Plan.

Chart 1 – Historical Schedule of Days Cash on Hand – Liquidity – Regional System



Note: The GLWA Annual Comprehensive Financial Reports are the source of all historic data referenced. Refer to these reports for detailed calculations by fiscal year.

Table 1 – Schedule of Days Cash on Hand – Liquidity – Regional System

	<u>June 30, 2022</u>	<u>March 31, 2023</u>	<u>Projected June 30, 2023</u>
Water Fund			
Cash and Investments - Unrestricted	\$ 238,691,000	\$ 252,974,000	\$ 205,800,000
Operating Expense			
Operating Expense (a)	\$ 264,579,000	\$ 216,011,000	\$ 288,014,000
Less: Depreciation (a)	(123,196,000)	(101,475,000)	(135,300,000)
Less: Amortization of Intangible Asset (a)	(3,567,000)	(2,675,000)	(3,567,000)
Net Operating Expense	\$ 137,816,000	\$ 111,861,000	\$ 149,148,000
Operating Expense per Day	\$ 378,000	\$ 408,000	\$ 409,000
Days Cash			
Number of Days Cash	632	620	504
Sewage Disposal Fund			
Cash and Investments - Unrestricted	\$ 294,174,000	\$ 316,436,000	\$ 249,400,000
Operating Expense			
Operating Expense (a)	\$ 345,372,000	\$ 273,767,000	\$ 365,023,000
Less: Depreciation (a)	(158,014,000)	(121,350,000)	(161,800,000)
Less: Amortization of Intangible Asset (a)	(440,000)	-	-
Net Operating Expense	\$ 186,919,000	\$ 152,417,000	\$ 203,223,000
Operating Expense per Day	\$ 512,000	\$ 556,000	\$ 557,000
Days Cash			
Number of Days Cash	574	569	448
Combined			
Cash and Investments - Unrestricted	\$ 532,865,000	\$ 569,410,000	\$ 455,200,000
Operating Expense			
Operating Expense (a)	\$ 609,951,000	\$ 489,778,000	\$ 653,037,000
Less: Depreciation (a)	(281,210,000)	(222,825,000)	(297,100,000)
Less: Amortization of Intangible Asset (a)	(4,006,000)	(2,675,000)	(3,567,000)
Net Operating Expense	\$ 324,735,000	\$ 264,278,000	\$ 352,370,000
Operating Expense per Day	\$ 890,000	\$ 965,000	\$ 965,000
Days Cash			
Number of Days Cash	599	590	472
<i>Totals may be off due to rounding</i>			

(a) Current year expenses are expressed as a proration of the annual budget for the purposes of this metric.



The monthly Budget to Financial Statements Crosswalk includes the following.

1. Crosswalk Budget Basis to Financial Reporting Basis
2. Explanatory Notes for Crosswalk

Purpose for Crosswalk: The Great Lakes Water Authority establishes a “Revenue Requirements” budget for the purposes of establishing charges for services. The financial report is prepared in accordance with Generally Accepted Accounting Policies for enterprise funds of a local government. Because the budget and the financial statements are prepared using different basis of accounting, the crosswalk reconciles the “Net Difference” to the “Increase/(Decrease) in Net Position” in Table 2 of the Basic Financial Statements in the monthly Financial Report.

The Authority has a Water Master Bond Ordinance and a Sewer Master Bond Ordinance (MBO). The Ordinances provide additional security for payment of the bonds. All revenues of the system are deposited into Revenue Receipts Funds which are held in trust by a trustee. The cash is moved to multiple bank accounts monthly based on 1/12th of the budget as defined in the MBO (“the flow of funds”) for all revenue requirements except for the Debt Service monthly transfer. The Debt Service monthly requirement is computed by the trustee, U.S. Bank. The cash transfer for debt is net of investment earnings that remain in the debt service accounts to be used for debt service.

The budget is prepared on a modified cash basis. The revenue requirements are determined based upon the cash needed to meet the financial commitments as required by the Master Bond Ordinance.

- Operation & Maintenance (O&M) expenses based on an accrual basis
- O&M Legacy Pension Allocation (includes administrative fee) and Accelerated Legacy Pension Allocation (includes B&C notes obligation) based on a cash basis
- Debt Service Allocation based on a cash set aside basis to provide the cash for the debt payments on the due dates
- Lease payments based on a cash basis
- Water Residential Assistance Program based on a percentage of budgeted revenue
- Regional System Improvement & Extension Fund Allocation on a cash basis

Budget: In Table 1A and Table 1B of the Budget to Actual Analysis the ‘Revenues’ section is the accrual basis revenues that are available to meet the ‘Revenue Requirements’. The ‘Revenue Requirements’ section budget column indicates the annual cash transfers to be made.

Financial Reporting: The Authority's financial statements are prepared in conformity with generally accepted accounting principles (GAAP) as applied to government units. The Authority maintains its records on the accrual basis of accounting to conform to GAAP. Revenues from operations, investments and other sources are recorded when earned. Expenses (including depreciation) are recorded when incurred.

Table 1 – Crosswalk Budget Basis to Financial Reporting Basis provides a reconciliation of the “Net Difference” in Table 1A and Table 1B in the Budget to Actual Analysis report to the “Increase/(Decrease) in Net Position” in Table 2 of the Basic Financial Statements in this monthly Financial Report. Explanatory notes follow the Crosswalk shown in Table 1 below.

Table 1 – Crosswalk Budget Basis to Financial Reporting Basis (\$000)
For the Nine Months Ended March 31, 2023

	Water	Sewer	Total
Net Revenue Requirement Budget Variance (a)	\$ (3,655)	\$ 737	\$ (2,918)
Budgetary categories adjustments to financial reporting basis			
Pension delayed accounting election adjustments			
Current year pension transfers/payments recorded as deferral (c)	8,581	15,357	23,938
Prior year pension contribution accounted for in current year (d)	7,444	13,322	20,766
Administrative prepaid adjustment (e)	-	-	-
Debt service (f)	52,327	87,233	139,560
Accelerated pension B&C notes obligation portion (g)	153	344	497
Regional System lease (h)	4,258	5,204	9,462
Right to use lease - warehouse (h)	-	272	272
Subscription Based Information Tech Arrangements (k)	-	-	-
WRAP (i)	(383)	(756)	(1,139)
DWSD short term allocation (j)	-	-	-
Improvement & Extension Fund transfers (j)	21,348	20,400	41,748
Nonbudgeted financial reporting categories adjustments			
Depreciation and amortization (k)	(97,697)	(123,317)	(221,014)
Amortization - debt related (k)	10,569	(2,433)	8,136
Other nonoperating income (k)	-	-	-
Other nonoperating expense (k)	-	-	-
Gain(loss) on disposal of capital assets (k)	(275)	(1,842)	(2,117)
Raw water rights obligation (l)	2,123	-	2,123
Investment earnings for construction fund (m)	4,267	4,913	9,179
Interest on DWSD note receivable (n)	-	-	-
Investment earnings unrealized gain/loss (o)	2,844	3,860	6,704
Improvement & extension fund operating expenses (p)	(929)	(3,676)	(4,603)
Net Position Increase/(Decrease) per Financial Statements (b)	\$ 10,976	\$ 21,794	\$ 32,770

Table 2 - Explanatory Notes for Crosswalk

- (a) Source: Budget to Actual Table 1A and Table 1B in Monthly Financial Report
- (b) Source: Basic Financial Statements Table 2 in Monthly Financial Report
- (c) Current year pension payments are an expense for budget purposes but not for financial reporting purposes.

- (d) Prior year pension payments are accounted for in the current year financial statements.
- (e) The administrative fee is part of the O&M Legacy Pension shown as an expense for budget purposes. For financial reporting purposes part of the administrative fee is considered prepaid based on the prior year General Retirement System audit information and therefore not an expense for the current year financial reporting. The prepaid portion is adjusted in June each year.
- (f) Debt service (principal and interest payments) are shown as an expense for budget purposes. Most of the adjustment relates to principal payments which are not an expense for financial reporting purposes. A portion of the adjustment relates to interest expense variances on state revolving fund debt due to the timing of payment draws. The cash set aside basis for interest expense generally is the same as the accrual basis for financial reporting.
- (g) The accelerated pension payment includes the obligation payable for the B&C notes. The pension portion is included in item (c) above. This adjustment relates to the B&C note obligation payments. The principal and interest cash basis payments are treated as an expense for budget purposes. The principal portion is not an expense for financial reporting purposes. For financial reporting purposes interest is expensed on an accrual basis which is different from the cash basis.
- (h) The lease payment and subscription-based information technology agreements are included as an expense for budget and include both principal and interest payments. Most of the adjustments relate to the principal payments which are not an expense for financial reporting purposes. A portion of the adjustments relate to interest expense which is recorded on an accrual basis for financial reporting which is different from the cash basis.
- (i) WRAP is shown as an expense for budget purposes. For financial reporting purposes the expense is not recognized until the funds have been transferred to the WRAP administrator. The adjustment shown is the amount of current year transfers that have not been transferred to the WRAP administrator. Note that there are funds from the prior year that have not been transferred to the WRAP administrator.
- (j) The DWSD short term allocation and Improvement & Extension Fund transfers are shown as an expense for budget purposes but not for financial reporting purposes.
- (k) Certain nonoperating income and expenses are reported in financial statements only.

- (l) The water service contract with Flint includes a license for raw water rights which has been recorded as an asset and liability by the Authority. The contract provides for a credit to Flint as Flint satisfies its monthly bond payment obligation to KWA. This KWA credit is treated as a noncash payment of principal and interest on the liability recorded for the raw water rights. For budget, wholesale customer charges are net of the anticipated KWA credits to Flint as that is the cash that will be received and available to meet the budgeted revenue requirements. For financial reporting purposes the Flint wholesale charges are recorded as the total amount billed. When the KWA credit is issued, the receivable from Flint is reduced and the principal and interest payments on the liability for the raw water rights are recorded as a noncash transaction. Most of the adjustment shown relates to the principal reduction made for the credits applied which are not an expense for financial reporting basis.
- (m) Investment earnings from the construction fund are not shown as revenue in the budget and are shown as revenue in the financial statements. Construction fund investment earnings are excluded from the definition of revenue for budget purposes as they are used for construction costs and are not used to meet the revenue requirements in the budget.
- (n) Interest on a DWSD note receivable is budgeted as part of the Sewer improvement and extension fund and is transferred directly to that fund as payments are made. DWSD does not currently have a note receivable due to GLWA.
- (o) Unrealized gains and losses are recorded annually as required for financial reporting purposes but do not reflect actual investment earnings and are not included in cash basis reporting.
- (p) The Water Improvement and Extension fund and the Sewer Improvement and Extension fund reflect certain expenses relating to repairs paid for through the Water and Sewer Improvement and Extension funds, respectively. These are consolidated expenses for financial reporting purposes but are not reflected in the current Operations and Maintenance budget expenses.



The Monthly Capital Improvement Plan Financial Summary includes the following.

1. Water System Capital Improvement Plan Spend Incurred to date
2. Sewer System Capital Improvement Plan Spend Incurred to date

Capital Improvement Plan Financial Summary

Great Lakes Water Authority (GLWA) capital improvement projects generally span two or more years due to size and complexity. Therefore, the GLWA Board of Directors (Board) adopts a five-year capital improvement plan (CIP). The CIP is a five-year, rolling plan which is updated annually and formally adopted by the GLWA Board of Directors. In addition, the Board of Directors adopts a capital spending ratio assumption (SRA) which allows the realities of capital program delivery to align with the financial plan. The SRA is an analytical approach to bridge the total dollar amount of projects in the CIP with what can realistically be spent due to limitations beyond GLWA's control and/or delayed for nonbudgetary reasons. Those limitations, whether financial or non-financial, necessitate the SRA for budgetary purposes, despite the prioritization established.

This report presents quarterly and monthly CIP spending against the prorated CIP in total and the CIP adjusted for the SRA. The prorated CIP is calculated by dividing the total fiscal year 2023 board-approved CIP plan by twelve equal months. It should be noted that for operational purposes, GLWA utilizes Primavera P6 for refined monthly projections for cash management and project management.

GLWA completed a bond transaction of \$450 million in September 2022 to support water system and sewage disposal system improvements. These funds along with I&E and SRF low-interest loans will fund the capital program going forward.

Capital spend reflects a noticeable variance from budgeted CIP for both the water and sewer funds. For the purposes of this metric, we compare actual spend with the Board-approved budget. For the purposes of managing the financial plan, budget amendments are made to align spending with resources available. Second quarter FY 2023 budget amendments were approved by the Board on April 26, 2023. The capital spend rate adjustment is 116.2% of the Board approved CIP planned spend for the water fund and 110.7% of the Board approved CIP planned spend for the sewer fund.

As of December 31, 2022, the State Revolving Fund (SRF) activity reported in Charts 1 and 2 has been revised to reflect recent changes in approved, GLWA SRF funding.

Chart 1 – Water System Capital Improvement Plan Spend Incurred to Date

As of March 2023, the water system incurred over \$154 million of construction costs to date. This spend represents 106% of the original, Board-approved CIP, and 91% of the Board-reviewed spend rate adjustment.

Economic factors affecting the CIP spend are considered by the Board quarterly at which time the Board may amend the planned spend rate adjusted.

Chart 1 – Water System Capital Improvement Plan Spend Incurred to Date – Spend Rate Adjusted

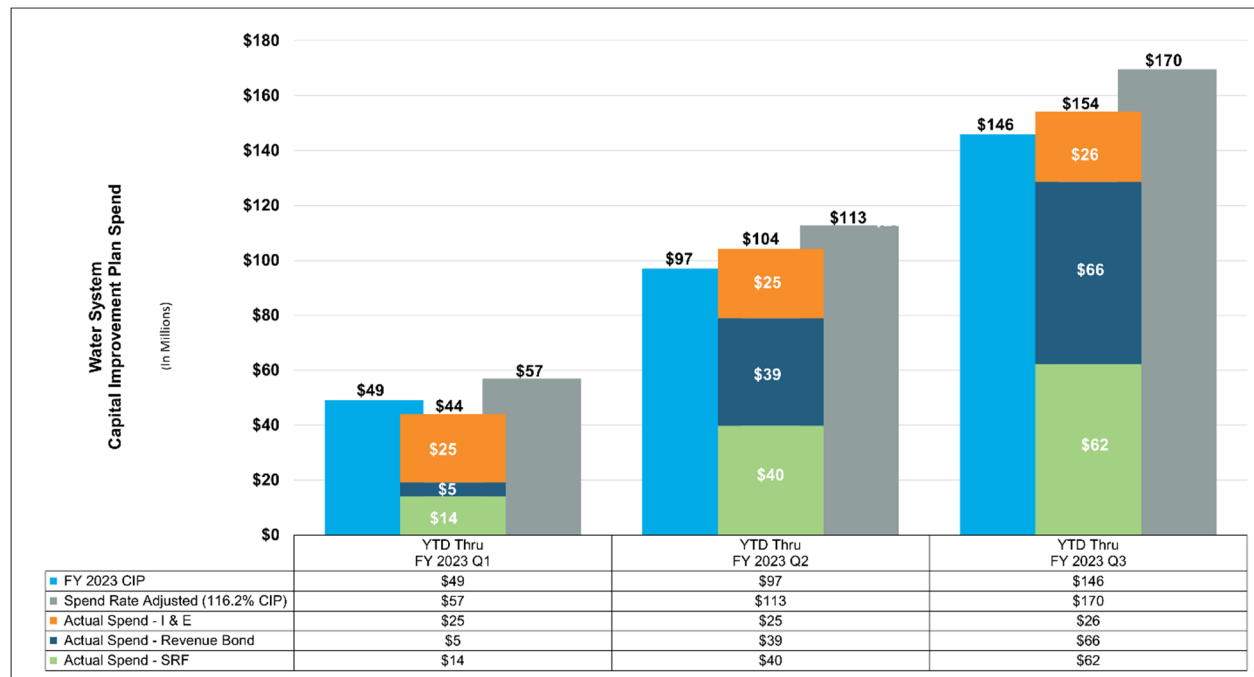
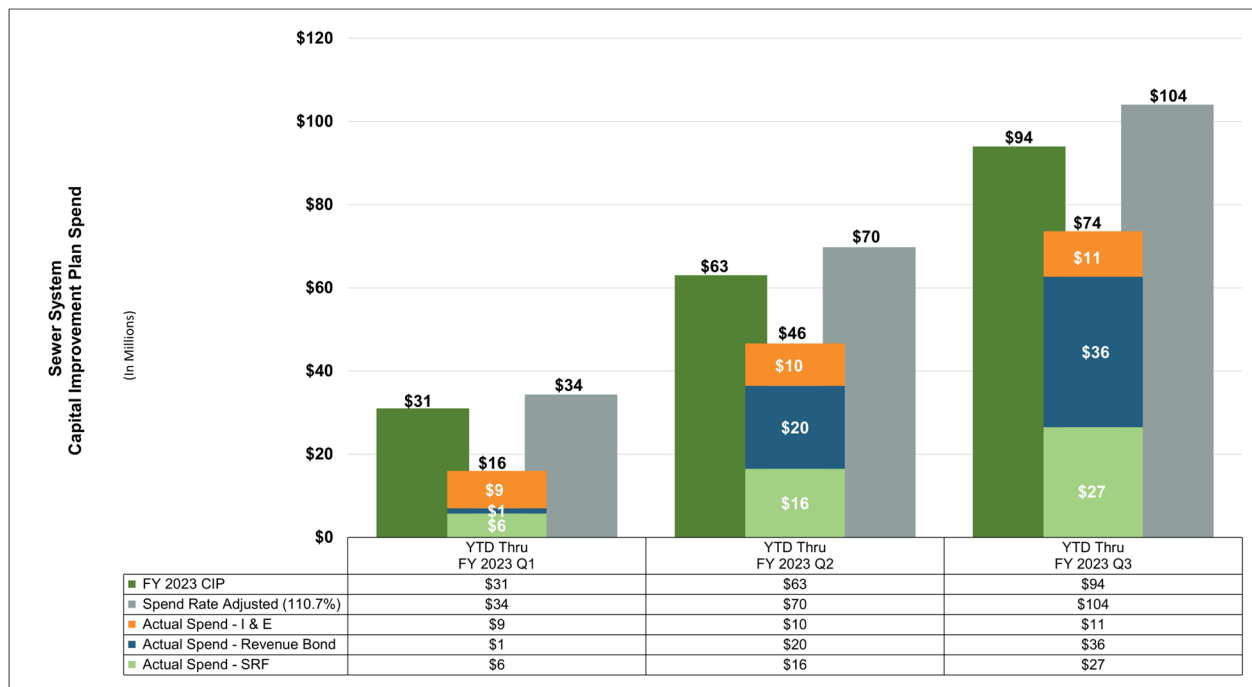


Chart 2 – Sewer System Capital Improvement Plan Spend Incurred to Date

As of March 2023, the Sewer system incurred nearly \$74 million of construction costs to date. This spend represents 78% of the original, Board-approved CIP, and 71% of the Board-reviewed spend rate adjustment.

Economic factors affecting the CIP spend are considered by the Board quarterly at which time the Board may amend the planned spend rate adjusted.

Chart 2 – Sewer System Capital Improvement Plan Spend Incurred to Date – Spend Rate Adjusted





This report includes the following.

1. Master Bond Ordinance (MBO) Required Transfers to Accounts Held by GLWA
2. Master Bond Ordinance (MBO) Required Transfers to Accounts Held by DWSD

MBO Transfers to Accounts Held by GLWA

GLWA Transfers: The Treasury team completes required MBO transfers on the first business day of each month. These transfers are completed in accordance with the Great Lakes Water Authority (GLWA) and Detroit Water & Sewerage Department (DWSD) budgets as approved and adopted by the GLWA Board of Directors and DWSD Board of Water Commissioners annually.

Monthly transfers for Operations & Maintenance (O&M), Pension, and Water Residential Assistance Program (WRAP) are one-twelfth of the annual, budgeted amount. Budget stabilization should not require additional funding due to new, baseline funding levels established as part of the June 2018 Memorandum of Understanding but is included to reflect historical activity. If there are transfers to the Extraordinary Repair & Replacement (ER&R) fund they would be completed annually based on budget and year-end fund status.

Table 1 – GLWA FY 2023 Water MBO Transfers reflects the required transfers for FY 2023 completed through March 2023. MBO transfers for water totaling \$123.1 million have been transferred to GLWA accounts.

Table 2 – GLWA FY 2023 Sewer MBO Transfers reflects the required transfers for FY 2023 completed through March 2023. MBO transfers for sewer totaling \$167.1 million have been transferred to GLWA accounts.

Table 3 – GLWA MBO Transfer History reflects historical transfers for FY 2016 through FY 2023 to date.

Table 1 – GLWA FY 2023 Water MBO Transfers

WATER							
	Operations & Maintenance	Pension Sub Account	Pension Obligation	WRAP	Budget Stabilization (For Benefit of DWSD)	Extraordinary Repair & Replacement (ER&R)	Total Water
FY 2023							
July 2022	\$ 12,070,642	\$504,000	\$891,308	\$200,975	-	-	\$13,666,925
August 2022	\$ 12,070,642	\$504,000	\$891,308	\$200,975	-	-	13,666,925
September 2022	\$ 12,070,642	\$504,000	\$891,308	\$200,975	-	-	13,666,925
October 2022	\$ 12,070,642	\$504,000	\$891,308	\$223,209	-	-	13,689,159
November 2022	\$ 12,070,642	\$504,000	\$891,308	\$223,209	-	-	13,689,159
December 2022	\$ 12,070,642	\$504,000	\$891,308	\$223,209	-	-	13,689,159
January 2023	\$ 12,070,642	\$504,000	\$891,308	\$223,209	-	-	13,689,159
February 2023	\$ 12,070,642	\$504,000	\$891,308	\$223,209	-	-	13,689,159
March 2023	\$ 12,070,642	\$504,000	\$891,308	\$223,209	-	-	13,689,159
Total FY 2023	\$ 108,635,778	\$ 4,536,000	\$ 8,021,772	\$ 1,942,179	\$ -	\$ -	\$123,135,729

Table 2 – GLWA FY 2023 Sewer MBO Transfers

SEWER							
	Operations & Maintenance	Pension Sub Account	Pension Obligation	WRAP	Budget Stabilization (For Benefit of DWSD)	Extraordinary Repair & Replacement (ER&R)	Total Sewer
FY 2023							
July 2022	\$ 15,337,717	\$902,000	\$1,223,950	\$321,925	-	-	\$17,785,592
August 2022	\$ 15,337,717	\$902,000	\$1,223,950	\$321,925	-	-	17,785,592
September 2022	\$ 15,337,717	\$902,000	\$1,223,950	\$321,925	-	-	17,785,592
October 2022	\$ 16,534,372	\$902,000	\$1,223,950	\$300,892	-	-	18,961,214
November 2022	\$ 16,534,372	\$902,000	\$1,223,950	\$300,892	-	-	18,961,214
December 2022	\$ 16,534,372	\$902,000	\$1,223,950	\$300,892	-	-	18,961,214
January 2023	\$ 16,534,372	\$902,000	\$1,223,950	\$300,892	-	-	18,961,214
February 2023	\$ 16,534,372	\$902,000	\$1,223,950	\$300,892	-	-	18,961,214
March 2023	\$ 16,534,372	\$902,000	\$1,223,950	\$300,892	-	-	18,961,214
Total FY 2023	\$ 145,219,383	\$8,118,000	\$11,015,550	\$2,771,127	\$ -	\$ -	\$167,124,060

Table 3 – GLWA MBO Transfer History

GLWA MBO Transfer History							
WATER							
	Operations & <u>Maintenance</u>	Pension <u>Sub Account</u>	Pension <u>Obligation</u>	<u>WRAP</u>	Budget Stabilization (For Benefit of <u>DWSD</u>)	Extraordinary Repair & Replacement (<u>ER&R</u>)	Total Water
Total FY 2016	\$71,052,000	\$6,037,100	\$10,297,200	\$1,983,300	\$2,326,900	\$606,000	\$92,302,500
Total FY 2017	111,879,600	6,037,200	10,297,200	2,077,200	360,000	-	130,651,200
Total FY 2018	121,562,604	6,048,000	10,695,696	2,159,400	-	-	140,465,700
Total FY 2019	121,562,604	6,048,000	10,695,696	2,061,000	-	-	140,367,300
Total FY 2020	126,840,204	6,048,000	10,695,683	1,980,804	-	-	145,564,691
Total FY 2021	134,127,300	6,048,000	10,695,700	2,324,200	-	-	153,195,200
Total FY 2022	143,933,800	6,048,000	10,695,700	2,376,600	-	-	163,054,100
Total FY 2023 (year to date)	108,635,778	4,536,000	8,021,772	1,942,179	-	-	123,135,729
Life to Date	\$939,593,890	\$46,850,300	\$82,094,647	\$16,904,683	\$2,686,900	\$606,000	\$1,088,736,420

SEWER							
	Operations & <u>Maintenance</u>	Pension <u>Sub Account</u>	Pension <u>Obligation</u>	<u>WRAP</u>	Budget Stabilization (For Benefit of <u>DWSD</u>)	Extraordinary Repair & Replacement (<u>ER&R</u>)	Total Sewer
Total FY 2016	\$100,865,600	\$10,838,400	\$14,025,800	\$2,523,400	\$5,591,700	\$779,600	\$134,624,500
Total FY 2017	175,858,800	10,838,400	14,026,800	2,654,400	2,654,400	-	206,032,800
Total FY 2018	191,079,396	10,824,000	14,687,496	2,760,804	-	-	219,351,696
Total FY 2019	191,079,396	10,824,000	14,687,496	2,870,992	-	-	219,461,884
Total FY 2020	181,925,800	10,824,000	14,687,517	2,887,300	-	-	210,324,617
Total FY 2021	182,296,000	10,824,000	14,687,500	3,764,300	-	-	211,571,800
Total FY 2022	191,908,600	10,824,000	14,687,400	3,868,700	-	-	221,288,700
Total FY 2023 (year to date)	145,219,383	8,118,000	11,015,550	2,771,127	-	-	167,124,060
Life to Date	\$1,360,232,975	\$83,914,800	\$112,505,559	\$24,101,023	\$8,246,100	\$779,600	\$1,589,780,057

All amounts are unaudited unless otherwise noted.

GLWA Audit Committee June 26, 2023

MBO Required and Lease Payment Transfers to DWSD

DWSD Transfers: The GLWA Treasury team completes the required MBO transfers on the first business day of each month. These transfers are completed in accordance with the GLWA and DWSD budgets as approved and adopted by the GLWA Board of Directors and DWSD Board of Water Commissioners annually. Transfers are coordinated with other areas of GLWA Financial Services in advance of the first business day of each month. GLWA Treasury sends confirmation of transfers made to DWSD Treasury.

Monthly transfers for O&M and O&M Pension are one-twelfth of the annual, budgeted amount. The annual lease payment, as stated in the Water & Sewer Lease Agreements, is \$22,500,000 for Water and \$27,500,000 for Sewer. The monthly lease transfer is one-twelfth of the amount as stated in the Lease agreements unless otherwise designated by DWSD. Per Section 3.5 of the Lease, the Lease payment may be used for (a) bond principal and interest for Local System Improvements, (b) bond principal and interest for the City's share of common-to-all System Improvements, and (c) Local System improvements.

Table 4 – DWSD FY 2023 Water MBO Transfers reflects the required transfers for FY 2023 completed through March 2023. MBO transfers for Water totaling \$48.3 million have been transferred to accounts held by DWSD. For FY 2023, DWSD has requested that \$2,922,100 of the lease payment be utilized to offset a portion of debt service.

Table 5 – DWSD FY 2023 Sewer MBO Transfers reflects the required transfers for FY 2023 completed through March 2023. MBO transfers for Sewer totaling \$59.4 million have been transferred to accounts held by DWSD. For FY 2023, DWSD has requested that \$4,388,300 of the lease payment be utilized to offset a portion of debt service.

Table 6 – DWSD Water MBO and Lease Payment Transfer History reflects historical transfers for FY 2016 through FY 2023 to date.

Table 7 – DWSD Sewer MBO and Lease Payment Transfer History reflects historical transfers for FY 2016 through FY 2023 to date.

Table 4 – DWSD FY 2023 Water MBO Transfers

	WATER			
	<u>Operations & Maintenance</u>	<u>Pension</u>	<u>Lease Payment (I&E Fund)</u>	<u>Total Water</u>
FY 2023				
July 2022	\$2,540,833	\$356,000	\$1,150,750	\$4,047,583
August 2022	2,540,833	356,000	1,150,750	4,047,583
September 2022	2,540,833	356,000	1,150,750	4,047,583
October 2022	3,884,345	356,000	1,791,739	6,032,084
November 2022	3,884,345	356,000	1,791,739	6,032,084
December 2022	3,884,345	356,000	1,791,739	6,032,084
January 2023	3,884,345	356,000	1,791,739	6,032,084
February 2023	3,884,345	356,000	1,791,739	6,032,084
March 2023	3,884,345	356,000	1,791,739	6,032,084
Total FY 2023	\$30,928,569	\$3,204,000	\$14,202,684	\$48,335,253

Table 5 – DWSD FY 2023 Sewer MBO Transfers

	SEWER			
	<u>Operations & Maintenance</u>	<u>Pension</u>	<u>Lease Payment (I&E Fund)</u>	<u>Total Sewer</u>
FY 2023				
July 2022	\$5,282,500	\$238,000	\$2,291,667	\$7,812,167
August 2022	5,282,500	238,000	2,291,667	7,812,167
September 2022	5,282,500	238,000	2,291,667	7,812,167
October 2022	3,949,878	238,000	1,804,078	5,991,956
November 2022	3,949,878	238,000	1,804,078	5,991,956
December 2022	3,949,878	238,000	1,804,078	5,991,956
January 2023	3,949,878	238,000	1,804,078	5,991,956
February 2023	3,949,878	238,000	1,804,078	5,991,956
March 2023	3,949,878	238,000	1,804,078	5,991,956
Total FY 2023	\$39,546,768	\$2,142,000	\$17,699,469	\$59,388,237

Table 6 – DWSD Water MBO and Lease Payment Transfer History

Transfers to DWSD				
WATER				
	Operations & Maintenance	Operations & Maintenance Pension	Lease Payment (I&E Fund)	Total Water
FY 2016 *				
MBO/Lease Requirement	\$26,185,600	\$4,262,700	\$22,500,000	\$52,948,300
Offset to Debt Service	-	-	(2,326,900)	(2,326,900)
Net MBO Transfer	26,185,600	4,262,700	20,173,100	50,621,400
FY 2017				
MBO/Lease Requirement	33,596,400	4,262,400	22,500,000	60,358,800
Offset to Debt Service	-	-	-	-
Net MBO Transfer	33,596,400	4,262,400	22,500,000	60,358,800
FY 2018				
MBO/Lease Requirement	35,059,704	4,272,000	22,500,000	61,831,704
Offset to Debt Service	-	-	(1,875,000)	(1,875,000)
Net MBO Transfer	35,059,704	4,272,000	20,625,000	59,956,704
FY 2019				
MBO/Lease Requirement	35,484,300	4,272,000	22,500,000	62,256,300
Offset to Debt Service	-	-	(3,972,200)	(3,972,200)
Net MBO Transfer	35,484,300	4,272,000	18,527,800	58,284,100
FY 2020				
MBO/Lease Requirement	34,662,400	4,272,000	22,500,000	61,434,400
Offset to Debt Service	-	-	(3,548,000)	(3,548,000)
Net MBO Transfer	34,662,400	4,272,000	18,952,000	57,886,400
FY 2021				
MBO/Lease Requirement	35,833,900	4,272,000	22,500,000	62,605,900
Offset to Debt Service	-	-	(8,278,300)	(8,278,300)
Net MBO Transfer	35,833,900	4,272,000	14,221,700	54,327,600
FY 2022				
MBO/Lease Requirement	29,989,000	4,272,000	22,500,000	56,761,000
Offset to Debt Service	-	-	(8,925,400)	(8,925,400)
Net MBO Transfer	29,989,000	4,272,000	13,574,600	47,835,600
FY 2023 (year to date)				
MBO/Lease Requirement	30,928,569	3,204,000	16,875,000	51,007,569
Offset to Debt Service	-	-	(2,672,316)	(2,672,316)
Net MBO Transfer	30,928,569	3,204,000	14,202,684	48,335,253
Life-to-Date				
MBO/Lease Requirement	261,739,873	33,089,100	174,375,000	469,203,973
Offsets	-	-	(31,598,116)	(31,598,116)
Total Water	261,739,873	33,089,100	142,776,884	437,605,857

Table 7 – DWSD Sewer MBO and Lease Payment Transfer History

	SEWER			
	Operations & Maintenance	Operations & Maintenance Pension	Lease Payment (I&E Fund)	Total Sewer
FY 2016 *				
MBO/Lease Requirement	\$19,774,300	\$2,861,800	\$27,500,000	\$50,136,100
Offset to Debt Service	-	-	(19,991,500)	(19,991,500)
Total MBO Transfer	19,774,300	2,861,800	7,508,500	30,144,600
FY 2017				
MBO/Lease Requirement	41,535,600	2,862,000	27,500,000	71,897,600
Offset to Debt Service	-	-	-	-
Total MBO Transfer	41,535,600	2,862,000	27,500,000	71,897,600
FY 2018				
MBO/Lease Requirement	60,517,992	2,856,000	27,500,000	90,873,992
Offset to Debt Service	-	-	(9,166,664)	(9,166,664)
Total MBO Transfer	60,517,992	2,856,000	18,333,336	81,707,328
FY 2019				
MBO/Lease Requirement	56,767,920	2,856,000	27,500,000	87,123,920
Offset to Debt Service	-	-	(4,415,000)	(4,415,000)
Total MBO Transfer	56,767,920	2,856,000	23,085,000	82,708,920
FY 2020				
MBO/Lease Requirement	62,343,500	2,856,000	27,500,000	92,699,500
Offset to address shortfall	(7,100,000)	-	-	(7,100,000)
Offset to Debt Service	-	-	(5,032,700)	(5,032,700)
Total MBO Transfer	55,243,500	2,856,000	22,467,300	80,566,800
FY 2021				
MBO/Lease Requirement	69,915,700	2,856,000	27,500,000	100,271,700
Offset to Debt Service	-	-	(3,257,200)	(3,257,200)
Total MBO Transfer	69,915,700	2,856,000	24,242,800	97,014,500
FY 2022				
MBO/Lease Requirement	61,301,000	2,856,000	27,500,000	90,735,453
Offset to Debt Service	-	-	(5,529,297)	(4,607,750)
Total MBO Transfer	61,301,000	2,856,000	21,970,703	86,127,703
FY 2023 (year to date)				
MBO/Lease Requirement	39,546,768	2,142,000	20,625,000	62,313,768
Offset to Debt Service	-	-	(2,925,531)	(2,925,531)
Total MBO Transfer	39,546,768	2,142,000	17,699,469	59,388,237
Life-to-Date				
MBO/Lease Requirement	411,702,780	22,145,800	213,125,000	646,052,033
Offsets	(7,100,000)	-	(50,317,892)	(56,496,345)
Total Sewer	\$404,602,780	\$22,145,800	\$162,807,108	\$589,555,688

* Note: FY 2016 lease transfer amounts shown do not include prepayment on the lease amount for the 6 months period before bifurcation.



This report includes the following:

1. Monthly Cash Balances Compared to Investment Income
2. Cash Balance Detail

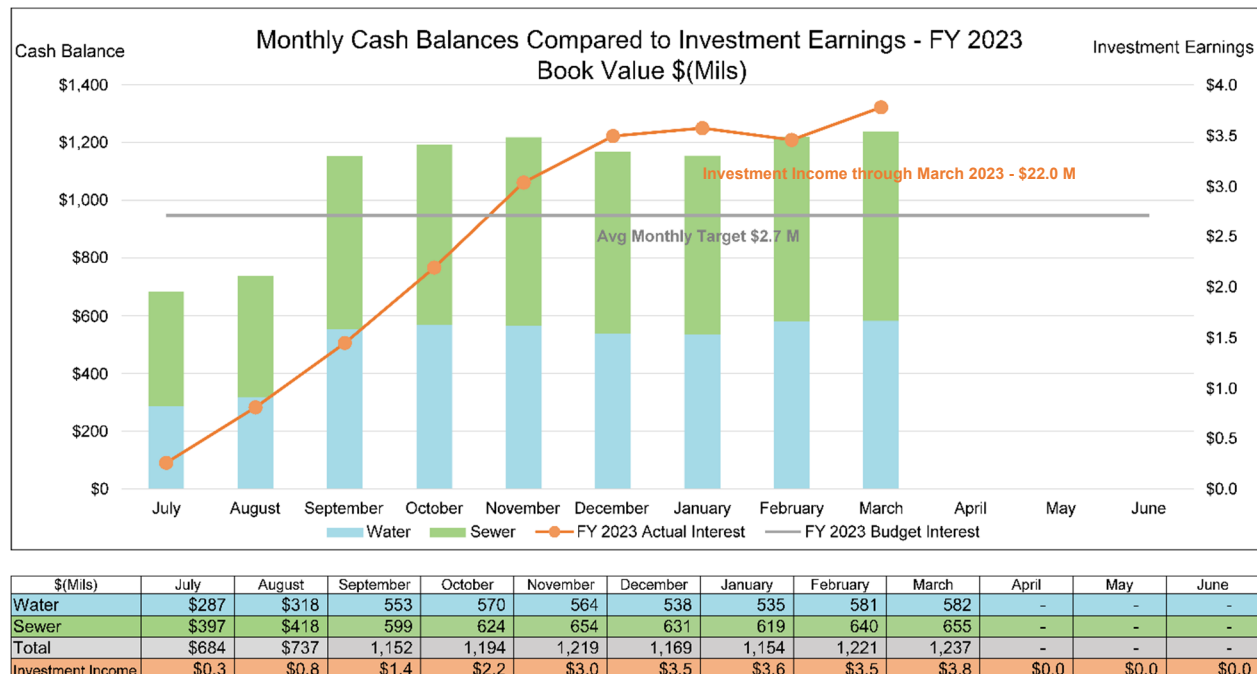
Monthly Cash Balances Compared to Investment Income

GLWA's investment holdings comply with the requirements of Public Act 20 of 1948, as amended and the GLWA Investment Policy. The cash balances shown in this report include bank deposits, money market funds, a local government investment pool, U.S. Treasuries, Federal Agencies, and commercial paper.

Cash and investment balances change each month based on Master Bond Ordinance (MBO) funding requirements, operational needs, capital spending pace, and mandatory debt payments. Investment income fluctuates monthly based on cash and investment balances as well as market conditions and investment strategy. For the month of March 2023, GLWA earned investment income of \$3.8 million and cumulative FY 2023 earnings through March 2023 of \$22.0 million. Total investment income reported includes earnings from revenue requirement funds as well as construction bond funds.

GLWA continues to refine cash flows and work with its investment advisor to identify strategies to maximize future investment income while meeting the objectives of safety and liquidity.

Chart 1 – Monthly Cash Balances Compared to Investment Income – Through March 2023



Cash Balance Detail

Funds Held By GLWA: GLWA cash balances are held in accounts as defined by the Master Bond Ordinance. The accounts are funded by monthly transfers, as stipulated in the MBO, on the first business day of each month. The “operations and maintenance” (O&M) fund transfer amounts are based upon the annual O&M budget approved by the GLWA Board of Directors for the regional systems and by the Board of Water Commissioners for the Detroit Water & Sewerage Department (DWSD) local system budgets. The water and sewer funds held by GLWA and their purpose, as defined by the MBO, are listed below.

Funds Held Within Trust:

- Receiving – all retail and wholesale revenues collected which are distributed in subsequent month(s)
- Debt Service – funds set aside for debt service and debt reserve requirements
- Pension Obligation – funds set aside to meet GLWA’s annual funding requirements for the legacy General Retirement System Pension Plan
- Water Residential Assistance Program (WRAP) – funds set aside to be used to provide financial assistance to qualified residents throughout the local and regional water system as directed by program guidelines
- Budget Stabilization – funds held by GLWA on behalf of DWSD that can be applied against shortfalls in retail revenues
- Emergency Repair & Replacement (ER&R) – funds set aside to pay the costs for major unanticipated repairs and replacements of the local and regional systems
- Improvement & Extension (I&E) – funds set aside to be used for the improvements, enlargements, and extensions of the regional system

Funds Held Outside Trust:

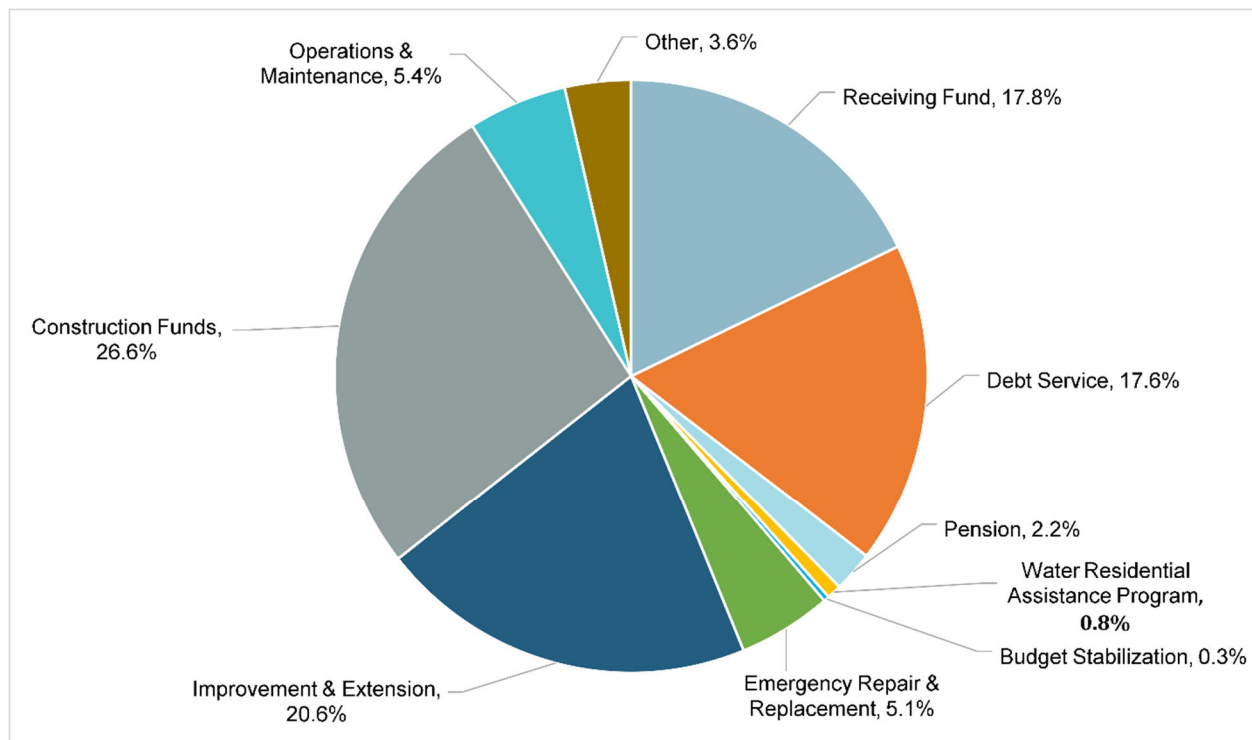
- Bond Proceeds – funds raised from debt issuance used for costs of repairs, construction, and improvements of the regional system
- Operations & Maintenance (O&M) – funds used to meet the operational and maintenance requirements of the regional system
- Other – retainage funds held on behalf of contractors and security deposit funds held on behalf of the City of Flint

A [chart](#) depicting the follow of funds is online at glwater.org as well as the [MBO](#) documents.

Chart 2 – Cash Balances - Water Funds as of March 2023 - Shows the allocation of the balance among the different categories defined in the section above. The total cash balance for Water Funds as of March 31, 2023 is \$582 million. The allocation of balances among the I&E, bond proceeds, and debt service reserve funds reflects GLWA's commitment to funding capital improvements and meeting debt reserve requirements while simultaneously increasing I&E resources to fund pay-as-you-go capital funding to reduce long-term debt in the future.

GLWA completed a bond transaction of \$225 million in September 2022 to support water system improvements. These funds along with I&E and SRF low-interest loans will fund the capital program going forward.

Chart 2 – Cash Balances - Water Funds as of March 2023

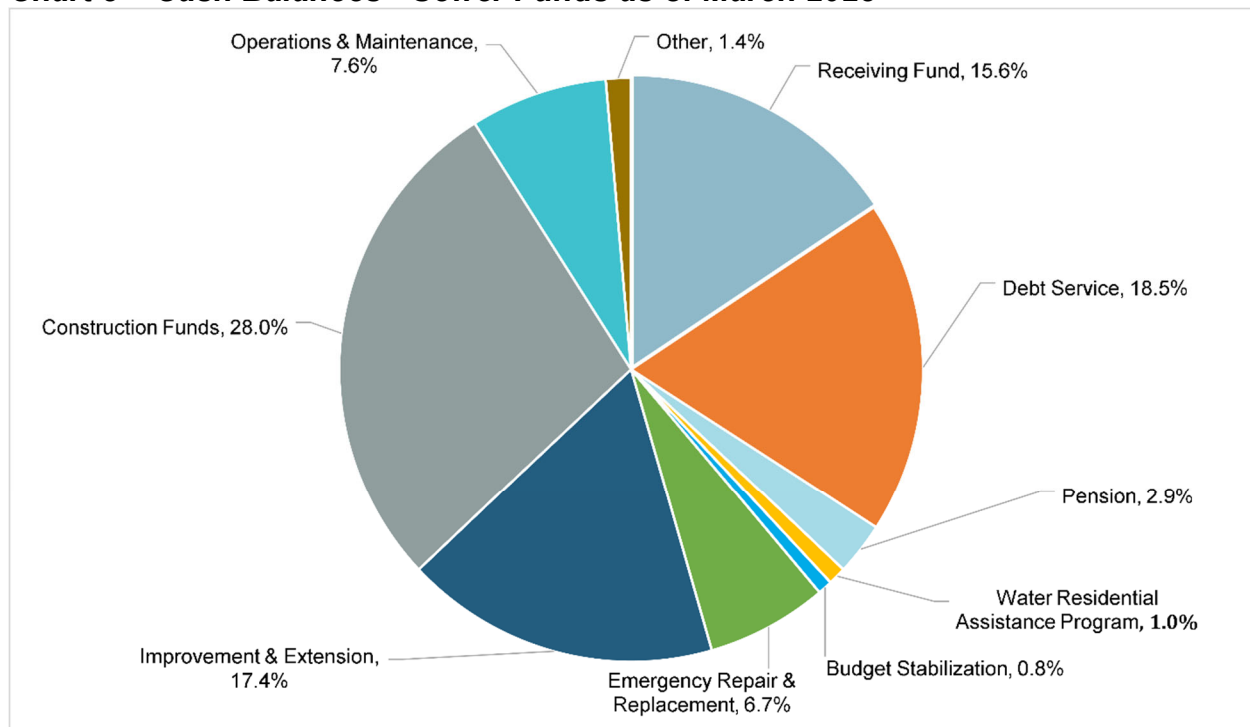


Note: Due to rounding totals may not equal 100%.

Chart 3 – Cash Balances - Sewer Funds as of March 2023 - Shows the allocation of the balance among the different funds defined in the section above. The total cash balance for Sewer Funds as of March 31, 2023 is \$655 million. Like the Water Funds, the allocation of balances among the I&E, bond proceeds, and debt service reserve funds reflects GLWA's commitment to funding capital improvements and meeting debt reserve requirements while simultaneously increasing I&E resources to fund pay-as-you-go capital funding to reduce long-term debt in the future.

In conjunction with the Water Fund transaction, GLWA completed a bond transaction of \$225 million in September 2022 to support sewage disposal system improvements. These funds along with I&E and SRF low-interest loans will fund the capital program going forward.

Chart 3 – Cash Balances - Sewer Funds as of March 2023



Note: Due to rounding totals may not equal 100%.



Retail Revenues, Receivables, and Collections: Pursuant to the terms of the lease agreement between the City of Detroit and the Great Lakes Water Authority (GLWA), the Detroit Water & Sewerage Department (DWSD) serves as GLWA's agent for billing activities for the City of Detroit retail customer class. All water and sewer service collections from DWSD customers are deposited in a trust account and are administered in accordance with the GLWA Master Bond Ordinance.

The Monthly Retail Revenues, Receivables, & Collections Report includes the following.

1. DWSD Retail Water Revenue Billings and Collections
2. DWSD Retail Sewer Revenue Billings and Collections
3. DWSD Retail Water & Sewer System Accounts Receivable Aging Report

Note: Wholesale customer revenues are billed by the Great Lakes Water Authority.

DWSD Retail Water Billings and Collections

Retail Billing Basis: DWSD bills retail customers monthly. Customers are billed throughout the month in cycles based on a meter reading schedule beginning with residential accounts and ending with commercial and industrial customers.

Table 1 - DWSD Retail Billings shows the FY 2023 water usage and billed revenue which are provided by DWSD staff. As of March 31, 2023, the DWSD usage was at 110.03% of the budget and billed revenue was at 106.82% of budget.

DWSD Retail Water Collections: The collections represent payments made by DWSD retail customers. These receipts are deposited directly into a lockbox with a trustee for administration of the flow of funds defined by GLWA's Master Bond Ordinance.

Table 2 - Retail Water Collections shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods.

Table 1 – DWSD Retail Water Billing

RETAIL WATER CUSTOMERS								
Month (1)	FY 2023 - Original Budget		FY 2023 - Actual		FY 2023 - Variance		FY 2022 - Actuals	
	Volume	Revenue	Volume	Revenue (2)	Volume	Revenue	Volume	Revenue
	Mcf	\$	Mcf	\$	Mcf	\$	Mcf	\$
July	257,000	11,956,000	244,749	9,490,589	(12,251)	(2,465,411)	266,704	10,064,683
August	248,900	11,711,000	277,313	13,301,941	28,413	1,590,941	264,644	9,994,589
September	218,600	10,776,000	234,806	11,591,601	16,206	815,601	232,348	9,169,300
October	198,900	10,184,900	239,062	11,730,809	40,162	1,545,909	204,290	8,422,092
November	194,500	9,954,500	212,663	10,706,519	18,163	752,019	209,830	8,544,611
December	193,700	9,902,000	222,502	11,073,513	28,802	1,171,513	204,072	8,442,152
January	198,600	10,050,700	227,748	11,257,742	29,148	1,207,042	221,369	8,819,430
February	190,400	9,842,000	208,568	10,569,468	18,168	727,468	204,489	8,438,300
March	204,900	10,276,600	229,264	11,383,630	24,364	1,107,030	233,190	9,221,716
April	192,400	9,922,800					192,495	8,305,331
May	214,500	10,567,000					245,471	9,530,928
June	245,700	11,523,800					272,811	10,281,954
Total	2,558,100	126,667,300	2,096,675	101,105,812	191,175	6,452,112	2,751,713	109,235,086
Subtotals ytd	1,905,500	94,653,700	2,096,675	101,105,812	191,175	6,452,112		
Achievement of Budget			110.03%	106.82%				

(1) Figures are stated as "Service Months"; that is, July figures represent bills issued in August, etc.

(2) Retail Revenues include Miscellaneous Revenues and Penalties

Table 2 – DWSD Retail Water Collections

Water				
Month	Current Year	Prior Year	Variance	Ratio
April	7,431,900	7,536,272	(104,372)	-1.38%
May	7,660,852	7,365,204	295,648	4.01%
June	9,123,179	8,917,831	205,348	2.30%
July	8,518,373	8,387,705	130,668	1.56%
August	9,636,219	8,588,507	1,047,712	12.20%
September	5,082,383	8,041,683	(2,959,300)	-36.80%
October	13,082,745	8,512,614	4,570,131	53.69%
November	10,270,582	7,926,331	2,344,251	29.58%
December	11,630,994	8,121,586	3,509,408	43.21%
January	8,857,268	6,919,040	1,938,228	28.01%
February	8,244,713	10,156,126	(1,911,413)	-18.82%
March	10,417,832	11,093,125	(675,293)	-6.09%
Rolling, 12-Month Total	109,957,040	101,566,024		
Rolling, 12-Month Average	9,163,087	8,463,835		

All amounts are unaudited unless otherwise noted.

GLWA Audit Committee June 26, 2023

DWSD Retail Sewer Billings and Collections

Retail billing basis: DWSD bills retail customers monthly. Customers are billed throughout the month in cycles based on a meter reading schedule beginning with residential accounts and ending with commercial and industrial customers.

Table 3 - DWSD Retail Sewer Billings shows the FY 2023 sewer billed revenue which are provided by DWSD staff. As of March 31, 2023, the DWSD usage was at 104.04% of the budget and billed revenue was at 100.71% of budget.

DWSD Retail Sewer Collections: The collections represent payments made by DWSD retail customers. These receipts are deposited directly into a lockbox with a trustee for administration of the flow of funds defined by GLWA's Master Bond Ordinance.

Table 4 – DWSD Retail Sewer Collections shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods.

Table 3 - DWSD Retail Sewer Billings

RETAIL SEWER CUSTOMERS								
Month (1)	FY 2023 - Original Budget		FY 2023 - Actual		FY 2023 - Variance		FY 2022 - Actuals	
	Volume	Revenue	Volume	Revenue (2)	Volume	Revenue	Volume	Revenue
	Mcf	\$	Mcf	\$	Mcf	\$	Mcf	\$
July	211,900	27,858,000	223,661	29,297,748	11,761	1,439,748	219,791	29,462,804
August	217,600	28,027,300	231,809	29,640,202	14,209	1,612,902	249,522	31,231,624
September	188,400	27,285,000	197,455	27,523,933	9,055	238,933	215,748	29,401,234
October	182,400	27,102,800	194,154	27,375,180	11,754	272,380	190,483	27,936,280
November	167,500	26,696,800	172,579	26,525,064	5,079	(171,736)	194,135	28,032,939
December	166,500	26,780,100	174,896	26,676,360	8,396	(103,740)	189,283	27,836,982
January	169,200	26,797,900	175,562	26,403,544	6,362	(394,356)	203,526	28,493,782
February	166,100	26,702,400	160,804	25,814,735	(5,296)	(887,665)	189,525	27,837,984
March	176,100	26,994,800	181,217	26,720,229	5,117	(274,571)	212,176	29,032,277
April	166,400	26,761,800					179,291	27,196,557
May	182,100	27,166,400					220,082	29,382,758
June	210,600	27,861,300					242,746	30,704,517
Total	2,204,800	326,034,600	1,712,137	245,976,996	66,437	1,731,896	2,506,308	346,549,738
Subtotals ytd	1,645,700	244,245,100	1,712,137	245,976,996		1,731,896		
Achievement of Budget/Goal			104.04%	100.71%				

(1) Figures are stated as "Service Months"; that is, July figures represent bills issued in August, etc.

(2) Retail Revenues include Miscellaneous Revenues and Penalties

Table 4 – DWSD Retail Sewer Collections

Sewer				
Month	Current Year	Prior Year	Variance	Ratio
April	22,115,076	21,196,170	918,906	4.34%
May	20,952,592	21,888,687	(936,095)	-4.28%
June	25,922,279	32,508,249	(6,585,970)	-20.26%
July	30,935,343	24,185,252	6,750,091	27.91%
August	26,064,896	25,036,198	1,028,698	4.11%
September	15,261,467	22,635,796	(7,374,329)	-32.58%
October	28,182,933	25,119,240	3,063,693	12.20%
November	21,994,899	23,505,249	(1,510,350)	-6.43%
December	23,756,153	24,880,743	(1,124,590)	-4.52%
January	23,760,629	23,020,491	740,138	3.22%
February	23,867,073	24,495,922	(628,849)	-2.57%
March	30,697,464	29,410,086	1,287,378	4.38%
Rolling 12-Month Total	293,510,805	297,882,083		
Rolling, 12-Month Average	24,459,234	24,823,507		

DWSD Retail Water and Sewer Accounts Receivable Aging Report

The DWSD detailed accounts receivable aging is categorized by customer category.

Table 5 is a summary of the monthly sales, total receivables, bad debt allowance and net Water and Sewer receivables as of March 31, 2023 with comparative totals from June 30, 2022, June 30, 2021 and June 30, 2020. This table does not include past due accounts that have been transferred to the City of Detroit for collection as tax liens.

The table provides a comparison of days in accounts receivable calculated as net receivables divided by daily sales and confirms that over time days in AR is held in check overall due to a consistent practice of adjusting the allowance for doubtful accounts monthly. To the extent this allowance is adjusted, and bad debt expense is recognized in the DWSD budget, it does not impact GLWA.

Table 6 is a summary of the total, current and non-current Water and Sewer receivables by category as of March 31, 2023 with comparative totals from March 31, 2022. This table does not include past due accounts that have been transferred to the City of Detroit for collection as tax liens.

The Total Balance and Total Bad Debt Allowance as of March 31, 2023 are reflective of the values in both the Table 5 Summary and Table 6 breakdown.

Table 5 – DWSD Retail Accounts Receivable Aging Report – Summary

Summary						
Period Ending	Monthly Sales	Receivables			Days in AR (1)	
		Total	Allowance	Net		
June 30, 2020	\$ 33,061,000	\$ 213,846,000	\$ (142,882,000)	\$ 70,964,000	64	
June 30, 2021	\$ 36,335,000	\$ 248,055,000	\$ (200,146,000)	\$ 47,909,000	40	
June 30, 2022	\$ 39,022,000	\$ 300,346,000	\$ (253,924,000)	\$ 46,422,000	36	
March 31, 2023	\$ 36,497,000	\$ 322,696,000	\$ (268,376,000)	\$ 54,321,000	45	
Totals may be off due to rounding						

Totals may be off due to rounding

(1) Days in AR is calculated as net receivables divided by daily sales (monthly sales/30 days)

Table 6 – DWSD Retail Accounts Receivable Aging Report – Water & Sewer Combined

Sales Class	# of Accounts	Avg. Balance	Current	> 30 Days	> 60 Days	> 180 Days	A/R Balance
Residential	213,422	\$ 877.65	\$ 24,088,000 12.9%	\$ 8,188,000 4.4%	\$ 29,928,000 16.0%	\$ 125,106,000 66.8%	\$ 187,310,000 100.0%
Commercial	21,042	1,269.56	8,333,000 31.2%	1,837,000 6.9%	4,450,000 16.7%	12,094,000 45.3%	26,714,000 100.0%
Industrial	4,332	3,393.74	5,506,000 37.5%	671,000 4.6%	2,204,000 15.0%	6,320,000 43.0%	14,702,000 100.0%
Tax Exempt	3,813	787.44	690,000 23.0%	152,000 5.1%	450,000 15.0%	1,710,000 57.0%	3,002,000 100.0%
Government	48,805	410.25	5,258,000 26.3%	857,000 4.3%	1,730,000 8.6%	12,178,000 60.8%	20,022,000 100.0%
Drainage	45,638	634.52	3,747,000 12.9%	1,368,000 4.7%	4,131,000 14.3%	19,713,000 68.1%	28,958,000 100.0%
Subtotal - Active Accounts	337,052	\$ 832.84	\$ 47,622,000 17.0%	\$ 13,073,000 4.7%	\$ 42,893,000 15.3%	\$ 177,121,000 63.1%	\$ 280,709,000 100.0%
Inactive Accounts	328,456	127.83	136,000 0.3%	152,000 0.4%	478,000 1.1%	41,221,000 98.2%	41,987,000 100.0%
Total	665,508	\$ 484.89	\$ 47,758,000 14.8%	\$ 13,225,000 4.1%	\$ 43,371,000 13.4%	\$ 218,342,000 67.7%	\$ 322,696,000 100.0%
% of Total A/R							
Water Fund	242,053	282.83	\$ 13,766,000	\$ 3,296,000	\$ 9,180,000	\$ 42,219,000	\$ 68,460,000
Sewer Fund	276,890	918.18	\$ 33,992,000	\$ 9,929,000	\$ 34,192,000	\$ 176,123,000	\$ 254,236,000
Total March 31, 2023 (a)	665,508	\$ 484.89	\$ 47,758,000	\$ 13,225,000	\$ 43,371,000	\$ 218,342,000	\$ 322,696,000
Water Fund- Allowance							\$ (52,284,000)
Sewer Fund- Allowance							\$ (216,091,000)
Total Bad Debt Allowance							\$ (268,376,000)
Comparative - March 2022 (b)	645,272	\$ 430.24	\$ 30,972,000	\$ 15,360,000	\$ 40,097,000	\$ 191,194,000	\$ 277,624,000
Difference (a) - (b)	20,236		\$ 16,786,000	\$ (2,135,000)	\$ 3,274,000	\$ 27,148,000	\$ 45,072,000

All amounts are unaudited unless otherwise noted.

GLWA Audit Committee June 26, 2023



The Monthly Wholesale Billings, Receivables, & Collections Report includes the following.

1. Wholesale Water Billings and Collections
2. Wholesale Sewer Billings and Collections
3. City of Highland Park Billings and Collections
4. Wholesale Water & Sewer Accounts Receivable Aging Report

Wholesale Water Billings and Collections

Wholesale Water Contracts: Great Lakes Water Authority (GLWA) provides wholesale water service to 87 member-partners through a variety of service arrangements.

Service Arrangement Type

Model Contract	84
Emergency	1
Older Contracts	2
Total	87

Note: Services are provided to the Detroit Water & Sewerage Department (DWSD) via a Water and Sewer Services Agreement (WSSA). See the “Retail Revenues, Receivables, and Collections Report” section of this monthly report.

Wholesale Water Billing Basis: Beginning with FY 2016, wholesale water charges were restructured to create a more stable revenue stream by using a historical rolling average to project customer volumes which accounts for 40% of the monthly charges and 60% of the annual customer revenue requirement as a monthly fixed charge.

Table 1 - Wholesale Water Billings shows the FY 2023 water billed usage and revenues. As of March 31, 2023, the billed usage was at 101.04% of the original plan and billed revenue at 100.66% of the original plan. Billings and usage from the City of Flint are included as they were assumed in the FY 2023 Budget.

Wholesale Water Collections: The collections represent payments made by wholesale customers. These receipts are deposited directly into a lockbox with a trustee for administration of the flow of funds defined by GLWA’s Master Bond Ordinance.

Table 2 - Wholesale Water Collections shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods. Current year collections are trending above the prior year for the twelve-month period ending March 31, 2023.

Table 1 – FY 2023 Wholesale Water Billings Report

WHOLESALE WATER CHARGES								
Month (1)	FY 2023 Charges (3)		FY 2023 - Actual		FY 2023 - Variance		FY 2022 - Actuals	
	Volume	Revenue	Volume	Revenue (2)	Volume	Revenue	Volume	Revenue
	Mcf	\$	Mcf	\$	Mcf	\$	Mcf	\$
July	1,565,900	33,114,500	1,664,936	34,349,872	99,036	1,235,372	1,342,686	29,642,785
August	1,513,500	32,632,400	1,418,347	31,555,444	(95,153)	(1,076,956)	1,417,142	30,604,230
September	1,271,200	29,674,600	1,308,481	30,306,713	37,281	632,113	1,298,750	29,065,588
October	1,033,200	27,094,600	1,055,245	27,391,089	22,045	296,489	1,006,217	26,123,483
November	901,100	25,815,700	906,669	25,911,801	5,569	96,101	905,525	25,117,181
December	966,900	26,357,900	990,177	26,652,607	23,277	294,707	958,879	25,542,432
January	954,300	26,296,700	978,186	26,529,513	23,886	232,813	979,803	25,791,405
February	877,900	25,580,400	869,843	25,546,254	(8,057)	(34,146)	875,553	24,800,493
March	965,300	26,359,200	961,541	26,355,691	(3,759)	(3,509)	963,825	25,592,186
April	907,300	25,855,100					912,124	25,139,078
May	1,086,000	27,886,200					1,094,002	27,116,529
June	1,470,200	32,090,900					1,385,287	30,301,351
Total	13,512,800	338,758,200	10,153,425	254,598,984	104,125	1,672,984	13,139,793	324,836,740
Subtotals ytd	10,049,300	252,926,000	10,153,425	254,598,984	104,125	1,672,984		
Achievement of Original Plan			101.04%	100.66%				
Billing Adjustments (4)			9,338	(103,662)				
			10,162,763	254,495,322				
			101.13%	100.62%				

(1) Figures are stated as "Service Months"; that is, July figures represent bills issued in August, etc.

(2) Water Revenues differ from Table 1A because amounts are reduced by the monthly payment to the City of Flint for a license to raw water rights under the Flint Raw Water Contract in Table 1A

(3) Charges are based on the approved FY 2023 water supply system charge schedule.

(4) Reflects prior period adjustments made in the current year for DTE Greenwood and Madison Heights.

Table 2 - Wholesale Water Collections

Water				
Month	Current Year	Prior Year	Variance	Ratio
April	21,726,941	23,545,123	(23,545,123)	-100.00%
May	27,717,969	24,878,479	2,839,490	11.41%
June	26,379,503	25,403,968	975,535	3.84%
July	14,435,092	23,709,847	(9,274,755)	-39.12%
August	41,154,992	31,668,492	9,486,500	29.96%
September	21,887,632	23,849,618	(1,961,986)	-8.23%
October	38,029,648	29,212,277	8,817,371	30.18%
November	30,903,329	25,265,770	5,637,559	22.31%
December	34,298,469	25,302,369	8,996,100	35.55%
January	19,182,054	31,280,599	(12,098,545)	-38.68%
February	26,553,529	24,919,847	1,633,682	6.56%
March	26,074,213	22,123,572	3,950,641	17.86%
Rolling 12-Month Total	328,343,370	311,159,961		
Rolling, 12-Month Average	27,361,948	25,929,997		

All amounts are unaudited unless otherwise noted.

GLWA Audit Committee June 26, 2023

Wholesale Sewer Billings and Collections

Wholesale Sewer Contracts: GLWA provides wholesale sewer service to 18 member-partners via multiple service arrangements.

Service Arrangement Type

Model Contract	11
Emergency	0
Older Contracts	7
Total	<u>18</u>

Note: Services are provided to the Detroit Water & Sewerage Department via a Water and Sewer Services Agreement (WSSA). See the “Retail Revenues, Receivables, and Collections Report” section of the monthly report.

Wholesale Sewer Billing Basis: Beginning in FY 2015, the “sewer rate simplification” initiative was applied which provides for a stable revenue stream and predictability for our member partners. Wholesale sewer customers are billed a fixed monthly fee based upon the annual revenue requirement.

Table 3 - Wholesale Sewer Billings shows the FY 2023 sewer billed revenue. As of March 31, 2023 the billed revenue is at 100.00% of the original plan.

Wholesale Sewer Collections: The collections represent payments made by wholesale customers. These receipts are deposited directly into a lockbox with a trustee for administration of the flow of funds defined by GLWA’s Master Bond Ordinance.

Table 4 - Wholesale Sewer Collections shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods.

The shift in wholesale sewer collection patterns is largely attributable to the timing of payments received. There are several large accounts whose payments swing between the end of the current month and the beginning of the next month. Current year collections are trending slightly below the twelve-month period ending March 31, 2023.

Table 3 – FY 2023 Wholesale Sewer Billings Report

WHOLESALE SEWER CHARGES								
Month (1)	FY 2023 Charges		FY 2023 - Actual		FY 2023 - Variance		FY 2022 - Actuals	
	Volume (2)	Revenue	Volume (2)	Revenue	Volume (2)	Revenue	Volume	Revenue
	Mcf	\$	Mcf	\$	Mcf	\$	Mcf	\$
July	N/A	22,888,100	N/A	22,888,100	N/A	-	N/A	22,615,000
August	N/A	22,888,100	N/A	22,888,100	N/A	-	N/A	22,615,000
September	N/A	22,888,100	N/A	22,888,100	N/A	-	N/A	22,615,000
October	N/A	22,888,100	N/A	22,888,100	N/A	-	N/A	22,615,000
November	N/A	22,888,100	N/A	22,888,100	N/A	-	N/A	22,615,000
December	N/A	22,888,100	N/A	22,888,100	N/A	-	N/A	22,615,000
January	N/A	22,888,100	N/A	22,888,100	N/A	-	N/A	22,615,000
February	N/A	22,888,100	N/A	22,888,100	N/A	-	N/A	22,615,000
March	N/A	22,888,100	N/A	22,888,100	N/A	-	N/A	22,615,000
April	N/A	22,888,100	N/A		N/A		N/A	22,615,000
May	N/A	22,888,100	N/A		N/A		N/A	22,615,000
June	N/A	22,888,100	N/A		N/A		N/A	22,615,000
Total		274,657,200		205,992,900		-		271,380,000
Subtotals ytd		205,992,900		205,992,900		-		
Achievement of Budget			100.00%					

(1) Figures are stated as "Service Months"; that is, July figures represent bills issued in August, etc.

(2) Not tracked as part of the wholesale sewer charges.

Table 4 - Wholesale Sewer Collections

Sewer				
Month	Current Year	Prior Year	Variance	Ratio
April	19,937,558	22,368,124	(2,430,566)	-10.87%
May	10,226,700	28,128,933	(17,902,233)	-63.64%
June	29,659,245	15,972,800	13,686,445	85.69%
July	28,223,515	28,523,650	(300,135)	-1.05%
August	21,036,661	21,842,125	(805,464)	-3.69%
September	22,244,437	22,191,725	52,712	0.24%
October	24,707,249	26,706,558	(1,999,309)	-7.49%
November	19,882,939	16,534,758	3,348,181	20.25%
December	18,314,222	21,765,958	(3,451,736)	-15.86%
January	17,636,972	26,436,258	(8,799,286)	-33.28%
February	33,102,769	23,937,258	9,165,511	38.29%
March	23,746,469	24,713,158	(966,689)	-3.91%
Rolling 12-Month Total	268,718,736	279,121,305		
Rolling, 12-Month Average	22,393,228	23,260,109		

All amounts are unaudited unless otherwise noted.

GLWA Audit Committee June 26, 2023

City of Highland Park Billings and Collections

The City of Highland Park is provided water service pursuant to an emergency service basis. Sewer service is provided pursuant to a 1982 amended contract which indicates that the parties are guided in their legal relationship by a Michigan Supreme Court decision from 1949.

As of March 31, 2023, Highland Park had a delinquent balance of \$54.7 million, including \$40.9 million for wastewater treatment services, \$1.9 million for industrial waste control services, and \$11.9 million for water supply services.

Table 5 - City of Highland Park Billings and Collections provides a life-to-date balance summary of the billing and collection history for Highland Park with detail provided for fiscal year 2023 through March 31, 2023. Please note the numbers below reflect the month the billing was sent and not the month the service was provided. A life-to-date summary is provided as an appendix to this monthly financial report.

Table 5 - City of Highland Park Billings and Collections

Service Month		Water	Sewer	IWC	Total
April 30, 2022 Balance		10,744,376	41,527,075	1,810,074	54,081,525
May 2022 Billing	April 2022	96,254	446,400	4,009	546,663
May 2022 Payments		-	-	-	-
May 31, 2022 Balance		10,840,630	41,973,475	1,814,083	54,628,188
June 2022 Billing	May 2022	100,820	446,400	4,002	551,222
June 2022 Payments			(1,788,828)		(1,788,828)
June 30, 2022 Balance		10,941,450	40,631,047	1,818,085	53,390,582
July 2022 Billing	June 2022	104,262	446,400	4,002	554,664
July 2022 Payments		-	(126,056)	-	(126,056)
July 31, 2022 Balance		11,045,712	40,951,391	1,822,087	53,819,190
August 2022 Billing	July 2022	112,017	451,700	4,082	567,799
August 2022 Payments		-	(117,079)	-	(117,079)
August 31, 2022 Balance		11,157,729	41,286,012	1,826,169	54,269,910
September 2022 Billing	August 2022	113,427	451,700	4,025	569,152
September 2022 Payments		-	(144,837)	-	(144,837)
September 30, 2022 Balance		11,271,156	41,592,875	1,830,194	54,694,225
October 2022 Billing	September 2022	106,220	451,700	4,026	561,946
October 2022 Payments		-	(133,899)	-	(133,899)
October 31, 2022 Balance		11,377,376	41,910,676	1,834,220	55,122,272
November 2022 Billing	October 2022	106,221	451,700	4,026	561,947
November 2022 Payments		-	(492,789)	-	(492,789)
November 30, 2022 Balance		11,483,597	41,869,587	1,838,246	55,191,430
December 2022 Billing	November 2022	103,645	451,700	4,025	559,370
December 2022 Payments		-	(641,773)	-	(641,773)
December 31, 2022 Balance		11,587,242	41,679,514	1,842,271	55,109,027
January 2023 Billing	December 2022	99,260	451,700	3,997	554,957
January 2023 Payments		-	(1,341,522)	-	(1,341,522)
January 31, 2023 Balance		11,686,502	40,789,692	1,846,268	54,322,462
February 2023 Billing	January 2023	106,448	451,700	3,998	562,146
February 2023 Payments		-	(434,682)	-	(434,682)
February 28, 2023 Balance		11,792,950	40,806,710	1,850,266	54,449,926
March 2023 Billing	February 2023	99,164	451,700	3,889	554,753
March 2023 Payments		-	(347,442)	-	(347,442)
March 31, 2023 Balance		11,892,114	40,910,969	1,854,155	54,657,238

All amounts are unaudited unless otherwise noted.

GLWA Audit Committee June 26, 2023

Wholesale Water & Sewer Accounts Receivable Aging Report

The detailed accounts receivable aging is in the Appendix to this monthly report. This report reflects the wholesale receivables only and does not include DWSD.

Table 6 - Wholesale Accounts Receivable Aging Report Summary is a summary of the total, current and non-current receivables by category as of March 31, 2023.

Table 7 - Wholesale Accounts Receivable Aging Report, Net of Highland Park is the same summary *without* the past due balances for the City of Highland Park.

Table 8 - Wholesale Accounts Receivable Aging Report, Net of Highland Park and Dearborn is the same summary *without* the past due balances for the City of Highland Park and Dearborn. Four water accounts comprise the past due balances over 46 days. Two of these accounts were paid in full in April. The remaining two relate to ongoing disputes regarding the Highland Park portion of charges.

The past due IWC account in the amount of \$57 dollars was paid in full in May. Four past due pollutant surcharge account totaling \$40 thousand were paid in full in April, the remaining past due balance consists of smaller account holders that GLWA staff continue to communicate with.

Table 6 - Wholesale Accounts Receivable Aging Report Summary

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 55,377,768.25	\$ 38,276,475.33	\$ 1,087,465.10	\$ 818,189.31	\$ 15,195,638.51
Sewer	\$ 58,901,330.07	\$ 18,442,061.20	\$ 451,700.00	\$ 451,700.00	\$ 39,555,868.87
IWC	\$ 2,284,337.20	\$ 438,010.95	\$ 4,054.84	\$ 4,025.71	\$ 1,838,245.70
Pollutant Surcharge	\$ 538,106.76	\$ 495,674.85	\$ 41,684.18	\$ (1,075.97)	\$ 1,823.70
Total	\$ 117,101,542.28	\$ 57,652,222.33	\$ 1,584,904.12	\$ 1,272,839.05	\$ 56,591,576.78
	100.00%	49.23%	1.35%	1.09%	48.33%

Table 7 - Wholesale Accounts Receivable Aging Report, Net of Highland Park

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 43,485,654.00	\$ 37,964,642.18	\$ 988,205.98	\$ 714,543.57	\$ 3,818,262.27
Sewer	\$ 17,990,361.20	\$ 17,990,361.20	\$ -	\$ -	\$ -
IWC	\$ 430,181.98	\$ 430,124.21	\$ 57.77	\$ -	\$ -
Pollutant Surcharge	\$ 538,106.76	\$ 495,674.85	\$ 41,684.18	\$ (1,075.97)	\$ 1,823.70
Total	\$ 62,444,303.94	\$ 56,880,802.44	\$ 1,029,947.93	\$ 713,467.60	\$ 3,820,085.97
	100.00%	91.09%	1.65%	1.14%	6.12%

Table 8 - Wholesale Accounts Receivable Aging Report, Net of Highland Park and Dearborn

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 36,372,300.14	\$ 36,358,094.32	\$ 18,545.33	\$ (4,339.51)	\$ -
Sewer	\$ 17,990,361.20	\$ 17,990,361.20	\$ -	\$ -	\$ -
IWC	\$ 430,181.98	\$ 430,124.21	\$ 57.77	\$ -	\$ -
Pollutant Surcharge	\$ 538,106.76	\$ 495,674.85	\$ 41,684.18	\$ (1,075.97)	\$ 1,823.70
Total	\$ 55,330,950.08	\$ 55,274,254.58	\$ 60,287.28	\$ (5,415.48)	\$ 1,823.70
	100.00%	99.90%	0.11%	-0.01%	0.00%

Note: percentages vary from 100% due to rounding.



The Monthly Trust Receipts & Disbursements Report includes the following.

1. GLWA Trust Receipts & Disbursements – Net Cash Flows and Receipts
2. DWSD Trust Receipts & Disbursements – Net Cash Flows, Receipts & Loan Receivable
3. Combined System Trust Receipts & Disbursements – Net Cash Flows

GLWA Trust Receipts & Disbursements

Net Cash Flows and Receipts Basis: The trusts established pursuant to the Master Bond Ordinance (MBO) outline a flow of funds that governs the priority of the application of cash receipts from both the regional wholesale (i.e., Great Lakes Water Authority or GLWA) and local retail (i.e., Detroit Water & Sewerage Department or DWSD) activities which are further separated by the water system and the sewage disposal system.

This report provides an ongoing status of the net cash flow of both organizations (GLWA and DWSD) to fund their allocated share of Master Bond Ordinance requirements in accordance with the leases for the regional systems.

Table 1 – GLWA Net Cash Flows from Trust Receipts & Disbursements provides a summary of cash receipt collections and required MBO transfers by fiscal year. Fiscal year 2023 reflects nine months of activity to date.

Water fund receipts exceeded required disbursements by 8% through March 31, 2023 compared to the four-year historical average ratio of required receipts exceeding disbursements by 11% since July 1, 2018.

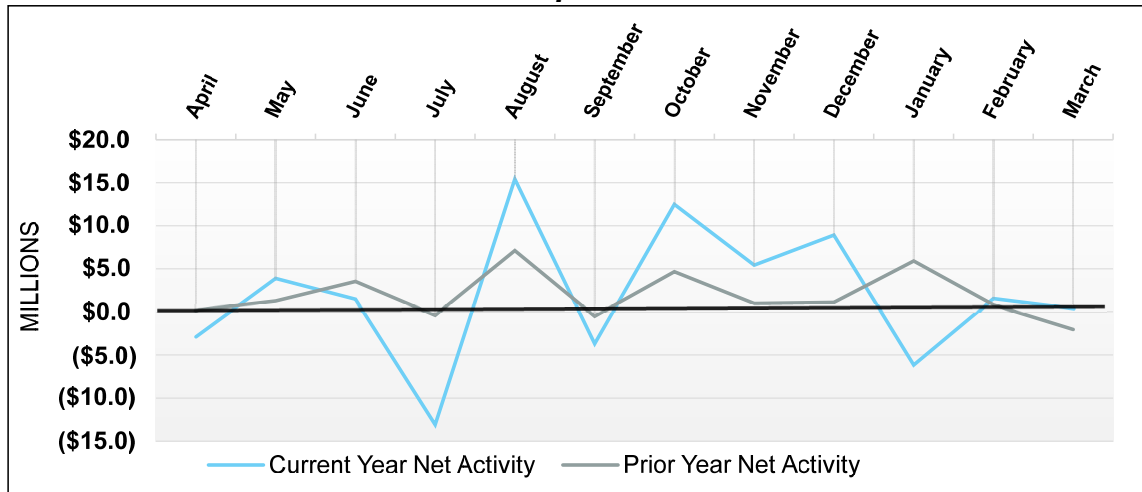
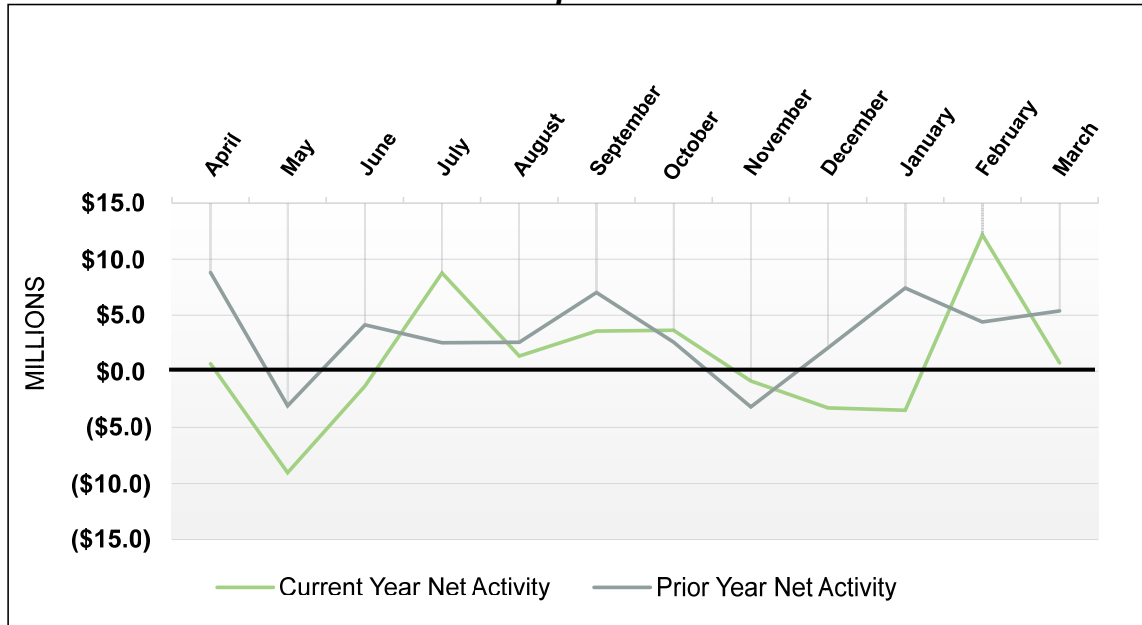
Sewer fund receipts exceeded required disbursements by 7% through March 31, 2023 in line with the four-year historical average ratio of required receipts exceeding disbursements by 7% since July 1, 2018.

Chart 1 – GLWA 12-Month Net Receipts – Water outlines monthly cash receipt trends across two points of reference for the regional water system—current year and prior year. The black line at the zero highlights the minimum goal for net receipts.

Chart 2 – GLWA 12-Month Net Receipts – Sewer outlines monthly cash receipt trends across two points of reference for the regional sewer system—current year and prior year. The black line at the zero highlights the minimum goal for net receipts.

Table 1 – GLWA Net Cash Flows from Trust Receipts & Disbursements

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023 Thru Mar 31
Water					
1 Receipts	\$ 336,594,234	\$ 332,606,196	\$ 336,642,021	\$ 338,117,694	\$ 274,474,952
2 MOU Adjustments	-	-	-	-	-
3 Adjusted Receipts	336,594,234	332,606,196	336,642,021	338,117,694	274,474,952
4 Disbursements	(289,230,481)	(296,190,425)	(308,713,407)	(316,495,360)	(253,188,860)
5 Receipts Net of Required Transfers	47,363,753	36,415,771	27,928,614	21,622,334	21,286,092
6 I&E Transfer	(47,695,000)	(25,719,751)	(31,991,687)	(26,622,862)	(8,702,217)
7 Net Receipts	\$ (331,247)	\$ 10,696,020	\$ (4,063,073)	\$ (5,000,528)	\$ 12,583,875
8 <i>Ratio of Receipts to Required Disbursements (Line 3/Line 4)</i>	116%	112%	109%	107%	108%
Sewer					
9 Receipts	\$ 467,743,744	\$ 490,461,356	\$ 472,871,853	\$ 471,979,297	\$ 369,818,460
10 MOU Adjustments	-	-	-	-	-
11 Adjusted Receipts	467,743,744	490,461,356	472,871,853	471,979,297	369,818,460
12 Disbursements	(453,406,636)	(445,604,952)	(436,600,883)	(450,701,751)	(345,052,136)
13 Receipts Net of Required Transfers	14,337,108	44,856,404	36,270,970	21,277,546	24,766,324
14 I&E Transfer	(22,547,700)	(19,096,200)	(40,504,727)	(37,651,788)	(13,517,601)
15 DWSD Shortfall Advance	-	-	-	-	-
16 Shortfall Repayment (principal)	9,367,355	17,542,669	18,206,431	8,296,578	-
17 Net Receipts	\$ 1,156,763	\$ 43,302,873	\$ 13,972,674	\$ (8,077,664)	\$ 11,248,723
18 <i>Ratio of Receipts to Required Disbursements (Line 11/Line 12)</i>	103%	110%	108%	105%	107%
Combined					
19 Receipts	\$ 804,337,978	\$ 823,067,552	\$ 809,513,874	\$ 810,096,991	\$ 644,293,412
20 MOU Adjustments	-	-	-	-	-
21 Adjusted Receipts	804,337,978	823,067,552	809,513,874	810,096,991	644,293,412
22 Disbursements	(742,637,117)	(741,795,377)	(745,314,290)	(767,197,111)	(598,240,996)
23 Receipts Net of Required Transfers	61,700,861	81,272,175	64,199,584	42,899,880	46,052,416
24 I&E Transfer	(70,242,700)	(44,815,951)	(72,496,414)	(64,274,650)	(22,219,818)
25 Shortfall Advance	-	-	-	-	-
26 Shortfall Repayment	9,367,355	17,542,669	18,206,431	8,296,578	-
27 Net Receipts	\$ 825,516	\$ 53,998,893	\$ 9,909,601	\$ (13,078,192)	\$ 23,832,598
28 <i>Ratio of Receipts to Required Disbursements (Line 21/Line 22)</i>	108%	111%	109%	106%	108%

Chart 1 – GLWA 12-Month Net Receipts – Water

Chart 2 – GLWA 12-Month Net Receipts – Sewer


DWSD Trust Receipts & Disbursements

Net Cash Flows and Receipts Basis: The trusts established pursuant to the Master Bond Ordinance (MBO) outline a flow of funds that governs the priority of the application of cash receipts from both the regional wholesale (i.e. Great Lakes Water Authority or GLWA) and local retail (i.e. Detroit Water & Sewerage Department or DWSD) activities which are further separated by the water system and the sewage disposal system.

This report provides an ongoing status of the net cash flow of both organizations (GLWA and DWSD) to fund their allocated share of Master Bond Ordinance requirements in accordance with the leases for the regional systems.

Table 2 – DWSD Net Cash Flows from Trust Receipts & Disbursements

provides a summary of cash receipt collections and required MBO transfers by fiscal year. Fiscal year 2023 reflects nine months of activity to date.

Water fund receipts exceeded required disbursements by 1% through March 31, 2023 compared to the four-year historical average ratio of required receipts exceeding disbursements by 3% since July 1, 2018.

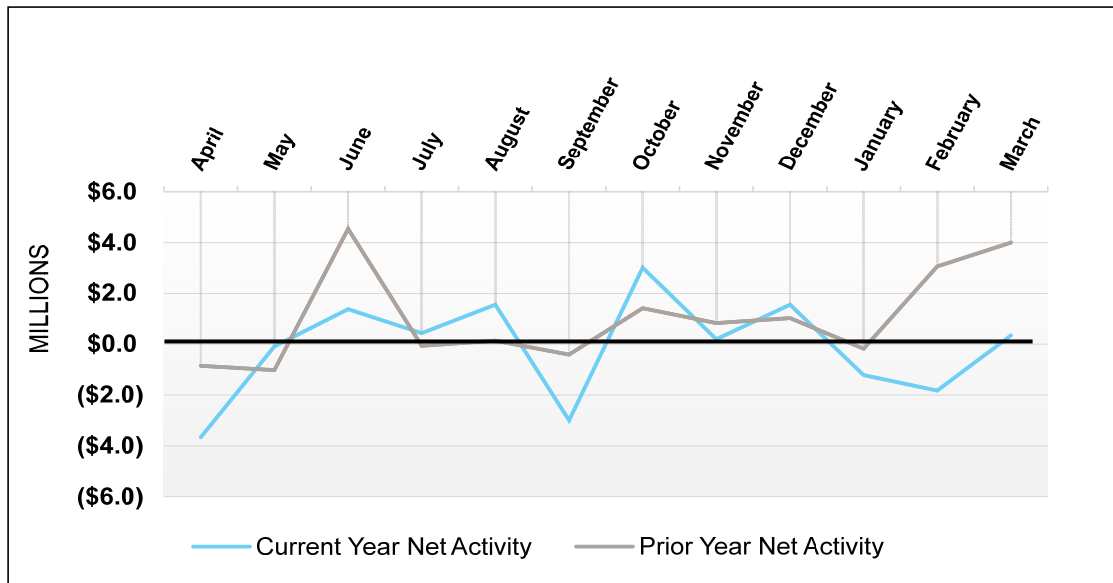
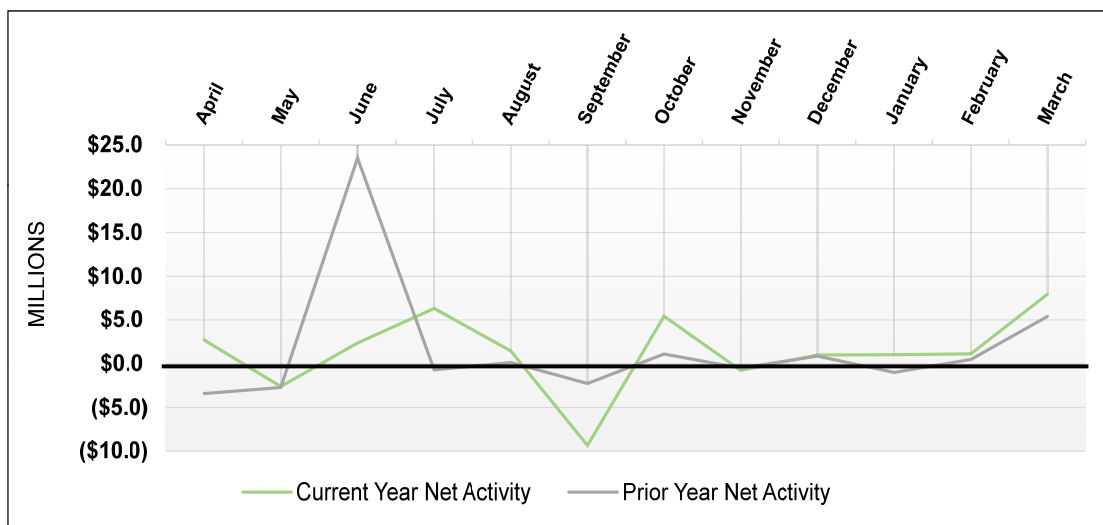
Sewer fund receipts exceeded required disbursements by 7% through March 31, 2023 compared to the four-year historical average of required receipts exceeding disbursements by 1% since July 1, 2018.

Table 2 – DWSD Net Cash Flows from Trust Receipts & Disbursements

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023 Thru Mar 31
Water					
1 Receipts	\$ 99,868,219	\$ 96,885,723	\$ 102,067,423	\$ 101,964,963	\$ 88,445,817
2 MOU Adjustments	-	-	-	-	-
3 Adjusted Receipts	99,868,219	96,885,723	102,067,423	101,964,963	88,445,817
4 Disbursements	(97,694,600)	(97,823,097)	(100,707,200)	(94,495,601)	(87,355,152)
5 Receipts Net of Required Transfers	2,173,619	(937,374)	1,360,223	7,469,362	1,090,665
6 I&E Transfer	(8,407,080)	-	-	-	-
7 Net Receipts	\$ (6,233,461)	\$ (937,374)	\$ 1,360,223	\$ 7,469,362	\$ 1,090,665
8 <i>Ratio of Receipts to Required Disbursements (Line 3/Line 4)</i>	102%	99%	101%	108%	101%
Sewer					
9 Receipts	\$ 265,339,797	\$ 264,689,559	\$ 308,210,767	\$ 291,280,896	\$ 227,617,675
10 MOU Adjustments	6,527,200	-	-	-	-
11 Adjusted Receipts	271,866,997	264,689,559	308,210,767	291,280,896	227,617,675
12 Disbursements	(271,018,306)	(275,507,374)	(295,100,771)	(285,256,000)	(213,408,887)
13 Receipts Net of Required Transfers	848,691	(10,817,815)	13,109,996	6,024,896	14,208,788
14 I&E Transfer	-	-	-	-	-
15 Shortfall Advance from GLWA	-	-	-	-	-
16 Net Receipts	\$ 848,691	\$ (10,817,815)	\$ 13,109,996	\$ 6,024,896	\$ 14,208,788
17 <i>Ratio of Receipts to Required Disbursements (Line 11/Line 12)</i>	100%	96%	104%	102%	107%
Combined					
18 Receipts	\$ 365,208,016	\$ 361,575,282	\$ 410,278,190	\$ 393,245,859	\$ 316,063,492
19 MOU Adjustments	6,527,200	-	-	-	-
20 Adjusted Receipts	371,735,216	361,575,282	410,278,190	393,245,859	316,063,492
21 Disbursements	(368,712,906)	(373,330,471)	(395,807,971)	(379,751,601)	(300,764,039)
22 Receipts Net of Required Transfers	3,022,310	(11,755,189)	14,470,219	13,494,258	15,299,453
23 I&E Transfer	(8,407,080)	-	-	-	-
24 Shortfall Advance from GLWA	-	-	-	-	-
25 Net Receipts	\$ (5,384,770)	\$ (11,755,189)	\$ 14,470,219	\$ 13,494,258	\$ 15,299,453
26 <i>Ratio of Receipts to Required Disbursements (Line 20/Line 21)</i>	101%	97%	104%	104%	105%

Chart 3 – DWSD 12-Month Net Receipts – Water outlines monthly activity trends across two points of reference for the local water system—current year and prior year. The black line at the zero highlights the breakeven goal for net receipts.

Chart 4 – DWSD 12-Month Net Receipts – Sewer outlines monthly activity trends across two points of reference for the local sewer system—current year and prior year. The black line at the zero highlights the breakeven goal for net receipts.

Chart 3 – DWSD 12-Month Net Receipts – Water

Chart 4 – DWSD 12-Month Net Receipts – Sewer


Combined System Trust Receipts & Disbursements

Net Cash Flows and Receipts Basis: The trusts established pursuant to the Master Bond Ordinance (MBO) outline a flow of funds that governs the priority of the application of cash receipts from both the regional wholesale (i.e., Great Lakes Water Authority or GLWA) and local retail (i.e. Detroit Water & Sewerage Department or DWSD) activities which are further separated by the water system and the sewage disposal system.

Table 3 – Combined Net Cash Flows from Trust Receipts & Disbursements provides a summary of cash receipt collections and required MBO transfers by fiscal year. Fiscal year 2023 reflects nine months of activity to date.

Water fund net receipts exceeded required disbursements by 7% through March 31, 2023 compared to the four-year historical average ratio of required receipts exceeding disbursements by 9% since July 1, 2018.

Sewer fund receipts exceeded required disbursements by 7% through March 31, 2023 compared to the four-year historical average ratio of required receipts exceeding disbursements by 4% since July 1, 2018.

Table 3 – Combined Net Cash Flows from Trust Receipts & Disbursements

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023 Thru Mar 31
Water					
1 Receipts	\$ 436,462,453	\$ 429,491,919	\$ 438,709,444	\$ 440,082,657	\$ 362,920,769
2 MOU Adjustments	-	-	-	-	-
3 Adjusted Receipts	436,462,453	429,491,919	438,709,444	440,082,657	362,920,769
4 Disbursements	(386,925,081)	(394,013,522)	(409,420,607)	(410,990,961)	(340,544,012)
5 Receipts Net of Required Transfers	49,537,372	35,478,397	29,288,837	29,091,696	22,376,757
6 I&E Transfer	(56,102,080)	(25,719,751)	(31,991,687)	(26,622,862)	(8,702,217)
7 Net Receipts	\$ (6,564,708)	\$ 9,758,646	\$ (2,702,850)	\$ 2,468,834	\$ 13,674,540
8 <i>Ratio of Receipts to Required Disbursements (Line 3/Line 4)</i>	113%	109%	107%	107%	107%
Sewer					
9 Receipts	\$ 733,083,541	\$ 755,150,915	\$ 781,082,620	\$ 763,260,193	\$ 597,436,135
10 MOU Adjustments	6,527,200	-	-	-	-
11 Adjusted Receipts	739,610,741	755,150,915	781,082,620	763,260,193	597,436,135
12 Disbursements	(724,424,942)	(721,112,326)	(731,701,654)	(735,957,751)	(558,461,023)
13 Receipts Net of Required Transfers	15,185,799	34,038,589	49,380,966	27,302,442	38,975,112
14 I&E Transfer	(22,547,700)	(19,096,200)	(40,504,727)	(37,651,788)	(13,517,601)
15 Shortfall Advance	-	-	-	-	-
16 Shortfall Repayment (principal)	9,367,355	17,542,669	18,206,431	8,296,578	-
17 Net Receipts	\$ (7,361,901)	\$ 32,485,058	\$ 27,082,670	\$ (2,052,768)	\$ 25,457,511
18 <i>Ratio of Receipts to Required Disbursements (Line 11/Line 12)</i>	102%	105%	107%	104%	107%
Combined					
19 Receipts	\$ 1,169,545,994	\$ 1,184,642,834	\$ 1,219,792,064	\$ 1,203,342,850	\$ 960,356,904
20 MOU Adjustments	6,527,200	-	-	-	-
21 Adjusted Receipts	1,176,073,194	1,184,642,834	1,219,792,064	1,203,342,850	960,356,904
22 Disbursements	(1,111,350,023)	(1,115,125,848)	(1,141,122,261)	(1,146,948,712)	(899,005,035)
23 Receipts Net of Required Transfers	64,723,171	69,516,986	78,669,803	56,394,138	61,351,869
24 I&E Transfer	(78,649,780)	(44,815,951)	(72,496,414)	(64,274,650)	(22,219,818)
25 Shortfall Advance	-	-	-	-	-
26 Shortfall Repayment	9,367,355	17,542,669	18,206,431	8,296,578	-
27 Net Receipts	\$ (4,559,254)	\$ 42,243,704	\$ 24,379,820	\$ 416,066	\$ 39,132,051
28 <i>Ratio of Receipts to Required Disbursements (Line 21/Line 22)</i>	106%	106%	107%	105%	107%

APPENDIX

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$399,154.13	\$399,154.13	\$0.00	\$0.00	\$0.00
ALMONT VILLAGE	\$20,124.56	\$20,124.56	\$0.00	\$0.00	\$0.00
ASH TOWNSHIP	\$66,926.31	\$66,926.31	\$0.00	\$0.00	\$0.00
BELLEVILLE	\$26,936.66	\$26,936.66	\$0.00	\$0.00	\$0.00
BERLIN TOWNSHIP	\$60,266.20	\$60,266.20	\$0.00	\$0.00	\$0.00
BROWNSTOWN TOWNSHIP	\$298,968.43	\$298,968.43	\$0.00	\$0.00	\$0.00
BRUCE TOWNSHIP	\$ (4,339.51)	\$0.00	\$0.00	\$ (4,339.51)	\$0.00
BURTCHVILLE TOWNSHIP	\$55,637.13	\$55,637.13	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$921,575.48	\$921,575.48	\$0.00	\$0.00	\$0.00
CENTER LINE	\$82,363.29	\$82,363.29	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$355,423.31	\$355,423.31	\$0.00	\$0.00	\$0.00
CLINTON TOWNSHIP	\$622,897.91	\$622,897.91	\$0.00	\$0.00	\$0.00
COMMERCE TOWNSHIP	\$571,746.09	\$571,746.09	\$0.00	\$0.00	\$0.00
DEARBORN	\$7,113,353.86	\$1,606,547.86	\$969,660.65	\$718,883.08	\$3,818,262.27
DEARBORN HEIGHTS	\$644,321.54	\$644,321.54	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$136,992.04	\$136,992.04	\$0.00	\$0.00	\$0.00
ECORSE	\$111,665.47	\$111,665.47	\$0.00	\$0.00	\$0.00
FARMINGTON	\$84,095.15	\$84,095.15	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$1,451,442.71	\$1,451,442.71	\$0.00	\$0.00	\$0.00
FERNDAL	\$168,502.83	\$168,502.83	\$0.00	\$0.00	\$0.00
FLAT ROCK	\$112,637.16	\$112,637.16	\$0.00	\$0.00	\$0.00
FLINT	\$385,262.53	\$385,262.53	\$0.00	\$0.00	\$0.00
FRASER	\$104,407.75	\$104,407.75	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
GARDEN CITY	\$142,066.04	\$142,066.04	\$0.00	\$0.00	\$0.00
GENESEE COUNTY DRAIN COMM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GIBRALTAR	\$56,938.01	\$56,938.01	\$0.00	\$0.00	\$0.00
GREATER LAPEER CUA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GREENWOOD TWP. (DTE)	\$86,239.17	\$86,239.17	\$0.00	\$0.00	\$0.00
GROSSE ILE TOWNSHIP	\$102,863.92	\$102,863.92	\$0.00	\$0.00	\$0.00
GROSSE POINTE FARMS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$208,073.12	\$208,073.12	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$46,232.84	\$46,232.84	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$101,223.14	\$101,223.14	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$ (147,500.00)	\$ (147,500.00)	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$148,965.87	\$148,965.87	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$136,770.16	\$136,770.16	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$62,530.43	\$62,530.43	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$11,892,114.25	\$311,833.15	\$99,259.12	\$103,645.74	\$11,377,376.24
HURON TOWNSHIP	\$167,364.18	\$167,364.18	\$0.00	\$0.00	\$0.00
IMLAY CITY	\$121,890.15	\$121,890.15	\$0.00	\$0.00	\$0.00
IMLAY TOWNSHIP (CHAMPION BUS	\$1,603.22	\$1,603.22	\$0.00	\$0.00	\$0.00
INKSTER	\$114,475.82	\$114,475.82	\$0.00	\$0.00	\$0.00
KEEGO HARBOR	\$51,024.13	\$51,024.13	\$0.00	\$0.00	\$0.00
LAPEER	\$131,680.26	\$131,680.26	\$0.00	\$0.00	\$0.00
LENOX TOWNSHIP	\$53,470.07	\$52,921.04	\$549.03	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
LINCOLN PARK	\$210,845.92	\$210,845.92	\$0.00	\$0.00	\$0.00
LIVONIA	\$1,857,111.87	\$1,857,111.87	\$0.00	\$0.00	\$0.00
MACOMB TWP	\$1,007,095.12	\$1,007,095.12	\$0.00	\$0.00	\$0.00
MADISON HEIGHTS	\$176,705.81	\$176,705.81	\$0.00	\$0.00	\$0.00
MAYFIELD TOWNSHIP (KAMAX)	\$3,454.35	\$3,454.35	\$0.00	\$0.00	\$0.00
MELVINDALE	\$130,165.31	\$130,165.31	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$32,283.06	\$32,283.06	\$0.00	\$0.00	\$0.00
NOCWA	\$3,646,501.68	\$3,646,501.68	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$130,367.44	\$129,467.44	\$900.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$439,337.07	\$439,337.07	\$0.00	\$0.00	\$0.00
NOVI	\$715,634.81	\$715,634.81	\$0.00	\$0.00	\$0.00
OAK PARK	\$116,787.86	\$116,787.86	\$0.00	\$0.00	\$0.00
OAKLAND CO DR COM	\$13,204.27	\$13,204.27	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$87,179.75	\$87,179.75	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$716,831.77	\$701,331.77	\$15,500.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$545,448.57	\$545,448.57	\$0.00	\$0.00	\$0.00
RIVER ROUGE	\$59,809.85	\$59,809.85	\$0.00	\$0.00	\$0.00
RIVERVIEW	\$73,754.26	\$73,754.26	\$0.00	\$0.00	\$0.00
ROCKWOOD	\$47,007.94	\$47,007.94	\$0.00	\$0.00	\$0.00
ROMEO	\$37,360.27	\$35,763.97	\$1,596.30	\$0.00	\$0.00
ROMULUS	\$354,476.93	\$354,476.93	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$462,691.83	\$462,691.83	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$34,814.57	\$34,814.57	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
SHELBY TOWNSHIP	\$2,259,445.04	\$2,259,445.04	\$0.00	\$0.00	\$0.00
SOCWA	\$3,793,279.30	\$3,793,279.30	\$0.00	\$0.00	\$0.00
SOUTH ROCKWOOD	\$9,821.37	\$9,821.37	\$0.00	\$0.00	\$0.00
SOUTHGATE	\$188,901.81	\$188,901.81	\$0.00	\$0.00	\$0.00
ST. CLAIR SHORES	\$274,056.39	\$274,056.39	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$1,237,362.43	\$1,237,362.43	\$0.00	\$0.00	\$0.00
SUMPTER TOWNSHIP	\$122,334.99	\$122,334.99	\$0.00	\$0.00	\$0.00
SYLVAN LAKE	\$19,496.06	\$19,496.06	\$0.00	\$0.00	\$0.00
TAYLOR	\$415,110.66	\$415,110.66	\$0.00	\$0.00	\$0.00
TRENTON	\$137,097.12	\$137,097.12	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$1,055,046.20	\$1,055,046.20	\$0.00	\$0.00	\$0.00
UTICA	\$95,502.30	\$95,502.30	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$277,867.31	\$277,867.31	\$0.00	\$0.00	\$0.00
WALLED LAKE	\$132,172.09	\$132,172.09	\$0.00	\$0.00	\$0.00
WARREN	\$1,774,044.08	\$1,774,044.08	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$181,645.83	\$181,645.83	\$0.00	\$0.00	\$0.00
WAYNE	\$276,260.49	\$276,260.49	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$1,762,667.01	\$1,762,667.01	\$0.00	\$0.00	\$0.00
WESTLAND	\$1,080,920.47	\$1,080,920.47	\$0.00	\$0.00	\$0.00
WIXOM	\$195,608.39	\$195,608.39	\$0.00	\$0.00	\$0.00
WOODHAVEN	\$135,111.85	\$135,111.85	\$0.00	\$0.00	\$0.00
YCUA	\$1,786,760.94	\$1,786,760.94	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
TOTAL WATER ACCOUNTS	\$55,377,768.25	\$38,276,475.33	\$1,087,465.10	\$818,189.31	\$15,195,638.51

GLWA Aged Accounts Receivable- SEWER ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$70,700.00	\$70,700.00	\$0.00	\$0.00	\$0.00
CENTER LINE	\$86,899.50	\$86,899.50	\$0.00	\$0.00	\$0.00
DEARBORN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EVERGREEN-FARMINGTON	\$3,016,300.00	\$3,016,300.00	\$0.00	\$0.00	\$0.00
FARMINGTON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE FARMS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$40,910,968.87	\$451,700.00	\$451,700.00	\$451,700.00	\$39,555,868.87
MELVINDALE	\$131,200.00	\$131,200.00	\$0.00	\$0.00	\$0.00
OAKLAND COUNTY GWK DD	\$3,864,800.00	\$3,864,800.00	\$0.00	\$0.00	\$0.00
OMID	\$6,155,161.70	\$6,155,161.70	\$0.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ROUGE VALLEY	\$4,660,900.00	\$4,660,900.00	\$0.00	\$0.00	\$0.00
SOUTH MACOMB SANITATION DIST	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
WAYNE COUNTY-AREA #3	\$4,400.00	\$4,400.00	\$0.00	\$0.00	\$0.00
TOTAL SEWER ACCOUNTS	\$58,901,330.07	\$18,442,061.20	\$451,700.00	\$451,700.00	\$39,555,868.87

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$1,623.53	\$1,623.53	\$0.00	\$0.00	\$0.00
AUBURN HILLS (C-O)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AUBURN HILLS (C-O) ADMIN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AUBURN HILLS (E-F)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BERKLEY	\$3,182.62	\$3,182.62	\$0.00	\$0.00	\$0.00
BEVERLY HILLS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BINGHAM FARMS	\$1,088.32	\$1,088.32	\$0.00	\$0.00	\$0.00
BIRMINGHAM (E-F)	\$2,427.24	\$2,427.24	\$0.00	\$0.00	\$0.00
BIRMINGHAM (SEOC)	\$5,728.00	\$5,728.00	\$0.00	\$0.00	\$0.00
BLOOMFIELD HILLS	\$3,458.28	\$3,401.00	\$57.28	\$0.00	\$0.00
BLOOMFIELD TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CENTER LINE	\$5,352.59	\$5,352.10	\$0.49	\$0.00	\$0.00
CHARTER TOWNSHIP OF INDEPENI	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$13,067.00	\$13,067.00	\$0.00	\$0.00	\$0.00
CITY OF FARMINGTON (E-F)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CITY OF FERNDALE	\$17,935.80	\$17,935.80	\$0.00	\$0.00	\$0.00
CITY OF ROCHESTER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CLARKSTON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CLARKSTON (C-O) ADMIN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CLAWSON	\$3,148.61	\$3,148.61	\$0.00	\$0.00	\$0.00
CLINTON TOWNSHIP	\$27,451.44	\$27,451.44	\$0.00	\$0.00	\$0.00
DEARBORN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
DEARBORN HEIGHTS	\$9,716.12	\$9,716.12	\$0.00	\$0.00	\$0.00
DETROIT METRO WC AIRPORT	\$107.40	\$107.40	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$6,499.49	\$6,499.49	\$0.00	\$0.00	\$0.00
FARMINGTON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$50,384.92	\$50,384.92	\$0.00	\$0.00	\$0.00
FRASER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE FARMS	\$2,103.25	\$2,103.25	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$1,190.35	\$1,190.35	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$343.68	\$343.68	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$ (4,202.92)	\$ (4,202.92)	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$1,811.48	\$1,811.48	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$3,375.94	\$3,375.94	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$1,854,155.22	\$7,886.74	\$3,997.07	\$4,025.71	\$1,838,245.70
HUNTINGTON WOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
INDEPENDENCE (C-O) ADMIN	\$1,286.37	\$1,286.37	\$0.00	\$0.00	\$0.00
INKSTER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
KEEGO HARBOR	\$1,421.26	\$1,421.26	\$0.00	\$0.00	\$0.00
LATHRUP	\$1,415.89	\$1,415.89	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
LENOX TOWNSHIP	\$ (327.57)	\$ (327.57)	\$0.00	\$0.00	\$0.00
LIVONIA	\$41,368.69	\$41,368.69	\$0.00	\$0.00	\$0.00
MACOMB TWP	\$207.64	\$207.64	\$0.00	\$0.00	\$0.00
MADISON HEIGHTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MELVINDALE	\$3,540.62	\$3,540.62	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$4,714.86	\$4,714.86	\$0.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NOVI	\$18,057.52	\$18,057.52	\$0.00	\$0.00	\$0.00
OAK PARK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
OAKLAND TOWNSHIP	\$916.48	\$916.48	\$0.00	\$0.00	\$0.00
ORCHARD LAKE VILLAGE	\$723.16	\$723.16	\$0.00	\$0.00	\$0.00
ORION TOWNSHIP (C-O)	\$4,356.86	\$4,356.86	\$0.00	\$0.00	\$0.00
ORION TOWNSHIP (C-O) ADMIN	\$499.80	\$499.80	\$0.00	\$0.00	\$0.00
OXFORD TOWNSHIP	\$1,050.73	\$1,050.73	\$0.00	\$0.00	\$0.00
OXFORD VILLAGE	\$1,267.32	\$1,267.32	\$0.00	\$0.00	\$0.00
PLEASANT RIDGE	\$275.66	\$275.66	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$275.66	\$275.66	\$0.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$12,571.17	\$12,571.17	\$0.00	\$0.00	\$0.00
ROCHESTER HILLS	\$18,907.77	\$18,907.77	\$0.00	\$0.00	\$0.00
ROMULUS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$14,853.42	\$14,853.42	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ROYAL OAK	\$13,877.87	\$13,877.87	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$1,879.50	\$1,879.50	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$15,404.74	\$15,404.74	\$0.00	\$0.00	\$0.00
SOUTHFIELD (E-F)	\$28,926.40	\$28,926.40	\$0.00	\$0.00	\$0.00
SOUTHFIELD (SEOC)	\$3,361.62	\$3,361.62	\$0.00	\$0.00	\$0.00
ST. CLAIR SHORES	\$12,220.33	\$12,220.33	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$32,248.64	\$32,248.64	\$0.00	\$0.00	\$0.00
TROY (E-F)	\$386.64	\$386.64	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
UTICA	\$3,080.59	\$3,080.59	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VILLAGE OF FRANKLIN	\$132.46	\$132.46	\$0.00	\$0.00	\$0.00
VILLAGE OF LAKE ORION	\$809.08	\$809.08	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
WATERFORD TOWNSHIP DPW	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
WATERFORD TOWNSHIP DPW (ADMI	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
WAYNE	\$5,053.17	\$5,053.17	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (E-F)	\$6,342.43	\$6,342.43	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP. (C-O) A	\$239.39	\$239.39	\$0.00	\$0.00	\$0.00
WESTLAND	\$23,042.67	\$23,042.67	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
TOTAL IWC ACCOUNTS	\$2,284,337.20	\$438,010.95	\$4,054.84	\$4,025.71	\$1,838,245.70

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
3M COMPANY (MINNESOTA MINING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
A & R PACKING CO., LLC	\$940.21	\$940.21	\$0.00	\$0.00	\$0.00
AACTRON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ACADEMY PACKING CO.	\$143.57	\$0.00	\$143.57	\$0.00	\$0.00
ACME RUSTPROOF	\$ (9.45)	\$0.00	\$0.00	\$0.00	\$ (9.45)
ADORING PET FUNERAL HOME	\$85.33	\$85.33	\$0.00	\$0.00	\$0.00
ADVANCE ENGINEERING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AEVITAS SPECIALITY SERVICES	\$567.58	\$567.58	\$0.00	\$0.00	\$0.00
ALEXANDER & HORNUNG	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ALEXANDER & HORNUNG	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ALL CHEM CORP, LLC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ALPHA STAMPING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AMERICAN WASTE TECH INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AMERITI MFG. CO.	\$2,813.41	\$2,813.41	\$0.00	\$0.00	\$0.00
APPLIED TECHNOLOGY INDUSTRIE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ATWATER IN THE PARK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AUTOMOTIVE FINISH	\$4.20	\$0.00	\$4.20	\$0.00	\$0.00
AXLE BREWING COMPANY, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
B. NEKTAR MEADERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BAFFIN BREWING COMPANY	\$137.26	\$0.00	\$137.26	\$0.00	\$0.00
BARON INDUSTRIES	\$1,458.28	\$1,458.28	\$0.00	\$0.00	\$0.00
BARTZ BAKERY	\$44.85	\$0.00	\$44.85	\$0.00	\$0.00
BASTONE BREWERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
BATCH BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BAYS MICHIGAN CORPORATION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BEIRUT BAKERY, INC.	\$37.00	\$0.00	\$0.00	\$0.00	\$37.00
BETTER MADE SNACK FOOD	\$19,770.34	\$19,770.34	\$0.00	\$0.00	\$0.00
BLACK LOTUS BREWING CO.	\$61.25	\$0.00	\$0.00	\$0.00	\$61.25
BOZEK'S MARKET	\$ (1,388.33)	\$0.00	\$ (1,388.33)	\$0.00	\$0.00
BREW DETROIT	\$5,968.78	\$5,968.78	\$0.00	\$0.00	\$0.00
BROADWAY MKT CORNED BEEF	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BROOKS BREWING, LLC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BROWN IRON BREWHOUSE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CADILLAC STRAITS BREWING CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CANTON BREW WORKS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CAPITAL REPRODUCTIONS	\$3.74	\$3.74	\$0.00	\$0.00	\$0.00
CF BURGER CREAMERY	\$20,663.42	\$20,663.42	\$0.00	\$0.00	\$0.00
CHIEFTAN COATING, LLC.	\$4,257.72	\$4,257.72	\$0.00	\$0.00	\$0.00
CHILANGO'S BAKERY	\$119.48	\$27.60	\$12.65	\$13.80	\$65.43
CINTAS CORP. - MACOMB TWP.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CINTAS CORPORATION	\$9,946.91	\$9,946.91	\$0.00	\$0.00	\$0.00
CINTAS CORPORATION	\$4,986.63	\$4,986.63	\$0.00	\$0.00	\$0.00
CITY LAUNDRY, INC.	\$3.56	\$3.56	\$0.00	\$0.00	\$0.00
CLASSIC CONTAINER CORP.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CLEAN EARTH OF MICHIGAN, LLC	\$104.35	\$57.26	\$47.09	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
COCA-COLA REFRESHMENTS USA,	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COUNTRY FRESH DAIRY CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CROSS CHEMICAL COMPANY, INC.	\$ (234.45)	\$0.00	\$0.00	\$ (234.45)	\$0.00
DANA CONTAINER, INC.	\$1,634.78	\$1,634.78	\$0.00	\$0.00	\$0.00
DARLING INGREDIENTS, INC.	\$5,014.88	\$5,014.88	\$0.00	\$0.00	\$0.00
DAVE'S SAUSAGE FACTORY 2	\$288.09	\$0.00	\$288.09	\$0.00	\$0.00
DEARBORN BREWING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DEARBORN SAUSAGE	\$9,024.57	\$0.00	\$9,024.57	\$0.00	\$0.00
DEARBORN SAUSAGE CO., INC.	\$11,880.87	\$0.00	\$11,880.87	\$0.00	\$0.00
DETROIT BEER CO.	\$71.65	\$0.00	\$71.65	\$0.00	\$0.00
DETROIT LINEN SERVICE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT METRO WC AIRPORT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT RIVERTOWN BREWERY CC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT SAUSAGES CO INC	\$13.42	\$13.42	\$0.00	\$0.00	\$0.00
DETRONIC INDUSTRIES, INC.	\$282.46	\$282.46	\$0.00	\$0.00	\$0.00
DIFCO LABORATORIES, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DIVERSIFIED CHEM TECH. INC.	\$119.68	\$119.68	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$3,226.44	\$3,226.44	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$1,289.62	\$1,289.62	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
DOWNEY BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DUBOIS CHEMICALS, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
E & E MANUFACTURING CO, PLAN	\$84.85	\$84.85	\$0.00	\$0.00	\$0.00
E & E MANUFACTURING CO, PLAN	\$207.70	\$207.70	\$0.00	\$0.00	\$0.00
E.W. GROBBEL'S SONS, INC.	\$3,633.72	\$3,633.72	\$0.00	\$0.00	\$0.00
EASTERN MARKET BREWING COMP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ENVIROSOLIDS, L.L.C.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$380.65	\$380.65	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$1,710.67	\$1,710.67	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$ (0.59)	\$0.00	\$0.00	\$0.00	\$ (0.59)
EQ DETROIT, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ETON ST BREWERY- GRIFFIN CL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EXTRUDE HONE CORPORATION	\$83.82	\$83.82	\$0.00	\$0.00	\$0.00
EXTRUDEHODE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FARMINGTON BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FAYGO BEVERAGES, INC.	\$2,638.89	\$2,638.89	\$0.00	\$0.00	\$0.00
FITZGERALD FINISHING LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FIVES CINETIC CORP.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FORD MOTOR CO- STERLING PLAN	\$1,212.97	\$1,212.97	\$0.00	\$0.00	\$0.00
FORD NEW MODEL PROGRAM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FOUNDERS BREWING COMPANY	\$12.68	\$0.00	\$12.68	\$0.00	\$0.00
FRESH-PAK	\$518.21	\$518.21	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
FRESH-PAK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GENERAL LINEN SUPPLY CO.	\$4,363.61	\$4,363.61	\$0.00	\$0.00	\$0.00
GENERAL MOTORS, LLC ROMULUS	\$945.28	\$945.28	\$0.00	\$0.00	\$0.00
GLOBAL TITANIUM, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GREAT BARABOO BREWING CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HACIENDA MEXICAN FOODS	\$1,643.63	\$1,059.83	\$582.80	\$1.00	\$0.00
HENKEL CORPORATION	\$94.73	\$94.73	\$0.00	\$0.00	\$0.00
HENRY FORD MACOMB HOSPITAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HOME STYLE FOOD INC.	\$423.12	\$423.12	\$0.00	\$0.00	\$0.00
HOMEgrown BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HOODS CLEANERS	\$211.33	\$0.00	\$0.00	\$0.00	\$211.33
HUNTINGTON CLEANERS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
IDP, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
INDUSTRIAL METAL COATING	\$358.38	\$358.38	\$0.00	\$0.00	\$0.00
INTRASTATE DISTRIBUTORS	\$664.85	\$664.85	\$0.00	\$0.00	\$0.00
ISLAMIC SLAUGHTER HOUSE	\$301.48	\$301.48	\$0.00	\$0.00	\$0.00
ITALIAN BUTTER BREAD STICKS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
JAMEX BREWING CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
JELD-WEN, INC.	\$177.34	\$177.34	\$0.00	\$0.00	\$0.00
KAR NUT PRODUCTS	\$1,565.32	\$1,565.32	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
KOWALSKI SAUSAGES, CO.	\$29.35	\$29.35	\$0.00	\$0.00	\$0.00
KUHNHENN BREWING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$360.88	\$360.88	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$39.40	\$39.40	\$0.00	\$0.00	\$0.00
LEAR CORPORATION DBA EAGLE C	\$55.76	\$55.76	\$0.00	\$0.00	\$0.00
LIBERTY STREET PROD. BREWERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LILY'S SEAFOOD GRILL & BREWE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LIQUID ENVIRONMENTAL OF ILLI	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LIQUID ENVIRONMENTAL SOLUTIC	\$ (38.14)	\$0.00	\$ (38.14)	\$0.00	\$0.00
MACDERMID, INC.	\$562.93	\$562.93	\$0.00	\$0.00	\$0.00
MCCLURE'S PICKLES	\$503.65	\$503.65	\$0.00	\$0.00	\$0.00
MCGEAN CHEMICALS	\$149.74	\$149.74	\$0.00	\$0.00	\$0.00
MCNICHOLS POLISHING & ANODIZ	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MELLO MEATS INC, - KUBISCH S	\$67.13	\$67.13	\$0.00	\$0.00	\$0.00
METROPOLITAN BAKERY	\$ (903.55)	\$0.00	\$0.00	\$ (903.55)	\$0.00
MIBA HYDRAMECHANICA CORP.	\$273.24	\$273.24	\$0.00	\$0.00	\$0.00
MICHIGAN DAIRY	\$92,156.45	\$92,156.45	\$0.00	\$0.00	\$0.00
MICHIGAN PROD. MACHINING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MICHIGAN SOY PRODUCTS CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MIDWEST WIRE PRODUCTS, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MILANO BAKERY	\$201.77	\$201.77	\$0.00	\$0.00	\$0.00
MILTON CHILI CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MINNIE MARIE BAKERS, INC	\$1,017.10	\$1,017.10	\$0.00	\$0.00	\$0.00
MISTER UNIFORM & MAT RENTALS	\$ (13.15)	\$0.00	\$0.00	\$0.00	\$ (13.15)
MOTOR CITY BREWING WORKS	\$0.63	\$0.00	\$0.63	\$0.00	\$0.00
NATIONAL CHILI COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NATIONAL CHILI COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NATIONAL CHILI COMPANY	\$243.11	\$243.11	\$0.00	\$0.00	\$0.00
NEAPCO DRIVELINES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTH CENTER BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTHERN LAKES SEAFOOD & MEAT	\$15.89	\$15.89	\$0.00	\$0.00	\$0.00
OAKWOOD BAKERY	\$50.44	\$50.44	\$0.00	\$0.00	\$0.00
OLIVER HATCH CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PARKEDALE PHARMACEUTICALS/PE	\$142.98	\$142.98	\$0.00	\$0.00	\$0.00
PARKER'S HILLTOP BREWER & SE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PELLERITO FOODS INC.	\$2.04	\$2.04	\$0.00	\$0.00	\$0.00
PEPSI COLA, INC.	\$16,282.24	\$16,282.24	\$0.00	\$0.00	\$0.00
PERDUE PREMIUM MEAT COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PERDUE PREMIUM MEAT COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PERDUE PREMIUM MEAT COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PERSONAL UNIFORM SERVICE, IN	\$30.79	\$0.00	\$12.60	\$18.19	\$0.00
PETRO ENVIRON TECH, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PINE TREE ACRES, INC.	\$80,018.84	\$71,241.25	\$8,777.59	\$0.00	\$0.00
PLATING SPEC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
POWER VAC OF MICHIGAN, INC.	\$193.68	\$193.68	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
PREMIER PLATING, LLC	\$680.78	\$680.78	\$0.00	\$0.00	\$0.00
PREMIER PLATING- STERLING HE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PRODUCTION SPRING, LLC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
QUAKER HOUGHTON - PLANT #2	\$ (214.95)	\$ (214.95)	\$0.00	\$0.00	\$0.00
QUAKER HOUGHTON - PLANT #2	\$ (810.91)	\$ (810.91)	\$0.00	\$0.00	\$0.00
QUAKER HOUGHTON - PLANT #2	\$ (165.32)	\$ (165.32)	\$0.00	\$0.00	\$0.00
QUALA SERVICES, LLC	\$40.86	\$40.86	\$0.00	\$0.00	\$0.00
RAY'S ICE CREAM CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
RED SPOT PAINT #409139	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
RIVER ROUGE BREWING COMPANY	\$440.60	\$0.00	\$0.00	\$0.00	\$440.60
ROAK BREWING CO. LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ROCHESTER MILLS BEER COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ROCHESTER MILLS PROD BREWERY	\$2,048.01	\$0.00	\$1,181.66	\$0.00	\$866.35
ROYAL OAK BREWERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
RTT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SEAFARE FOODS, INC.	\$49.78	\$49.78	\$0.00	\$0.00	\$0.00
SECOND NATURE (SANDERS)	\$36,997.56	\$26,200.52	\$10,797.04	\$0.00	\$0.00
SHERWOOD BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SMITH-WATKINS, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SPRAYTEK INC.- MADISON HEIGH	\$615.03	\$615.03	\$0.00	\$0.00	\$0.00
SPRAYTEK, INC.	\$14.52	\$0.00	\$0.00	\$0.00	\$14.52
SUPERNATURAL SPIRITS & BREWI	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
SWEETHEART BAKERY, INC.	\$181.68	\$120.43	\$61.25	\$0.00	\$0.00
THE CROWN GROUP-LIVONIA PLAN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
THE DEBURRING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
THERMO FISHER SCIENTIFIC	\$45,761.09	\$45,761.09	\$0.00	\$0.00	\$0.00
TOM LAUNDRY CLEANERS	\$0.56	\$0.00	\$0.56	\$0.00	\$0.00
TRAFFIC JAM & SNUG	\$ (31.16)	\$0.00	\$0.00	\$0.00	\$ (31.16)
TURRI'S ITALIAN FOODS	\$43,279.72	\$43,279.72	\$0.00	\$0.00	\$0.00
TURRI'S ITALIAN FOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
U-METCO, INC.	\$683.04	\$683.04	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$69,420.69	\$69,420.69	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$3,784.06	\$3,784.06	\$0.00	\$0.00	\$0.00
UNIQUE LINEN SERVICES, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
UNITED FISH DISTRIBUTORS	\$0.45	\$0.45	\$0.00	\$0.00	\$0.00
UNITED LINEN SERVICE, LLC.	\$211.54	\$211.54	\$0.00	\$0.00	\$0.00
UNITED MEAT & DELI	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
URBANREST BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
US ECOLOGY MICHIGAN	\$598.04	\$598.04	\$0.00	\$0.00	\$0.00
US ECOLOGY ROMULUS, INC.	\$874.33	\$874.33	\$0.00	\$0.00	\$0.00
USHER OIL SERVICES	\$1,272.93	\$1,272.93	\$0.00	\$0.00	\$0.00
VALICOR ENVIROMENTAL SERVICE	\$1,738.52	\$1,738.52	\$0.00	\$0.00	\$0.00
VALICOR ENVIRONMENTAL SERVIC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VAUGHAN INDUSTRIES, INC.	\$44.17	\$44.17	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS	\$5,376.00	\$5,376.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 03/31/23

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
VERNDALE PRODUCTS, INC.	\$4,247.37	\$4,247.37	\$0.00	\$0.00	\$0.00
VERNOR FOOD PRODUCTS	\$157.64	\$62.23	\$29.04	\$29.04	\$37.33
WIGLEY'S MEAT PROCESS	\$566.09	\$566.09	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$382.65	\$382.65	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$61.65	\$61.65	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO	\$1,656.18	\$1,656.18	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO.	\$1,991.38	\$1,991.38	\$0.00	\$0.00	\$0.00
WOODWARD AVENUE BREWERS	\$144.24	\$0.00	\$0.00	\$0.00	\$144.24
X-R-I TESTING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TOTAL POLLUTANT SURCHARGE ACCOUNTS	\$538,106.76	\$495,674.85	\$41,684.18	\$ (1,075.97)	\$1,823.70

City of Highland Park Billings and Collections

	Water	Sewer	IWC	Cumulative Total
June 30, 2012 Balance	\$ -	\$ 10,207,956	\$ 852,987	\$ 11,060,943
FY 2013 Billings	485,887	4,987,635	154,444	5,627,966
FY 2013 Payments	(65,652)	(2,206,211)	-	(2,271,863)
				-
June 30, 2013 Balance	\$ 420,235	\$ 12,989,380	\$ 1,007,431	\$ 14,417,046
FY 2014 Billings	1,004,357	6,980,442	161,951	8,146,750
FY 2014 Payments	-	(1,612,633)	-	(1,612,633)
				-
June 30, 2014 Balance	\$ 1,424,592	\$ 18,357,189	\$ 1,169,382	\$ 20,951,163
FY 2015 Billings	1,008,032	5,553,123	165,739	6,726,894
FY 2015 Payments	-	(1,444,623)	-	(1,444,623)
				-
June 30, 2015 Balance	\$ 2,432,625	\$ 22,465,689	\$ 1,335,121	\$ 26,233,435
FY 2016 Billings	1,157,178	5,612,167	106,431	6,875,776
FY 2016 Payments	-	(2,022,335)	-	(2,022,335)
				-
June 30, 2016 Balance	\$ 3,589,803	\$ 26,055,521	\$ 1,441,551	\$ 31,086,875
FY 2017 Billings	1,245,267	5,802,000	101,999	7,149,265
FY 2017 Payments	-	(2,309,186)	-	(2,309,186)
				-
June 30, 2017 Balance	\$ 4,835,070	\$ 29,548,335	\$ 1,543,550	\$ 35,926,954
FY 2018 Billings	1,277,179	5,657,101	80,472	7,014,752
FY 2018 Payments	-	(4,108,108)	-	(4,108,108)
				-
June 30, 2018 Balance	\$ 6,112,248	\$ 31,097,327	\$ 1,624,022	\$ 38,833,597
FY 2019 Billings	1,238,797	5,617,100	51,220	6,907,117
FY 2019 Payments	-	(5,241,583)	-	(5,241,583)
				-
June 30, 2019 Balance	\$ 7,351,045	\$ 31,472,844	\$ 1,675,243	\$ 40,499,132
FY 2020 Billings	1,182,639	5,665,400	47,097	6,895,136
FY 2020 Payments	-	(3,026,117)	-	(3,026,117)
				-
June 30, 2020 Balance	\$ 8,533,684	\$ 34,112,127	\$ 1,722,340	\$ 44,368,151
FY 2021 Billings	1,185,506	5,702,000	47,423	6,934,929
FY 2021 Payments	-	(2,783,552)	-	(2,783,552)
				-
June 30, 2021 Balance	9,719,190	37,030,575	1,769,763	48,519,528
FY 2022 Billings	1,222,260	5,389,300	48,322	6,659,882
FY 2022 Payments	-	(1,788,828)	-	(1,788,828)
				-
June 30, 2022 Balance	\$ 10,941,450	\$ 40,631,047	\$ 1,818,085	\$ 53,390,582
FY 2023 Billings (9 Months)	950,664	4,060,000	36,070	5,046,734
FY 2023 Payments (9 Months)	-	(3,780,078)	-	(3,780,078)
				-
Balance as of March 31, 2023	\$ 11,892,114	\$ 40,910,969	\$ 1,854,155	\$ 54,657,237



Financial Services Audit Committee Communication

Date: June 26, 2023

To: Great Lakes Water Authority Audit Committee

From: Megan Savage, Vendor Outreach Coordinator

Re: Business Inclusion & Diversity Program Update

Background: On November 25, 2020, the GLWA Board of Directors approved an amendment to the Procurement Policy allowing for the formation of a new Business Inclusion & Diversity (B.I.D.) Program within the Financial Services' Procurement Group. The B.I.D. Program Team, which includes internal GLWA Team Members as well as external consultants, executed a Phase I launch of the program on February 1, 2021 and a Phase II launch on July 1, 2021.

Analysis: This month we present tables to recap B.I.D. Program activity from the date of the program launch on February 1, 2021 through May 31, 2023 for procurements budgeted to exceed \$1 million.

Table 1: B.I.D. Eligible Procurements as of May 31, 2023

Table 1 provides an overview of the total number of B.I.D. Program-eligible Procurements awarded, in evaluation, or advertised as active opportunities in GLWA's Bonfire Procurement Portal. Each vendor who submits a response to a B.I.D. Program-eligible procurement must also submit a Business Inclusion and Diversity Plan. The total number of Diversity Plans that GLWA has received for B.I.D.-eligible procurements that have been awarded and that are in evaluation is also provided.

	Awarded	In Evaluation Phase	Active (Advertised)	Total
Procurements Requiring B.I.D. Submittals	66	13	4	83
Total Number of Diversity Plans Submitted	188	42	n/a	230

Table 2: Scored Criteria for Awarded Procurements

Table 2 provides a breakdown of the percentage of B.I.D. Program-eligible procurements awarded thus far that met the B.I.D. Program scored criteria. This scored criteria is based on

whether the vendor has a business presence in the state of Michigan, GLWA's Member Partner service area, or a disadvantaged municipality within GLWA's service area.

	Procurements Awarded Meeting B.I.D. Criteria as a % of Total \$ Awards	Total Contract Amount (in millions)
Michigan Location	92%	\$630.6
Member Partner Service Area	88%	\$588.4
Disadvantaged Service Area	55%	\$320.1

Table 3: Member Partner Communities

Table 3 provides a breakdown of the number of awarded contracts to vendors located in GLWA's Member Partner Service area.

	Total Contract Count	Total Contract Amount (in millions)
City of Detroit	35	\$302.6
City of Auburn Hills	5	\$76.9
City of Novi	3	\$94.4
City of Livonia	3	\$59.6
City of Taylor	1	\$12.6
City of Troy	3	\$17.0
City of Southfield	2	\$6.3
City of Madison Heights	1	\$6.0
City of Warren	1	\$3.6
City of Farmington Hills	2	\$6.5
City of Riverview	1	\$1.9
Harrison Township	1	\$1.0
Total	58	\$588.4

Table 4: Economically Disadvantaged Communities

Table 4 provides a breakdown of the number of awarded contracts to vendors who have a business presence in an economically disadvantaged GLWA service territory area. This means that the vendor is located in a municipality designated as having one of the five lowest median household incomes in that respective county as defined by the U.S. Census Bureau every five years.

	Total Contract Count	Total Contract Amount (in millions)
Detroit	35	\$302.6

Table 5: Non-Scored Criteria - Disadvantaged, Minority-owned, Women-owned, and Small Businesses

Table 5 provides a breakdown of the percentage of B.I.D. Program-eligible procurements awarded thus far that met the B.I.D. Program Non-Scored Criteria. This Non-Scored Criteria refers to any diversity certifications that the vendor may hold as a Disadvantaged Business Enterprise (DBE), Minority-Owned Business Enterprise (MBE), Women-Owned Business Enterprise (WBE), or Small Business Enterprise (SBE).

	Procurements Awarded as a % of Total \$ Awards	Total Contract Amount (in millions)
Awarded to Disadvantaged, Minority- owned, Women-owned, and Small Businesses	38%	\$294.7

Table 6: Diversity Certification Percentages

Table 6 provides a breakdown of the vendors who met the certification criteria as SBE (Small Business Enterprise), DBE (Disadvantaged Business Enterprise), MBE (Minority-owned Business Enterprise), and/or WBE (Women-owned Business Enterprise). Note that some firms may have multiple certifications.

	SBE	DBE	MBE	WBE
Percentage of Awarded Procurements to SBE, DBE, MBE, and WBE	10%	77%	33%	8%
Total Contract Amount (in millions)	\$18.5	\$333.6	\$80.6	\$65.2

Table 7: Overall Contracts Awarded

Table 7 provides a breakdown of overall dollars awarded under the B.I.D. Program thus far, distinguishing between firms that met the B.I.D. Program certification criteria (non-scored criteria) and firms that met the three B.I.D. Program geographic criteria (scored criteria).

	Total Contract Count	Total Contract Amount (in millions)
Eligible Procurements	66	\$783.9
Firms that met the certification criteria (non-scored criteria)	30	\$294.7
Firms that met the three geographic criteria (scored criteria)	36	\$320.1

Other activities completed this month to expand awareness of the B.I.D. Program and to foster the development of effective diversity plans included the following.

- Working with Bonfire to develop options for tracking and reporting on GLWA's efforts to update our vendor database to include information on diversity certifications. These options are contingent upon pending software enhancements required by Bonfire.
- Continued attendance of the B.I.D. Program Liaison at all Pre-Bid and Pre-Proposal solicitation meetings to overview B.I.D. Program requirements and answer any questions from vendors/contractors.

Tasks on hold

- The request remains open with Bonfire to provide options for tracking and reporting diversity certifications in the vendor database. Currently Bonfire does not have this on the list of planned upgrades.
- Continued evaluation of insurance and bonding requirements for small, minority-owned, and disadvantaged business enterprises. No solution has been identified but we do continue to explore the topic with potential resources.

It should be noted that we are in the early planning phase of returning to an in-person vendor outreach event for this fall. The program for the event will provide information sharing and networking to support the success of the B.I.D. program.

Proposed Action: Receive and file this report.



Financial Services Audit Committee Communication

Date: June 26, 2023

To: Great Lakes Water Authority Audit Committee

From: Matthew S. Lane, MPA, Charges Outreach and Modeling Manager

Re: Charges Outreach & Modeling Update

Background: The Charges Outreach & Modeling (CO&M) Team was established in Fiscal Year 2023 as part of the Financial Management & Planning Group to facilitate internal communication and external outreach with GLWA Member Partners as it relates to the charge methodology and charge-related financial matters. This team also serves as liaison between GLWA and third-party consultants in the development, maintenance and review of the annual water and sewer charges.

Analysis: This month we present an update on activities related to charges work group activities.

1. Water Charges Work Group

- a. This group is made up of Member Partners and staff from GLWA for the purpose of reviewing the water charge methodology and make recommendations regarding potential changes.
- b. The Water Charges Methodology Review Subgroup is made up of interested volunteer Member Partners and convened to work closely with GLWA on the technical analysis and provide input on charges scenarios. The subgroup meets twice per month and reports its findings and updates to the larger Charges Work Group as needed. We received valuable feedback from Member Partners at-large during the Charges Rollout process that will help guide future discussions for this subgroup.
- c. A smaller team within the subgroup has been meeting less formally to establish a new set of proposals which were presented at the most recent in-person meeting of the Water Charges Methodology Review Subgroup held on June 2, 2023.
- d. The next Water Charges Methodology Review Subgroup Meeting is July 7, 2023.

2. Wastewater Charges Work Group

Wastewater Charges Work Group met on Tuesday, May 9, 2023 via Zoom.

3. Combined Water and Wastewater Charges

The overall Charges Work Group will meet virtually via Zoom on Tuesday, July 11, 2023.

4. One Water Partnership (OWP) Meetings

The next OWP meeting was scheduled for June 22, 2023. Unfortunately, this event was canceled due to personal circumstances that impacted the main speakers travel.

Proposed Action: Receive and file this report.



Financial Services Audit Committee Communication

Date: June 26, 2023

To: Great Lakes Water Authority Audit Committee

From: Madison Merzlyakov, Affordability & Assistance Manager

Re: Affordability & Assistance Update

Background: In 2021, an Affordability & Assistance Team was created within GLWA's Financial Services Area. The team serves as the internal and external resource for strategic policies and programs related to water affordability and assistance.

Analysis: This month we present an update on the initiatives the Affordability & Assistance Team have been focused on, including efforts related to sustainable water assistance funding, outreach and engagement and, the WRAP Quarterly Report.

New Team Members

We are excited to share that the Affordability & Assistance team is growing! Haran Stanley, Management Professional was brought onboard recently to work closely with Member Partners and WRAP Service Delivery Partners in strengthening our Affordability & Assistance outreach efforts. A second addition is Nathan Schechter, a summer intern joining us from Haverford College, who is focused on data collection and analysis.

Sustainable Water Assistance Funding

Discussions regarding a framework for a statewide sustainable water assistance program continue. GLWA is actively engaged in the work group led by Michigan State Senator Stephanie Chang that is reviewing and providing feedback. This group is meeting weekly throughout the month of June. The Affordability & Assistance team will continue to update the Audit Committee as this important work progresses.

Outreach & Engagement

The Affordability & Assistance team, alongside WRAP Service Delivery Partners, continue to explore opportunities to connect with other organizations, Member Partners, stakeholders, and the public to expand WRAP outreach and engagement.

In celebration of Great Lakes and Fresh Water Week, the Southeast Michigan Council of Governments (SEMCOG) hosted a One Water webinar on Monday, June 5, 2023. Madison

Merzlyakov presented an overview of the new WRAP Income Based Plan at the webinar to SEMCOG members.

Events our WRAP Service Delivery Partners have engaged in recently include a Public Works Open House in Chesterfield Township, the Art, Fish, Fun event in Pontiac, and a customer assistance day in Dearborn Heights.

WRAP Quarterly Report

The FY 2023 Q3 report is attached. Highlights include:

- Overall spending and enrollments for the WRAP Income Based Plan (IBP) continue to trend upward.
- Out-Wayne and Macomb County are on track to fully utilize their allocated funding for FY 2023.
- Although Oakland County and City of Flint may not utilize all their allocated funding by the end of FY 2023, there is a significant increase in program activity for both these areas.

Proposed Action: Receive and file this report.

Water Residential Assistance Program Quarterly Report

Great Lakes Water Authority

Q3 FY 2023

Executive Summary

- Overall spending and enrollments for the WRAP Income Based Plan (IBP) continue to trend upward.
- Out-Wayne and Macomb County are on track to fully utilize their allocated funding for FY 2023.
- Although Oakland County and City of Flint may not utilize all their allocated funding by the end of FY 2023, there is a significant increase in program activity for both these areas.
- *Note:* Data for Detroit is not included this quarterly report analysis because the Detroit Water and Sewerage Department (DWSD) water affordability program for Detroit households, referred to as the Lifeline Plan, is reported on separately by DWSD.

FY 2023 Budget Summary

Exhibit 1 provides a summary of the total FY 2023 budget allocations, including reallocation dollars for Detroit and Flint.

EXHIBIT 1. FY 2023 Budget Summary Table

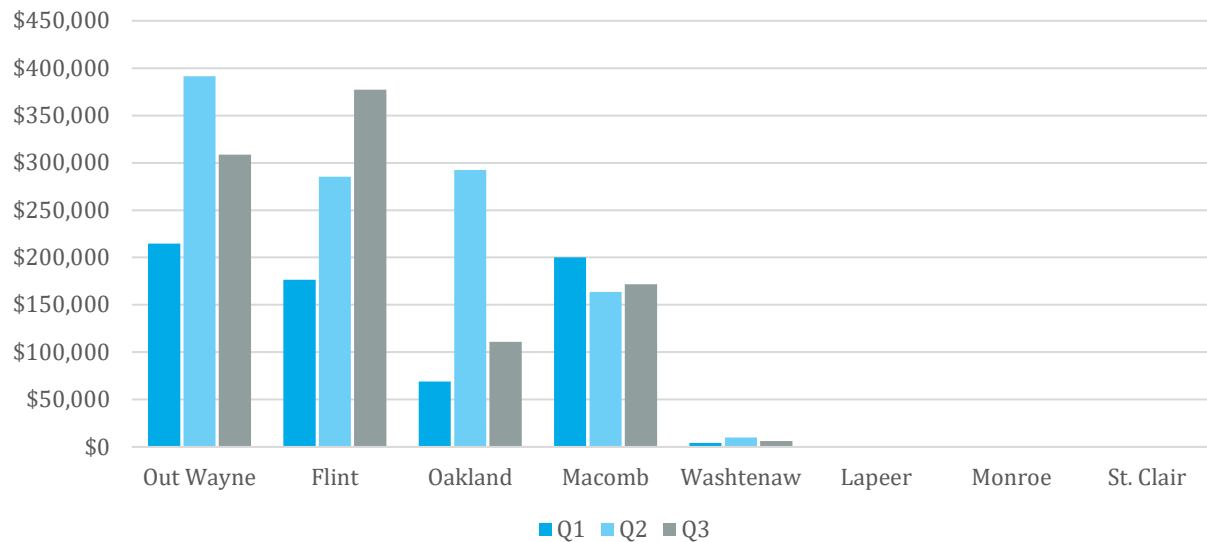
Total Amount Allocated					Total Budgeted Revenue
	Direct Assistance	Conservation	Administration	Total Reallocation	
Detroit	\$2,243,319	\$560,830	\$382,384	\$2,815,194	\$6,001,727
Flint	\$17,472	\$4,368	\$2,978	\$1,515,874	\$1,540,692
Oakland County	\$818,666	\$204,667	\$139,545	N/A	\$1,162,878
Wayne County	\$743,533	\$185,883	\$126,738	N/A	\$1,056,154
Macomb County	\$528,794	\$132,199	\$90,135	N/A	\$751,128
Washtenaw County	\$40,036	\$10,009	\$6,824	N/A	\$56,869
Lapeer County	\$12,751	\$3,188	\$2,174	N/A	\$18,113
Monroe County	\$6,477	\$1,619	\$1,104	N/A	\$9,200
St. Clair County	\$6,411	\$1,603	\$1,093	N/A	\$9,107

Source: WRAP revenue allocation FY 2023 and WRAP Reallocation Distribution—by Use

Total Funding

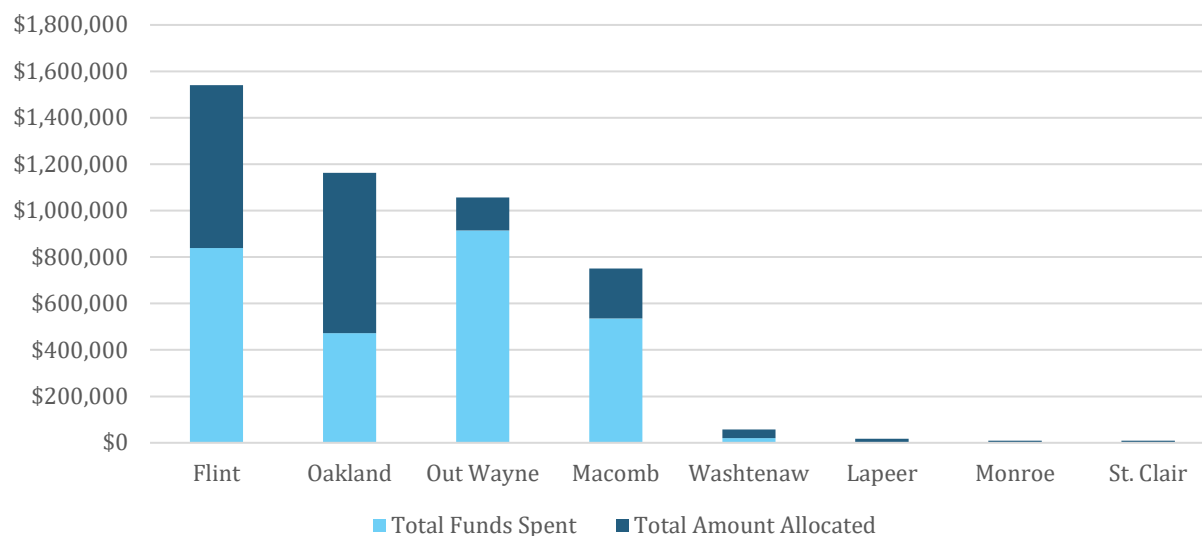
Exhibit 2 below summarizes fiscal year to date direct assistance, conservation, and administration spending by county. In Q3 (January, February, and March 2023), Wayne County spent a total (rounded) of \$308,000, Flint spent \$377,000 (a 32 percent increase compared to Q2) while Oakland County spent \$111,000, and Macomb County \$172,000 respectively.

EXHIBIT 2. Total Funds Spent Q1 through Q3



Note: Exhibit totals include direct assistance, administration, and conservation dollars.
Source (total funds spent): agency monthly statements of expenses

As shown in Exhibit 3 below, through the end of Q3, Flint spent \$839,313 (54 percent) of its total amount allocated and reallocated, including for direct assistance, conservation, and administration. Wayne County spent \$914,687 (87 percent) of its total allocation, Macomb County spent \$535,532 (71 percent), while Oakland County spent \$472,604 (41 percent) of its total allocation,

EXHIBIT 3. Total Funds Spent through Q3 Against Total Amount Allocated

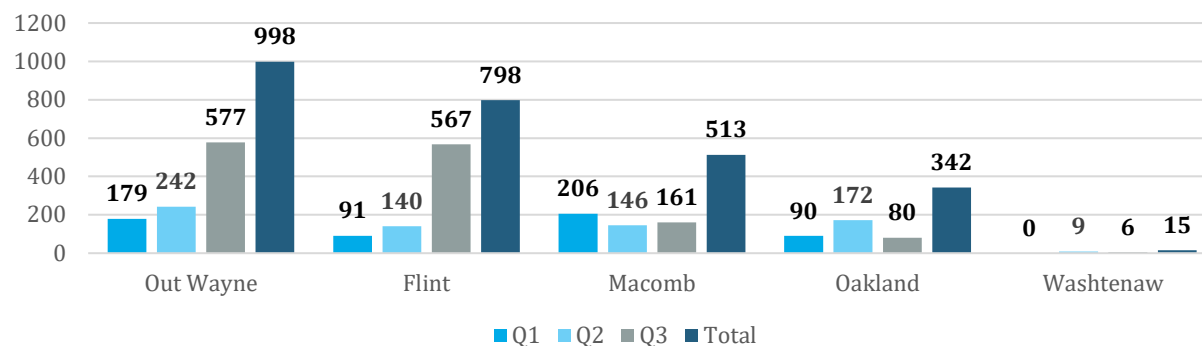
Notes: Exhibit totals include direct assistance, administration, and conservation dollars. Allocation amounts for Flint include reallocations from previous fiscal years.

Source (total funds spent): agency monthly statement of expenses

Source (total amount allocated): WRAP revenue allocation FY 2023 and WRAP Reallocation Distribution-by Use

Direct Assistance

In Q3, the largest number of households were enrolled for direct assistance support in Wayne County (577 households), followed by Flint (567 households), and Macomb County (161 households) as referenced in Exhibit 4 below.

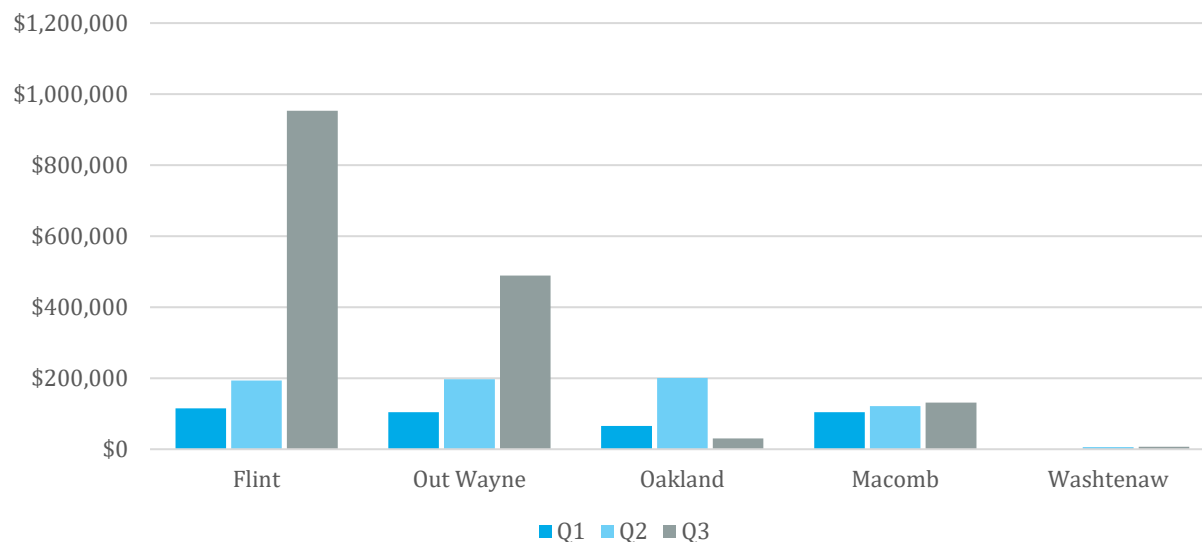
EXHIBIT 4. Number of Households Enrolled by Quarter

Source: agency monthly statement of expenses

Exhibit 5 reflects an increase for Flint in direct assistance funds committed in Q3 by almost 400 percent compared to Q2, while Wayne County increased its committed direct assistance funds by almost 150 percent

(Exhibit 5). Lapeer, Monroe, and St. Clair Counties have not committed any direct assistance funds to date in FY 2023.

EXHIBIT 5. Direct Assistance Funds Committed by Quarter

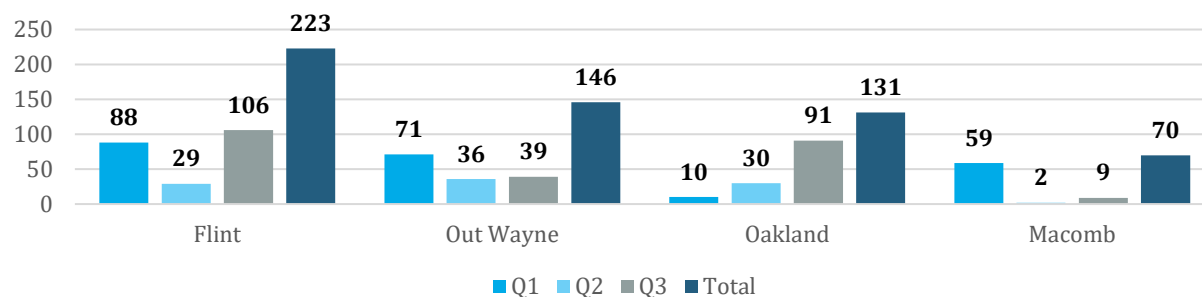


Source: agency monthly statement of expenses

Conservation and Minor Plumbing Repairs

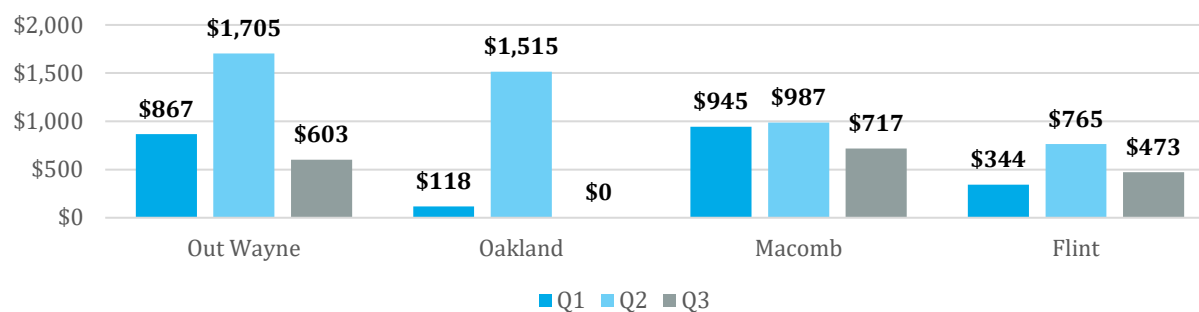
As shown in Exhibit 6, the total number of households enrolled in conservation between Q2 and Q3 increased for all areas.

EXHIBIT 6. Total Number of Households Enrolled in Conservation by Quarter



Source: agency monthly statement of expenses

All areas experienced decreases in the average total cost of plumbing repairs per household between Q2 and Q3 as shown in Exhibit 7 below. Macomb County had the highest average total cost of plumbing repairs per household at \$717 in Q3, followed by Wayne County at \$603.

EXHIBIT 7. Average Total Cost of Plumbing Repairs per Household by Quarter

Note: The average total cost is based on the number of water audits completed.
Source: agency monthly statement of expenses



Financial Services Audit Committee Communication

Date: June 23, 2023

To: Great Lakes Water Authority Audit Committee

From: William Baker, Financial Management Professional, Construction Accounting & Financial Reporting

Re: FY 2023 Q3 Construction Work-in-Progress Report through March 31, 2023
(Unaudited)

Background: The quarterly construction work-in-progress (CWIP) provides information and analysis related to the execution of the Great Lakes Water Authority capital improvement program (CIP).

Analysis: The attached documents summarize the FY 2023 Q3 CWIP positions and provides a detailed snapshot to inform decision makers and stakeholders.

Proposed Action: Receive and file this report.



**Construction Work-in-Progress Quarterly Report
(Unaudited)**

As of March 31, 2023

For questions, please contact:

William Baker
Construction Accounting and Financial Reporting
Phone: 313.378.9760
Email: william.baker@glwater.org



Table of Contents

Introduction1

Capital Delivery - Cost Summaries and Analysis3

Capital Delivery - Executive Summaries.....3

Construction Work-in-Progress4

A1 - Water - Summary Construction Work-in-Progress Rollforward by Jurisdiction.....5

A2 - Wastewater - Summary Construction Work-in-Progress Rollforward by Jurisdiction6

B1 - Water - Detailed Construction Work-in-Progress Rollforward.....7

B2 - Wastewater - Detailed Construction Work-in-Progress Rollforward10

C1 - Water - FY 2023 Project Amendment Summary.....12

C2 - Wastewater - FY 2023 Project Amendment Summary.....14

June 23, 2023**To Our Stakeholders:**

The contents of this report represent the financial presentation of construction work-in-progress activity for the Great Lakes Water Authority (GLWA) as of March 31, 2023. The information in this report presents a detailed snapshot and is important as we track the execution of the FY 2023–2027 Capital Improvement Plan (CIP) and look to inform decision makers as we evaluate the draft FY 2024–2028 CIP.

As we continue to refine this report to better communicate pertinent information to inform decision makers and stakeholders, content and formatting may be changed. With the summary of active projects now regularly being reported to the Capital Planning Committee the project highlights previously being reported have been removed from this report.

Report Contents and Organization

Construction Work-in-Progress (CWIP) Appendices: Includes breakdown by jurisdiction which provides a summary of the planned and actual project activity by the jurisdictions identified within the FY 2023 – 2027 Board Approved CIP Plan, detailed CWIP rollforward, which lists all projects in the CIP along with financial activity. These tables may be used to revisit priorities, workload, and phasing. In addition, this section contains project amendment summaries which consider the award of CIP contracts and the related execution thereof may result in deviations from the amount and timing of project activity. Project amendments are prepared to fund the related increase or decrease with either an adjustment to Capital Reserve or Program / Allowance accounts to amend the board approved fiscal year CIP accordingly and to inform decision makers in the development of future Capital Improvement Plans.

Financial Information

All project amounts are unaudited. This means that direct contractor costs are generally included in these totals with most pay estimates entered through March 31, 2023. There may, however, be some pay estimates that lag. The totals do not include indirect overhead.

Budget vs. Plan

Generally, GLWA's CIP projects span two or more fiscal years. The GLWA Board of Directors adopts a biennial "budget" and a five-year capital improvement "plan".

- ✓ The adopted **budget** relates to operations and maintenance expense, annual fixed commitments such as debt service, and incremental adjustments to reserves. The budget provides authority to spend within defined amounts. The budget is also referred to as the "revenue requirement" for the utility.
- ✓ After contracts are awarded at amounts variant from the CIP plan and more reliable anticipated spend data becomes available, the amended budget for the current fiscal year may increase or decrease by way of "Capital Reserve" budget amendments.
- ✓ The five-year capital improvement **plan** is a rolling plan that is updated at an administrative tracking level as projects move from estimated to actual bid numbers. An updated mid-cycle CIP would be presented to the Board for approval if the prioritization strategy was revised and/or the plan was in need of material revisions.
- ✓ In addition, the Board of Directors adopts a capital spending ratio assumption (SRA) which allows the realities of capital program delivery to align with the financial plan. The SRA is an analytical approach to bridge the total dollar amount of projects in the CIP with what can realistically be spent due to limitations beyond GLWA's control and/or delayed for nonbudgetary reasons. Those limitations, whether financial or non-financial, necessitate the SRA for budgetary purposes, despite the prioritization established.

Executive Summary

The rate of spend is a key performance indicator. The development of the FY 2023-2027 and related CIP Plan for FY 2023 were based on anticipation of FY 2022 activity resulting in 80% of planned spend for the Water system and 75% of planned spend for the Wastewater system. Effective April 26, 2023, GLWA Board of Directors passed an Adjusted Capital Spending Ratio (SRA) of 116.2 % for the Water system and 110.7% for the Wastewater system.

The Water System spend for the period ending March 31, 2023, is 105.8% of the FY 2023 board approved CIP, 103.0% of the FY 2023 board approved CIP with project amendments, 132.2% of the FY 2023 Approved Capital Spending Rate Assumption (SRA) and 91.0% of the FY 2023 Adjusted Capital Spending Rate Assumption (SRA). Detailed analysis of the projects for which FY 2023 Board Approved CIP was amended from \$194,375,536 to \$199,550,303 is provided in the subsequent Project Amendment Summary appendix of this report.

The Wastewater System spend for the period ending March 31, 2023, is 77.9% of the FY 2023 board approved CIP, 72.5% of the FY 2023 board approved CIP with project amendments, 103.9% of the FY 2023 Approved Capital Spending Rate Assumption (SRA) and 70.4% of the FY 2023 Adjusted Capital Spending Rate Assumption (SRA). Detailed analysis of the projects for which FY 2023 Board Approved CIP was amended from \$125,932,245 to \$135,331,233 is provided in the subsequent Project Amendment Summary appendix of this report.

Water System Projects					FY 2023	FY 2023	FY 2023
	FY 2022	FY 2022	FY 2022	FY 2023	Prorated	Activity	FY 2023
		Activity	Percentage		(Nine Months)	(Unaudited)	Percentage
FY 2022 Board Approved CIP	\$ 179,210,481	\$ 158,984,475	88.7%				
FY 2022 Board Approved CIP With Project Amendments	180,250,867	158,984,475	88.2%				
FY 2022 Capital Spend Rate Assumption (SRA)	170,249,957	158,984,475	93.4%				
FY 2023 Board Approved CIP				\$ 194,375,536	\$ 145,781,652	\$ 154,223,982	105.8%
FY 2023 Board Approved CIP With Project Amendments				199,550,303	149,662,727	154,223,982	103.0%
FY 2023 Capital Spend Rate Assumption (SRA) - Approved				155,500,429	116,625,322	154,223,982	132.2%
FY 2023 Capital Spend Rate Assumption (SRA) - Adjusted				225,864,373	169,398,279	154,223,982	91.0%
					FY 2023	FY 2023	
					Prorated	Activity	FY 2023
Wastewater System Projects					(Nine Months)	(Unaudited)	Percentage
	FY 2022	FY 2022	FY 2022	FY 2023			
		Activity	Percentage				
FY 2022 Board Approved CIP	\$ 106,050,041	\$ 70,532,064	66.5%				
FY 2022 Board Approved CIP With Project Amendments	100,248,682	70,532,064	70.4%				
FY 2022 Capital Spend Rate Assumption (SRA)	74,022,928	70,532,064	95.3%				
FY 2023 Board Approved CIP				\$ 125,932,245	\$ 94,449,184	\$ 73,618,411	77.9%
FY 2023 Board Approved CIP With Project Amendments				135,331,233	101,498,425	73,618,411	72.5%
FY 2023 Capital Spend Rate Assumption (SRA) - Approved				94,449,184	70,836,888	73,618,411	103.9%
FY 2023 Capital Spend Rate Assumption (SRA) - Adjusted				139,406,996	104,555,247	73,618,411	70.4%

Appendix A - Construction Work-in-Progress Rollforward Summaries by Jurisdiction

The purpose of the construction work-in-progress (CWIP) summary rollforward by jurisdiction is to provide a high-level overview of the financial status of the projects identified within the current board approved CIP by their jurisdiction. Within the FY 2023 – 2027 Board Approved CIP Plan, projects are identified and categorized as either City of Detroit, Wayne County - Outside Detroit, Lapeer County, Macomb County, Oakland County, Saint Clair County or Multiple Counties and reflected accordingly in this report.

\$412.0 million is in CWIP as of March 31, 2023 as shown for the Water System in A1 - Water - CWIP Rollforward by Jurisdiction

\$261.5 million is in CWIP as of March 31, 2023 as show for the Wastewater System in A2 - Wastewater - CWIP Rollforward by Jurisdiction

The order of these appendices on the subsequent pages are in ascending by jurisdiction alphabetically.

Construction Work-in-Progress Quarterly Report

As of March 31, 2023

Great Lakes Water Authority**A1 - Water System Construction Work-in-Progress (CWIP) FY 2023 Rollforward Summary By Jurisdiction****Unaudited Activity For the Fiscal Quarter Ended March 31, 2023**

Jurisdiction	Total Project Plan Estimate from FY 2023-2027 CIP	CWIP Balance July 1, 2022	FY 2023 Board Approved CIP	FY 2023 Board Approved CIP With Project Amendments	FY 2023 Activity through March 31, 2023	CWIP Balance March 31, 2023
City of Detroit	\$ 586,743,000	\$ 81,436,384	\$ 63,482,209	\$ 64,489,409	\$ 38,263,029	\$ 117,835,387
Lapeer County	5,373,000	1,332,496	115,188	115,188	3,338,429	4,670,925
Mutiple Counties	766,763,000	50,555,675	37,374,236	43,935,236	41,189,553	90,163,250
Oakland County	296,959,000	56,921,561	46,824,890	49,689,119	51,260,224	108,181,786
Saint Clair County	220,073,000	9,935,379	14,840,398	14,840,398	2,705,368	12,640,748
Wayne County - Outside Detroit	898,628,000	72,772,563	31,738,615	26,480,954	17,467,379	78,471,464
Grand Total	\$ 2,774,539,000	\$ 272,954,060	\$ 194,375,536	\$ 199,550,303	\$ 154,223,982	\$ 411,963,559

Construction Work-in-Progress Quarterly Report

As of March 31, 2023

Great Lakes Water Authority**A2 - Wastewater System Construction Work-in-Progress (CWIP) FY 2023 Rollforward Summary By Jurisdiction****Unaudited Activity For the Fiscal Quarter Ended March 31, 2023**

Jurisdiction	Total Project Plan Estimate from FY 2023-2027 CIP	CWIP Balance July 1, 2022	FY 2023 Board Approved CIP	FY 2023 Board Approved CIP With Project Amendments	FY 2023 Activity through March 31, 2023	CWIP Balance March 31, 2023
City of Detroit	\$ 1,451,487,000	\$ 155,664,232	\$ 63,607,797	\$ 66,106,785	\$ 37,125,110	\$ 190,441,390
Mutiple Counties	1,475,727,000	36,400,308	61,791,748	68,691,748	36,115,509	70,619,108
Wayne County - Outside Detroit	88,314,000	1,035,923	532,700	532,700	377,791	429,162
Grand Total	\$ 3,015,528,000	\$ 193,100,463	\$ 125,932,245	\$ 135,331,233	\$ 73,618,411	\$ 261,489,660

Appendix B - Construction Work-in-Progress Rollforwards

The purpose of the construction work-in-progress (CWIP) rollforward is to analyze the current year activity for each project in relation to the overall capital improvement program as well as the project portfolio overall.

As part of our project life cycle review the CA&FR team identifies when it is appropriate for projects to be capitalized. Projects are to be capitalized when they have been completed in totality or are inclusive of identifiable assets that have been placed in service. Capitalization of project cost occurred in the FY 2023 3rd quarter for the following projects:

<u>Project</u>	<u>Contract</u>	<u>Description</u>
170303	2000644	Power Monitoring Equipment
170801	1900744	Reservoir Rehab Construction Project at Imlay, LH, Springwells and SW Water Treatment Facilities
170102	SCP-CS-1656	CS-1656: Applied Science: Flow Measurement
113006	2002193	SWWTP Chlorine Scrubber, Raw Water Screens & Related Improvements
115004	SCP-CS-1721	Eng Svc for WWP WTP Chlorine Disinfection System Replacement and Improvements
111011	1904449	LH WTP Pilot Plant D/B Services

\$412.0 million is in CWIP as of March 31, 2023, as shown for the Water System in B1 - Water - Detailed CWIP Rollforward

\$261.5 million is in CWIP as of March 31, 2023, as shown for the Wastewater System in B2 - Wastewater - Detailed CWIP Rollforward

The order of these appendices on the subsequent pages are in ascending order by CIP project number.

Construction Work-in-Progress Quarterly Report

As of March 31, 2023

Great Lakes Water Authority

B1 - Water System Construction Work-in-Progress (CWIP) FY 2023 Rollforward

Unaudited Activity For the Fiscal Quarter Ended March 31, 2023

Project	Project Name	Total Project Plan Estimate from FY 2023 - 2027 CIP	CWIP Balance July 1, 2022	FY 2023 Board Approved CIP	FY 2023 Board Approved CIP With Project Amendments	FY 2023 Activity through March 31, 2023	Life to Date Capitalization / Expense through March 31, 2023	CWIP Balance March 31, 2023	Life to Date Activity Through March 31, 2023	Life to Date Activity / Total Project Plan Estimate
111001	Energy Management: Lake Huron Water Treatment Plant Low Lift Pumping Improvements	\$ 69,390,000	\$ 2,918,249	\$ 1,600,000	\$ 1,600,000	\$ 445,977	\$ -	\$ 3,364,227	\$ 3,364,227	5%
111006	Replacement of Filter Instrumentation and Raw Water Flow Metering Improvements at Lake	25,941,000	1,281,522	600,000	600,000	4,802	-	1,286,324	1,286,324	5%
111008	LHWTP Architectural Programming - Lab	856,000	-	-	-	-	-	-	-	0%
111009	Lake Huron WTP-35 MGD HLP, Flow Meters	30,051,000	3,035,092	9,021,435	9,021,435	1,083,105	-	4,118,197	4,118,197	14%
111010	Lake Huron Water Treatment Plant -Filtration and Pretreatment Improvements	58,433,000	-	-	-	-	-	-	-	0%
111011	Lake Huron WTP Pilot Plant	3,323,000	2,236,714	1,506,378	1,506,378	985,397	-	3,222,111	3,222,111	97%
111012	LHWTP-Flocculation Improvements	32,079,000	463,802	2,112,585	2,112,585	186,087	-	649,889	649,889	2%
112003	NE WTP High Lift Pumping Electrical	72,115,000	536,340	1,000,000	1,000,000	21,228	-	557,569	557,569	1%
112006	Northeast Water Treatment Plant Flocculator Replacements	14,054,000	333,817	2,760,000	2,760,000	3,178,748	52,671	3,459,895	3,512,565	25%
113001	Southwest Water Treatment Plant, Sludge Treatment & Waste Wash water Treatment Facilit	-	20,182	-	-	-	171,079	20,182	191,262	0%
113003	Replacement of Butterfly Valves	21,812,000	-	-	-	-	-	-	-	0%
113006	SW WTP Chloring Scrubber	8,023,000	2,482,713	4,397,583	4,397,583	3,039,928	-	5,522,641	5,522,641	69%
113007	Architectural and Building Mechanical	1,000,000	-	-	-	-	-	-	-	0%
113008	Water Supply Pumping Assessment Study	45,000,000	-	-	-	-	-	-	-	0%
114002	Springwells Water Treatment Plant - Low Lift and High Lift Pump Station	281,908,000	22,467,665	12,000,000	3,476,339	3,012,093	-	25,479,758	25,479,758	9%
114005	Springwells WTP Admin Building Improvements	10,109,000	1,211,635	-	-	105,631	-	1,317,266	1,317,266	13%
114006	Replacement of Rapid Mix Units at Springwells WTP 1958 Process Train	-	10,674	-	-	-	1,021,039	10,674	1,031,712	0%
114007	Powder Activated Carbon Systems	4,021,000	-	-	-	-	-	-	-	0%
114008	1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements at Springwells WTP	-	11,753,925	125	125	228,032	11,738,479	243,478	11,981,957	0%
114010	Yard Piping Improvements	195,689,000	1,705,045	-	-	101,413	-	1,806,458	1,806,458	1%
114011	Steam, Condensate Return, and Compressed Air Piping Improvements at Springwells WTP	25,853,000	23,945,367	807,907	807,907	583,340	-	24,528,708	24,528,708	95%
114016	Springwells Water Treatment Plant 1958 Settled Water Conduits Concrete Pavement Replacement	1,524,000	15,260	-	-	(15,991)	1,566,470	(731)	1,565,739	103%
114017	Springwells Water Treatment Plant Flocculator Drive Replacement	20,730,000	895,893	660,000	660,000	129,249	-	1,025,143	1,025,143	5%
114018	Springwells Water Treatment Plant - Service Building Electrical Substation and Miscellaneous Improvements	2,335,000	-	55,000	55,000	-	-	-	-	0%
115001	Yard Piping, Valves and Venturi Meters Replacement at Water Works Park	55,042,000	12,037,016	11,790,097	11,790,097	14,151,594	-	26,188,610	26,188,610	48%
115004	Water Works Park WTP Chlorine System Upgrade	-	9,563	-	-	-	6,957,032	9,563	6,966,596	0%
115005	WWP WTP Building Ventilation Improvements	11,449,000	764,514	5,400,000	6,407,200	2,856,880	-	3,621,394	3,621,394	32%
115006	Water Works Park Site/Civil Improvements	5,882,000	-	-	-	-	-	-	-	0%
115007	Water Works Park High Lift Pumping Station Modernization	96,800,000	-	-	-	-	-	-	-	0%
115009	Water Works Park Sedimentation Basins Structural Upgrades	18,339,000	-	-	-	-	-	-	-	0%
116002	Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements based on	98,986,000	51,427,985	13,663,132	13,663,132	10,278,136	4,685,231	61,706,121	66,391,352	67%
116005	Belle Isle Seawall Rehabilitation	2,540,000	702	600,000	600,000	113,685	-	114,387	114,387	5%
116006	Belle Isle Intake System Rehabilitation and Improvements	3,363,000	-	-	-	-	-	-	-	0%
116007	System Electrical Power Improvements	4,000,000	-	2,229,508	2,229,508	-	-	-	-	0%
122003	New Waterworks Park to Northeast Transmission Main	147,768,000	5,165,736	23,903,829	23,903,829	3,562,725	29,790,267	8,728,461	38,518,728	26%
122004	96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main	259,843,000	16,072,467	15,000,000	15,000,000	24,280,992	148,741	40,353,459	40,502,200	16%
122005	Replacement Schoolcraft Watermain	15,049,000	640,821	-	3,266,000	3,146,741	13,656,834	3,787,562	17,444,396	116%
122006	Transmission System Water Main Work-Wick Road Parallel Water Main	25,697,000	1,756,084	-	-	2,458,088	20,751,264	4,214,172	24,965,436	97%
122007	Design and Construction of a new Newburgh Road 24" Main along Newburgh Road between Ch	22,154,000	-	-	-	-	-	-	-	0%
122011	Park-Merriman Water Main-Final Phase	9,318,000	725,309	-	-	116,914	6,435,948	842,223	7,278,171	78%
122013	Lyon Township Transmission Main Extension Project	111,420,000	28,177,042	29,635,560	30,349,642	37,083,721	357,808	65,260,763	65,618,571	59%
122016	Downriver Transmission Loop	62,962,000	2,450,853	7,500,000	7,500,000	135,229	-	2,586,082	2,586,082	4%
122017	7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station	60,729,000	6,046,322	1,023,269	1,023,269	1,909,456	-	7,955,778	7,955,778	13%
122018	Garland, Hurlbut, Bewick Water Transmission System Rehabilitation	53,938,000	1,381,474	1,998,892	1,998,892	1,337,018	-	2,718,492	2,718,492	5%
122019	Jefferson Main Replacement	29,700,000	-	827,195	827,195	374,264	-	374,264	374,264	1%
132006	Pressure and Control Improvements at the Electric, Ford Road, Michigan, and West Chica	-	1,731	-	-	-	3,226,045	1,731	3,227,776	0%
132007	Energy Management: Freeze Protection Pump Installation at Imlay Pumping Station	5,146,000	1,105,151	115,188	115,188	3,338,429	-	4,443,579	4,443,579	86%
132010	West Service Center/Duval Rd Division Valve Upgrades	45,588,000	28,175,975	16,689,330	16,689,330	13,655,747	-	41,831,722	41,831,722	92%
132012	Ypsilanti PS Improvements	39,084,000	659,128	200,000	200,000	1,703,860	-	2,362,988	2,362,988	6%
132014	Adams Road Booster Pumping Improvements	52,875,000	83,262	-	-	-	-	83,262	83,262	0%
132015	Newburgh BPS	45,083,000	493,886	-	-	722,843	30,000	1,186,730	1,216,730	3%
132016	North Service Center BPS Improvements	82,263,000	371,816	500,000	2,650,147	520,756	-	892,572	892,572	1%
132018	Schoolcraft BPS	24,469,000	47,317	-	-	-	-	47,317	47,317	0%
132019	Wick Road BPS - Switchgear	24,661,000	56,912	-	-	-	-	56,912	56,912	0%
132020	Franklin BPS - Isolation Gate Valves	4,813,000	93,160	-	-	-	-	93,160	93,160	2%
132021	Imlay BPS - Replace VFDs, Pumps & Motors	227,000	227,346	-	-	-	-	227,346	227,346	100%

Construction Work-in-Progress Quarterly Report

As of March 31, 2023

Great Lakes Water Authority

B1 - Water System Construction Work-in-Progress (CWIP) FY 2023 Rollforward

Unaudited Activity For the Fiscal Quarter Ended March 31, 2023

Project	Project Name	Total Project Plan Estimate from FY 2023 - 2027 CIP	CWIP Balance July 1, 2022	FY 2023 Board Approved CIP	FY 2023 Board Approved CIP With Project Amendments	FY 2023 Activity through March 31, 2023	Life to Date Capitalization / Expense through March 31, 2023	CWIP Balance March 31, 2023	Life to Date Activity Through March 31, 2023	Life to Date Activity / Total Project Plan Estimate
132022	Joy Road BPS - Replace Reservoir Pumps	39,685,000	71,380	-	-	-	-	71,380	71,380	0%
170109	Inspection of Raw Water Intakes and Tunnels	1,773,000	-	68,000	68,000	-	-	-	-	0%
170300	Water Treatment Plant Automation Program	23,258,000	-	-	-	-	-	-	-	0%
170302	SW WTP SCADA Improvements	7,979,000	1,140,911	4,000,000	4,000,000	2,000,008	-	3,140,919	3,140,919	39%
170303	WWP WTP Power Monitoring Installation	2,266,000	1,716,628	438,000	438,000	94,728	1,811,356	-	1,811,356	80%
170304	WWP WTP SCADA Upgrade	319,000	261,142	77,795	77,795	149,154	-	410,296	410,296	129%
170305	WWP SCADA Network Upgrade	7,336,000	-	-	-	-	-	-	-	0%
170306	SPW SCADA PLC Network Upgrade	3,146,000	-	1,573,000	1,573,000	-	-	-	-	0%
170307	NE SCADA Network Upgrade	2,917,000	-	-	-	-	-	-	-	0%
170400	Water Transmission Improvement Program	32,049,000	-	-	-	-	-	-	-	0%
170500	Transmission System Valve Assessment and Rehabilitation/Replacement Program	5,327,000	-	276,826	276,826	-	-	-	-	0%
170502	Transmission System Valve Assessment and Rehabilitation/Replacement A	15,392,000	-	-	-	-	7,689,584	-	7,689,584	0
170503	Transmission System Valve Assessment and Rehabilitation/Replacement B	10,000,000	3,163,184	1,314,960	7,875,960	7,808,970	-	10,972,154	10,972,154	110%
170504	Repair of WTM, Valves, & Priority Repair	7,500,000	8,514,195	1,250,000	1,250,000	618,135	-	9,132,330	9,132,330	122%
170600	Water Transmission Main Asset Assessment Program	242,000	-	9,854	9,854	-	-	-	-	0%
170601	Linear System Integrity Program	9,082,000	-	1,815,370	1,815,370	-	-	-	-	0%
170800	Reservoir Inspection, Design and Rehabilitation Program	127,000	-	12,727	12,727	-	-	-	-	0%
170801	Reservoir Inspection, Design and Rehabilitation	24,758,000	10,894,420	6,830,000	6,830,000	4,151,060	8,766,834	13,463,502	22,230,336	90%
170802	Reservoir Inspection, Design	41,500,000	-	8,000,000	8,000,000	2,429,733	-	2,429,733	2,429,733	6%
170803	Reservoir Inspection, Design, and Construction Mangement Services Phase III	93,916,000	-	-	-	-	-	-	-	0%
170900	Suburban Water Meter Pit Rehabilitation and Meter Replacement Program	44,037,000	-	-	-	-	-	-	-	0%
170901	Suburban Water Meter Pit Rehabilitation and Meter Replacement	10,637,000	2,312,410	-	-	1,900,290	7,703,013	4,212,700	11,915,713	112%
170902	Brownstown Meter Pit Rehabilitation	1,022,000	219,873	545,000	545,000	-	-	219,873	219,873	22%
171500	Roof Replacement - Var Facilities Program	15,908,000	-	-	-	-	-	-	-	0%
171502	Lake Huron and Southwest Roof Replacement	2,703,000	-	-	-	-	-	-	-	0%
341001	Security Infrastructure Improvements	-	9,218,693	-	-	373	1,138,691	9,219,066	10,357,757	0%
351001	Water Facility Lighting Renovations	-	6,667	-	-	-	-	6,667	6,667	0%
380700	As-needed Engineering Services for Concrete Testing, Geotechnical Soil Borings, other Testing Services, and Related Services Allowance	602,000	-	-	-	-	-	-	-	-
381000	Energy Management: Electric Metering Improvement Program	2,624,000	-	566,991	566,991	-	-	-	-	0%
383300	Masonry Replacement and Rehabilitation Program	25,000,000	-	-	-	-	-	-	-	0%
Grand Total		\$ 2,774,539,000	\$ 272,954,060	\$ 194,375,536	\$ 199,550,303	\$ 154,223,982	\$ 367,640,785	\$ 411,963,559	\$ 779,604,344	28%
Project Amendments:					5,174,767					

Construction Work-in-Progress Quarterly Report

As of March 31, 2023

Great Lakes Water Authority

B2 - Wastewater System Construction Work-in-Progress (CWIP) FY 2023 Rollforward

Unaudited Activity For the Fiscal Quarter Ended March 31, 2023

Project	Project Name	Total Project Plan Estimate from FY 2023 - 2027 CIP	CWIP Balance July 1, 2022	FY 2023 Board Approved CIP	FY 2023 Board Approved CIP With Project Amendments	FY 2023 Activity through March 31, 2023	Life to Date Capitalization / Expense Through March 31, 2023	CWIP Balance March 31, 2023	Life to Date Activity Through March 31, 2023	Life to Date Activity / Total Project Plan Estimate
211001	Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery	\$ 54,968,000.00	\$ -	\$ -	\$ -	\$ -	\$ 54,748,738.03	\$ -	\$ 54,748,738.03	100%
211002	Pump Station No. 2 Pumping Improvments	3,463,000.00	2,634,214.71	-	-	10,384.86	-	2,644,599.57	2,644,599.57	76%
211005	Pump Station No. 2 Improvements	67,002,000	14,864	-	-	281,059	-	295,922	295,922	0%
211006	Pump Station No. 1 Improvements	70,042,000	6,014,644	8,100,000	8,189,860	1,277,571	-	7,292,215	7,292,215	10%
211007	Replacement of Bar Racks and Grit Collection System at Pump Station No. 2	88,771,000	5,318,275	2,461,426	2,461,426	2,934,537	-	8,252,812	8,252,812	9%
211008	Rehabilitation of Ferric Chloride Feed systems at the Pump Station -1 and Complex B Sludge Lines	12,644,000	5,488,309	2,506,271	2,522,271	3,500,136	-	8,988,445	8,988,445	71%
211009	Rehabilitation of the Circular Primary Clarifier Scum Removal System	21,790,000	201,653	1,000,000	1,000,000	344,348	-	546,001	546,001	3%
211010	Rehabilitation of Sludge Processing Complexes A and B	19,894,000	94,337	-	-	-	-	94,337	94,337	0%
211011	WRRF PS1 Screening and Grit Improvements	93,000,000	-	-	-	7,574	-	7,574	7,574	0%
212008	WRRF Rehabilitation of Intermediate Lift	73,884,000	968,407	-	-	183,572	-	1,151,979	1,151,979	2%
212009	WRRF Aeration Improvements 3 and 4	66,983,000	-	-	-	-	-	-	-	0%
212010	WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite	5,456,000	-	-	-	-	-	-	-	0%
213006	Improvements to Sludge Feed Pumps at Dewatering Facilities	7,094,000	297,000	750,000	750,000	18,057	-	315,057	315,057	4%
213007	Construction of the Improved Sludge Conveyance and Lighting System at the WWTP	23,810,000	21,788,969	-	-	830,424	-	22,619,393	22,619,393	95%
213008	Rehabilitation of the Wet and Dry Ash Handling Systems	6,351,000	151,058	-	-	-	-	151,058	151,058	2%
213009	Phosphorous Recovery Facility at the WRRF	180,000,000	-	-	-	2,863	-	2,863	2,863	0%
214001	Relocation of Industrial Waste Division and Analytical Laboratory Operations	14,282,000	-	-	-	-	14,300,183	-	14,300,183	100%
216004	Rehabilitation of Various Sampling Sites and PS# 2 Ferric Chloride System at WWTP	5,281,000	6,338,791	-	-	1,247,032	-	7,585,823	7,585,823	144%
216006	Rehabilitation of the Screened Final Effluent (SFE) Pump Station and Secondary Water System	21,108,000	3,761,533	2,963,200	4,760,328	1,647,522	-	5,409,055	5,409,055	26%
216008	Rehabilitation of Screened Final Effluent (SFE) Pump Station	40,226,000	1,665,007	2,509,960	2,509,960	1,535,365	-	3,200,372	3,200,372	8%
216011	WRRF Structural Improvements	11,400,000	25,011	400,000	400,000	883,633	-	908,644	908,644	8%
222001	Intercommunity Relief Sewer Modifications in Detroit Oakwood District	53,466,000	1,812,691	1,181,929	1,181,929	777,337	-	2,590,027	2,590,027	5%
222002	Detroit River Interceptor Evaluation and Rehabilitation	77,184,000	42,278,907	9,415,401	9,415,401	6,430,550	-	48,709,457	48,709,457	63%
232001	Fairview Pumping Station - Replace Four Sanitary Pumps	39,756,000	38,787,010	38,292	38,292	3,035,158	-	41,822,168	41,822,168	105%
232002	Freud and Connor Creek Pump Station Improvements	262,798,000	9,045,858	10,753,379	10,753,379	2,826,369	6,103,686	11,769,137	17,872,823	7%
232004	CONDITION ASSESSMENT AT BLUE HILL PUMP STATION	257,000	-	-	-	-	-	-	-	0%
233003	Rouge River In-system Storage Devices	46,317,000	-	-	-	-	-	-	-	0%
260200	Sewer and Interceptor Evaluation and Rehabilitation Program	65,845,000	-	6,603,863	6,603,863	-	-	-	-	0%
260201	Conveyance System Interceptor Rehab	38,252,000	16,407,136	3,050,766	3,050,766	3,692,412	18,542,127	20,099,549	38,641,676	101%
260204	Energy Services for Rehabilitation of Conveyance Sewer System	50,053,000	1,923,103	11,168,334	11,168,334	8,546,679	-	10,469,782	10,469,782	21%
260205	NWI Outfall Rehabilitation	10,379,000	334,750	5,044,122	5,044,122	1,246,306	-	1,581,056	1,581,056	15%
260206	Conveyance System Rehabilitation - Interceptors	35,270,000	395,678	2,149,139	2,149,139	183,562	-	579,241	579,241	2%
260207	Rehabilitation of Woodward Sewer System	19,160,000	3,576,770	4,848,636	4,848,636	6,337,909	-	9,914,679	9,914,679	52%
260208	Linwood/Lonyo/Ashland/2nd Ave/Shiawassee	-	34,697	-	-	5,965	-	40,662	40,662	0%
260209	Sewer Repair Contract - As Needed	12,200,000	3,836	4,504,389	4,504,389	1,922,923	-	1,926,759	1,926,759	16%
260210	Linwood/Lonyo/Ashland/2nd Ave/Shiawassee	-	209	-	-	31,420	-	31,629	31,629	0%
260500	CSO Outfall Rehab	21,500,000	-	1,641,572	1,641,572	-	-	-	-	0%
260504	Rehabilitation of Outfalls - Phase II	5,042,000	22,843	-	-	-	4,900,746	22,843	4,923,589	98%
260508	B-39 Outfall Rehab	8,755,000	873,311	5,391,594	5,391,594	3,474,273	-	4,347,585	4,347,585	50%
260509	B-40 Outfall Rehab	-	82,308	-	-	30,283	-	112,591	112,591	0%
260510	Conveyance System Rehabilitation - Outfalls	35,825,000	902,646	1,340,350	1,340,350	868,598	-	1,771,244	1,771,244	5%
260600	CSO Facilities Improvements	1,045,500,000	-	1,500,000	1,500,000	-	-	-	-	0%
260603	Conner Creek CSO Basin Rehab	8,175,000	65,894	-	-	8,379	7,675,407	74,272	7,749,679	95%
260613	Baby Creek HVAC Improvements	604,000	-	-	-	-	545,401	-	545,401	90%
260614	CSO Facilities Structural Improvements	13,590,000	6,908,490	3,100,700	4,100,700	3,845,762	115,312	10,638,939	10,754,251	79%
260615	PF & Lieb CSO Facilities Site & Drainage Improvements	759,000	-	-	-	-	582,444	-	582,444	77%
260617	St. Aubin Chemical Disinfection Improvements	6,456,000	-	274,800	274,800	-	-	-	-	0%
260618	Oakwood HVAC Improvements	6,091,000	4,850,407	498,000	1,094,000	759,010	-	5,609,417	5,609,417	92%
260619	Control System Upgrade At St. Aubin, Lieb and 7 Mile	7,635,000	62,766	2,116,286	2,116,286	608,166	-	670,932	670,932	9%
260620	Baby Creek Roof Replacement	1,047,000	610,931	-	-	373,621	984,552	-	984,552	94%
260621	Connor Creek Berm Improvements	2,542,000	2,218,752	-	-	26,110	2,244,862	-	2,244,862	88%
260622	CSO Facilities Emergency Generator Improvements	2,061,000	95,455	1,220,000	1,220,000	957,036	104,250	948,241	1,052,491	51%
260623	Baby Creek Screen Rehabilitation	2,175,000	22,933	1,077,500	1,077,500	149,923	-	172,856	172,856	8%
260700	Sewer System Infrastructure Improvements & Pumping Stations	526,000	-	75,129	75,129	-	-	-	-	0%
260701	Conveyance System Infrastructure Improvements	55,631,000	2,241,437	15,638,605	21,538,605	5,537,037	-	7,778,474	7,778,474	14%
260702	Pump Station Assets Updates	2,000,000	-	-	-	-	-	-	-	0%
260800	WRRF Roof Replacement Program	5,000,000	-	1,891,192	1,891,192	-	-	-	-	0%

Construction Work-in-Progress Quarterly Report

As of March 31, 2023

Great Lakes Water Authority
B2 - Wastewater System Construction Work-in-Progress (CWIP) FY 2023 Rollforward
Unaudited Activity For the Fiscal Quarter Ended March 31, 2023

Project	Project Name	Total Project Plan Estimate from FY 2023 - 2027 CIP	CWIP Balance July 1, 2022	FY 2023 Board Approved CIP	FY 2023 Board Approved CIP With Project Amendments	FY 2023 Activity through March 31, 2023	Life to Date Capitalization / Expense Through March 31, 2023	CWIP Balance March 31, 2023	Life to Date Activity Through March 31, 2023	Life to Date Activity / Total Project Plan Estimate
260802	2022 WRRF Roof Improvements Project	-	44,637	-	-	216,149	-	260,786	260,786	0%
260900	WRRF Facility Optimization Program	429,000	-	-	-	-	-	-	-	0%
260901	Rehab. Hazmat Facility at WRRF	1,405,000	227,002	1,273,978	1,273,978	41,522	-	268,524	268,524	19%
260902	WRRF Renovation of 4th Floor	2,721,000	65,149	2,671,406	2,671,406	2,250,570	-	2,315,719	2,315,719	85%
260903	WRRF Front Entrance Rehab.	1,005,000	136,823	1,004,587	1,004,587	199,210	-	336,032	336,032	33%
260904	WRRF 3rd Floor Renovation	-	2,752	-	-	6,139	-	8,891	8,891	0%
261000	WRRF Rehabilitation of Secondary Clarifiers	46,827,000	-	-	-	-	-	-	-	0%
261001	Rehabilitation of Secondary Clarifiers	4,030,000	2,986	-	-	12,408	-	15,394	15,394	0%
270001	Pilot CSO Netting Facility	6,199,000	329	-	-	362	-	692	692	0%
270002	Meldrum Sewer Diversion and VR-15 Improvements	5,840,000	-	-	-	-	-	-	-	0%
270003	Long Term CSO Control Plan	8,249,000	-	2,519,339	2,519,339	1,612,829	1,612,829	-	1,612,829	20%
270004	Oakwood Lieb CSO Facility Improvement	17,004,000	69,908	1,250,000	1,250,000	1,358,517	-	1,428,425	1,428,425	8%
270005	CSO Safety Improvements & Building Rehab	6,481,000	-	122,200	122,200	-	-	-	-	0%
270006	Control System Upgrades - Baby Creek/Belle	1,916,000	477,215	93,200	93,200	310,488	-	787,704	787,704	41%
270007	Disinfection System Improvements at CSO	8,216,000	285	-	-	80	-	365	365	0%
270008	Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities	7,007,000	-	-	-	-	-	-	-	0%
270009	Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities	1,378,000	-	-	-	-	-	-	-	0%
270010	HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities	1,509,000	-	-	-	156	-	156	156	0%
270011	HVAC Improvements at Conner Creek and Belle Isle CSO Facilities	384,000	-	-	-	-	-	-	-	0%
270012	Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities	5,921,000	-	-	-	-	-	-	-	0%
270013	Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities	894,000	-	-	-	-	-	-	-	0%
270014	Convert to Complete Capture Basin CSO Fa	4,442,000	-	-	-	-	-	-	-	0%
273001	Hubbell Southfield CSO Facility Improvement	38,576,000	424,992	532,700	532,700	4,170	-	429,162	429,162	1%
273002	CSO Hubbell Southfield VR-8 Gate Improvements	1,770,000	-	-	-	-	-	-	-	0%
276002	Replacement Make-up Air Unit at CON	-	8,172	-	-	334,346	-	342,518	342,518	0%
277001	Baby Creek Outfall Improvements Project	13,287,000	37,444	1,250,000	1,250,000	877,520	444,619	850,645	1,295,264	10%
277002	Baby Creek CSO Facility Influent Flushing System	738,000	-	-	-	-	-	-	-	0%
341002	Security Infrastructure Improvements	-	3,197,089	-	-	3,762	-	3,200,851	3,200,851	0%
Grand Total		3,015,528,000	193,100,463	125,932,245	135,331,233	73,618,411	\$ 417,154,711	261,489,660	678,644,371	23%
					Project Amendments:	9,398,988				

Appendix C - Project Amendment Summaries

The purpose of the Project Amendment Summary is to illustrate the amendments to the current fiscal year board approved CIP for each project with an amendment resulting from the use of allowance and program funding for a specific amount necessitated by contract award.

The award of CIP contracts and the related execution thereof may result in deviation from the amount and timing of planned spend. Acknowledging the aforementioned deviation, project amendments are prepared to fund the related increase or decrease either to or from the Capital Reserve to amend the current fiscal year board approved Capital Improvement Plan accordingly and to inform decision makers in the development of future Capital Improvement Plans. Similar to the project amendments prepared for the Capital Reserve, project amendments are also prepared for contracts that are planned or funded by way of the CIP Program and Allowance accounts. As additional contracts are awarded, and other project information becomes available additional project amendments to and from the Capital Reserve will be prepared to amend the board approved FY 2023 Capital Improvement Plan.

\$5,174,767 of Capital Reserve project amendments have been prepared as of March 31, 2023, as shown for the Water System in C1 – Water FY 2023 Project Amendment Summary with project amendments detailing the assignment of funding within Program and Allowance accounts.

\$9,398,988 of Capital Reserve project amendments have been prepared as of March 31, 2023, as shown for the Wastewater system in C2 – Wastewater FY 2023 Project Amendment Summary with project amendments detailing the assignment of funding within Program and Allowance accounts.

The order of these appendices on the subsequent pages are in ascending order by CIP project number.

Construction Work-in-Progress Quarterly Report

As of March 31, 2023

**Great Lakes Water Authority
C1 - Water System Project Amendment Summary
Unaudited Activity For the Fiscal Quarter Ended March 31, 2023**

Project	Project Name	Capital Reserve	Grand Total
115005	WWP WTP Building Ventilation Improvements	1,007,200	1,007,200
114002	Springwells Water Treatment Plant - Low Lift and High Lift Pump Station	1,098,339	1,098,339
132016	North Service Center BPS Improvements	2,150,147	2,150,147
122013	14 Mile Transmission Main Loop	529,374	529,374
114002	Springwells WTP Low and High Lift Improvements	(9,622,000)	(9,622,000)
122013	14 Mile Transmission Main Loop	184,708	184,708
122005	Replacement Schoolcraft Water Main	3,266,000	3,266,000
170503	Transmission System Valve Replacement Pa	6,561,000	6,561,000
Grand Total		\$ 5,174,767	\$ 5,174,767

Construction Work-in-Progress Quarterly Report

As of March 31, 2023

**Great Lakes Water Authority
C2 - Wastewater System Project Amendment Summary
Unaudited Activity For the Fiscal Quarter Ended March 31, 2023**

Project	Project Name		Capital Reserve	Grand Total
211008	Rehabilitation of Ferric Chloride Feed systems at the Pump Station -1 and Complex B Sludge Lines	\$	16,000	\$ 16,000
216006	Rehabilitation of the Screened Final Effluent (SFE) Pump Station and Secondary Water System		1,797,128	1,797,128
211006	Pump Station No. 1 Improvements		89,860	89,860
260701	Conveyance System Infrastructure Improvements		5,900,000	5,900,000
260618	Oakwood HVAC Improvement		596,000	596,000
260614	CSO Facilities - Structural Improvements		1,000,000	1,000,000
Grand Total		\$	9,398,988	\$ 9,398,988



Semiannual Debt Report
As of March 31, 2023

The Semiannual Debt Report includes the following:

1. Key Takeaways
2. Look Ahead – Five Year Capital Financing Plan
3. Existing Debt
4. Debt Service Coverage
5. Refinancing

Pursuant to leases that became effective on January 1, 2016, the Great Lakes Water Authority (GLWA) assumed possession and control of the regional assets of both the water supply and sewage disposal systems owned by the City of Detroit (City), which were previously operated by the Detroit Water and Sewerage Department (DWSD). GLWA assumed certain liabilities including State Revolving Fund loans and 100% of the revenue bond debt issued by DWSD prior to January 1, 2016.

The bonds are repaid by the revenues of the water and sewage disposal systems including the DWSD retail system (local system) revenues which are the exclusive property of GLWA in accordance with Section 5.7 of each lease agreement. The DWSD is GLWA's agent for purposes of billing and collection of the retail system revenues for both the water and sewer system, as set forth in a water and sewer services agreement between the City and GLWA. All revenue receipts are deposited into a trust and administered in compliance with the Master Bond Ordinance, applicable to each system (referred to herein collectively as the "MBO").

The leases also provide that GLWA will finance local system improvements of DWSD. GLWA is the obligor of 100% of the debt payable which is recorded in GLWA's books. An "obligation receivable" is recorded by GLWA which represents the amount related to the DWSD local system improvements. Accordingly, DWSD records a corresponding "obligation payable" for a like amount.

GLWA maintains detailed records of all debt issuances and how the responsibility for payment of debt is allocated between the regional system and local system, as well as between the water and sewer systems. GLWA and DWSD regularly reconcile interrelated accounts between the entities.

The lease agreements, water and sewer services agreement, and MBO noted above are available on GLWA's website at www.glwater.org. The above explanation is a synopsis of key points and is not intended to fully represent the agreements or any sub-sections thereof.

Key Takeaways

- ✓ The purpose of this report is to provide a resource for stakeholders and to support management decisions as capital financing needs evolve.
- ✓ GLWA continues to enhance transparency by including the Debt Summary Report in the Audit Committee Binder biannually.
- ✓ GLWA has eighteen active State Revolving Fund (SRF) loans, eleven for water and seven for sewer. On behalf of DWSD, GLWA is administering five projects for water and two for sewer.
- ✓ GLWA completed a revenue bond transaction in September 2022 to support capital needs over the next two years in accordance with the approved capital improvement plan.
- ✓ Other key items of interest include the following balances as of March 31, 2023.

As of March 31, 2023 (\$ Millions)		
	Water	Sewer
FY 2024 Approved SRF Projects - Table 5	\$107.4	\$96.0
DWSD Obligation Receivable - Table 6	\$551.6	\$367.0
GLWA Outstanding Debt - Table 8	\$2,507.4	\$2,943.9

Look Ahead - Five Year Capital Financing Plan

The following tables summarize the projected Capital Improvement Program (CIP) funding to be provided by proceeds received from the issuance of new revenue bonds and draws on committed SRF loans. *The financing plan is dynamic and changes with the pace of capital spending and alignment with refunding opportunities.*

GLWA closed on revenue bond transactions in September 2022 to support capital needs over the subsequent two years in accordance with the approved capital improvement plan. These transactions provided \$417 million in additional funding with \$207 million supporting the water system and \$210 million supporting the sewer system.

There are no additional revenue bond transactions anticipated for FY 2023, although one additional, SRF loan closed in May 2023 for the GLWA sewer system in the amount of \$96 million and will be included in subsequent reports.

Table 1 - GLWA Projected Financing FY 2024 – FY 2028 provides a breakdown of projected financing based on the FY 2024 and FY 2025 Biennial Budget adopted by the GLWA Board of Directors and the related Five-Year Financial Plan.

Projected Funding Needs for Regional System					
	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Water					
Revenue Bonds	\$ -	\$ 353,000,000	\$ -	\$ 318,000,000	\$ -
SRF loan draws	\$ 97,102,000	\$ 44,230,000	\$ 20,000,000	\$ 4,000,000	\$ -
Total projected funding Water	\$ 97,102,000	\$ 397,230,000	\$ 20,000,000	\$ 322,000,000	\$ -
Sewer					
Revenue Bonds	\$ -	\$ 298,000,000	\$ -	\$ 327,000,000	\$ -
SRF loan draws	\$ 47,253,000	\$ 31,104,000	\$ 15,004,000	\$ -	\$ -
Total projected funding Sewer	\$ 47,253,000	\$ 329,104,000	\$ 15,004,000	\$ 327,000,000	\$ -

Table 2 - DWSD Projected Financing FY 2024 – FY 2028 provides a breakdown of projected financing based on the current, local system CIP presented to the DWSD Capital Improvement Plan Committee at its April 5, 2023 meeting. It is important to note the amounts represented in revenue bonds reflect the funding needs by year and not a revenue bond transaction for each year. GLWA and DWSD coordinate the timing for additional revenue bonds to ensure efficiency in the debt management process.

Projected Funding Needs for Local System					
	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Water					
Revenue Bonds	\$ 9,460,000	\$ 21,000,000	\$ 22,000,000	\$ 19,500,000	\$ 12,000,000
SRF loan draws	\$ 26,500,000	\$ 49,770,000	\$ 14,720,000	\$ 5,000,000	\$ -
Total projected funding Water	\$ 35,960,000	\$ 70,770,000	\$ 36,720,000	\$ 24,500,000	\$ 12,000,000
Sewer					
Revenue Bonds	\$ 6,219,000	\$ 25,500,000	\$ 39,000,000	\$ 17,000,000	\$ 7,000,000
SRF loans draws	\$ 3,195,000	\$ 4,146,000	\$ 1,204,000	\$ -	\$ -
Total projected funding Sewer	\$ 9,414,000	\$ 29,646,000	\$ 40,204,000	\$ 17,000,000	\$ 7,000,000

Existing Debt

Current Debt Ratings: Bond ratings are a key measure of an organization's financial strength. Ratings are established by independent agencies that conduct detailed reviews of an organization's operational and financial performance to assist those seeking to invest in an organization through the purchase of bonds. GLWA actively monitors its debt ratings and continually seeks to make operational and financial improvements to improve its bond ratings. Achieving higher ratings will allow GLWA to finance its capital needs at lower interest rates.

The last round of rating agency reviews was in August 2022. S&P Global Ratings affirmed the Authority's senior lien water and sewage disposal systems rating of AA- and its second lien water system rating of A+. The outlook remained stable. Moody's Investors Service affirmed the Authority's water system and sewer disposal system senior lien ratings of A1, and its second lien ratings of A2. The outlook was moved to positive from stable for both. Fitch affirmed the Authority's ratings for its water system and sewer disposal system senior lien bonds at an A+, and its second lien bonds at an A. The outlook was moved to positive from stable for the sewage disposal system. The water system outlook remained stable.

Table 3 – Debt Ratings by System provides a summary of the debt ratings.

Current Debt Ratings			
	S&P Global Ratings	Moody's Investors Service	Fitch Ratings
Water Supply System Revenue Bonds			
Senior lien	AA-	A1	A+
Second lien	A+	A2	A
Junior lien	A+	N/A	N/A
Outlook	Stable	Positive	Stable
Sewage Disposal System Revenue Bonds			
Senior lien	AA-	A1	A+
Second lien	A+	A2	A
Junior lien	A+	N/A	N/A
Outlook	Stable	Positive	Positive

Debt Allocation: GLWA has over \$2.5 billion in water system debt and nearly \$2.9 billion in sewer system debt for a combined total of over \$5.4 billion. Debt within each system is prioritized according to its security interest, or lien category, with senior lien debt having the highest security interest, followed by second lien and finally junior lien.

Chart 1 - Debt Type by Lien – Water provides a breakdown of the total water system debt for both the regional and local systems by lien type.

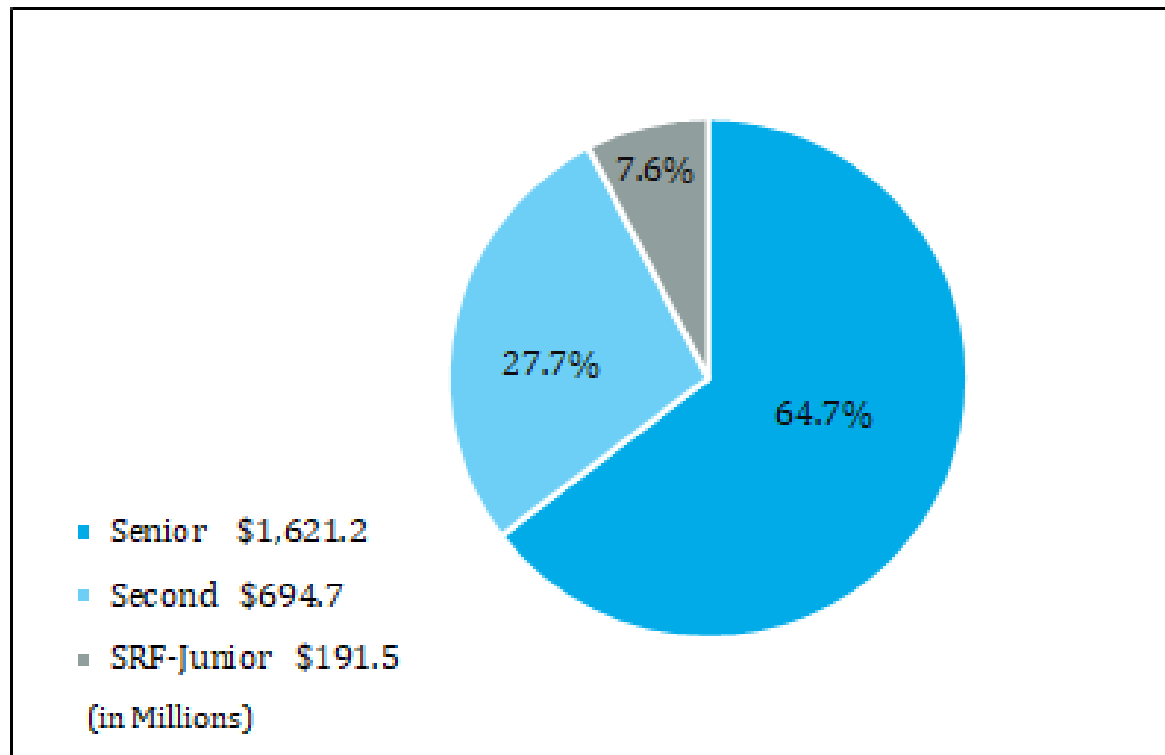


Chart 2 - Debt Type by Lien – Sewer provides a breakdown of the total sewer system debt for both the regional and local systems by lien type.

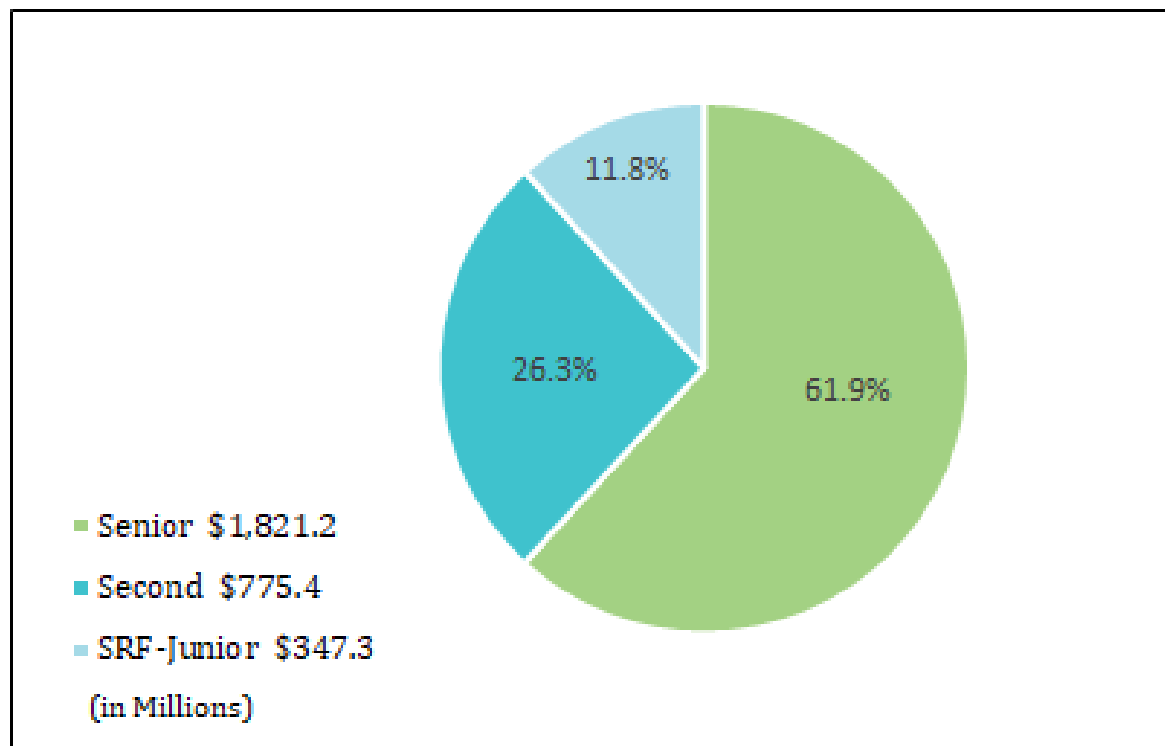


Chart 3 – Annual Debt Service Payments by Lien – Water provides the annual debt service installment requirements for each fiscal year.

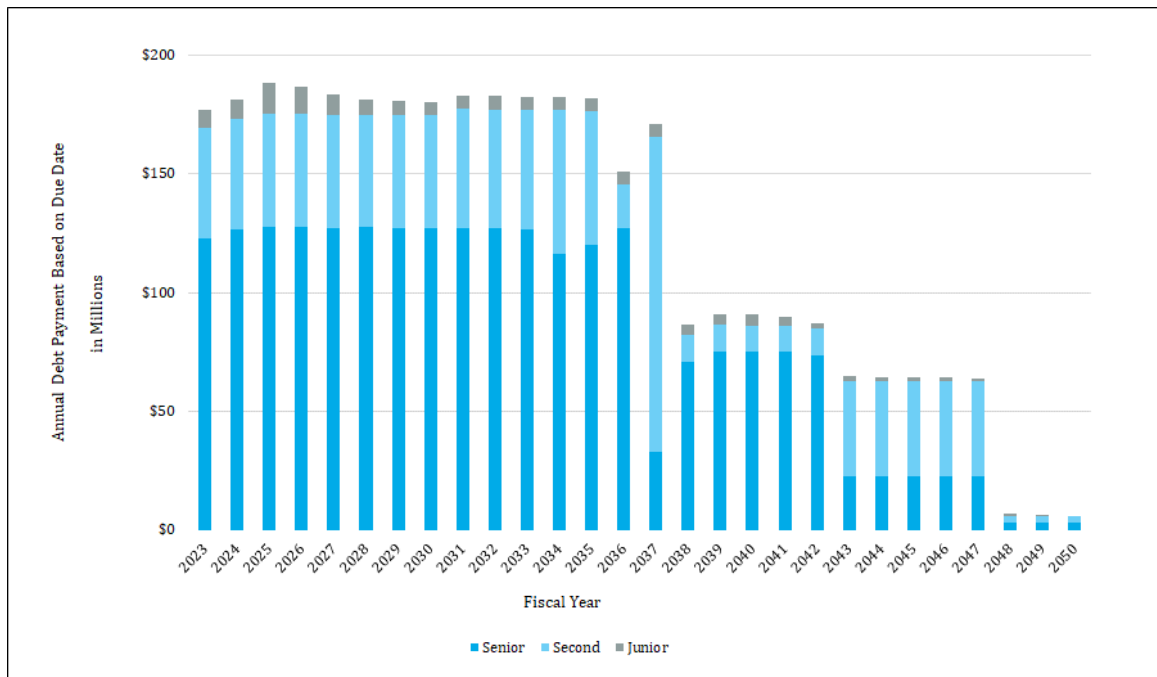
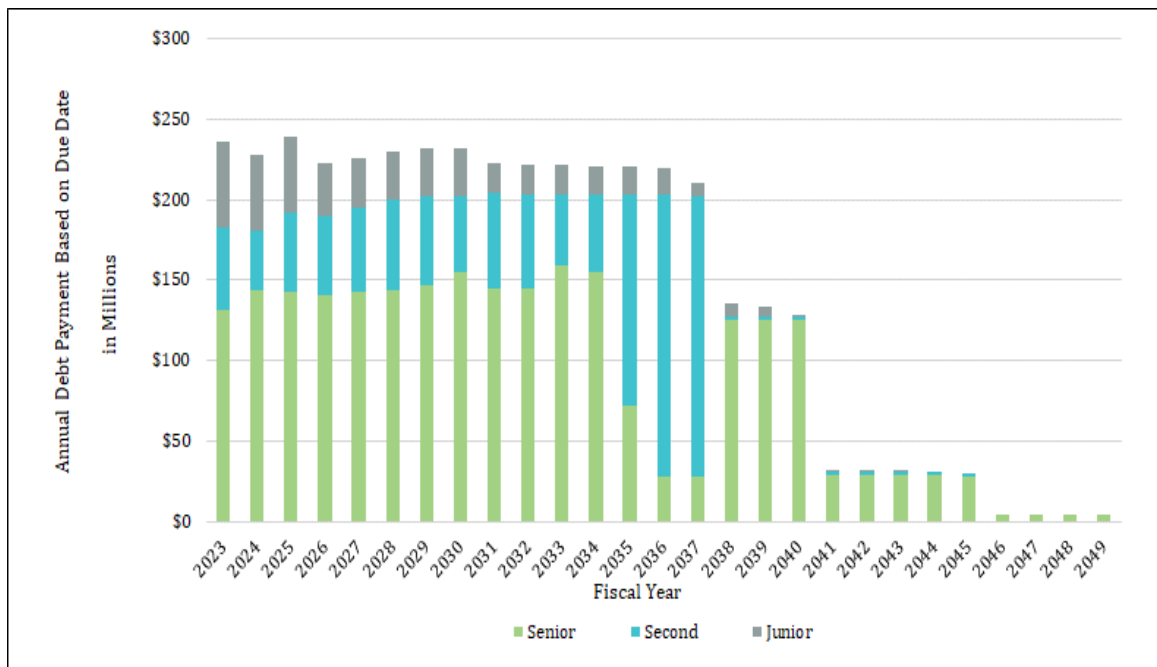


Chart 4 – Annual Debt Service Payments by Lien – Sewer provides the annual debt service installment requirements for each fiscal year.



Note: The figures in these charts reflect the debt service installment requirements for each fiscal year, which are required by the MBO to be set aside monthly in advance of actual payment dates. This information will differ from the Annual Comprehensive Financial Report which reflects when the actual payments are made to the bond paying agent.

State of Michigan's State Revolving Fund (SRF) Programs: GLWA participates in the State's Clean Water Revolving Fund (CWSRF) to finance qualified sewage disposal system projects and the State's Drinking Water Revolving Fund (DWSRF) to finance qualified water supply system projects. For the purposes of this report, both water and sewer projects financed through these programs will be referred to as either water or sewer SRF loans.

These loan programs have interest rates that are well below open market interest rates (current estimate between 3.5% and 4.0%) and are repaid over 20-30 years. For the state's FY 2023, the DWSRF and CWSRF program rates are 1.875% for 20-year loans and 2.125% for 30-year loans.

Funds are disbursed as construction payments are made. Interest on each loan is based on the amount of funds drawn and not the full loan amount. GLWA must submit project plans to the Michigan Department of Environment, Great Lakes, and Energy ("EGLE", and formerly known as the Michigan Department of Environmental Quality or MDEQ) for each project by the annual submission date (June 1 for DWSRF and May 1 for CWSRF) to be considered for the State's funding pool for the following fiscal year.

State Revolving Fund Loans: GLWA's strategy is to maximize its use of SRF loans to finance qualified capital projects. GLWA currently has \$191.5 million in outstanding water SRF loans and \$347.3 million in outstanding sewer SRF loans.

Table 4 - Active SRF Project Summary provides information regarding each loan currently being drawn down including the loan award date which is also referred to as the Order of Approval date by the State of Michigan.

State Loan #	CIP Reference	Description	Order of Approval	Project Total (\$ Millions)
SRF Water - DWSD Projects				
7447-01	WS-707 & 714	Water Main Replacement	8/9/2019	\$16.5
7460-01	WS-710 & 711	Water Main Replacement	7/15/2020	\$22.6
7483-01	WS-715 & 718	Water Main Replacement	9/9/2020	\$13.4
7484-01	WS-713	Water Main Replacement - Jefferson Chalmers	8/6/2021	\$12.8
7548-01	WS-721	Lead Service Line Water Main Replacement	4/8/2022	\$10.0
SRF Water - GLWA Projects				
7445-01	122003	Northeast Transmission Phase 1	8/9/2019	\$30.0
7445-02	122003	Northeast Transmission Main - Phase 2a	8/7/2020	\$9.0
7445-04	122003	Northeast Transmission Main - Phase 3a	5/28/2021	\$11.9
7461-01	122013	14 Mile Transmission Main Loop - Phase 1	8/7/2020	\$9.0
7461-02	122013	14 Mile Transmission Main Loop - Phase 2	8/6/2021	\$104.7
7532-01	122004	96-inch Water Transmission Main Relocation Project - Phase 1	8/29/2022	\$34.1
Total Water				\$273.9
SRF Sewer - DWSD Projects				
5688-01	DWS-916	Sewer Main Rehab/Rplcmt - Project A	9/9/2020	\$4.0
5706-01	DWS-917 & 918	Sewer Main Replacements - Project B	9/9/2021	\$9.2
SRF Sewer - GLWA Projects				
5655-02	222002	Detroit River Interceptor Segment 2	3/27/2020	\$28.4
5655-03	222002	Detroit River Interceptor Segment 3	5/16/2020	\$34.2
5673-01	211008	PS-1 Ferric Chloride System Rehabilitation	2/26/2021	\$12.9
5741-01	260701	In-System Storage Device & Dam & Valve Remote Evaluation & Rehabilitation	8/29/2022	\$19.0
5742-01	260204	Connor Creek Sewer System Rehabilitation	8/8/2022	\$50.2
Total Sewer				\$158.0

Chart 5 - Open State Revolving Fund Loans summarizes all current SRF loans held by GLWA (including financings on behalf of DWSD) that are active (reference Table 4 above for project descriptions). It summarizes the original award amount remaining and the amount drawn down as of March 31, 2023 for each loan. On March 31, 2023, the amount of SRF loans authorized and unissued is \$174.9 million for the Water fund and \$120.2 million for the Sewage Disposal Fund.

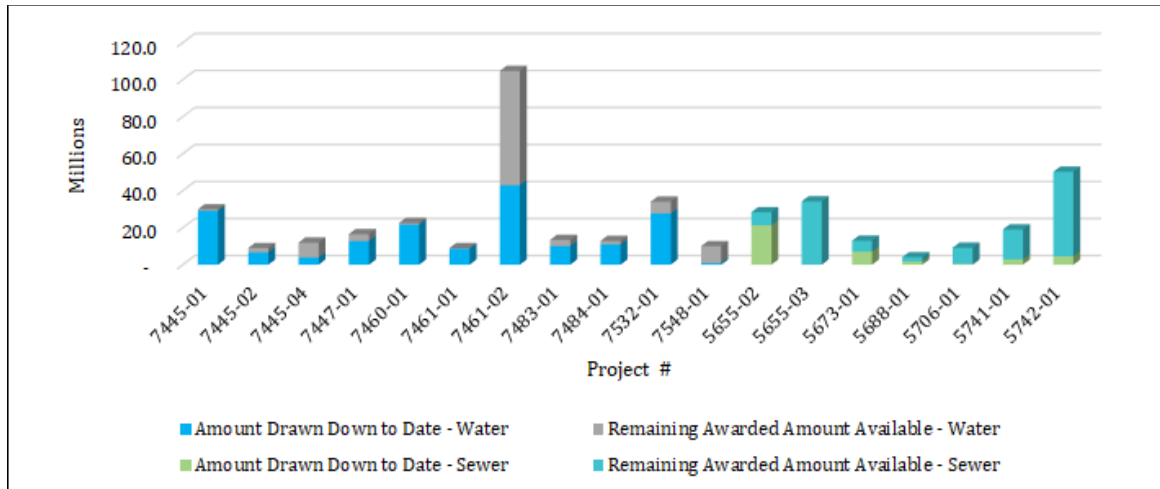


Table 5 - Project Plan Approved by EGLE identifies projects approved by the EGLE but for which final applications had not yet been submitted for funding as of March 31, 2023.

Project Owner	CIP Number	Description	Estimated Loan Amount	Anticipated Funding Date
Water SRF				
GLWA	122004	96-inch Water Transmission Main Relocation Project - Phase 2	\$ 64,230,000	Q3.5 FY 2023
DWSD	WS-732	Water Main Replacement	\$ 21,100,000	Q4 FY 2023
DWSD	WS-733	Water Main Replacement	\$ 22,100,000	Q4 FY 2023
Total Water SRF			\$ 107,430,000	
Sewer SRF				
GLWA	211006	Pump Station #1 Improvements	\$ 96,000,000	Q3 FY 2023
Total Sewer SRF			\$ 96,000,000	

DWSD Obligation Receivable: GLWA holds an obligation receivable from DWSD as an asset to account for the amount due for financing local system capital projects. DWSD carries a like amount of this as an obligation payable on its statement of net assets.

There are three components to the calculation of the DWSD obligation receivable. These are:

- an agreed upon amount for pre-January 1, 2016 (i.e. “pre-bifurcation”) debt as documented in a 2018 Memorandum of Understanding (\$455 million for water system and \$370 million for sewer per agreed-upon amortization schedules),
- new revenue bonds issued after January 1, 2016 to specifically fund the DWSD local system capital improvement projects which are payable based on the allocable share of the actual bonds debt service schedule, and
- SRF loans issued after January 1, 2016 for specific DWSD capital projects which are payable based on the allocable share of the actual loan payment schedule.

All retail customer revenues are deposited into a trust to fund these financial obligations in accordance with the MBO flow of funds.

Chart 6 - DWSD Obligation Receivable by Type summarizes the total DWSD obligation receivable balance for both Water and Sewer as of March 31, 2023 by pre-bifurcation, revenue bond and SRF component.

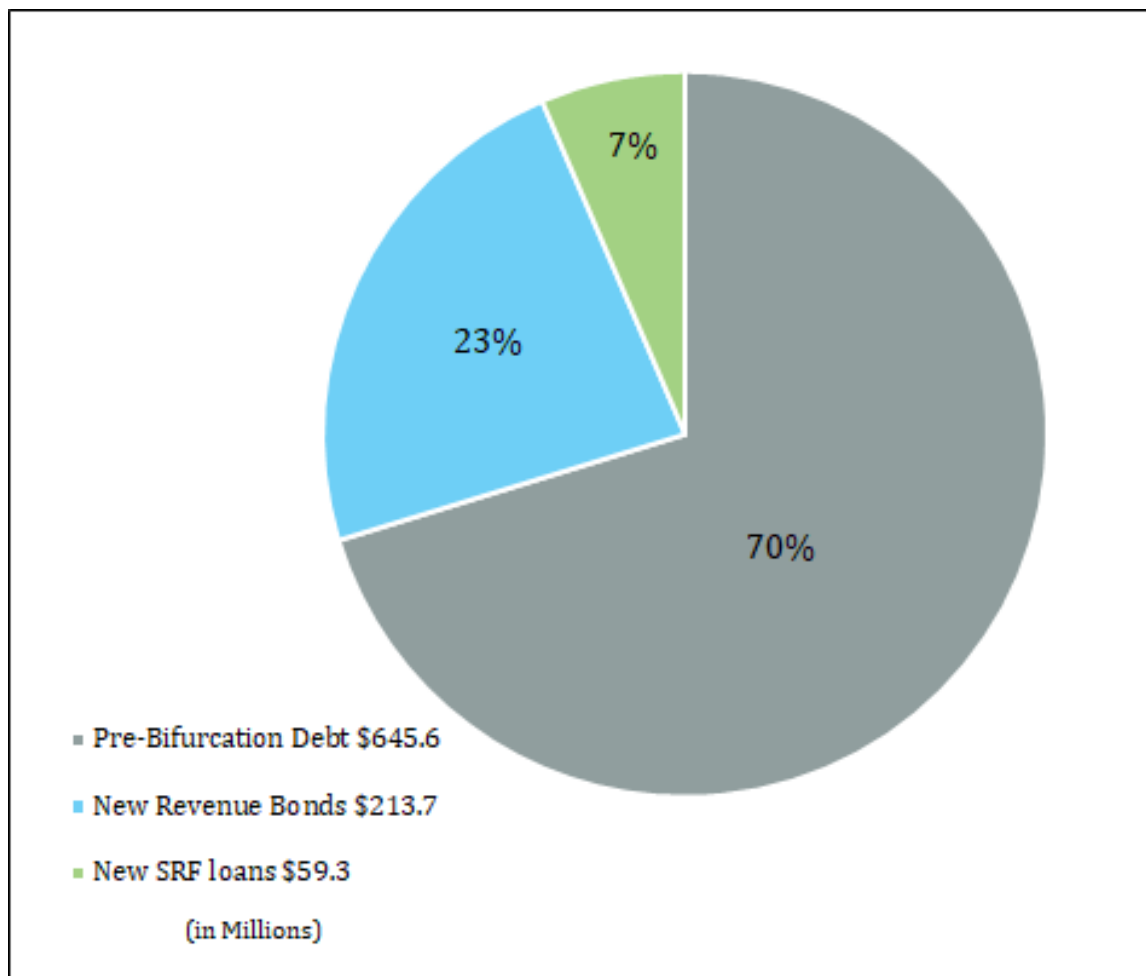


Chart 7 – Obligation Receivable Compared to Total Debt - Water provides context by comparing the Water System Obligation Receivable to the Total Water Debt (excludes unamortized premiums).

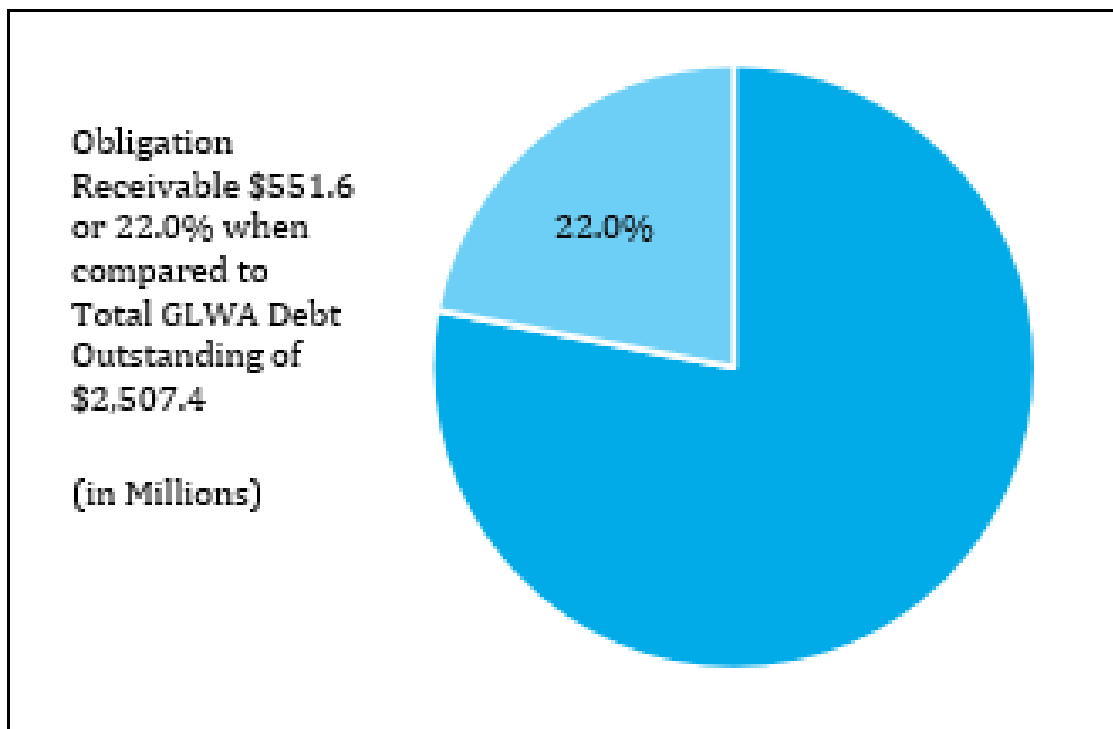


Chart 8 – Obligation Receivable Compared to Total Debt - Sewer provides context by comparing the Sewer System Obligation Receivable to the Total Sewer Debt (excludes unamortized premiums).

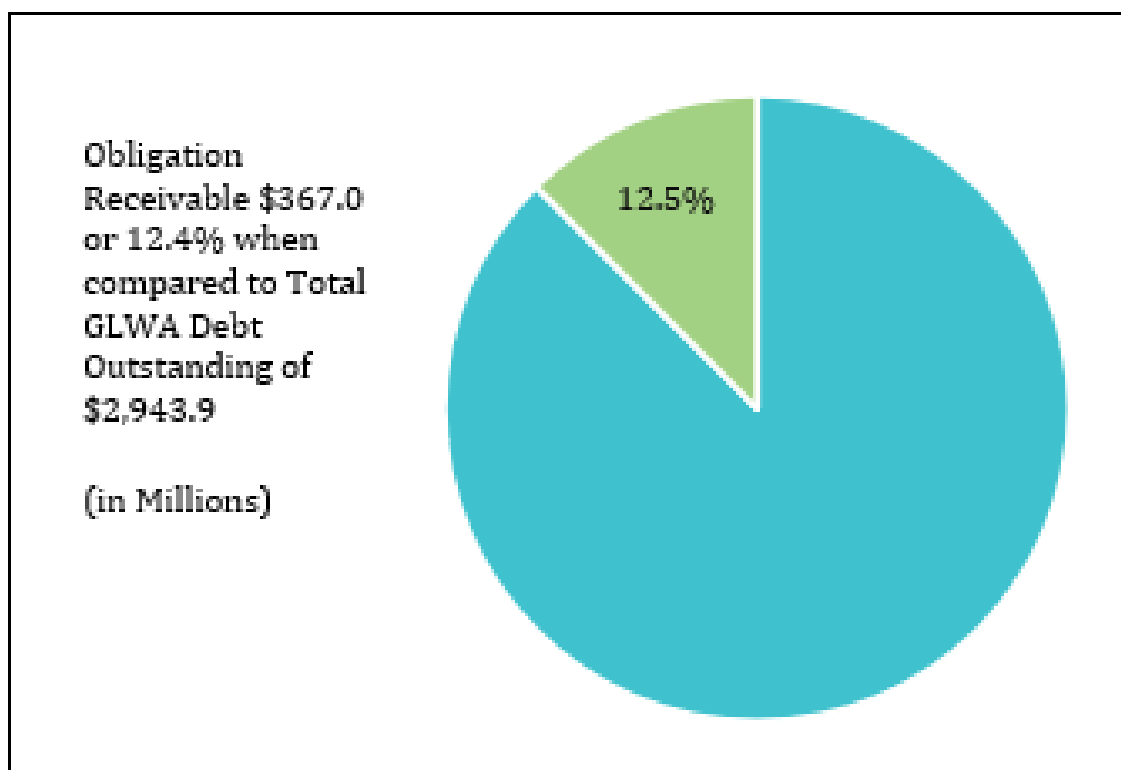


Table 6 - DWSD Obligation Receivable provides obligation receivable detail including fiscal year 2023 beginning balances by debt type and loan issue (for revenue bonds and SRF loans), year-to-date activity and ending balances as of December 31, 2022. Total DWSD debt totals \$945 million. This differs slightly from the total in Chart 6 due to the inclusion of unamortized premiums.

(In Thousands)					
Debt Type	July 1, 2022 Beg Balance	Increase	Decrease	SRF Debt Forgiveness	March 31, 2023 End Balance
DWSD Water					
Pre-Bifurcation Debt	\$ 368,673	\$ -	\$ (11,917)		\$ 356,755
Revenue Bond - 2016A	17,725	-	-	-	17,725
Revenue Bond - 2016B	33,015	-	-	-	33,015
Revenue Bond - 2020A	42,445	-	-	-	42,445
Revenue Bond - 2020B	43,135	-	-	-	43,135
SRF 7412-01	4,718	-	-	-	4,718
SRF 7413-01	3,054	-	-	-	3,054
SRF 7414-01	5,348	-	(155)	-	5,193
SRF 7447-01	7,743	-	(295)	-	7,448
SRF 7460-01	15,869	3,751	-	-	19,620
SRF 7483-01	5,326	3,617	(105)	-	8,838
SRF 7484-01	1,701	7,909	-	-	9,610
SRF 7548-01	-	-	-	-	-
Total DWSD Obligation	548,752	15,276	(12,472)	-	551,556
Unamortized Premiums	18,867	-	(574)	-	18,293
Subtotal: Water	567,619	15,276	(13,046)	-	569,850
DWSD Sewer					
Pre-Bifurcation Debt	298,804	-	(10,000)	-	288,804
Revenue Bond - 2018A	77,345	-	-	-	77,345
SRF 5688-01	480	495	(132)	-	843
SRF 5706-01	-	359	-	(359)	-
Total DWSD Obligation	376,629	495	(10,132)	-	366,992
Unamortized Premiums	8,569	-	(305)	-	8,264
Subtotal: Sewer	385,199	495	(10,437)	-	375,256
Total DWSD Debt	\$ 952,818	\$ 15,771	\$ (23,483)	\$ -	\$ 945,106

Table 7 – Loan Forgiveness provides a summary of loan principal forgiven on DWSD SRF loans closed after January 1, 2016. EGLE grants principal loan forgiveness on qualified planning costs for disadvantaged communities. Through March 31, 2023, around \$26.4 million or 23% of approved, DWSD SRF loans have been forgiven as a disadvantaged community.

State Loan #	Approved Amount	Loan Forgiveness
DWSD Water SRF		
SRF 7412-01	10,605,000	1,000,000
SRF 7413-01	5,180,000	1,000,000
SRF 7414-01	8,675,000	2,000,000
SRF 7447-01	16,500,000	4,711,944
SRF 7460-01	22,570,000	2,031,300
SRF 7483-01	13,355,000	1,201,950
SRF 7484-01	12,845,000	1,316,050
SRF 7548-01	10,000,000	10,000,000
Subtotal: Water	99,730,000	23,261,244
DWSD Sewer SRF		
SRF 5688-01	4,040,000	808,000
SRF 5706-01	9,175,000	2,293,750
Subtotal: Sewer	13,215,000	3,101,750
Total DWSD Debt	\$ 112,945,000	\$ 26,362,994

Annual Change in Outstanding Debt: It is the goal of GLWA to ensure the long-term sustainability of the water and sewer systems. One of the best ways to accomplish this is by reducing the debt service payments on existing bonds as well as reducing the amounts of future bond issues by using revenue financed capital.

Table 8 - Long-Term Debt Summary provides a detail of GLWA's fiscal year 2023 beginning balances by debt type and loan issues, year-to-date activity, and ending balances as of March 31, 2023. GLWA debt includes financing for both the regional and local share.

Debt Type	June 30, 2022				Debt		March 31, 2023
	Beg Balance	Increase	Decrease	Refunding	Forgiveness	End Balance	
Water Fund							
Revenue Bonds	\$ 2,128,890	\$ 207,215	\$ (20,165)	\$ -	\$ -	\$ 2,315,940	
State Revolving Loans	109,429	87,133	(5,097)	-	-	191,466	
Total Installment Debt	2,238,319	294,348	(25,262)	-	-	2,507,406	
Unamortized Premiums / Discounts	161,010	-	10,758	-	-	171,768	
Subtotal: Water	2,399,330	294,348	(14,504)	-	-	2,679,174	
Sewer Fund							
Revenue Bonds	2,439,745	210,455	(53,650)	(17,985)	-	2,596,550	
State Revolving Loans	379,648	15,981	(47,936)	-	(359)	347,334	
Total Installment Debt	2,819,393	226,436	(101,586)	(17,985)	(359)	2,943,884	
Unamortized Premiums / Discounts	58,642	-	17,906	-	-	76,548	
Subtotal: Sewer	2,878,035	226,436	(83,680)	(17,985)	(359)	3,020,433	
Total Combined, Long Term Debt	\$ 5,277,365	\$ 520,784	\$ (98,184)	\$ (17,985)	\$ (359)	\$ 5,699,607	

Debt Service Coverage

GLWA is committed to ensuring the long-term sustainability of the water and sewer systems and has pledged specific revenue streams to secure the repayment of the revenue bonds and SRF loans associated with them. The MBO establishes minimum debt coverage levels at 1.20 for senior lien bonds, 1.10 for second lien bonds and 1.00 for any junior lien bonds, other than second lien bonds. Debt service coverage ratios are inclusive of all debt held on behalf of both GLWA and DWSD.

GLWA computes the debt service coverage ratio using two different methodologies. The Rate Covenant Method uses the cash basis in computing pledged revenue and the GAAP Method uses the accrual basis in computing pledged revenue. Pledged revenue is divided by the debt service requirements of each lien on a set aside basis to compute the debt service coverage ratio. The set aside basis is defined as the cash available to make the debt service payments on the due dates. The following table details the components of the pledged revenue for each methodology.

Components of Pledged Revenue	Pledged Revenue Calculation	Rate Covenant Basis	GAAP Basis
Revenues	Addition	Cash basis	Accrual basis
GLWA O&M expenses	Subtraction	Cash basis	Accrual basis
GLWA O&M pension	Subtraction	Cash basis	Cash basis
DWSD O&M expenses & O&M pension	Subtraction	Cash transfers to DWSD	Cash transfers to DWSD

Table 9: Debt Service Coverage Ratios - Water provides a summary of the MBO required minimum, historical, and budgeted debt service coverage ratios for the Water fund.

Debt Service Coverage Water System							
	MBO Required Minimum	Actual 2020	Actual 2021	Actual 2022	Adopted Budget 2023	Adopted Budget 2024	Adopted Budget 2025
Rate Covenant Basis							
Senior Lien Bonds	1.20	1.94	1.99	1.88	1.80	1.95	1.80
Senior and second lien bonds	1.10	1.39	1.40	1.37	1.33	1.42	1.34
All bonds, including SRF junior lien	1.00	1.37	1.38	1.33	1.27	1.30	1.23
GAAP Basis							
Senior Lien Bonds		1.98	1.95	2.00			
Senior and second lien bonds		1.42	1.38	1.45			
All bonds, including SRF junior lien		1.40	1.35	1.41			

Table 10: Debt Service Coverage Ratios - Sewer provides a summary of the MBO required minimum, historical, and budgeted debt service coverage ratios for the Sewer fund.

Debt Service Coverage Sewage Disposal System							
	MBO Required Minimum	Actual 2020	Actual 2021	Actual 2022	Adopted Budget 2023	Adopted Budget 2024	Adopted Budget 2025
Rate Covenant Basis							
Senior Lien Bonds	1.20	2.15	2.92	2.35	2.17	2.13	2.08
Senior and second lien bonds	1.10	1.64	1.97	1.68	1.74	1.59	1.57
All bonds, including SRF junior lien	1.00	1.29	1.51	1.30	1.37	1.27	1.30
GAAP Basis							
Senior Lien Bonds		2.15	2.50	2.64			
Senior and second lien bonds		1.64	1.68	1.89			
All bonds, including SRF junior lien		1.29	1.29	1.46			

Refinancing

To reduce the annual water and sewer debt service payments, GLWA monitors its outstanding water and sewer debt portfolios to determine if it can refund existing bond issues with new, lower interest rate bonds. At least once per year, GLWA's registered municipal advisor, PFM Financial Advisors, LLC (PFM) prepares an analysis of GLWA's bond refunding opportunities based on the current municipal interest rate environment and the existing debt service on GLWA's callable bonds.

On September 13, 2022, \$12.490 million of sewage disposal system refunding bonds were issued. The net present value savings from the refunding transaction for the sewage disposal fund was \$211,718. The 2012 sewage disposal system revenue bonds of \$17.985 million were called on September 16, 2022 as part of this transaction.

Table 11: History of Debt Service Savings Achieved since 2014 through the leadership of the Authority's management team, the financing team has been able to achieve over \$1 billion of debt service savings for the Systems since the tender and refunding transaction in 2014.

Savings by Issuance		
Series 2014	\$	245,500,000
Series 2015		38,300,000
Series 2016		309,100,000
Series 2018		84,900,000
Series 2020		324,100,000
Series 2022		1,960,000
		\$ 1,003,860,000

The next available refunding opportunity will be for bonds with a call date of July 1, 2024, for both the water fund and sewage disposal fund. Approximately \$434.2 million in water bonds and \$436.5 million in sewer bonds will be callable at that time. GLWA continues to work with its registered municipal advisor to monitor the potential for refunding these bonds.

GLWA does not have any defeased debt as of March 31, 2023.



Financial Services Audit Committee Communication

Date: June 26, 2023

To: Great Lakes Water Authority Audit Committee

From: Kim Garland, CPA, Deputy Chief Financial Officer

Re: General Retirement System Financial Report and Annual Actuarial Valuation for Year End June 30, 2022 (City of Detroit Component II)

Background: The Great Lakes Water Authority (GLWA) assumed a portion of the legacy pension commitment assigned to the Detroit Water & Sewerage Department (DWSD) pursuant to the terms of the regional water and sewer system leases. For this reason, GLWA monitors activity related to the City of Detroit General Retirement System (GRS). While there are two plans managed by GRS, GLWA is impacted by only the Component II plan. Component II was closed as of June 30, 2014 under the City of Detroit bankruptcy plan of adjustment and is commonly referred to as the 'legacy plan'.

The following reports have been presented to the GRS Board and are attached.

1. Letter from the GRS external audit firm to those charged with governance for the General Retirement System of the City of Detroit for the year ending June 30, 2022
2. Audited Financial Report for the General Retirement System of the City of Detroit (dated December 5, 2022)
3. GASB Statement No. 67 and 68 Accounting and Financial Reporting of Financial Plans of Component II June 30, 2022 (dated October 31, 2022)
4. *Draft* Annual Actuarial Valuation as of June 30, 2022 (dated January 5, 2023)*

While the external auditor letter (#1 above) to those charged with governance did highlight areas for improvement, the overall financial audit for the GRS combined plans received an unqualified opinion for the year ending June 30, 2022. The balance of this discussion will focus on the remaining reports: the results of the Audited Financial Report (#2 above) and GASB Statement No. 67 and 68 Report (#3 above) which are based on prior year actuarial results and serve as the basis for the DWSD and GLWA pension expense and liability to be reported in FY 2023. Finally, we will address the most recent June 30, 2022 Draft Actuarial Valuation Report (#4 above) which provides insight into future pension expense and liability expectations.

The GRS Actuarial Report remains in draft at this time due to pending litigation related to the Police & Fire Retirement System adoption of an amortization schedule not agreed to by the City of Detroit. At this time, we do not know the timeframe in which that case will be closed and the report finalized. Given the funding status at 86.6% of the DWSD/GLWA unit (as discussed later in this memo) this issue will have little impact on GLWA at this time. Therefore, we are presenting this annual communication utilizing the available, draft report to provide a timely update on the Authority's pension status.

Analysis: This report addresses five key areas.

1. Financial Position of the GRS as a Whole
2. Financial Position of the DWSD Unit with the GRS
3. Administrative Expenses
4. Planning for the Tail Liability (Unfunded Actuarial Accrued Liability - UAAL)
5. Impact on GLWA Financial Forecast

Financial Position of the GRS as a Whole

As reported in the GASB Statement No. 67 and 68 Accounting and Financial Report, and shown below in Table 1, the June 30, 2022 Component II Net Pension Liability is \$911.9 million as of June 30, 2022. This is an increase of approximately 3% from the prior year liability of \$885.5 million. The combined DWSD/GLWA unit makes up approximately \$89.9 million or 10% of that total and will be discussed further in the next section.

Table 1: GASB Statement No. 67 and 68 Report - Executive Summary

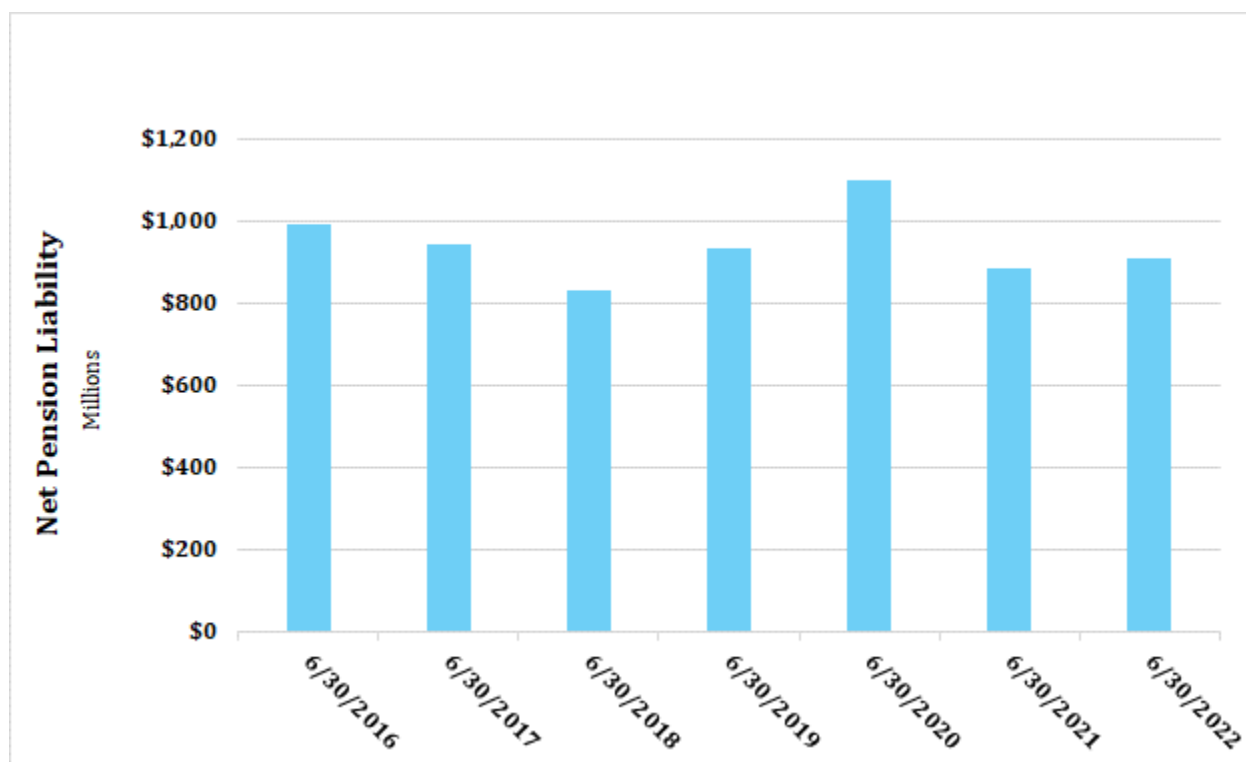
Executive Summary as of June 30, 2022

Actuarial Valuation Date	June 30, 2021
Measurement Date of the Net Pension Liability	June 30, 2022
Employer's Fiscal Year Ending Date (GASB No. 68 Reporting Date)	June 30, 2023
Membership	
Number of	
- Retirees and Beneficiaries	11,173
- Inactive, Nonretired Members	2,645
- Active Members	2,185
- Total	16,003
Covered Payroll	\$ 102,653,636
Net Pension Liability	
Total Pension Liability	\$ 2,441,710,745
Plan Fiduciary Net Position	1,529,846,295
Net Pension Liability	\$ 911,864,450
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	62.65%
Net Pension Liability as a Percentage of Covered Payroll	888.29%
Development of the Single Discount Rate	
Single Discount Rate	6.75%
Long-Term Expected Rate of Investment Return	6.75%
Long-Term Municipal Bond Rate*	3.69%
Last year ending June 30 in the 2023 to 2122 projection period for which projected benefit payments are fully funded	2122
Total Pension Expense	\$ (116,831,901)

Source: GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pension Plans of Component II, June 30, 2022 (dated October 31, 2022), p 1.

The June 30, 2022 actual total pension liability increase for GRS as a whole is largely attributed to a 7.27% decline in the actual net investment return as compared to the June 30, 2021 long-term expected rate of investment return of 6.75% and to the June 30, 2022 long-term expected rate of return of 6.50%. Chart 1 below highlights the overall net pension liability trend for the GRS since GLWA was formed in 2016.

Chart 1: Net Pension Liability Trend for GRS in Total



Source: GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pension Plans of Component II. Multiple Years.

Financial Position of the DWSD Unit with the GRS

The GASB Statement No. 67 and 68 Accounting and Financial Report also provides a breakdown by unit as shown below in Table 2. The DWSD unit reflects the combined DWSD and GLWA pension obligation. As of June 30, 2022, the DWSD Net Pension Liability is \$89.9 million. This is a decrease of 3.1% from \$92.8 million DWSD Net Pension Liability as of June 30, 2021 in contrast to the overall system increase of 3.0%. This decrease in the net pension liability is a result of actual net investment return exceeding the expected rate of investment return from previous year.

Table 2: GASB Statement No. 67 and 68 Report - DWSD Changes in Net Pension Liability

Schedule of Changes in Net Pension Liability and Related Ratios Current Period
Fiscal Year Ended June 30, 2022*

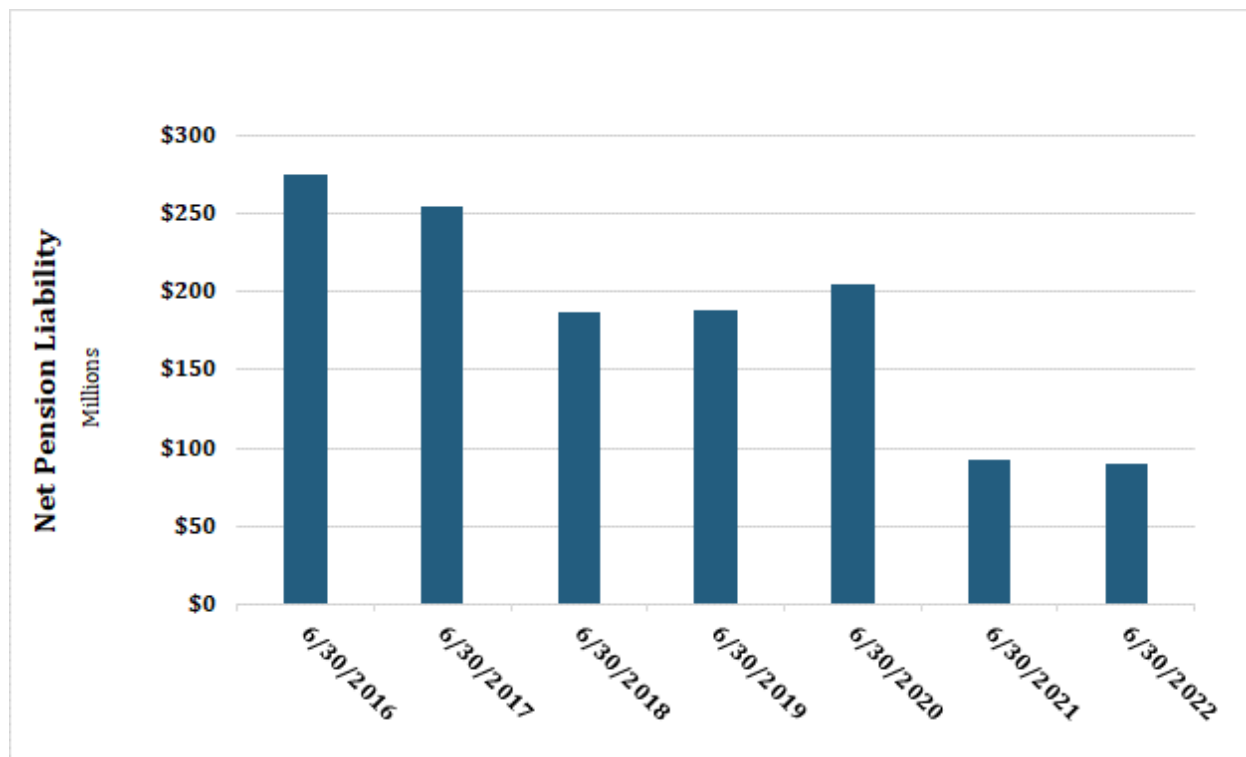
	General	DOT	DWSD	Library	Total
A. Total Pension Liability					
1. Service Cost	\$ -	\$ -	\$ -	\$ -	\$ -
2. Interest on the Total Pension Liability	90,815,782	26,191,783	45,271,791	5,799,838	168,079,194
3. Changes of benefit terms	-	-	-	-	-
4. Difference between expected and actual experience of the Total Pension Liability	(3,515,413)	(5,362,585)	(173,860)	(3,516,351)	(12,568,209)
5. Changes of assumptions	(104,147,584)	(28,216,051)	(40,756,353)	(8,237,536)	(181,357,524)
6. Benefit payments, including refunds of employee contributions	(129,402,174)	(36,240,358)	(64,116,971)	(6,793,446)	(236,552,949)
7. Net change in Total Pension Liability	\$ (146,249,389)	\$ (43,627,211)	\$ (59,775,393)	\$ (12,747,495)	\$ (262,399,488)
8. Total Pension Liability – Beginning	1,461,866,979	421,070,684	728,547,577	92,624,993	2,704,110,233
9. Total Pension Liability – Ending	\$ 1,315,617,590	\$ 377,443,473	\$ 668,772,184	\$ 79,877,498	\$ 2,441,710,745
B. Plan Fiduciary Net Position					
1. Contributions – employer	\$ 2,765,012	\$ 109,988	\$ 42,900,000	\$ 2,500,000	\$ 48,275,000
2. Contributions – employee	-	-	-	-	-
3. Net investment income	(53,975,928)	(6,823,068)	(37,094,627)	(4,896,407)	(102,790,030)
4. Benefit payments, including refunds of employee contributions	(129,402,174)	(36,240,358)	(64,116,971)	(6,793,446)	(236,552,949)
5. Pension Plan Administrative Expense	(2,225,371)	(190,555)	-	(125,154)	(2,541,080)
6. Other	2,357,356	981,295	1,447,612	19,793	4,806,056
7. Net change in Plan Fiduciary Net Position	\$ (180,481,105)	\$ (42,162,698)	\$ (56,863,986)	\$ (9,295,214)	\$ (288,803,003)
8. Plan Fiduciary Net Position – Beginning	956,924,896	136,380,233	635,771,862	89,572,307	1,818,649,298
9. Plan Fiduciary Net Position – Ending	\$ 776,443,791	\$ 94,217,535	\$ 578,907,876	\$ 80,277,093	\$ 1,529,846,295
C. Net Pension Liability	\$ 539,173,799	\$ 283,225,938	\$ 89,864,308	\$ (399,595)	\$ 911,864,450
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability	59.02%	24.96%	86.56%	100.50%	62.65%
E. Covered-employee payroll	\$ 68,028,797	\$ 13,547,705	\$ 12,777,868	\$ 8,299,266	\$ 102,653,636
F. Net Pension Liability as a percentage of covered-employee payroll	792.57%	2090.58%	703.28%	-4.81%	888.29%

*Totals may not add due to rounding.

Source: GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pension Plans of Component II, June 30, 2022 (dated October 31, 2022), p 22.

Chart 2 below highlights the overall net pension liability trend for the DWSD unit since GLWA was formed in 2016.

Chart 2: Net Pension Liability Trend for DWSD Unit



Under a pension reporting agreement established on January 24, 2017, the parties of DWSD and GLWA agreed that 70.3 percent of the liability allocated to the DWSD unit in the table above was attributable to GLWA regional operations and 29.7 percent to DWSD. This is the basis of allocation for future pension contributions with additional allocation within each entity between Water and Sewer funds. This is summarized in Table 3 below and applied to the current June 30, 2022 liability.

Table 3: Liability Allocation Between GLWA and DWSD as of June 30, 2022

Entity	Percent	Liability Allocation
DWSD - Water	17.80%	\$ 15,995,847
DWSD - Sewer	11.90%	10,693,853
GLWA - Water	25.20%	22,645,806
GLWA - Sewer	45.10%	40,528,803
	100.00%	\$ 89,864,308

Administrative Expenses

Through June 30, 2023, as part of the City of Detroit bankruptcy plan of adjustment (POA), GLWA and DWSD contribute \$2.5 million annually towards administrative expenses for the combined plan. GRS allocates 60% of overall administrative expenses to Component II and 40% to Component I. An allocation of overall pension administrative expense is provided in the GRS Annual Financial Report Statement of Changes in Fiduciary Net Position by Division shown in Table 4 below.

Table 4: Statement of Changes in Fiduciary Net Position by Division

Combined Plan for the General Retirement System of the City of Detroit Statement of Changes in Fiduciary Net Position by Division - Legacy Defined Benefit Plan For the Year Ended June 30, 2022									
	DWSD Subdivisions		General Retirement System - Divisions				Total - General Retirement System (all Divisions)		
	GLWA	DWSD-R	DWSD - Division Total (all DWSD Subdivisions)	General Division	DOT	Library			
Beginning Net Position - July 1, 2021	448,947,815	188,824,247	635,771,862	955,824,898	136,380,233	89,572,307			1,818,649,298
Additions:									
Investment income (loss):									
Interest, dividends, and other income	9,370,637	3,958,861	13,329,498	19,404,483	2,437,982	1,761,939			36,833,902
Net decrease in fair value of investments	(33,168,626)	(14,012,074)	(47,178,700)	(68,657,486)	(8,684,985)	(8,226,798)			(130,730,949)
Net unrealized loss on collateralized securities	(32,617)	(13,780)	(46,397)	(67,518)	(8,521)	(6,127)			(128,563)
Investment related expenses	(2,245,916)	(850,111)	(3,199,027)	(4,655,429)	(587,543)	(422,421)			(8,864,420)
Net investment income	(28,077,522)	(11,017,104)	(37,094,626)	(53,875,930)	(6,823,097)	(4,886,407)			(102,780,030)
Contributions:									
Employer contributions:									
Originating from DWSD:									
Regular pension contribution	30,159,700	12,741,300	42,900,000	-	-	-			42,900,000
Contribution for administrative expenses	1,757,500	742,500	2,500,000	-	-	-			2,500,000
DWSD transfer to General Division for administrative expenses	(1,757,500)	(742,500)	(2,500,000)	2,500,000	-	-			-
Total contributions originating from DWSD	30,159,700	12,741,300	42,900,000	2,500,000	-	-			45,400,000
Contributions from other divisions	-	-	-	-	-	2,500,000			2,500,000
Total employer contributions	30,159,700	12,741,300	42,900,000	2,500,000	-	2,500,000			47,900,000
Foundation for Detroit's Future	-	-	-	285,012	109,988	-			375,000
Total contributions	30,159,700	12,741,300	42,900,000	2,785,012	109,988	2,500,000			48,275,000
ASF recoupment interest	1,143,861	483,168	1,626,929	2,980,845	1,045,283	122,536			5,775,503
Other income	75,959	32,059	108,045	133,251	4,083	6,905			252,284
Total additions - net	5,300,785	2,239,453	7,540,248	(48,096,822)	(5,663,703)	(2,266,966)			(48,487,243)
Deductions:									
Member refunds and withdrawals	2,280,297	963,369	3,243,666	5,749,975	4,514,011	288,702			13,796,354
Retirees' pension and annuity benefits	42,763,934	18,079,372	60,873,306	123,652,198	31,726,347	6,504,744			222,756,595
General and administrative expenses	624,491	263,832	888,323	1,337,048	190,555	125,154			2,541,080
ASF Recoupment Write-off	201,945	85,317	287,262	766,740	68,081	109,648			1,221,731
Transfer of general and administrative expenses to General Division	(624,491)	(263,832)	(888,323)	888,323	-	-			-
Total deductions	45,276,176	19,128,058	64,404,234	132,384,284	38,488,994	7,028,248			240,315,780
Net Decrease in Net Position	(39,975,381)	(16,888,605)	(56,863,988)	(180,481,105)	(42,182,697)	(9,295,214)			(288,803,003)
End of Year Net Position Restricted for Pensions - June 30, 2022	406,972,234	171,935,642	578,907,876	776,443,790	94,217,536	80,277,093			1,529,846,295

Source: Audited Financial Report for the General Retirement System of the City of Detroit (dated December 5, 2022), p 49.

Of the \$2.5 million paid by GLWA and DWSD, \$888 thousand is attributable to the current year and is transferred to the General Division. The remainder is recorded as a prepaid toward future administrative expenses after June 30, 2024 summarized in Table 5 below.

Table 5: Schedule of DWSD/GLWA Contributions Toward Administrative Expenses

Combined Plan for the General Retirement System of the City of Detroit		
Schedule of DWSD/GLWA Contributions Toward Administrative Expenses as Compared to Actual		
DWSD/GLWA Allocable Administrative Expenses		
For the Year Ended June 30, 2022		
	DWSD Division Total	
	GLWA	DWSD-R
Amount Paid in Excess of Administrative Expenses		
Otherwise Allocable - June 30, 2021	\$ 6,934,650	\$ 2,929,720
DWSD/GLWA contribution for administrative expenses in accordance with plan of adjustment and bankruptcy order	1,757,500	742,500
Administrative expenses otherwise allocable to DWSD/GLWA	(624,491)	(263,832)
Cumulative Amount Paid in Excess of Administrative Expenses		
Otherwise Allocable - June 30, 2022	<u>\$ 8,067,659</u>	<u>\$ 3,408,388</u>

Source: Audited Financial Report for the General Retirement System of the City of Detroit (dated December 5, 2022), p 50.

Planning for the Tail Liability (UAAL)

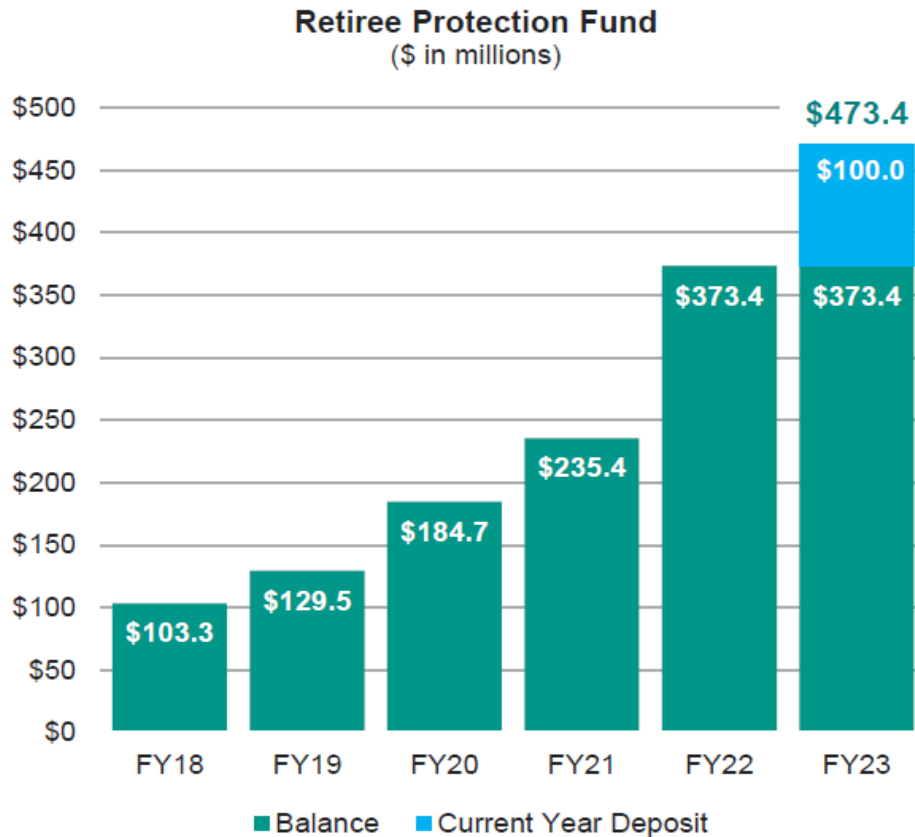
Under the POA, GLWA and DWSD make combined, Component II annual pension payments of \$45.4 million, of which \$2.5 million is specific to administrative expenses discussed above. Those fixed payments are reduced after June 30, 2023 based upon the terms of a pension agreement that addresses the tail liability. The actual amount of this remaining, unfunded liability will vary based upon plan performance and the outstanding liability at that time.

The June 30, 2022 *Draft* Actuarial Report estimates the total Component II unfunded actuarial accrued liability (UAAL) for the GRS as a whole to be \$773.0 million as of June 30, 2023, net of the DWSD-GLWA overfunded amount at \$10.1 million as the DWSD-GLWA unit share of that liability June 30, 2023.

The RPF is The City has been setting funds aside outside of the GRS in a “Retiree Protection Fund” (RPF) via an Internal Revenue Code Section 115 Trust. The balance in the RPF by year is shown in Chart 3 below. The chart was obtained from the FY 2023-2024 proposed budget presented by the Financial Review Commission and presents the current value of that fund as of June 30, 2022, as well as the FY 2023 budget projection. As noted in the City presentation, “Going beyond the POA requirements, the City has amassed over \$463 million

in the RPF” and has approved another \$10 million deposit for FY 2023 bringing the estimated FY 2023 yearend balance to \$473.4 million as shown in the FY 2023 column below.

Chart 3: City of Detroit Retiree Protection Fund



Source: [Mayor's Proposed Budget \(detroitmi.gov\)](https://detroitmi.gov/mayor-proposed-budget)

Funded ratio is a metric used to measure a plan's ability to cover future obligations based on projected contributions. The Component II funded ratio for the period ending June 30, 2022 is 62.7% (as shown in Table 1 on page 3 of this memo) down from 71.5% the prior year with best practice benchmarks being a 75% minimum and 100% maximum funded ratio. As stated previously, this decrease is largely attributed to the decline in the actual net investment return.

As noted above, the POA established a funding policy for GLWA and DWSD. However, fiscal year 2024 is the first year (post-bankruptcy) the City will be required to make actuarially determined employer contributions (ADEC) in accordance with the plan document. Three funding options available to the City are proposed in the June 30, 2022 *Draft Actuarial Report* which ultimately will impact the amount of the tail liability that GLWA and DWSD will be responsible for beginning in FY 2024 that could range from \$0.8 to \$1.0 decrease in the liability for the DWSD unit. Table 6 below summarizes this ADEC by unit and provides a range for annual contribution requirements beginning in FY 2024.

Consistent investment returns in FY 2023, a 30-year or 20-year amortization period and currently adopted interest rate of 6.75% result in a projected negative UAAL and no annual pension contributions for the DWSD pool. The report reflects a required contribution of \$0.7 million for the annual administrative expense, which needs to be reviewed as noted by the actuary based on the various agreements. The actual FY 2023 investment returns, and the actuarial assumptions adopted by the Board and Investment Committee will impact actual FY 2024 results.

Table 6: Projected Actuarially Determined Employer Contributions & UAAL/Tail Liability**Sample Actuarially Determined Employer Contributions (ADEC)**

	(\$ Millions)				
	General City	D.O.T.	DWSD	Library	System Total
Actuarial Accrued Liability	\$ 1,317.6	\$ 376.9	\$ 663.3	\$ 80.7	\$ 2,438.6
Funding Value of Assets (FVA)	848.4	102.9	632.6	87.7	1,671.6
UAAL ¹ as of June 30, 2022	\$ 469.2	\$ 274.0	\$ 30.7	\$ (7.0)	\$ 767.0
Anticipated POA Contribution (EOY)	(2.7)	(0.1)	(42.9)	(2.5)	(48.3)
Anticipated Expenses ²	2.0	0.4	-	0.1	2.4
Interest at 6.75%	31.7	18.5	2.1	(0.5)	51.9
Projected UAAL as of June 30, 2023	\$ 500.2	\$ 292.7	\$ (10.1)	\$ (9.9)	\$ 773.0
Estimated Employer Contributions for FY 2024³					
Sample: 20-Year Level Dollar					
UAAL Contribution	\$ 46.3	\$ 27.1	\$ (0.9)	\$ (0.9)	\$ 71.6
\$0 Minimum UAAL Contribution	46.3	27.1	-	-	73.4
Administrative Expense Contribution ⁴	1.4	0.4	0.7	0.1	2.5
Total Contribution	\$ 47.7	\$ 27.5	\$ 0.7	\$ 0.1	\$ 75.9
Sample: 30-Year Level Principal (POA)					
UAAL Contribution	\$ 50.4	\$ 29.5	\$ (1.0)	\$ (1.0)	\$ 77.9
\$0 Minimum UAAL Contribution	50.4	29.5	-	-	79.9
Administrative Expense Contribution ⁴	1.4	0.4	0.7	0.1	2.5
Total Contribution	\$ 51.8	\$ 29.9	\$ 0.7	\$ 0.1	\$ 82.4
Sample: 30-Year Level Dollar⁵					
UAAL Contribution	\$ 39.3	\$ 23.0	\$ (0.8)	\$ (0.8)	\$ 60.7
\$0 Minimum UAAL Contribution	39.3	23.0	-	-	62.3
Administrative Expense Contribution ⁴	1.4	0.4	0.7	0.1	2.5
Total Contribution	\$ 40.7	\$ 23.4	\$ 0.7	\$ 0.1	\$ 64.8

Totals may not add due to rounding.

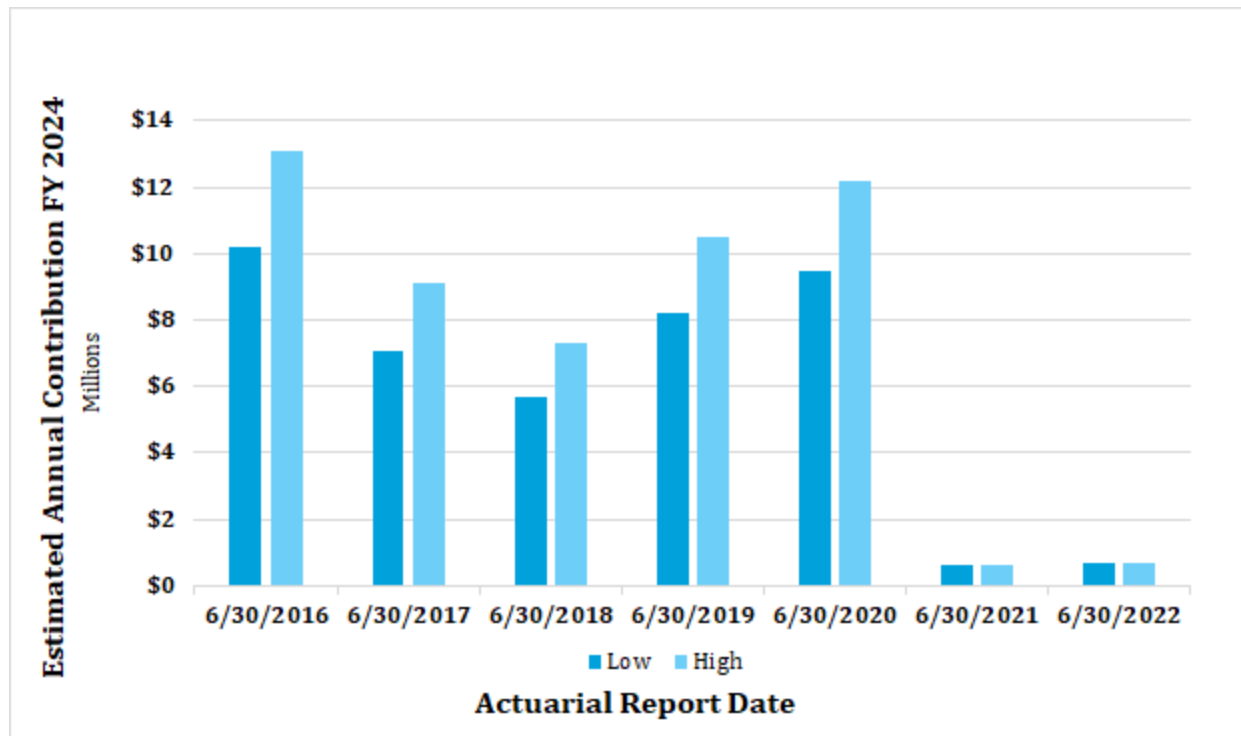
- ¹ Unfunded Actuarial Accrued Liability in accordance with the draft Funding Policy including the use of the Funding Value of Assets (FVA) shown in Section G.
- ² Administrative expenses for DWSD are paid by General City through 2023.
- ³ Total employer contributions, including amounts paid by the employer but funded from other sources as required by POA, if any. Employer contributions are assumed to be made at the end of the fiscal year.
- ⁴ FY 2024 and later administrative expenses were allocated (see Section D of the report) and anticipated to be paid by the individual units.
- ⁵ The use of a 30-year level dollar amortization significantly increases the risk of the Plan becoming insolvent (running out of money) compared to the use of a 20-year level dollar or 30-year level principal amortization. This scenario is included at Retirement System's request. Contributions based on the amortization method and period are significantly less than the contributions based on the amortization method and period contemplated in the POA (30-year level principal).

Source: Draft Annual Actuarial Valuation of Component II, June 30, 2022 (dated January 5, 2023), p 4.

Impact on GLWA Financial Forecast

Budget Impact: Based on the funding policy currently proposed to the City of Detroit for FY 2024, the annual contribution for GLWA and DWSD is \$0.7 million for administrative expense contribution only. The prior year actuarial placed that range as 0.6 million. The current annual estimated contribution based on the tail liability is summarized in Chart 4 below.

Chart 4: GLWA and DWSD Estimated Annual Contribution for FY 2024



Source: Draft Annual Actuarial Valuation of Component II, June 30, 2022 (dated January 5, 2023), p 4.

GLWA will continue to monitor and report on Component II activity, specifically as it relates to funding policy actions taken by the City of Detroit. GLWA has also engaged an independent consultant to review the current valuation and the impacts of any funding policy actions taken by the City and GRS. The consultant and GLWA staff will report to the GLWA Audit Committee on these findings when they become available as well as the finalization of the June 30, 2022 actuarial report when the current Police & Fire Retirement System litigation is resolved. In addition, GLWA staff continues to attend the monthly GRS Board meetings to monitor and report on the current events and impact on the Plan's investment assets.

Proposed Action: Receive and file this report.

December 5, 2022

To the Board of Trustees, the
Investment Committee, and Management
General Retirement System
of the City of Detroit

We have audited the financial statements of the General Retirement System of the City of Detroit (the "System") as of and for the year ended June 30, 2022 and have issued our report thereon dated December 5, 2022. Professional standards require that we provide you with the following information related to our audit, which is divided into the following sections:

Sections I - Internal Control Related Matters Identified in an Audit - This includes any deficiencies we observed in the System's internal control that we believe are significant. Current auditing standards require us to formally communicate on an annual basis matters we note about the System's accounting policies and internal control.

Section II - Required Communications with Those Charged with Governance - This includes information that current auditing standards require independent auditors to communicate to those individuals charged with governance. We will report this information annually to the board of trustees and the investment committee of the System.

Section III - Other Recommendations and Related Information - This presents recommendations related to internal control, procedures, and other matters noted during our current year audit. These comments are offered in the interest of helping the System in its efforts toward continuous improvement, not just in the areas of internal control and accounting procedures, but also in operational or administrative efficiency and effectiveness.

We would like to take this opportunity to thank the System's staff for the cooperation and courtesy extended to us during our audit. Their assistance and professionalism are invaluable.

This report is intended solely for the use of the board of trustees, the investment committee, and management of the System and is not intended to be and should not be used by anyone other than these specified parties.

We welcome any questions you may have regarding the following communications, and we would be willing to discuss these or any other questions that you might have at your convenience.

Very truly yours,

Plante & Moran, PLLC

A handwritten signature in black ink that reads "Michelle Watterworth".

Michelle M. Watterworth, CPA

A handwritten signature in black ink that reads "Spencer Tawa".

Spencer Tawa, CPA

Section I - Internal Control Related Matters Identified in an Audit

In planning and performing our audit of the financial statements of the System as of and for the year ended June 30, 2022, in accordance with auditing standards generally accepted in the United States of America, we considered the System's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

Our consideration of internal control was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control that might be significant deficiencies or material weaknesses, and, therefore, material weaknesses or significant deficiencies may exist that were not identified. However, as discussed below, we identified certain deficiencies in internal control that we consider to be material weaknesses and another deficiency that we consider to be a significant deficiency.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis.

A material weakness is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis.

We consider the following deficiencies in the System's internal control to be material weaknesses:

Controls Over the System's Census Data and Actuarial Valuation Process (Repeat Finding)

Background: The System has to accumulate and transmit voluminous member data to the actuary. The System accumulates member data based on information from the City of Detroit, Michigan (the "City"), as well as data the System independently obtains. The System relies on data it extracts from the City of Detroit, Michigan's databases primarily for active and deferred members. The System is responsible for data on retirees, as it will obtain additional information when a member commences retirement.

The actuary then uses this information to prepare the actuarial valuation, which impacts the calculation of the actuarially determined contribution (ADC) and the actuarial accrued liability (AAL) for funding purposes and, under GASB Statement No. 67, impacts the total pension liability disclosed in the System's financial statements.

It is key that the information provided to the actuary is complete and accurate in order to ensure that the funding levels, AAL, and disclosures under GASB Statement No. 67, including the total pension liability, also are accurate.

Issues and recommendations: The System has had issues with the accuracy of the member data for many years. We continued to identify a number of errors with the census data. The more significant errors are as follows:

- Inaccuracies with the average final compensation (AFC) and service years being used in the calculation of frozen accrued benefits (Component II only). Based on our procedures, it was noted that the majority of our sample's actual AFC was higher than reported in the census data. The majority of the discrepancies ranged from 3 to 8 percent of AFC but there were also certain outliers where reported AFC was significantly overstated. Reporting inaccurate AFC could lead to a potential misstatement of the plan's total pension liability. Based on follow-up with the System, the discrepancies in the data are not clear. We recommend the System perform a comprehensive review to determine how to pull the most accurate AFC information to provide to the actuary.
- Service years - During our testing procedures, we noted changes to service years for deferred members in Component II. We do not expect any changes in benefit service years given this plan is frozen as of June 30, 2014. We recommend the System perform procedures in analyzing changes in service years to ensure the only changes relate to data corrections.

Section I - Internal Control Related Matters Identified in an Audit (Continued)

- Death audit - During our testing procedures, we noted a death audit was performed on the deferred members; however, these members were not removed from the census data sent to the actuary. This resulted in 31 members included in the valuation when they should have been removed, thus resulting in the total pension liability calculated being overstated. We recommend the System continue performing these death audits and ensure they are properly utilized to update the census data.

The magnitude of the census issues identified during our testing was significant, particularly with AFC; given our concerns about the potential impact of these errors on the accuracy of the calculation of the total pension liability (TPL), the System's actuary performed additional testing that targeted not only AFC but the totality of the census data used in calculating the TPL. That testing, based on the sample utilized by the actuary, provided substantiation that a load was not required to adjust the data. That said, we continue to encourage the System to put in place controls to further validate the census information each year prior to sending it to the actuary to ensure the data utilized in the valuations is accurate enough not to materially misstate financial data.

Controls Over the System's Information Technology Processes (Repeat Finding)

The System has complex modifiable information technology that integrates with the City of Detroit, Michigan's various payroll databases. The System's IT department is independent of the City and the System's other departments. The security provided by the IT system is important to the validity and the accuracy of the data maintained, including the census information provided to the actuary.

Although the System is currently in the process of modifying the information technology system, we offer the following, which the System should keep in mind as it continues to fully implement the new ERP system:

- Use of automated logs - The System uses customized software for a majority of the System's needs, which includes maintaining the census data and benefits calculation application, which are managed internally by the System's IT personnel and can be modified by the IT department. For all changes to that software, there should be an automated log maintained listing those changes, and no single individual should be able to effect a change without proper authorization. Currently, the System has a process to review, authorize, and track changes, but it is not automated; therefore, it is subject to human error and possible circumvention.
- Master file changes - Additionally, it is recommended that the System implement processes to ensure that master file changes are documented, authorized, and reviewed. The lack of this documentation could result in unauthorized and undocumented changes that go undetected by the System.
- Segregation of duties - Segregation of duty controls provide a separation of users with access to program source code and users with the ability to make or implement changes into the production environment. The ability to make or implement program source code changes should be limited to individuals who cannot access and edit source code. The lack of this control could result in inaccurate or unauthorized changes.

**Section I - Internal Control Related Matters Identified in an Audit
(Continued)**

A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance. We consider the following deficiency in the System's internal control to be a significant deficiency:

Controls Over Investment Reporting

Over 95 percent of the System's reported net position relates to investments. The System has a process in place to accumulate and report investments to be in compliance with generally accepted accounting principles; however, we noted two errors during our audit:

- An investment was overstated by \$1,600,000. This investment is jointly owned along with the Police and Fire Retirement System of the City of Detroit. The investment department internally values this investment. The process is to value the total investment, and then each system records their portion of the investment (each system owns 50 percent). The System incorrectly recorded the total investment value instead of their portion.
- As part of an agreement entered during the year with the City of Detroit, Michigan, the System has pledged collateral in case of a City default on a certain loan agreement between the City and the United States Department of Housing and Urban Development (HUD). The existence of the collateral agreement had financial reporting implications that the System did not identify.

We recommend the System implement additional controls over the System's reporting of investments to ensure investments continue to be recorded in compliance with generally accepted accounting principles. This would include added communication between investment and accounting departments to ensure all activity related to investments is being accounted for properly.

Section II - Required Communications with Those Charged with Governance

Our Responsibility Under U.S. Generally Accepted Auditing Standards

As stated in our engagement letter dated July 15, 2022, our responsibility, as described by professional standards, is to express an opinion about whether the financial statements prepared by management with your oversight are fairly presented, in all material respects, in conformity with U.S. generally accepted accounting principles. Our audit of the financial statements does not relieve you or management of your responsibilities. Our responsibility is to plan and perform the audit to obtain reasonable, but not absolute, assurance that the financial statements are free of material misstatement.

As part of our audit, we considered the internal control of the System. Such considerations were solely for the purpose of determining our audit procedures and not to provide any assurance concerning such internal control.

We are responsible for communicating significant matters related to the audit that are, in our professional judgment, relevant to your responsibilities in overseeing the financial reporting process. However, we are not required to design procedures specifically to identify such matters.

Planned Scope and Timing of the Audit

We performed the audit according to the planned scope and timing previously communicated to you in our meeting about planning matters on August 23, 2022.

Significant Audit Findings

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. In accordance with the terms of our engagement letter, we will advise management about the appropriateness of accounting policies and their application. The significant accounting policies used by the System are described in Note 1 to the financial statements. In the current year, the System implemented both Governmental Accounting Standards Board (GASB) Statement No. 87, *Leases*, and GASB Statement No. 96, *Subscription-Based Information Technology Arrangements (SBITAs)*. GASB Statement No. 87 establishes criteria for identifying and recording leases entered into by the System. GASB Statement No. 96 defines SBITAs and establishes accounting and financial reporting requirements for SBITAs. This implementation had minimal impact on the financial statements.

We noted no transactions entered into by the System during the year for which there is a lack of authoritative guidance or consensus.

There are no significant transactions that have been recognized in the financial statements in a different period than when the transaction occurred.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected.

The following are the significant estimates affecting the financial statements:

Investment valuations:

The financial statements include investments valued at approximately \$21.4 million (1 percent of net position) on June 30, 2022 whose fair values have been estimated by management in the absence of readily determinable market values (Level 3 investments). In addition, the System has approximately \$762 million of investments for which management estimated values based on net asset values provided by investee management. These investments all have underlying audited financial statements, but those financial statements are not audited as of the same year end as the System.

Section II - Required Communications with Those Charged with Governance (Continued)

The valuation of alternative investments constitutes a very sensitive and significant estimate affecting the financial statements. Management uses various means to value the investments, including utilizing a third-party valuation firm, confirmations from the investment managers, periodic appraisals, guidance from real estate advisors, etc. These estimates are very subjective and highly sensitive to change. We believe management's estimates are in accordance with GAAP.

Estimates inherent in the development of the total pension liability:

The financial statement disclosures and required supplemental information schedules contain information about the System's total pension liability. In order to determine the total pension liability, the actuary must apply certain assumptions that are highly sensitive to estimation. The most sensitive estimates used in the valuation were as follows:

- **Assumed long-term rate of return** - For the purpose of GASB Statement No. 67, as of June 30, 2022, the System is currently using 6.75 percent for the assumed long-term expected rate of return based on information provided by the System's investment advisor combined with calculations performed by the System. This assumed rate of return was also the single discount rate used at the end of the year. Nationally, this long-term rate of return assumption has garnered significant public attention, with many being critical of the average return assumption used by plans across the United States, which, according to a March 2022 National Association of State Retirement Administrators (NASRA) study, was 6.99 percent. We commend the System on continuing to be critical of this significant assumption, watching the trends nationally, and reevaluating the return assumption annually with a critical eye.
- **Single discount rate calculation** - The calculation of the single discount rate under GASB Statement No. 67, which is calculated using the long-term assumed rate of return as one of many assumptions, is highly sensitive to estimates the actuary makes about future contributions and future benefit payments. Inherent in those assumptions is some subjectivity surrounding the projection of future contributions, since the System does not have an explicit written funding policy dictating contributions after 2023, although we understand that the System and the City are working on defining such a policy. The assumption made in these calculations is that the actuarially assumed contributions will be made at rates sufficient to fund the benefits by amortizing the unfunded liability over a closed 30-year period.
- **Mortality and other assumptions** - The mortality and other assumptions were estimated by the actuary based on the results of an experience study for the period July 1, 2015 through June 30, 2020. Generally, the actuary used variations of the Pub-2010 tables.

We evaluated the key factors and assumptions used to develop the estimates above and determined that they are reasonable in relation to the financial statements taken as a whole.

The disclosure of these assumptions and resultant sensitivity of the discount rate can be found in Notes 7 and 8 to the financial statements.

The disclosures in the financial statements are neutral, consistent, and clear. Certain financial statement disclosures are particularly sensitive because of their significance to financial statement and schedule users. The most sensitive disclosures affecting the financial statements and the schedules are the disclosures related to GASB Statement No. 67, including the actuarial valuation results.

Difficulties Encountered in Performing the Audit

We are required to inform those charged with governance of any difficulties encountered related to the performance of the audit. We encountered no significant difficulties in performing and completing our audit.

Disagreements with Management

For the purpose of this letter, professional standards define a disagreement with management as a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Section II - Required Communications with Those Charged with Governance (Continued)

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management. None of the misstatements detected as a result of audit procedures and corrected by management were material, either individually or in the aggregate, to the financial statements taken as a whole. The attached schedule summarizes uncorrected misstatements of the financial statements. Management has determined that their effects are immaterial, both individually and in the aggregate, to the financial statements taken as a whole.

Significant Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, business conditions affecting the System, and business plans and strategies that may affect the risks of material misstatement, with management each year prior to our retention as the System's auditors. However, these discussions occurred in the normal course of our professional relationship, and our responses were not a condition of our retention.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated December 5, 2022.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a second opinion on certain situations. If a consultation involves application of an accounting principle to the System's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Section III - Other Recommendations and Related Information

During our audit, we noted areas where we believe there are opportunities for the System to further strengthen internal control or to increase operating efficiencies. Our observations on those areas are presented below for your consideration:

Benefit Payment Classification

The System processes monthly benefit payments for each retiree that are summarized and journalized in a monthly entry. These monthly payroll entries are based on the plan to which each retiree is coded (Component II or I). During testing, it was identified that some individuals' pensions are incorrectly classified between Component I and Component II. While the number of individuals incorrectly classified was insignificant, we recommend the System implement a control to ensure proper classification of members in the IT system. This will become more important as the longevity of Component I grows.

Information Technology Processes

- Currently, there is no formal process to fill out a production release form. Usually, a member of the IT department will inform Ray Tchou to review a production change. Ray is the only individual with the ability to release a production change. We recommend the System have a formal policy for individuals to submit a production release form to document change requests and maintain proper support of approval of any changes.
- It was noted there are administrative user profiles that remained in the System for users no longer employed at the System. These profiles have remained active, as staff need to access old files. In addition, we noted duplicate administrative user profiles for current employees. We recommend the System perform a user profile review and only allow one user profile for each current employee and that user profiles for former employees be immediately deleted upon ceasing employment.

Benefit Payment Calculations

Pension factors are used in calculating an individual's pension payment based on age and option selected. Currently, the pension factor used in the calculation of benefit payments is using an old mortality table (1984 table) and a 7.5 percent rate of return. Pension factors should be updated with a newer mortality table (Pub-2010 Mortality Table is currently being used in the actuarial valuations) and rate of return of 6.75 percent (current rate of return used for funding purposes, as stipulated by the Plan of Adjustment). Our understanding is the System will update these amounts once the benefit calculation software is implemented.

Informational Items

Income Stabilization Fund

As you are aware, based on the Plan of Adjustment, the investment committee may recommend to the board of trustees that a portion or all of the assets that exceed the income stabilization benefits to be paid in the future be used to fund regular pension payments (up to \$35 million). This is allowed beginning in 2022 and requires agreement from at least 75 percent of the independent members of the investment committee on the recommendation. As of June 30, 2022, the Income Stabilization Fund's net position was \$12,875,324. The investment committee may want to utilize this option; if so, it will need to utilize an actuary to assist in making this determination.

Upcoming Accounting Standards Requiring Preparation

We actively monitor new Governmental Accounting Standards Board standards and due process documents and provide periodic updates to help you understand how the latest financial reporting developments will impact the System. In addition to the summaries below and to stay up to date, Plante & Moran, PLLC issues a biannual GASB accounting standard update. The most recent fall 2022 update and a link to previous fall and spring updates are available [here](#).

Section III - Other Recommendations and Related Information (Continued)

GASB Statement No. 99 - Omnibus 2022

This new accounting pronouncement has various effective dates. This statement addresses accounting and financial reporting requirements for specific issues related to financial guarantees, derivative instruments, leases, public-public and public-private partnerships (PPPs), subscription-based information technology arrangements, the transition from the London Interbank Offered Rate (LIBOR), the Supplemental Nutrition Assistance Program (SNAP), nonmonetary transactions, pledges of future revenue, the focus of government-wide financial statements, and terminology.

GASB Statement No. 100 - Accounting Changes and Error Corrections

This new accounting pronouncement will be effective for fiscal years ending June 30, 2024 and after. This statement enhances the accounting and financial reporting requirements for accounting changes and error corrections.

GASB Statement No. 101 - Compensated Absences

This new accounting pronouncement will be effective for fiscal years ending December 31, 2024 and after. This statement updates the recognition and measurement guidance for compensated absences under a unified model, requiring that liabilities for compensated absences be recognized for leave that has not been used and leave that has been used but not yet paid in cash or settled through noncash means. This statement also establishes guidance for measuring a liability for leave that has not been used and updates disclosure requirements for compensated absences.

Significant GASB Proposals Worth Watching

The GASB is working on several projects that result in a comprehensive look at financial reporting for state and local governments. The following are likely to result in significant changes to governmental financial statements in the future.

The Financial Reporting Model exposure draft was issued in June 2020, and the final statement is expected to be released in late 2023. This standard proposes changes to many aspects of the governmental financial statements, mainly for those entities that present fund statements using the modified accrual basis of accounting. While the System does not report such fund statements, there are several smaller changes being proposed in this proposal that may impact the System's financial reporting.

The Revenue and Expense Recognition project aims to develop a comprehensive accounting and financial reporting model for transactions that result in revenue and expenses. The GASB has issued a preliminary views document that proposes a new categorization framework that replaces the exchange/nonexchange transaction notion with a four-step categorization process for classifying a transaction. In addition to this new framework, the proposal also addresses recognition and measurement of revenue and expense transactions. The exposure draft for this project is expected sometime in 2025.

Plante & Moran, PLLC has spent significant time digesting these new proposed standards. We strongly encourage the System to monitor developments with these standards, as the potential impacts are quite broad.

Attachment

Client: **General Retirement System of the City of Detroit**
 Opinion Unit: **Fiduciary Funds (all)**
 Y/E: **6/30/2022**

SUMMARY OF UNRECORDED POSSIBLE ADJUSTMENTS

The effect of misstatements and classification errors identified would be to increase (decrease) the reported amounts in the financial statement categories identified below:

Ref. #	Description of Misstatement	Current Assets	Long-term Assets	Deferred Outflows of Resources	Current Liabilities	Long-term Liabilities	Deferred Inflows of Resources	Equity	Revenue	Expenses	Net Income Statement Impact
FACTUAL MISSTATEMENTS:											
A1	To adjust value of investment in Life Assurance Fund, L.P.	\$ (1,600,000)							\$ (1,600,000)		\$ (1,600,000)
A2	To remove pension payroll liability due to report error				\$ (1,597,526)				1,597,526		
JUDGMENTAL ADJUSTMENTS:											
B1	None										
ITEMS UNABLE TO AUDIT:											
C1	Insight investment - Plante Moran is unable to obtain sufficient audit evidence	(2,800,000)								\$ 2,800,000	
		-	\$ -	\$ -	-	\$ -	\$ -	\$ -	-	-	-
Total		<u>\$ (4,400,000)</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (1,597,526)</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (2,474)</u>	<u>\$ 2,800,000</u>	<u>\$ (1,600,000)</u>
PASSED DISCLOSURES AND FINANCIAL STATEMENT PRESENTATION ISSUES:											
D1	The total pension liability, as calculated by the actuary, is based on census information that is either incomplete or inaccurate. The total pension liability would be different had accurate and complete information been provided to the actuary. Based on errors identified, projected understatement of the total pension liability of approximately \$11 million.										
D2	In the Schedule of Changes in the City's Net Pension Liability and Related Ratios (Legacy Plan), covered payroll was unavailable. This information is required, but has been noted as not available.										
D3	The money weighted rate of return disclosed in the financial statements related to the Combined Plan was unable to be substantiated.										

General Retirement System of the City of Detroit

**Financial Report
with Supplemental Information
June 30, 2022**

General Retirement System of the City of Detroit

Contents

Independent Auditor's Report	1-3
Management's Discussion and Analysis	4-9
Basic Financial Statements	
Statement of Fiduciary Net Position	10
Statement of Changes in Fiduciary Net Position	11
Notes to Financial Statements	12-37
Required Supplemental Information	38
Schedule of Changes in the Net Pension Liability and Related Ratios Legacy Plan	39
Schedule of Investment Returns Legacy and Hybrid Plans	40
Schedule of Pension Contributions Legacy Plan	41
Schedule of Changes in the City's Net Pension (Asset) Liability and Related Ratios Hybrid Plan	42
Schedule of Changes in the City's Net OPEB Liability and Related Ratios Open Death Benefit Plan	43
Schedule of OPEB Contributions Open Death Benefit Plan	44
Schedule of OPEB Investment Returns Open and Closed Death Benefit Plans	45
Schedule of Changes in the City's Net OPEB Liability and Related Ratios Closed Death Benefit Plan	46
Notes to Required Supplemental Information Schedules	47
Other Supplemental Information	48
Statement of Changes in Fiduciary Net Position by Division - Legacy Defined Benefit Plan	49
Schedule of DWSD/GLWA Contributions Toward Administrative Expenses as Compared to Actual DWSD/GLWA Allocable Administrative Expenses	50
Notes to Other Supplemental Information	51

Independent Auditor's Report

To the Board of Trustees
General Retirement System of the City of Detroit

Opinion

We have audited the financial statements of the General Retirement System of the City of Detroit (the "System") as of and for the year ended June 30, 2022 and the related notes to the financial statements, which collectively comprise the System's basic financial statements, as listed in the table of contents.

In our opinion, the accompanying financial statements present fairly, in all material respects, the fiduciary net position of the System as of June 30, 2022 and the changes in its fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are required to be independent of the System and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for 12 months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and, therefore, is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

To the Board of Trustees
General Retirement System of the City of Detroit

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplemental Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other required supplemental information, as identified in the table of contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplemental information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplemental Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The other supplemental information, as identified in the table of contents, is presented for the purpose of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the other supplemental information is fairly stated in all material respects in relation to the basic financial statements as a whole.

To the Board of Trustees
General Retirement System of the City of Detroit

Report on Summarized Comparative Information

We have previously audited the System's June 30, 2021 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated November 30, 2021. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2021 is consistent, in all material respects, with the audited financial statements from which it has been derived.

Plante & Moran, PLLC

December 5, 2022

General Retirement System of the City of Detroit

Management's Discussion and Analysis

As management of the General Retirement System of the City of Detroit (DGRS or the "System"), we offer readers this narrative overview and analysis of the financial activities for the year ended June 30, 2022.

Using This Annual Report

This annual report consists of three parts: (1) management's discussion and analysis (this section), (2) the basic financial statements, and (3) the required supplemental information. The financial statements also include notes that explain some of the information in the financial statements and provide more detailed data. The financial statements are followed by sections of required supplemental information that further explain and support the information in the financial statements.

Financial Highlights

As society learns to live in the post-COVID-19 world, most businesses that interact with their customers face-to-face are fully open. Vaccines, testing, and more knowledge of the virus have made most people more comfortable working in an in-person environment. People are dining out, shopping, going to concerts, and working. However, there are other businesses that are not required to interact face-to-face with the public that have adopted either a hybrid or fully remote work model.

Unfortunately, while working our way back to our new normal, we find ourselves in an economic crisis. Here in the United States, we are seeing inflation hit highs that we have not seen in decades. Consumer interest rates are high, and job growth is slowing. The federal reserve bank has been raising interest rates to slow the economy and combat inflation, but its looking more and more like there will not be a slowing of the economy or a reduction in inflation without causing a recession. Many economists and finance professionals are bracing for the recession to begin in 2023. The severity of the predicted recession is unknown.

The slowing of the economy and looming recession has caused a downturn in the financial markets. The equity and bond markets are both down. This year, the System posted an investment return loss of 7.34 percent.

While today's landscape is ever changing, we remain committed to providing exceptional service to our members and protecting and growing the assets of the System.

Condensed Financial Information

The tables below compare key financial information in a condensed format between the current year and the prior year:

	2022	2021
Assets	\$ 1,864,607,863	\$ 2,170,799,791
Liabilities	74,082,376	93,946,613
Fiduciary Net Position		
Restricted:		
Pension	1,765,307,963	2,046,753,718
Postemployment benefits other than pension	25,217,524	30,099,460
Total fiduciary net position	\$ 1,790,525,487	\$ 2,076,853,178

General Retirement System of the City of Detroit

Management's Discussion and Analysis (Continued)

	2022	2021
Additions		
Net investment income (loss):		
Interest, dividends, and other income	\$ 41,900,716	\$ 37,998,415
Net (decrease) increase in fair value of investments	(153,266,843)	429,689,222
Investment-related expenses	(10,176,199)	(9,999,193)
Net investment (loss) income	(121,542,326)	457,688,444
Securities lending income	96,499	523,749
Contributions:		
Employer	63,695,698	59,590,984
Employee	16,205,029	14,748,919
Foundation	375,000	375,000
Total contributions	80,275,727	74,714,903
ASF recoupment interest	5,775,503	6,739,858
Other income	294,045	870,543
Total additions - Net	(35,100,552)	540,537,497
Deductions		
Benefit payments	225,802,140	228,564,857
Member refunds and withdrawals	19,729,042	15,465,278
General and administrative expenses	4,474,226	3,339,815
ASF recoupment write-off	1,221,731	1,171,513
Total deductions	251,227,139	248,541,463
Net (Decrease) Increase in Net Position Held in Trust	\$ (286,327,691)	\$ 291,996,034

Fund Overview, Membership, and Governance

The pension plans of the General Retirement System of the City of Detroit consist of defined benefit pension plans and defined contribution plans for the nonuniformed employees of the City of Detroit, Michigan, composed of Component I and Component II, which are memorialized in a document titled the Combined Plan for the General Retirement System of the City of Detroit, Michigan, made effective July 1, 2014, as amended and restated December 8, 2014 (the "Combined Plan"). The System also manages open and closed death benefit funds (collectively, the "Death Benefit Plans"). The Death Benefit Plans are held in a separate trust; the board of the Death Benefit Plans is substantially the same as the board of the pension plans. This discussion and its accompanying financial statements are concerned primarily with Component I, a new pension plan created by the City effective July 1, 2014 for active nonuniformed employees of the City to earn pension benefits on and after that date (also referred to as the "Hybrid Plan"), and Component II, the legacy pension plan where benefits were earned through June 30, 2014 (the "Legacy Plan").

As discussed in greater detail below, at the conclusion of the 2014 fiscal year, the City froze Component II. The freeze of Component II, which was the pension plan that existed as of June 30, 2014, means that no further benefit accruals occurred after that date, and no new employees are allowed to participate as members.

DGRS exists to pay benefits to its members. Members of the System include active nonuniformed city employees, retirees, and their beneficiaries. Active members still employed with the City on and after July 1, 2014 earn service credit that entitles them to receive benefits in the future in Component I but not in Component II, which, as noted above, has been frozen. Both the employer and municipal plan sponsor for the System, the City, and actively employed members have historically contributed to the System (the employee contributions were voluntary prior to July 1, 2014). Retirees, their beneficiaries, and disabled members are those currently receiving benefits, though the City elected in fiscal year 2015 to transition new disability claims from the benefit program administered by the System to one administered by a third-party insurance carrier.

General Retirement System of the City of Detroit

Management's Discussion and Analysis (Continued)

Component I of DGRS is a newly created plan (effective July 1, 2014), with more active members earning service credit than members eligible to receive or receiving benefits. As of June 30, 2021, there were 4,715 active members, with 587 retirees and 886 terminated plan members entitled to but not yet receiving benefits.

Component II of DGRS is a relatively mature plan in that there are more members receiving current benefits than active members. As of June 30, 2021, in Component II there were 2,185 active members, with 11,173 members receiving benefits and 2,645 terminated plan members entitled to but not yet receiving benefits. On June 30, 2014, the emergency manager of the City of Detroit, Michigan issued Order No. 30, which froze Component II. After that date, no new employees were allowed to participate in Component II, and benefit accruals for members with respect to service rendered prior to July 1, 2014 were frozen based on the member's years of service, average final compensation, and the pension multiplier formula as of the freeze date. Employees working after July 1, 2014 are now earning service credit in the Hybrid Plan, or Component I.

By way of background, a brief review of the City's migration from the Legacy Plan to the Hybrid Plan is appropriate. On June 30, 2014, the emergency manager of the City of Detroit, Michigan issued Order No. 30, which froze Component II. After that date, no new employees were allowed to participate in Component II, and benefit accruals for members with respect to service rendered prior to July 1, 2014 were frozen based on the member's years of service, average final compensation, and the pension multiplier formula as of the freeze date. Employees working after July 1, 2014 are now earning service credit in the Hybrid Plan, or Component I. On July 1, 2014, the City first published the Combined Plan with the city clerk. By August 1, 2014, the City completed the payroll information systems project transitions required to allow the now mandatory employee contributions to be contributed to Component I.

On October 19, 2014, the emergency manager issued Order No. 43, which amended and restated the Combined Plan. On December 8, 2014, before leaving office, the emergency manager issued Order No. 44, which again amended and restated the Combined Plan. According to Order No. 44, the latest amendments and restatements to the Combined Plan conformed the combined plan terms to the requirements of the City's bankruptcy plan and made clarifying modifications. The Combined Plan is available at DGRS' website, www.rscd.org.

In December 2014, DGRS governance was modified as part of the City's bankruptcy plan. DGRS is governed by a board of trustees (the "Board"). Although DGRS' investment management is now the ultimate responsibility of a seven-member investment committee (the "Investment Committee"), the Board maintains its role as the governing board vested with responsibility for the general administration, management, and operation of the System, with which the Investment Committee assists, pursuant to Michigan law.

The Board is composed of 10 members. Five members are elected by the active membership to serve six-year terms. A sixth member is elected by the retiree membership to serve a two-year term. A seventh member is appointed by the mayor of the City of Detroit, Michigan from the citizens of the City to serve a six-year term. The three remaining members serve ex officio, these members being the mayor of the City (or designee), the city treasurer, and one representative from the Detroit City Council. Expirations of terms of elected trustees are staggered, while the remaining trustees serve in accordance with their office or as a designee of an office.

The Investment Committee has five independent members appointed to initial terms with staggered expirations, which terms will all eventually become six years. Two additional members, one active and one retired, serve on the Investment Committee based on appointment by the Board. The Investment Committee will be in place through at least December 2034.

Contributions to the System

Historically, both the City and active employees have made regular contributions to the System, with employee contributions being optional in Component II, essentially before July 1, 2014, though there was a period of transition due to the City's aging information technology infrastructure, which meant that voluntary employee contributions to Component II continued through July 2014, and mandatory employee contributions to Component I from active payroll were implemented as of August 1, 2014.

General Retirement System of the City of Detroit

Management's Discussion and Analysis (Continued)

Basic pension and disability benefits in Component II had been funded through employer contributions plus investment earnings on those contributions, but employee contributions are mandatory in Component I. The required employer contributions had been determined by the System's actuaries using the entry age normal cost method, which is still the case. Assumptions used by the actuaries are subject to experience testing every five years, which is also still the case. Effective December 10, 2014, as part of the resolution of the Chapter 9 case, the investment return assumption and discount rate used by the System's actuary for the purpose of determining the System's assets and liabilities for funding purposes was fixed at 6.75 percent through the period ending June 30, 2023. This applies to both Component I and Component II.

Subsequent to the City's bankruptcy, for the Legacy Plan, the obligations for contributions to support Component II of the System through 2023 are determined as fixed amounts by the provisions in the Plan of Adjustment. Pursuant to the Plan of Adjustment, the System is expected to receive contributions totaling \$718.6 million through fiscal year 2023. The Plan of Adjustment calls for the System to receive \$98.8 million from the State of Michigan; \$428.5 million from the Detroit Water and Sewer Department (DWSD); \$31.7 million from UTGO settlement proceeds; the present value equivalent or actual contribution of \$50 million from the Detroit Institute of Arts (DIA) and its foundation donors during a 10-year period ending in 2024; the present value equivalent or actual contribution of \$18.3 million per year from 2025 through 2034 from certain foundations; and \$114.6 million from the other city-related employer contribution sources, such as the General Fund, Detroit Library Commission, and COBO Authority, over a 10-year period covering fiscal year 2014 through fiscal year 2023. After 2023, the City and various other employer constituents, such as the library, DWSD, and COBO Authority, will retain responsibility for the full funding obligations of Component II of the System, consistent with Michigan law.

The Plan of Adjustment allows for certain of the Legacy Plan's funding obligations to DGRS through 2034 to be met by prepayment of the present value equivalent using a discount rate of 6.75 percent. In the fiscal year ended June 30, 2016, a portion of the DIA obligation to make annual \$5 million contributions over 10 years ending in 2034 was prepaid. This present value prepayment resulted in DGRS receiving \$32,511,827 on June 30, 2016 from the DIA, which represents the present value, using a 6.75 percent discount rate, of \$4,625,000 per year for the 9 years remaining on that annual \$5,000,000 commitment ending in 2024. Pursuant to the Plan of Adjustment, DGRS still expects to receive the equivalent or actual remaining \$375,000 per year from the DIA for that 10-year period ending in 2024 and also received, on June 30, 2016, the amount of \$375,000 in satisfaction of the fiscal year 2016 obligation from the DIA that was not prepaid.

In addition, the City was to remit payments on the UTGO Stub Bonds to the Combined Plan through 2028. In fiscal year 2017, the City of Detroit, Michigan refunded all of its outstanding UTGO Stub Bonds. Upon refunding, the payments to the Combined Plan were accelerated, with a majority of the outstanding balance paid to the Combined Plan in fiscal year 2017; as a result, the Combined Plan received approximately \$7.7 million in the ISP and \$18.3 million in Component II related to this transaction.

With respect to Component I, the Hybrid Plan, nonuniformed employees who are members of DGRS are now required to make mandatory contributions of 4 percent of pay toward their defined benefit pensions earned with the City, and the City contributes an additional 5 percent of pay. The City no longer counts overtime in the calculation of its employer contribution.

The City is also setting aside an additional 0.75 percent of payroll to meet the premium payments required for the disability insurance established with a third-party carrier. DGRS is not administering those disability benefits managed by the third-party carrier.

On June 30, 2022, the City met its obligation for Component I employer contributions by contributing \$15,689,188 to DGRS.

Impact of City of Detroit, Michigan Collective Bargaining and Bankruptcy Pension Adjustments

Pursuant to Emergency Manager Order No. 30, the existing Component II defined contribution plan and defined benefit plan were frozen, preventing any future accruals or new members in Component II effective June 30, 2014.

General Retirement System of the City of Detroit

Management's Discussion and Analysis (Continued)

The following changes became effective July 1, 2014, with the advent of Component I:

- The Hybrid Plan's defined benefit plan commenced with mandatory contributions of 4 percent of base pay. The City contributes 5 percent of employee base pay, not including overtime.
- A new Hybrid Plan defined contribution plan commenced for the annuity savings fund. Employees may make voluntary annuity savings fund contributions of up to 7 percent of total after-tax pay. Interest will be credited at the actual net investment rate of return of DGRS, but in no event will it be lower than 0 percent or higher than 5.25 percent.
- The Hybrid Plan provides that future duty disability and nonduty disability retirement allowances for members who become disabled after July 1, 2014 move to a commercial insurance program through the City.

Benefit Payments

The System exists to pay the benefits that its members have earned pursuant to benefits promised by the City, subject to the Chapter 9 case benefit adjustments going forward in the Legacy Plan and the new promises in the Hybrid Plan. Benefits are paid monthly. In fiscal year 2022, DGRS paid out \$244,400,000 in benefits, consisting of \$224,700,000 in benefits to retirees and beneficiaries plus \$19,700,000 in refunds of annuity savings fund balances and mandatory contributions. The benefits and refunds represent approximately 14 percent of the net position of the System as of June 30, 2022. Employer, foundation, and employee contributions were \$80,100,000, or 4 percent of the net position of the System. The excess of benefits over contributions of \$164.4 million is funded through investment income. The public capital markets represent the primary source of opportunities to earn investment income.

Asset Allocation

The Board and the Investment Committee of DGRS believe that the principal determinant of total fund investment performance over long periods of time is asset allocation. DGRS' asset allocation is built upon the foundation that the obligations of the System to pay the benefits promised to its members are very long-term obligations. Accordingly, the Board and the Investment Committee must make investment decisions that they believe will be the most beneficial to the System over many years, not just one or two years.

DGRS has established asset allocation policies that are expected to deliver investment income over a very long period of time to satisfy the obligations to pay the benefits promised to the members of the System. The following is a summary of the DGRS asset allocation policy as of June 30, 2022:

Asset Class	Target Allocation
Global equity	46.00 %
Global fixed income	33.00
Real estate/Real assets	13.00
Diversifying strategies	8.00

DGRS' asset allocation policies comply with Michigan law.

Investment Results

DGRS calculates investment results on a time-weighted Global Investment Performance Standard (GIPS) basis unless explicitly stated otherwise. All returns for periods of one year or greater have been annualized.

Total Fund Composite

DGRS' total fund composite return for the year was (7.34) percent, net of fees and expenses using a time-weighted methodology. The fund returned 5.8 percent, 5.6 percent, and 7.4 percent for its 3-, 5-, and 10-year annualized returns, respectively, net of fees and expenses.

General Retirement System of the City of Detroit

Management's Discussion and Analysis (Continued)

Financial markets started the first half of the June 2022 fiscal year strong as equity markets rallied, and interest rates moved down slightly leading to a modest increase in bond valuations. The Federal Reserve began increasing interest rates due to rising inflation in early winter, which led to a selloff in bond valuations. With the Russian invasion of Ukraine, commodity prices, especially wheat, oil, and natural gas, spiked upward, causing inflation to rise to levels not seen in over 30 years. This forced the central banks around the world to increase interest rates more rapidly to slow inflation, which resulted in significant losses in bond valuations and their worst performance in over 40 years. As fears of a slowing global economy spread due to central banks increasing interest rates, equity markets around the world sold off, resulting in a global bear market as losses exceeded 20 percent.

As part of the resolution of the City of Detroit, Michigan's Chapter 9 bankruptcy case, the discount rate assumption used to meet current and future benefit obligations was set at 6.75 percent through the period ending June 30, 2023. This discount rate assumption provided in the Chapter 9 case does not purport to establish an investment return assumption or discount rate for purposes of, or in accordance with, generally accepted accounting principles. Although the fund's return for this year fell below this assumption, the fund's longer-term return expectation, which this assumption is intended to characterize, still exceeds this assumption.

Total plan returns, net of fees and expenses, for the recent prior fiscal years ended June 30 are shown below:

2021	28.30 %
2020	(0.96)
2019	3.40
2018	6.50
2017	14.10
2016	1.40
2015	2.60
2014	14.50
2013	11.70
2012	0.10

Money-weighted Rate of Return

GASB Statement No. 67 requires the disclosure of the annual money-weighted rate of return. A money-weighted rate of return (as opposed to the time-weighted rate of return discussed in the previous section) considers both the size and timing of cash flows over the course of the year to determine an internal rate of return (sometimes referred to as IRR). This return is calculated net of expenses and uses cash flows determined on a monthly basis. The DGRS money-weighted rate of return for the year using month-end cash flows was (7.27) percent.

Requests for Further Information

This financial report is intended to provide a general overview of the System's finances and investment results in relation to actuarial projections. It shows the System's accountability for the money it receives from employer and employee contributions. If you have questions about this report or need additional information, we welcome you to contact the System's office or visit its website at www.rscd.org.

General Retirement System of the City of Detroit

Statement of Fiduciary Net Position

June 30, 2022

	Component II Plan (Legacy)		Component I Plan (Hybrid)		
	Defined Benefit Fund	Income Stabilization Fund	Defined Benefit Fund	Death Benefit Plans	Total
Assets					
Cash and cash equivalents (Note 3)	\$ 28,671,736	\$ 581,251	\$ 14,876,255	\$ 1,431,948	\$ 45,561,190
Investments: (Notes 3 and 4)					
Global equities	630,333,961	4,866,269	67,650,549	15,006,082	717,856,861
Global fixed income	297,064,111	3,444,609	68,548,014	2,048,031	371,104,765
Real estate	249,143,314	2,081,053	34,759,148	1,837,563	287,821,078
Private equity	105,689,296	887,327	14,975,183	152,612	121,704,418
Diversifying strategies	112,624,093	945,551	15,957,778	4,844,624	134,372,046
Receivables:					
Investment income	2,380,298	18,725	272,929	-	2,671,952
Contributions (Note 1)	-	-	3,105,032	-	3,105,032
Other receivables	172,717	-	2	-	172,719
ASF recoupment receivable (Note 1)	95,719,734	-	-	-	95,719,734
Notes receivable from participants	2,491,580	-	604,129	-	3,095,709
Receivables from investment sales	1,721,118	12,974	168,342	-	1,902,434
Restricted investments (Note 11)	6,423,257	49,588	689,376	-	7,162,221
Cash and investments held as collateral for securities lending: (Note 3)					
Asset-backed securities	1,806,735	15,169	255,997	-	2,077,901
Repurchase agreements	8,668,838	72,780	1,228,293	-	9,969,911
U.S. corporate floating rate	46,153,716	387,490	6,539,549	-	53,080,755
Capital assets - Net (Note 1)	3,803,811	-	3,425,326	-	7,229,137
Total assets	1,592,868,315	13,362,786	233,055,902	25,320,860	1,864,607,863
Liabilities					
Accrued expenses	4,037,550	7,163	1,490,942	103,336	5,638,991
Payables for investment purchases	1,709,216	12,746	159,407	-	1,881,369
Due to the City of Detroit, Michigan	354,457	-	-	-	354,457
Amounts due to broker under securities lending agreements (Note 3)	55,690,062	467,553	7,890,760	-	64,048,375
Lease liability	1,230,735	-	928,449	-	2,159,184
Total liabilities	63,022,020	487,462	10,469,558	103,336	74,082,376
Net Position - Restricted for					
Pension	1,529,846,295	12,875,324	222,586,344	-	1,765,307,963
Postemployment benefits other than pension	-	-	-	25,217,524	25,217,524
Total net position	\$ 1,529,846,295	\$ 12,875,324	\$ 222,586,344	\$ 25,217,524	\$ 1,790,525,487

General Retirement System of the City of Detroit

Statement of Changes in Fiduciary Net Position

Year Ended June 30, 2022
(with comparative totals for the year ended June 30, 2021)

	Component II Plan (Legacy)		Component I Plan (Hybrid)			
	Defined Benefit Fund	Income Stabilization Fund	Defined Benefit Fund	Death Benefit Plans	Total	2021
Additions						
Investment income (loss):						
Interest, dividends, and other income	\$ 36,744,756	\$ 296,961	\$ 4,625,270	\$ 233,729	\$ 41,900,716	\$ 37,998,415
Net (decrease) increase in fair value of investments	(130,730,949)	(1,074,914)	(17,366,479)	(4,094,501)	(153,266,843)	429,689,222
Investment-related expenses	(8,864,420)	(71,870)	(1,151,622)	(88,287)	(10,176,199)	(9,999,193)
Net investment (loss) gain	(102,850,613)	(849,823)	(13,892,831)	(3,949,059)	(121,542,326)	457,688,444
Securities lending income (loss):						
Interest and dividends	189,146	1,528	23,782	-	214,456	209,774
Net (loss) gain on collateralized securities	(128,563)	(502)	11,108	-	(117,957)	313,975
Total securities lending income (loss)	60,583	1,026	34,890	-	96,499	523,749
Contributions:						
Employer	47,900,000	-	15,689,188	106,510	63,695,698	59,590,984
Employee	-	-	16,110,403	94,626	16,205,029	14,748,919
Foundation	375,000	-	-	-	375,000	375,000
Total contributions	48,275,000	-	31,799,591	201,136	80,275,727	74,714,903
ASF recoupment interest (Note 1)	5,775,503	-	-	-	5,775,503	6,739,858
Other income	252,284	780	40,981	-	294,045	870,543
Total additions - Net	(48,487,243)	(848,017)	17,982,631	(3,747,923)	(35,100,552)	540,537,497
Deductions						
Benefit payments	222,756,595	487,222	1,463,041	1,095,282	225,802,140	228,564,857
Member refunds and withdrawals	13,796,354	-	5,932,688	-	19,729,042	15,465,278
General and administrative expenses	2,541,080	-	1,894,415	38,731	4,474,226	3,339,815
ASF recoupment write-off	1,221,731	-	-	-	1,221,731	1,171,513
Total deductions	240,315,760	487,222	9,290,144	1,134,013	251,227,139	248,541,463
Net (Decrease) Increase in Fiduciary Net Position	(288,803,003)	(1,335,239)	8,692,487	(4,881,936)	(286,327,691)	291,996,034
Net Position Restricted for Pension/OPEB - Beginning of year	1,818,649,298	14,210,563	213,893,857	30,099,460	2,076,853,178	1,784,857,144
Net Position Restricted for Pension/OPEB - End of year	<u>\$ 1,529,846,295</u>	<u>\$ 12,875,324</u>	<u>\$ 222,586,344</u>	<u>\$ 25,217,524</u>	<u>\$ 1,790,525,487</u>	<u>\$ 2,076,853,178</u>

See notes to financial statements.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 1 - Significant Accounting Policies

Reporting Entity

The pension plans of the General Retirement System of the City of Detroit (the "System" or DGRS) and the Death Benefit Plans are managed by the Retirement System of the City of Detroit. The City of Detroit, Michigan (the "City") sponsors these plans, which consist of four single-employer retirement plans - two pension plans (the "Combined Plan") and two other postemployment benefit plans (the "Death Benefit Plans"), as described below.

Pension Plans

Component II

This is the legacy plan (the "Legacy Plan") that is the original defined benefit plan, which includes a defined benefit component and a defined contribution component. Component II generally applies to benefits accrued by members prior to July 1, 2014. On June 30, 2014, as a result of negotiations between the City and the public employee unions, the existing plan benefit formulas were frozen, and no employees were allowed to earn benefits under the existing plan. The emergency manager issued Order No. 30 (General Retirement System of the City of Detroit) on June 30, 2014, which put these changes into effect. Except as specifically provided in the Combined Plan, benefits provided under Component II are frozen effective June 30, 2014.

Component II also includes the Income Stabilization Fund. The fund, which is part of Component II only and established as a special plan of adjustment provision, was established for the sole purpose of paying the Income Stabilization Benefits and Income Stabilization Benefits Plus to eligible pensioners. A portion of the funds received by the Combined Plan from UTGO Stub Bonds tax proceeds is credited to the Income Stabilization Fund. The allocation is based on the aggregate payments to plan assignees included in the Eighth Amended Plan for the Adjustment of Debts of the City of Detroit (the "Plan of Adjustment" or the "POA"). Beginning in 2022, the Investment Committee may recommend to the board that a portion or all of the assets that exceed income stabilization benefits (including Income Stabilization Benefits Plus) to be paid in the future be used to fund regular pension payments. As of June 30, 2022, no decisions have been made to transfer any income stabilization funds.

Nonemployer Contributing Entity within Component II

On September 9, 2014, a memorandum of understanding (the "MOU") was entered into by the emergency manager and mayor of the City of Detroit, Michigan; the county executive of each of the charter counties of Wayne and Macomb, Michigan; the County of Oakland, Michigan; and the governor of the State of Michigan. The purpose of the MOU was to establish a framework for the creation of a regional authority (known as Great Lakes Water Authority or GLWA) pursuant to Act 233 of 1955 to operate, control, and improve the regional assets of the water supply system and the sewage disposal system owned by the City.

Pursuant to the MOU, the City of Detroit, Michigan and GLWA entered into two lease agreements: the Regional Water Supply System Lease dated June 12, 2015 and the Regional Sewage Supply System Lease dated June 12, 2015. Under the provisions of the lease agreements, GLWA leases the regional assets of the City for a period of at least 40 years.

Pursuant to the lease agreements, on December 1, 2015, a triparty agreement between the City of Detroit, Michigan; the General Retirement System of the City of Detroit (DGRS); and GLWA was signed (referred to as the pension reporting agreement). Per the POA and Section 4.3 of the lease agreements, GLWA is required to pay a portion of the pension obligation that will be allocable to the Detroit Water and Sewer Department (DWSD). The purpose of the pension reporting agreement is to set forth determining the funding status for the DWSD pension pool and for DGRS to agree to provide GLWA with certain actuarial and other reports to enable GLWA to properly manage and pay its portion of the pension obligation that is allocable to DWSD.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 1 - Significant Accounting Policies (Continued)

Effective January 1, 2016, GLWA was launched. Accordingly, the prior DWSD division was split into two - one representing the ongoing DWSD department, now referenced as DWSD-Retail (DWSD-R), and another to represent Great Lakes Water Authority. In accordance with the pension reporting agreement, the net position and liabilities of DWSD were allocated to DWSD-R and GLWA in accordance with written directions received from DWSD-R and GLWA. Per written directions, GLWA is to be allocated 70.3 percent of the net position and liabilities of DWSD. Because GLWA has no employees or retirees in the Combined Plan, GLWA is considered a nonemployer contributing entity in accordance with GASB Statement No. 67.

The financial statements of the Combined Plan reflect the net position and pension liabilities of the plan as a whole, which includes the portion allocable to GLWA. GLWA's portion of the total Component II net pension liability of \$911,864,450 at June 30, 2022 was \$63,174,609, with the remainder allocable to the City of Detroit, Michigan and related entities.

Component I

As of July 1, 2014, all current and future employees participate in the new hybrid pension plan (the "Hybrid Plan"), or Component I. Active city employees who participated in the Legacy Plan will receive the benefits they have earned under the plan through June 30, 2014 plus an additional benefit under the new hybrid plan formula, assuming all vesting requirements are met.

Other Postemployment Benefit Plans

Death Benefit Plans

Death benefits are provided to certain employees and retirees of the City of Detroit, Michigan through an employee benefit trust. The following are the benefit plans paid through the trust, both of which are defined benefit plans under GAAP:

- Closed Death Benefit Plan (Closed Plan) - This plan covers those retirees who retired on or before December 10, 2014.
- Death Benefit Plan (Open Plan) - This plan is open to all employees providing services after December 10, 2014.

System Reporting

The Combined Plan and the Death Benefit Plan are separate and independent trusts qualified under applicable provisions of the Internal Revenue Code; they are independent entities (separate and distinct from the employer/plan sponsor) as required by (1) state law and (2) Internal Revenue Code provisions setting forth qualified plan status. The trustees of the Combined Plan and the Death Benefit Plan have a fiduciary obligation and legal liability for any violations of fiduciary duties as independent trustees. The Combined Plan provides retirement, disability, and survivor benefits to plan members and beneficiaries. The Death Benefit Plan provides death benefits for plan members.

The assets of the System include no securities of or loans to the City, although the System did pledge collateral related to a loan of the City (see Note 11).

The basic financial statements include certain prior year summarized comparative information in total but not at the level of detail required for a presentation in accordance with generally accepted accounting principles. Accordingly, such information should be read in conjunction with the System's financial statements for the year ended June 30, 2021, from which the summarized information was derived.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 1 - Significant Accounting Policies (Continued)

Plan Sponsor Financial Condition - Impact on the System

In the past, the City of Detroit, Michigan (the "plan sponsor") has experienced significant financial difficulty and liquidity concerns. As of June 2013, the City had defaulted on approximately \$36 million of pension contributions due to the Combined Plan. During fiscal year 2014, the City did not pay any employer contributions into the Combined Plan, despite the fact that there were actuarially required contributions.

In February 2013, the governor appointed a financial review team, which determined that a local government financial emergency existed in the City. This culminated in bankruptcy proceedings, which the City initiated in July 2013. Part of the federal court's ruling in December 2013 indicated that the bankruptcy status usurped whatever protections may be offered to governmental pensions under the Michigan Constitution. On December 10, 2014, the City exited from bankruptcy through confirmation of the Eighth Amended Plan for the Adjustment of Debts of the City of Detroit. The POA specifies certain provisions pertinent to the legacy and hybrid plans, including contributions and benefits.

Since 2015, the contributions received by the Combined Plan were made in accordance with the provisions of the POA. See Note 12 for significant changes that were implemented by the Combined Plan under the POA.

The POA also resulted in the City closing the existing supplemental death benefit plan to new members effective December 10, 2014. Benefits to be paid to individuals retiring prior to that date are limited to the assets allocated to that closed plan. There are no further contribution requirements for the City for plan members who were retired as of that date.

Summary of Significant Accounting Policies

The following is a summary of the significant accounting policies used by the General Retirement System of the City of Detroit.

Accounting and Reporting Principles

The System follows accounting principles generally accepted in the United States of America (GAAP), as applicable to governmental units. Accounting and financial reporting pronouncements are promulgated by the Governmental Accounting Standards Board.

Basis of Accounting

The System uses the economic resources measurement focus and the full accrual basis of accounting. Revenue is recorded when earned, and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due pursuant to legal requirements. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

Specific Balances and Transactions

Cash and Cash Equivalents

The System considers cash on hand, demand deposits, and short-term investments with an original maturity of three months or less when purchased to be cash equivalents.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 1 - Significant Accounting Policies (Continued)

Investments

Investments are reported at fair value or estimated fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sale price at current exchange rates. Mortgages are valued on the basis of future principal and interest payments. The fair value of real estate investments is based on periodic appraisals, as well as the judgment of independent real estate advisors and management. Investments that do not have an established market value are reported at estimated fair value determined by the System's management.

Approximately \$783,400,000, or 44 percent, of the System's net position as of June 30, 2022 does not have a readily determinable market value. Of this balance, approximately \$21,400,000 has been estimated by management. The remaining \$762,000,000 is valued based on valuations performed by the investee company management, which is subject to annual audits (generally as of December 31).

Investments for which market quotations are readily available are generally priced by the custodian using nationally recognized pricing services and practices. For investments that do not have readily observable market prices, including but not limited to private equity, public and private real estate, alternatives, and direct loans, management's estimate of their fair value is based on information provided by investment managers, general partners, real estate advisors, and other means. These sources are held to a standard of reasonable care in verifying that the valuations presented reasonably reflect the underlying fair value of the investments. A variety of factors is considered in the valuation process, including the nature of the investment, local market conditions, trading values on public exchanges for comparable investments, and current and projected operating performance. However, due to the inherent uncertainty and the degree of judgment involved in determining fair value for such investments, the values reflected in the financial statements may differ significantly from values that would have been used had a readily determinable market value for the investments existed, and the difference could be material.

Contributions Receivable

At June 30, 2022, there was \$3,105,032 in employer contributions receivable. This amount relates to fiscal year 2022 Component I contributions and was paid in July 2022.

ASF Recoupment Receivable - Component II (Legacy)

For members who elected to make employee contributions into the defined contributions-style program, referred to as the annuity savings fund (ASF), between July 1, 2003 and June 30, 2013, the POA called for recoupment of amounts that the City calculated were excess interest credited to individual ASF accounts. In 2011, the City Council adopted an ordinance that limited ASF interest credits to the plan's actual net investment return, with a cap of 7.9 percent and a floor of 0 percent. The POA calculation of excess interest applies the interest formula in the 2011 ordinance to the July 1, 2003 - June 30, 2013 recoupment period, recouping all interest paid in excess of the lower of 7.9 percent or the plan's actual return for that year, with a cap on the recoupment amount of 20 percent of the highest ASF balance in this period. The recoupment amount is also capped at 15.5 percent of the retiree's monthly pension check. The City offered a limited lump sum or a monthly payment option. Repayment of these excess interest amounts is not optional. As of June 30, 2022, the System has approximately \$95,700,000 to be collected. The receivable will be collected, with 6.75 percent interest, as a reduction to monthly pension benefits for those with recoupment balances outstanding.

Receivable/Payable from Investment Sales/Purchases

The System liquidated investments prior to year end and reported a receivable from investment sales at June 30, 2022 in the amount of \$1,902,434. The proceeds from the sales were received subsequent to year end. In addition, the System purchased investments prior to year end and reported a payable from investment purchases at June 30, 2022 in the amount of \$1,881,369. This amount was paid subsequent to year end.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 1 - Significant Accounting Policies (Continued)

Notes Receivable from Participants

In Component II (Legacy) and Component I (Hybrid), any active general employee who is or has been a participant in the 1973 defined contribution plan (annuity savings fund) may be eligible for the employee loan program. The minimum amount of the loan was established at \$1,000. The maximum loan is the lesser of 50 percent of the member's account balance in the annuity savings fund or \$10,000. Members can borrow as either a general purpose loan payable in 1 to 5 years or a residential loan payable in 1 to 15 years. A member can have only two outstanding loans. The balance of these loans for the year ended June 30, 2022 was \$2,491,580 and \$604,129 for Legacy and Hybrid, respectively. The balance is measured at the unpaid principal balance plus any accrued but unpaid interest. Participant notes receivable are written off when deemed uncollectible.

Capital Assets

Capital assets for the System include software, office equipment, and furniture. Depreciation expense is calculated by allocating the net cost of the assets over their estimated useful lives.

Leases

The System is a lessee for its office building. The System recognizes a lease liability and an intangible right-to-use lease asset in the statement of fiduciary net position.

At the commencement of a lease, the City initially measures the lease liability at the present value of payments expected to be made during the lease term. Subsequently, the lease liability is reduced by the principal portion of lease payments made. The lease asset is initially measured as the initial amount of the lease liability, adjusted for lease payments made at or before the lease commencement date, plus certain initial direct costs. Subsequently, the lease asset is amortized on a straight-line basis over its useful life.

Key estimates and judgments related to leases include how the System determines (1) the discount rate it uses to discount the expected lease payments to present value, (2) lease term, and (3) lease payments. The System uses the interest rate charged by the lessor as the discount rate. When the interest rate charged by the lessor is not provided, the System generally uses its estimated incremental borrowing rate as the discount rate for leases. The lease term includes the noncancelable period of the lease. Lease payments included in the measurement of the lease liability are composed of fixed payments and purchase option price that the System is reasonably certain to exercise.

The System monitors changes in circumstances that would require a remeasurement of its lease and will remeasure the lease asset and liability if certain changes occur that are expected to significantly affect the amount of the lease liability.

Lease assets (reported with other capital assets) and lease liabilities are reported on the statement of fiduciary net position.

Restricted Assets

As part of an agreement with the City, the System has pledged collateral in case of the City's default on a certain loan agreement between the City and the United States Department of Housing and Urban Development (HUD) (see Note 11). At June 30, 2022, this amount has been shown as restricted assets on the statement of fiduciary net position.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Actual results could differ from those estimates.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 2 - Pension Plan Description

Component II (Legacy Plan) and Component I (Hybrid Plan)

Plan Administration

The Combined Plan's governance was modified in December 2014 as part of the City's bankruptcy plan. The Combined Plan's board of trustees and the Investment Committee administer the General Retirement System of the City of Detroit Pension Plan - a single-employer defined benefit and defined contribution plan that provides retirement benefits, as well as survivor and disability benefits, for plan members and beneficiaries. Plan members include active employees, retirees, and beneficiaries from various departments within the City of Detroit, Michigan. Benefit terms have been established by contractual agreements between the City and the employees' collective bargaining unit, as modified by the POA. Future amendments are subject to the same process. However, pursuant to the POA, pension benefit terms presently expressed in the Combined Plan are not subject to amendment before June 30, 2023, unless an amendment is required to maintain the tax-qualified status of the plans. The obligation to contribute to and maintain the Combined Plan was established by the city charter and negotiations with the employees' collective bargaining units.

The board is composed of 10 members. Five members of the board are elected by the active membership to serve six-year terms. One retiree member is elected by the retiree membership to serve a two-year term. One member is appointed by the mayor of the City of Detroit, Michigan from the citizens of the City to serve a six-year term. Three members serve ex officio, these members being the mayor of the City (or designee), the city treasurer, and one representative from the Detroit City Council. Expirations of terms of elected trustees are staggered.

The Investment Committee has five independent members appointed to initial terms with staggered expirations, which terms will all eventually become six years. Two additional members, one active and one retired, serve on the Investment Committee based on appointment by the board. The Investment Committee will be in place through at least December 2034.

Benefits Provided

The Combined Plan provides retirement and disability benefits. Benefit terms had been established by negotiations between the City Council and the employees' collective bargaining unit and subject to amendment by the City Council. Further changes to benefits were provided for under the POA.

Employees Covered by Benefit Terms

The following members were covered by the benefit terms:

	Component II (Legacy Plan)	Component I (Hybrid Plan)
Date of member count	June 30, 2021	June 30, 2021
Inactive plan members or beneficiaries currently receiving benefits	11,173	587
Inactive plan members entitled to but not yet receiving benefits	2,645	886
Active plan members	2,185	4,715
Total employees covered by the plan	16,003	6,188

As of June 30, 2014, Component II has been frozen. As of that date, no new participants were allowed to enter the plan, and no new benefit accruals were allowed for existing participants.

After July 1, 2014, active members will retain existing service credit in the Legacy Plan but will only earn existing service credit in the new Hybrid Plan.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 2 - Pension Plan Description (Continued)

Contributions

Article 9, Section 24 of the State of Michigan Constitution requires that financial benefits arising on account of employee service rendered in each year be funded during that year. Accordingly, in the past, the Combined Plan had retained an independent actuary to determine the annual contribution. The actuarially determined rate was the estimated amount necessary to finance the costs of benefits earned by plan members during the year, with an additional amount to finance any unfunded accrued liability. However, until 2024, contributions are based on specific provisions in accordance with the Plan of Adjustment.

Employer and Nonemployer Contributing Entity Contributions

Component II

For Component II, during fiscal year 2022, employer contributions are not actuarially determined but rather are determined by the provisions of the POA detailed under Exhibit II.B.3.r.ii.A of the POA. Included within contributions for fiscal year 2022 in Component II are contributions from the Foundation for Detroit's Future (the "Foundation") in the amount of \$375,000 and \$47.9 million of contributions from the city-related entities and GLWA.

Component I

For Component I, during fiscal year 2022, employer contributions are not actuarially determined but rather are determined by the provisions of the Combined Plan detailed under Section 9.3 of Component I. Per Section 9.3, commencing on July 1, 2014 and ending on June 30, 2023, the City is required to contribute 5 percent of compensation of active members. A portion of the employer's annual contribution for each plan year, as determined by the City, shall be credited to the rate stabilization fund reserve, with the remainder allocated to the pension accumulation fund reserve. During fiscal year 2022, the City and related entities contributed \$15,689,188 into the Hybrid Plan. Beginning in 2024, the employer contributions will be actuarially determined based on the amount necessary to fund the plan on an actuarial basis.

Because there were no actuarially determined contributions for Component I, there is no required schedule of city contributions included within these financial statements.

Employee Contributions

Component II

Contribution requirements of plan members historically were established and amended by the board of trustees in accordance with the city charter, union contracts, and plan provisions. For the year ended June 30, 2022, there were no employee contributions into Component II, as the plan was frozen as of June 30, 2014.

Component I

Contribution requirements of plan members are established in Sections 9.3 and 10.1 of Component I of the Combined Plan. For the year ended June 30, 2022, the required active member contribution rate for employees was 4.0 percent of annual pay. Additionally, employees can make voluntary contributions of 3 percent, 5 percent, or 7 percent of annual pay. During fiscal year 2022, the plan received mandatory and voluntary employee contributions of \$16,110,403.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 2 - Pension Plan Description (Continued)

Fiscal Responsibility Provision

To safeguard the long-term actuarial and financial integrity of the Combined Plan, in the event the funding level of Component I projected over a five-year period falls below 100 percent, certain remedial actions are required, as set forth in Section 9.5 of Component I of the Combined Plan, including elimination of COLA, transfers from the rate stabilization fund reserve to the pension accumulation fund reserve, and increases in mandatory employee contributions from 4 percent to 5 percent.

In the event the funding level of Component I is projected to fall below 80 percent, additional remedial actions are required, including further increasing the mandatory employee contributions to 6 percent and the potential for reducing the retirement allowance.

As of June 30, 2022, the enactment of the remedial actions has not been required based on actuarial projections of the funding levels.

Note 3 - Deposits and Investments

The System is authorized by Michigan Public Act 314 of 1965, as amended, to invest, within the pension and Death Benefit Plans, in certain reverse repurchase agreements, stocks, diversified investment companies, annuity investment contracts, real estate leased to public entities, mortgages, real estate, debt or equity of certain small businesses, certain state and local government obligations, and certain other specified investment vehicles.

The investment policy adopted by the board is in accordance with Public Act 196 of 1997 and has authorized investments according to Michigan Public Act 314 of 1965, as amended. The System's deposits and investment policies are in accordance with statutory authority.

The System invests in various investment securities. Investment securities are exposed to various risks, such as interest rate, market, credit risks, and overall market volatility. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported on the statement of changes in fiduciary net position.

The System's cash and investments are subject to several types of risk, which are examined in more detail below:

Custodial Credit Risk of Bank Deposits

Custodial credit risk is the risk that, in the event of a bank failure, the System's deposits may not be returned to it. The System does not have a deposit policy for custodial credit risk. Approximately \$3.8 million of the System's checking account balances was uninsured and uncollateralized at June 30, 2022. The System believes that, due to the dollar amounts of cash deposits and the limits of FDIC insurance, it is impractical to insure all deposits. As a result, the System evaluates each financial institution with which it deposits funds and assesses the level of risk of each institution; only those institutions with an acceptable estimated risk level are used as depositories.

Interest Rate Risk

Interest rate risk is the risk that the value of investments will decrease as a result of a rise in interest rates. The System's investment policy does not restrict investment maturities.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 3 - Deposits and Investments (Continued)

At year end, the System had the following investments and maturities:

Investment (in Thousands)	Fair Value	Less Than 1 Year	1-5 Years	6-10 Years	More Than 10 Years
Corporate bonds	\$ 150,454	\$ 8,992	\$ 111,705	\$ 19,385	\$ 10,372
U.S. government mortgage-backed securities	27,830	490	16,613	1,236	9,491
Mutual fund	34,373	-	32,325	2,048	-
Government securities	518	-	222	271	25
U.S. government securities	109,692	4,176	88,750	10,246	6,520
Asset backed	347	-	131	216	-

Not all fixed-income securities are subject to interest rate risk.

Credit Risk

State law limits investments in commercial paper to the top two ratings issued by nationally recognized statistical rating organizations. The System has no investment policy that would further limit its investment choices.

At June 30, 2022, the credit quality ratings of debt securities (other than those guaranteed by the U.S. government), as rated by Standard & Poor's, are as follows:

Investment (in Thousands)	AAA	AA	A	BBB	BB	B or lower	NR
Corporate bonds	\$ 1,090	\$ 1,597	\$ 16,917	\$ 14,741	\$ 30,185	\$ 25,472	\$ 60,452
U.S. government mortgage-backed securities	-	690	-	-	-	-	27,140
Mutual funds	-	-	-	-	-	-	34,373
Government securities	-	401	-	-	-	118	-
Asset backed	347	-	-	-	-	-	-
Total	<u>\$ 1,437</u>	<u>\$ 2,688</u>	<u>\$ 16,917</u>	<u>\$ 14,741</u>	<u>\$ 30,185</u>	<u>\$ 25,590</u>	<u>\$ 121,965</u>

Foreign Currency Risk

Foreign currency risk is the risk that an investment denominated in the currency of a foreign country could reduce its U.S. dollar value as a result of changes in foreign currency exchange rates. The System does not restrict the amount of investments in foreign currency.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 3 - Deposits and Investments (Continued)

The following securities are subject to foreign currency risk:

Currency (in Thousands)	Equity	Net Investment (Payable) Receivable
Brazil real	\$ 1,013	\$ -
Canadian dollar	4,322	58
Eurocurrency unit	14,348	269
Hong Kong dollar	1,167	16
Japanese yen	5,545	105
Mexican peso	787	-
New Taiwan dollar	2,508	108
Norwegian krone	2,157	62
Pound sterling	3,326	-
Singapore dollar	938	-
South Korean won	837	4
Swiss franc	1,022	80
Ukraine hryvana	1	-
Total	<u>\$ 37,971</u>	<u>\$ 702</u>

Securities Lending

As permitted by state statutes and under the provisions of a securities lending authorization agreement, the System, through the Combined Plan, lends securities to broker-dealers and banks for collateral that will be returned for the same securities in the future. The System's custodial bank manages the securities lending program and receives cash, government securities, or irrevocable bank letters of credit as collateral. The custodial bank does not have the ability to pledge or sell collateral securities unless the borrower defaults. Borrowers are required to deliver collateral for each loan equal to no less than 102 percent of the market value of the loaned securities.

As of June 30, 2022, the collateral provided was 105.35 percent of the market value of the loaned securities, which is more than the required 102 percent.

The System did not impose any restrictions during the fiscal year on the amount of loans made on its behalf by the custodial bank. There were no failures by any borrowers to return loaned securities or pay distributions thereon during the fiscal year. Moreover, there were no losses during the fiscal year resulting from a default of the borrowers or custodial bank.

The System and the borrower maintain the right to terminate all securities lending transactions on demand. The cash collateral received on each loan was invested, together with the cash collateral of other lenders, in an investment pool. The average duration of such investment pool as of June 30, 2022 was 3.4 days. Because the loans are terminable on demand, their duration did not generally match the duration of the investments made with cash collateral. On June 30, 2022, the System had no credit risk exposure to borrowers. The collateral held (at cost) and the fair market value of the underlying securities on loans for the System as of June 30, 2022 were \$64,047,278 and \$60,796,386, respectively.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 3 - Deposits and Investments (Continued)

The following represents the balances relating to the securities lending transactions as of June 30, 2022; investments are reported at fair value:

Securities Lent	Underlying Securities
U.S. corporate fixed income	\$ 20,029,340
U.S. equities	31,813,536
Non-U.S. equities	792,016
U.S. governments	8,161,494
Total	<u>\$ 60,796,386</u>

The fair market value of the collateral pool related to securities lending at June 30, 2022 was \$65,128,567. The investments were in asset-backed securities, floating-rate notes, and repurchase agreements. Approximately 93 percent of these securities had a duration of less than 1 year, 4 percent had a duration between 1 and 3 years, and 3 percent had a duration over 15 years.

The credit ratings of the securities lending collateral pool held at June 30, 2022, as rated by S&P, are as follows:

Ratings	Amount
AAA	\$ 13,311,851
AA	35,569,783
CC	1,358,943
D	737,676
NR	14,150,314
Total	<u>\$ 65,128,567</u>

Note 4 - Fair Value Measurements

In accordance with GASB Statement No. 72, *Fair Value Measurement and Application*, the notes to the financial statements now include enhanced disclosures about fair value measurement, the level of fair value hierarchy, and valuation techniques.

The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets, Level 2 inputs are significant other observable inputs, and Level 3 inputs are significant unobservable inputs. Investments that are measured at fair value using net asset value per share (NAV) (or its equivalent) as a practical expedient are not classified in the fair value hierarchy below.

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The System's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 4 - Fair Value Measurements (Continued)

The System has the following recurring fair value measurements as of June 30, 2022:

	Assets Measured at Fair Value on a Recurring Basis at June 30, 2022			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Balance at June 30, 2022
Fixed income:				
Government securities (U.S. and other)	\$ 18,869,967	\$ 18,600,499	\$ -	\$ 37,470,466
Corporate bonds	-	147,842,881	-	147,842,881
U.S. government mortgage- backed	-	10,497,369	-	10,497,369
Asset-backed securities	-	2,443,725	-	2,443,725
Corporate floating rate notes	-	53,080,755	-	53,080,755
Mutual funds	34,373,289	-	-	34,373,289
Privately negotiated debt	-	-	1,861,988	1,861,988
U.S. Treasury	-	90,822,247	-	90,822,247
Total fixed income	53,243,256	323,287,476	1,861,988	378,392,720
Equity:				
Common stock	523,021,450	-	-	523,021,450
Preferred stock	4,781,593	2,575,775	-	7,357,368
Total equity	527,803,043	2,575,775	-	530,378,818
Multiasset mutual fund	4,844,624	-	-	4,844,624
Private equity funds	-	-	2,800,000	2,800,000
Partnership investments	-	-	4,030,000	4,030,000
Real estate private equity funds	-	-	10,195,935	10,195,935
Real estate-related investments	-	-	2,488,000	2,488,000
Total	\$ 585,890,923	\$ 325,863,251	\$ 21,375,923	933,130,097
Investments measured at NAV:				
International equity funds				220,807,127
Fixed-income funds				40,867,297
Hedge funds				129,881,605
Real estate funds				255,619,502
Private equity funds				114,874,417
Total investments measured at NAV				762,049,948
Total investments measured at fair value				\$ 1,695,180,045

A total of \$9,969,911 of repurchase agreements recorded at amortized cost is not included in the fair value table above.

Equity securities, U.S. government securities, and mutual funds classified in Level 1 are valued using prices quoted in active markets for those securities.

The fair value of preferred stock and fixed-income securities at June 30, 2022 was determined primarily based on Level 2 inputs. The System estimates the fair value of these investments using other inputs, such as interest rates and yield curves, that are observable at commonly quoted intervals for identical or similar assets.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 4 - Fair Value Measurements (Continued)

The fair value of the remaining investments at June 30, 2022 was determined primarily based on Level 3 inputs. The System estimates the fair value of these investments using the System's own pricing estimate methodology, pricing models, discounted cash flow methodologies, or similar techniques taking into account the characteristics of the asset.

The valuation method for investments measured at net asset value per share (or its equivalent) is presented in the table below.

Investments in Entities that Calculate Net Asset Value per Share

The System holds shares or interests in investment companies where the fair value of the investments is measured on a recurring basis using net asset value per share (or its equivalent) of the investment companies as a practical expedient.

As of June 30, 2022, the fair value, unfunded commitments, and redemption rules of those investments are as follows:

	Fair Value	Unfunded Commitments	Redemption Frequency, if Eligible	Redemption Notice Period
International equity funds	\$ 220,807,127	\$ -	Monthly	Up to 30 days
Fixed-income funds	40,867,297	-	Daily	10 business days
Hedge funds	129,881,605	-	Quarterly	100 days
Real estate funds	255,619,502	5,606,703	Quarterly	90 days
Private equity funds	114,874,417	33,226,072	N/A	N/A
Total investments measured at NAV	<u>\$ 762,049,948</u>	<u>\$ 38,832,775</u>		

Multiple funds are held in each category. For reporting purposes, the redemption frequency and redemption notice period provided are the most restrictive of any of the funds in the category.

The international equity funds class includes investments in funds that invest in predominantly equity securities of non-U.S. companies. The funds invest in developed and emerging market countries and utilize investments across the capitalization spectrum from large to small companies. The fair values of the investments in this class have been estimated using net asset value per share of the investments.

The fixed-income funds class includes investments in funds that invest in predominantly fixed-income instruments in the U.S. and developed and emerging market countries. The funds invest across a diverse group of security types, including government, corporate, and mortgage-backed debt, and across the credit quality spectrum of investment grade and high yield. The fair values of the investments in this class have been estimated using net asset value per share of the investments.

The hedge funds class includes investments in funds that achieve capital appreciation through multimanager and/or multistrategy investments. Within this group of funds, there is exposure to investment strategies, including, but not limited to, credit, event-driven, equity, and relative value. The funds have the ability to invest across all markets and across all asset classes to implement their various strategies. The fair values of the investments in this class have been estimated using net asset value per share of the investments.

The real estate funds class includes investments in funds whose objective is to operate a core portfolio of real estate investments predominantly located in the U.S. The funds acquire ownership in underlying investments either through direct real estate ownership or ownership in real estate companies or the equity of real estate investment trusts. The funds predominantly target purchases in office, industrial, retail, or multifamily real estate classes. The fair values of the investments in this class have been estimated using net asset value per share of the investments (or its equivalent).

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 4 - Fair Value Measurements (Continued)

The private equity funds class is an alternative investment class and consists of investments in companies that are not listed on a public exchange. The General Retirement System of the City of Detroit maintains a diversified portfolio of private equity investments by both style (buyout, turnaround, venture capital, etc.) and vintage year exposure. With its private equity allocation, the General Retirement System of the City of Detroit seeks to take advantage of the illiquidity premium associated with these private equity investments. The fair values of the investments in this class have been estimated using net asset value per share of the investments (or its equivalent).

Note 5 - Pension Plan Investments - Policy and Rate of Return

Component II (Legacy Plan) and Component I (Hybrid Plan)

Investment Policy

The assets of Components II and I are commingled and invested together, as allowed by the POA. The Combined Plan's policy in regard to the allocation of invested assets is established and may be amended by governance by a majority vote of its members. It is the policy of the governance to pursue an investment strategy that manages risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The Combined Plan's investment policy discourages the use of cash equivalents, except for liquidity purposes, and aims to refrain from dramatically shifting asset class allocations over short time spans. The following was the governance's adopted asset allocation policy as of June 30, 2022:

Asset Class	Target Allocation
Global equity	46.00 %
Global fixed income	33.00
Real estate/Real assets	13.00
Diversifying strategies	8.00
Total	100.00 %

Rate of Return

For the year ended June 30, 2022, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was (7.27) percent. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Note 6 - Pension Plan Reserves

Component II (Legacy Plan)

In accordance with the Combined Plan for the General Retirement System of the City of Detroit and state law, the following reserves are required to be set aside within the Component II (Legacy) pension plan:

The annuity reserve fund is an accumulation of transfers that is made from the annuity savings fund when an employee retires or becomes disabled or if a surviving spouse elects an annuity rather than a lump-sum payout of accumulated employee contributions.

The pension reserve fund represents funded pension benefits available for retired members and is funded by actuarially determined transfers from the pension accumulation fund. The transfers from the pension accumulation fund to the pension reserve fund for fiscal year 2022 retirements have not yet been determined.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 6 - Pension Plan Reserves (Continued)

The employee reserve (annuity savings fund or ASF) is credited as employee contributions are received throughout the year; the ASF maintains a record of the amount contributed by each employee and credits interest annually at a rate approved by the board. During fiscal year 2022, the board approved the interest rate at 0 percent. Eligible active members may elect to withdraw their accumulated (annuity) contributions plus investment earnings. Upon retirement, members can elect to annuitize or receive a lump sum of their accumulated contribution and interest earnings. When an employee retires or becomes disabled or if a surviving spouse elects an annuity rather than a lump-sum payout of accumulated employee contributions, the balance is transferred to the annuity reserve fund. See Note 12 for disclosure of significant changes to the ASF going forward.

The pension accumulation fund is the fund that will accumulate reserves for the pensions and other benefits payable from the contributions made by the City, including various departments thereof, and certain third parties pursuant to the POA and from which pensions and other benefits will be paid on account of members with prior service credit and transfers, as provided in Section E-18. Contributions to the pension accumulation fund from the effective date of the POA through fiscal year 2023 shall be made only in the amounts and from the sources identified in the POA.

The expense fund is the fund that will be credited with all money provided by the City to pay the administrative expenses of the Combined Plan and from which all the expenses necessary in connection with the administration and operation of the Combined Plan will be paid. At year end, this reserve balance is zero, as all employer contributions were credited to the pension accumulation fund.

The income fund shall be the fund to which all interest, dividends, and other income derived from the investments of Component II of the Combined Plan will be credited. Transfers from the income fund will be made to credit earnings and losses to various reserves of the Combined Plan in accordance with the provisions of Component II of the combined plan document. Amounts credited to the income fund in excess of amounts needed to credit earnings and losses of the Combined Plan, as provided in Component II, for any plan year shall be transferred to the pension accumulation fund and used to pay retirement allowances and other benefits on account of members. During fiscal year 2022, the income fund reserve was not utilized, and all investment income was credited to the pension accumulation fund.

The balances of the reserve accounts for Component II (excluding the Income Stabilization Fund) as of June 30, 2022 are included in the table below. The reserve balances as of June 30, 2022 shown below do not include the current year transfer amount related to fiscal year 2022 retirements for amounts that are transferred from the pension accumulation fund to the pension reserve fund.

The balances of the reserve accounts at June 30, 2022 are as follows:

	Required Reserve	Amount Funded
Annuity savings fund	\$ 91,394,995	\$ 91,394,995
Pension reserve fund	1,915,878,000	1,438,451,304
Annuity reserve fund	-	-
Pension accumulation fund	N/A	-

Component I (Hybrid Plan)

In accordance with the Combined Plan for the General Retirement System of the City of Detroit and state law, the following reserves are required to be set aside within the Component I (Hybrid) pension plan:

The accumulated mandatory employee contribution fund shall be the fund in which shall be accumulated the contributions of members to provide their retirement allowances. Upon the retirement, termination, or death of a member with a vested retirement allowance, the member's accumulated mandatory employee contributions shall be deemed to be part of the pension reserve that shall be used to pay the member's retirement allowance.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 6 - Pension Plan Reserves (Continued)

The accumulated voluntary employee contribution fund shall be the fund in which shall be accumulated the voluntary after-tax contributions of members together with earnings thereon.

The pension accumulation fund shall be the fund in which shall be accumulated reserves for the retirement allowances and other benefits payable from that portion of the employer's annual contribution that is not credited to the rate stabilization fund and amounts transferred to Component I and from which shall be paid retirement allowances and other benefits on account of members. During fiscal year 2022, all employer contributions were directed by the City into the pension accumulation fund, and no amounts were credited to the rate stabilization fund.

The rate stabilization fund shall be the fund that shall be credited with the employer's annual contributions in excess of the amount of the employer's contribution that is credited to the pension accumulation fund and amounts transferred to Component I, as provided in Section E-16(C) of Component II. See Note 11 for details on the transfer provisions related to transfers between Component II and Component I. During fiscal year 2022, no amounts were credited to the rate stabilization fund. Therefore, this reserve balance is zero.

The medical benefit fund shall be the fund that will be credited with contributions made for the purpose of funding medical benefits. During the year, no such contributions were made, and, therefore, this reserve balance is zero.

The expense fund shall be the fund to which will be credited any money provided by the employers to pay the administrative expenses of the Combined Plan and from which certain expenses incurred in connection with the administration and operation of the Combined Plan will be paid. At year end, this reserve balance is zero, as all employer contributions were credited to the pension accumulation fund.

The income fund shall be the fund to which all interest, dividends, and other income derived from the investments of Component I of the Combined Plan will be credited. Transfers from the income fund will be made to credit earnings and losses to various reserves of the Combined Plan in accordance with the provisions of Component I of the combined plan document. Amounts credited to the income fund in excess of amounts needed to credit earnings and losses of the Combined Plan, as provided in Component I, for any plan year shall be transferred to the pension accumulation fund. During fiscal year 2022, investment income was transferred to other reserve funds, and, therefore, this reserve balance at June 30, 2022 remains unfunded.

The balances of the reserve accounts for Component I as of June 30, 2022 are included in the table below. As of June 30, 2022, not all transfers from the accumulated mandatory employee contribution fund to the pension accumulation fund for retirements have occurred.

The balances of the above reserves for Component I that were funded as of June 30, 2022 are as follows:

	Required Reserve	Amount Funded
Accumulated mandatory employee contribution fund	\$ 60,978,828	\$ 60,978,828
Accumulated voluntary employee contribution fund	34,143,974	34,143,974
Pension accumulation fund	-	127,463,542

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 7 - Net Pension Liability for Component II (Legacy Plan)

The net pension liability has been measured as of June 30, 2022 and is composed of the following:

Total pension liability	\$ 2,441,710,745
Plan fiduciary net position	<u>1,529,846,295</u>
City's pension liability	<u>\$ 911,864,450</u>
Plan fiduciary net position as a percentage of the total pension liability	62.65 %

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2021, which used update procedures to roll forward the estimated liability to June 30, 2022. The valuation used the following actuarial assumptions applied to all periods included in the measurement:

Inflation	N/A	
Salary increases	N/A	No inflation assumption or salary increases due to plan freeze as of June 30, 2014
Investment rate of return	6.75%	Net of pension plan investment expense, including inflation

Note that the long-term assumed rate of return used for the purpose of the GASB Statement No. 67 valuations was determined in accordance with generally accepted accounting principles. This rate will change annually based on capital market expectations in consideration of the System's most recently approved asset mix. This should not be confused with the provisions in the Plan of Adjustment, which established a 6.75 percent assumed rate of return that does not change annually as it is set by the POA for the purpose of the various provisions within the plan; the Plan of Adjustment did not attempt to dictate the long-term rate of return to be used for accounting purposes.

The mortality table assumption was based on the PubG-2010(B) Below-Median General Retiree Table. The tables are projected to be fully generational, based on the two-dimensional, sex-distinct mortality scale MP-2021.

The actuarial assumptions, other than the investment rate of return, used in the June 30, 2021 valuation to calculate the total pension liability as of June 30, 2022 were based on the results of an actuarial experience study for the period from July 1, 2015 through June 30, 2020. The assumptions were first used in the June 30, 2021 actuarial valuation and assumption changes included mortality tables (change from the RP-2014 Blue Collar Annuitant Table), withdrawal rates, and disability rates.

Attribution Period

As addressed more fully in Note 12, as of June 30, 2014, the plan was frozen such that no new benefit accruals were allowed, and no new members could join. Starting on July 1, 2014, the participants in the Legacy Plan (Component II) will now be earning benefits under a newly created defined benefit plan (Component I). GASB Statement No. 67 requires that the service costs of all pensions be attributed through all assumed exit ages through retirement. Neither GASB Statement No. 67 nor any other GASB standard has set forth guidance specifically related to frozen plans with successor plans in place. Absent any guidance to the contrary, due to the status as a frozen plan combined with the fact that individuals are now earning service in a new defined benefit pension plan, the retirement date for the purpose of attribution was assumed to be June 30, 2014 for all members. Therefore, the total pension liability at June 30, 2022 is equal to the present value of projected benefit payments.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 7 - Net Pension Liability for Component II (Legacy Plan) (Continued)

Discount Rate

The discount rate used to measure the total pension liability as of June 30, 2022 was 6.75 percent; however, the single discount rate used at the beginning of the year was 6.50 percent. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that city contributions will be made at rates equal to the difference between actuarially determined contribution rates and the employee rate.

Projected Cash Flows

Based on the above assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees at both the beginning of the year and the end of the year. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate. Contributions to the Combined Plan are projected to be at the minimum amounts required by the Plan of Adjustment through 2023, followed by actuarially determined contributions beginning in 2024. While no funding policy has been adopted by the City of Detroit, Michigan, the projection of cash flows assumes full funding of contributions such that the plan's net position will be sufficient to make all benefit payments. The System believes that the funding practice adopted by the City will be consistent with the underlying objective used in the projection to develop the single discount rate.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of geometric real rates of return as of June 30, 2022 for each major asset class included in the pension plan's target asset allocation, as disclosed in the investment footnote, are summarized in the following table:

Asset Class	Long-term Expected Real Rate of Return
Global equity	5.02 %
Global fixed income	4.02
Real estate/Real assets	3.73
Diversifying strategies	3.95

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability, calculated using the discount rate of 6.75 percent, as well as what the net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (5.75 percent) or 1 percentage point higher (7.75 percent) than the current rate:

	1 Percentage Point Decrease (5.75%)	Current Discount Rate (6.75%)	1 Percentage Point Increase (7.75%)
Net pension liability	\$ 1,116,375,379	\$ 911,864,450	\$ 735,637,319

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 8 - Net Pension Asset of the City for Component I (Hybrid Plan)

The net pension asset of the City has been measured as of June 30, 2022 based on benefits in force as of that date and is composed of the following:

Total pension liability	\$ 208,697,086
Plan fiduciary net position	<u>222,586,344</u>
City's net pension asset	<u>\$ (13,889,258)</u>
Plan fiduciary net position as a percentage of the total pension liability	106.66 %

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2021, which used update procedures to roll forward the estimated liability to June 30, 2022. The following are the significant assumptions:

Wage inflation assumption was 3 percent.

The investment rate of return (net of pension plan investment expense, including inflation) applied to the beginning of year total pension liability was 6.75 percent as compared to 6.50 percent, which was the assumed long-term rate of return as of the end of year. The rates were determined in accordance with generally accepted accounting principles. This rate will change annually based on capital market expectations in consideration of the System's most recently approved asset mix. This should not be confused with the provisions in the Plan of Adjustment, which established a 6.75 percent assumed rate of return that does not change annually, as it is set by the POA for the purpose of the various provisions within the plan; the Plan of Adjustment did not attempt to dictate the long-term rate of return to be used for accounting purposes.

The mortality table assumption was based on the PubG-2010(B) Below-Median General Retiree Table. The tables are projected to be fully generational, based on the two-dimensional, sex-distinct mortality scale MP-2021.

The actuarial assumptions, other than the investment rate of return, used in the June 30, 2021 valuation to calculate the total pension liability as of June 30, 2022 were based on the results of an actuarial experience study for the period from July 1, 2015 through June 30, 2020. The assumptions were first used in the June 30, 2021 actuarial valuation, and assumption changes included mortality tables (change from the RP-2014 Blue Collar Annuitant Table), wage inflation, withdrawal rates, and disability rates.

Cost of living adjustments (COLA): This plan has a postretirement COLA feature known as the Variable Pension Improvement Factor (VPIF) of a 2 percent simple COLA. It can be granted beginning on July 1, 2018 only if the five-year projection shows the plan's funded status at 100 percent based upon 6.75 percent future investment return. For the purpose of the total pension liability, the actuary assumed a 0.50 percent simple COLA beginning in fiscal year 2020 to model the potential average COLA over time. Had no COLA been assumed, the net pension asset would have been \$20,730,383. Had the full 2 percent COLA been assumed, the net pension liability would have been \$6,498,733.

There were no changes in benefit provisions during the year affecting the total pension liability.

Discount Rate

The discount rate used to measure the total pension liability as of June 30, 2022 was 6.75 percent; however, the single discount rate used at the beginning of the year was 6.50 percent. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that city contributions will be made at rates equal to the difference between actuarially determined contribution rates and the employee rate.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 8 - Net Pension Asset of the City for Component I (Hybrid Plan) (Continued)

Projected Cash Flows

Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees at both the beginning of the year and the end of the year. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate. Contributions to the Combined Plan are projected to be at the minimum amounts required by the Plan of Adjustment through 2023, followed by actuarially determined contributions beginning in 2024. While no funding policy has been adopted by the City of Detroit, Michigan, the projection of cash flows assumes full funding of contributions such that the plan's net position will be sufficient to make all benefit payments. The System believes that the funding practice adopted by the City will be consistent with the underlying objective used in the projection to develop the single discount rate.

The long-term expected rate of return on future pension plan investments is the same as Component II given that the assets are commingled (see Note 7).

Sensitivity of the Net Pension Asset to Changes in the Discount Rate

The following presents the net pension asset of the City, calculated using the discount rate of 6.75 percent, as well as what the City's net pension liability (asset) would be if it were calculated using a discount rate that is 1 percentage point lower (5.75 percent) or 1 percentage point higher (7.75 percent) than the current rate:

	1 Percentage Point Decrease (5.75%)	Current Discount Rate (6.75%)	1 Percentage Point Increase (7.75%)
Net pension liability (asset) of the City	\$ 14,827,379	\$ (13,889,258)	\$ (37,336,183)

Note 9 - Other Postemployment Benefit Plan

Closed Death Benefit Plan (Closed Plan) and Death Benefit Plan (Open Plan)

Plan Description

The City of Detroit Employees Death Benefit Board of Trustees administers the Death Benefit Plans, which are single-employer defined benefit OPEB plans used to provide death benefits to employees and retirees. The Death Benefit Board of Trustees is the same as the board of trustees of the General Retirement System of the City of Detroit, with the exception of the civilian member. Also, the one representative from the Detroit City Council is the City Council president.

In accordance with the City of Detroit, Michigan's plan of adjustment, the Death Benefit Plan was split into two parts: an Open Plan and a Closed Plan. Members retired on or before December 10, 2014 are in the Closed Plan. Members who retire after December 10, 2014 (provided they were active on or after December 10, 2014) are in the Open Plan. The City has no further obligations to Closed Plan members. Closed Plan members will receive benefits only if the Closed Plan assets are sufficient.

Benefits Provided

In accordance with the City of Detroit, Michigan Code of Ordinances, effective July 1, 1999, prior to retirement from city services, a death benefit in the amount of \$10,000 or the amount designated in the member's labor agreement, shall be paid. After retirement of the member from the City, the amount of death benefits paid is based upon the retiree's years of city service ranging from \$1,860 (for 8 to 10 years of service) to \$3,720 (for 30 years of service). For years of service beyond 30 years, \$93 will be added per year for each additional year of service.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 9 - Other Postemployment Benefit Plan (Continued)

Employees Covered by Benefit Terms

Closed plan: As of June 30, 2021, 9,623 retirees are covered by the benefit terms in the Closed Plan.

Open plan: The following members were covered by the benefit terms in the Open Plan:

Date of member count	June 30, 2021
Retirees and beneficiaries	2,988
Active plan members	7,266
Total employees covered by the plan	<u>10,254</u>

Contributions

Open Plan

The City of Detroit Employee Benefit Plan board establishes contribution rates for the Death Benefit Plan; however, the City of Detroit, Michigan is under no legal obligation to prefund the plan benefits. The board's policy is to develop an employer contribution that is the greater of (1) the per active person rate provided for in the City of Detroit, Michigan Ordinance or (2) normal cost plus a 28-year closed (30-year closed period beginning with the June 30, 2019 valuation) amortization of unfunded actuarial accrued liability on a per active person basis. For the year ended June 30, 2022, the employer contribution rate for each active member was \$13.30 a year, except for police lieutenants and sergeants and fire equivalents. For police lieutenants and sergeants and fire equivalents, the employer contribution rate for each member was \$20.70 a year. For retirees, no employer contribution is required. Active plan members are required to contribute \$10.40 a year, except for police lieutenants and sergeants and fire equivalents, who contribute \$13.00 a year. For retired plan members, required contributions are \$1.08 a year. During the year ended June 30, 2022, the Open Plan received employer contributions of \$106,510 and employee contributions of \$85,236.

Closed Plan

The City of Detroit, Michigan allocated \$30,423,997 to the Closed Death Benefit Plan as of December 31, 2014 to fully fund the plan. There are no required additional employer contributions. For retired plan members, required employee contributions are \$1.08 a year. Total employee contributions for the year ended June 30, 2022 for the closed plan were approximately \$9,400.

Net OPEB Liability

Closed Plan

The Closed Death Benefit Plan will provide future benefits only to the extent that plan assets are available to pay them. After the contribution in 2014, no further employer contributions will be made to the Plan. As such, the total OPEB liability as of June 30, 2022 is equal to the plan net position of \$20,757,008.

Open Plan

The net OPEB liability has been measured as of June 30, 2022 and is composed of the following:

Total OPEB liability	\$ 5,972,022
Plan fiduciary net position	<u>4,460,516</u>
Net OPEB liability of the City	<u>\$ 1,511,506</u>
Plan fiduciary net position as a percentage of the total OPEB liability	74.69 %

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 9 - Other Postemployment Benefit Plan (Continued)

Actuarial Assumptions

The total OPEB liability was determined by an actuarial valuation as of June 30, 2021, which used update procedures to roll forward the estimated liability to June 30, 2022. The valuation used the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

The inflation assumption was 2.5 percent. The investment rate of return (net of pension plan investment expense, including inflation) applied to the beginning of year total OPEB liability was 5.99 percent as compared to 5.50 percent, which was the assumed long-term rate of return as of the end of year. The rates were determined in accordance with generally accepted accounting principles.

For members in the general retirement system, the mortality table assumption was based on the PubG-2010(B) Below-Median General Retiree Table. For members in the police and fire retirement system, the mortality table assumption was based on the PubS-2010 Safety Retiree Table. All mortality tables are projected to 2021 based on the two-dimensional, sex-distinct mortality improvement scale MP-2021.

Discount Rate

The discount rate used to measure the total OPEB liability was 5.50 percent, compared to 5.99 percent at the beginning of the year. The projection of cash flows used to determine the discount rate assumed that employer contributions will be made at the current contribution rate.

Based on those assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

The actuarial assumptions, other than the investment rate of return, used in the June 30, 2021 valuation to calculate the total pension liability as of June 30, 2022 were based on the results of an actuarial experience study for the period from July 1, 2015 through June 30, 2020. The assumptions were first used in the June 30, 2021 actuarial valuation and assumption changes included mortality tables (change from the RP-2014 Blue Collar Annuitant Table), withdrawal rates, and disability rates.

Investment Rate of Return

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The board has not adopted a formal investment policy; however, the pension board approved a formal investment allocation in August 2014. The target allocation and best estimates of geometric real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
Domestic equity	26.00 %	4.14 %
International equities	25.00	4.87
Bonds	25.00	1.46
REITs	4.00	3.48
Global multisector fixed income	20.00	1.37
Total	100.00 %	

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 9 - Other Postemployment Benefit Plan (Continued)

Sensitivity of the City's Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability of the City, calculated using the discount rate of 5.50 percent, as well as what the City's net OPEB liability would be if it were calculated using a discount rate that is 1 percentage point lower (4.50 percent) or 1 percentage point higher (6.50 percent) than the current rate:

	1 Percentage Point Decrease (4.50%)	Current Discount Rate (5.50%)	1 Percentage Point Increase (6.50%)
Net OPEB liability of the City	\$ 2,677,537	\$ 1,511,506	\$ 598,819

Since the OPEB benefits in this plan are life insurance only, there is no health care trend assumption. The sensitivity of net OPEB liability using +/-1 percent health care trend is not applicable to this plan.

Rate of Return

For the year ended June 30, 2022, the annual money-weighted rate of return on OPEB plan investments, net of OPEB plan investment expense, was (14.46) percent. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Note 10 - Leases

The System leases its office building from a third party. Payments are generally fixed monthly with certain variable payments not included in the measurement of the lease liability, such as common area maintenance (CAM) and taxes.

The lease asset of the System, reported with other capital assets on the statement of fiduciary net position, is \$2,320,754, with accumulated amortization of \$250,893 as of June 30, 2022.

Future principal and interest payment requirements related to the System's lease liability at June 30, 2022 are as follows:

Years Ending	Principal	Interest	Total
2023	\$ 179,459	\$ 114,276	\$ 293,735
2024	198,620	103,928	302,548
2025	219,132	92,491	311,623
2026	241,081	79,891	320,972
2027	264,556	66,046	330,602
2028-2031	1,056,336	101,927	1,158,263
Total	<u>\$ 2,159,184</u>	<u>\$ 558,559</u>	<u>\$ 2,717,743</u>

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 11 - Commitments

The Combined Plan document setting forth the Legacy Plan (Component II) contains a provision for the transfer of certain excess investment returns to the new Hybrid Plan (Component I). In any plan year during the period beginning on or after July 1, 2014 and ending on June 30, 2023, if the annual rate of return credited to member annuity savings fund accounts is less than the actual rate of return net of expenses of the plan's invested assets for the second plan year preceding the plan year in which the annual rate of return is credited, the excess earned shall be transferred to the pension accumulation fund maintained under Component I of the Combined Plan and will be used to fund transition costs related to Component I. The transition cost is a measure of the liability that Component I of the Combined Plan has at its inception due to the fact that members in Component I receive vesting and eligibility credit under Component I for service that was earned prior to July 1, 2014 and is otherwise credited to members under Component II. Such transition costs have been calculated by the plan's actuary. Yearly transfers to fund these costs are required in the second year following the year in which the return is earned based on a two-year look-back; therefore, as an example, any transfers based on the plan year ended June 30, 2020 will be calculated and transferred during the plan year ended June 30, 2022.

Based on these provisions, \$0 was transferred from Component II to Component I toward the transition costs in the fiscal years ended June 30, 2022 and 2021. The cumulative amount of transfers from prior fiscal years was \$10,193,807.

Account Pledge Agreement

In 2022, the System entered into a collateral pledge agreement with the U.S. Department of Housing and Urban Development, as allowed under MCL 38.1133(8). This collateral pledge agreement requires the System to pledge to HUD as collateral for the City of Detroit, Michigan on its outstanding loan with HUD, an amount equal to the balance of the HUD loan to the City that exceeds \$2 million. The City has provided a covenant that it will make all payments to HUD on this related obligation. As the HUD loan balance held by the City is reduced as the City makes payments, the collateral will decrease in a similar amount. According to the repayment schedule, the City is due to pay off the principal balance in August 2026. As of June 30, 2022, the amount of pledged collateral is \$7,162,221.

Note 12 - City of Detroit, Michigan's Chapter 9 Bankruptcy Plan of Adjustment and Continuing Impact on the Plan

In March 2013, after enduring years of financial difficulty, the City of Detroit, Michigan filed for bankruptcy protection. The Eighth Amended Plan for Adjustment of Debts of the City of Detroit was filed with the Bankruptcy Court on October 22, 2014. In November 2014, after a confirmation hearing lasting several weeks, the Bankruptcy Court confirmed the Plan of Adjustment, which became effective December 10, 2014.

Legacy Plan (Component II)

The pension settlement, as part of the Plan of Adjustment, compromised pension claims and provided funding support for legacy pension benefit obligations under the General Retirement System of the City of Detroit Component II from the State of Michigan, the Detroit Institute of Arts, and certain foundation donors. The Plan of Adjustment also required certain governance changes for DGRS. Those governance changes included establishment of the Investment Committee effective December 10, 2014, which officially marked the beginning of implementation of the Plan of Adjustment, although DGRS had for months already undertaken contingency planning for all of the pension adjustments. In addition to governance changes, the POA requires of the System, through its board of trustees and the Investment Committee, certain periodic and interim reporting obligations to the City, the Foundation for Detroit's Future, and the State of Michigan. Although there were some delays in meeting certain obligations because of new actuarial reporting requirements for governmental systems, which in turn impacted the preparation of the System's audited financial statements, the System believes it has ultimately met its special reporting obligations in fiscal year 2016 and continued to do so in fiscal years 2017, 2018, 2019, 2020, 2021, and 2022.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 12 - City of Detroit, Michigan's Chapter 9 Bankruptcy Plan of Adjustment and Continuing Impact on the Plan (Continued)

For DGRS, with respect to Component II benefit adjustments, the pension settlement (for which benefit levels were and are contingent on other factors, including receipt of outside contributions) is provided for the following:

- A loss of cost of living adjustments, or escalators, paid after July 1, 2014
- A 4.5 percent cut to the remaining accrued pension benefit after the COLA loss
- For DGRS members who participated in the annuity savings fund plan between 2003 and 2013, subject to certain caps, recoupment of certain amounts of interest deemed by the City to be in excess of that which should have been credited to individual ASF accounts, referred to as "ASF Recoupment." ASF Recoupment, like other provisions of the pension settlement, was not optional. Most members will pay their ASF Recoupment by a monthly deduction from their future pension benefits for a set term of months, including interest calculated at 6.75 percent. All members were offered a lump-sum cash option, which was limited in the aggregate to \$30 million in member recoupment. In fiscal year 2016, the Bankruptcy Court approved certain additional members whose application submissions were not timely received to participate in the lump-sum cash option.
- The possibility of restoration of certain pension benefit cuts, based on a program for the most financially vulnerable pensioners and beneficiaries through the State of Michigan Treasury Department, as well as a new feature of Component II allowing restoration depending on the System's funding level over time
- An Income Stabilization Program (the "ISF Program") was established as part of the State Contribution Agreement, another facet of the pension settlement. The ISF Program, supported by city funds arising from an unlimited tax general obligation bonds settlement, is intended to ensure that the most financially vulnerable retirees and beneficiaries do not fall below the poverty line as a result of bankruptcy-related pension changes. Beginning on March 1, 2015, certain DGRS members also received benefit pension cut restoration under the ISF Program administered by DGRS, pursuant to the State Contribution Agreement, based on eligibility and benefit payments calculated by the State of Michigan. Following the close of the fiscal year ended June 30, 2016 and pursuant to Component II of the Combined Plan and the State Contribution Agreement, the System implemented the first annual ISF Program benefit adjustments effective July 1, 2016.
- The POA also discusses a restoration plan. Terms of the pension restoration are contained in Exhibit II.B.3.r.ii.C of the POA, and the terms govern how accrued pensions, including COLA benefits that were reduced as a part of the POA, may be restored over the 30-year period following the confirmation order. The Investment Committee will supervise the restoration process in accordance with the restoration plan. The restoration plan shall be deemed a part of Component II. The funding levels have not been attained as of June 30, 2022 for the restoration process to initiate.

General Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2022

Note 12 - City of Detroit, Michigan's Chapter 9 Bankruptcy Plan of Adjustment and Continuing Impact on the Plan (Continued)

Going forward, the obligations for contributions to support Component II of the System through 2023 are determined as fixed amounts by the provisions in the Plan of Adjustment. Pursuant to the Plan of Adjustment, the System is expected to receive contributions totaling \$718.6 million through fiscal year 2023. The Plan of Adjustment calls for the System to receive \$98.8 million from the State of Michigan; \$428.5 million from DWSD; \$31.7 million from UTGO settlement proceeds; the actual or present value equivalent of \$50 million from the DIA and its foundation donors; and \$114.6 million from the other city-related employer contribution sources, such as the General Fund, Detroit Library Commission, and COBO Authority, over a 10-year period covering fiscal year 2014 through fiscal year 2023. Between 2025 and 2034, DGRS will receive \$18.3 million per year from certain foundation donors. After 2023, the City, and various other employer constituents, such as the Library, DWSD, and COBO Authority, will retain responsibility for the full funding obligations of Component I of the System, consistent with Michigan law.

In fiscal year 2017, DGRS received from the City, its employer-related contribution sources, and the DIA and its foundation donors all contributions required by the Plan of Adjustment. The City was to remit payments on the UTGO Stub Bonds to the Combined Plan through 2028. In fiscal year 2017, the City of Detroit, Michigan refunded all of its outstanding UTGO Stub Bonds. Upon refunding, the payments to the Combined Plan were accelerated, with a majority of the outstanding balance paid to the Combined Plan in fiscal year 2017; as a result, the Combined Plan received approximately \$9.4 million in the ISF and \$18.3 million in the Component II Defined Benefit Fund related to this transaction.

DGRS continues to implement the POA, which includes ongoing compliance and additional reporting requirements by the board and the Investment Committee, annual review of benefit levels, and essentially provides for a 40-year plan to close the DGRS Legacy Component II underfunded liability. ASF Recoupment, in particular, is a notable facet of the Plan of Adjustment that will continue to be implemented as members apply for Component II pension benefits over time.

Note 13 - City of Detroit, Michigan Commitment to Future Funding

In anticipation of significant actuarially required contributions commencing in fiscal year 2024, the City, independent of the System, has established a Retiree Protection Trust Fund (the "Trust"). The Trust, a permanent irrevocable trust under Sections 115 and 414(d) of the Internal Revenue Code, is to receive, maintain, and invest city funds restricted for future deposits to the General Retirement System Plan and the Police and Fire Retirement System Plan as part of an effort to manage and stabilize future required city contributions to the plans. The City has set aside approximately \$357 million for this Trust as of June 30, 2022 for future contributions to the General Retirement System Plan and the Police and Fire Retirement System Plan. Contributions to the System will be recognized as the City makes distributions from this independent trust to the System.

Required Supplemental Information

General Retirement System of the City of Detroit

Required Supplemental Information Schedule of Changes in the Net Pension Liability and Related Ratios Legacy Plan

	Last Nine Fiscal Years								
	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability									
Service cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32,736,019
Interest	168,079,194	182,140,105	192,888,245	195,489,643	192,359,745	201,919,236	214,011,164	263,007,329	242,611,073
Changes in benefit terms	-	-	-	-	-	-	-	(731,824,895)	(113,311,571)
Differences between expected and actual experience	(12,568,209)	(59,232,849)	(55,836,749)	13,596,902	34,154,327	(27,508,380)	(43,719,112)	24,644,530	-
Changes in assumptions	(181,357,524)	119,876,694	67,677,535	-	(110,274,515)	76,925,957	90,034,927	(101,559,893)	(271,190,194)
Benefit payments, including refunds	(236,552,949)	(237,123,777)	(239,881,652)	(248,790,017)	(253,442,630)	(267,249,539)	(292,282,179)	(297,538,990)	(397,733,807)
Net Change in Total Pension Liability	(262,399,488)	5,660,173	(35,152,621)	(39,703,472)	(137,203,073)	(15,912,726)	(31,955,200)	(843,271,919)	(506,888,480)
Total Pension Liability - Beginning of year	2,704,110,233	2,698,450,060	2,733,602,681	2,773,306,153	2,910,509,226	2,926,421,952	2,958,377,152	3,801,649,071	4,308,537,551
Total Pension Liability - End of year	\$ 2,441,710,745	\$ 2,704,110,233	\$ 2,698,450,060	\$ 2,733,602,681	\$ 2,773,306,153	\$ 2,910,509,226	\$ 2,926,421,952	\$ 2,958,377,152	\$ 3,801,649,071
Plan Fiduciary Net Position									
Contributions - Employer, state, and foundation	\$ 48,275,000	\$ 48,275,000	\$ 48,275,000	\$ 68,275,000	\$ 68,275,000	\$ 91,238,402	\$ 104,792,657	\$ 189,282,094	\$ 25,126,131
Contributions - Employee	-	-	-	-	-	-	-	609,073	10,241,761
Net investment (loss) income	(102,790,030)	406,977,916	(14,002,111)	47,170,004	155,423,193	206,896,568	(12,450,547)	93,054,981	289,789,607
Administrative expenses	(2,541,080)	(1,987,194)	(2,351,273)	(3,023,939)	(3,313,418)	(6,021,837)	(3,742,618)	(4,617,194)	(11,237,767)
Benefit payments, including refunds	(236,552,949)	(237,123,777)	(239,881,652)	(248,790,017)	(253,442,630)	(267,249,539)	(292,282,179)	(297,538,991)	(397,733,807)
Other (includes ASF recoupment)	4,806,056	6,405,364	5,155,198	(5,347,863)	6,952,522	8,324,074	5,945,783	135,280,369	-
Net Change in Plan Fiduciary Net Position	(288,803,003)	222,547,309	(202,804,838)	(141,716,815)	(26,105,333)	33,187,668	(197,736,904)	116,070,332	(83,814,075)
Plan Fiduciary Net Position - Beginning of year	1,818,649,298	1,596,101,989	1,798,906,827	1,940,623,642	1,966,728,975	1,933,541,307	2,131,278,211	2,015,207,879	2,099,021,954
Plan Fiduciary Net Position - End of year	\$ 1,529,846,295	\$ 1,818,649,298	\$ 1,596,101,989	\$ 1,798,906,827	\$ 1,940,623,642	\$ 1,966,728,975	\$ 1,933,541,307	\$ 2,131,278,211	\$ 2,015,207,879
Net Pension Liability - Ending	\$ 911,864,450	\$ 885,460,935	\$ 1,102,348,071	\$ 934,695,854	\$ 832,682,511	\$ 943,780,251	\$ 992,880,645	\$ 827,098,941	\$ 1,786,441,192
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	62.65 %	67.25 %	59.15 %	65.81 %	69.98 %	67.57 %	66.07 %	72.04 %	53.01 %
Covered Payroll	\$ -	\$ -	\$ 149,373,313	\$ 141,646,750	\$ 246,173,916	\$ 199,307,986	\$ 185,147,364	\$ 188,210,536	\$ 238,669,871
Net Pension Liability as a Percentage of Covered Payroll	- %	- %	737.98 %	659.88 %	338.25 %	473.70 %	536.27 %	439.45 %	748.50 %

GASB Statement No. 67 was implemented on June 30, 2014 and does not require retroactive implementation. Data will be added as information is available until 10 years of such information is available.

GASB Statement No. 67, as amended, requires covered payroll to be presented, as well as the net pension liability as a percentage of covered payroll. Covered payroll for 2021 and 2022 is not available.

General Retirement System of the City of Detroit

Required Supplemental Information Schedule of Investment Returns Legacy and Hybrid Plans

	Last Nine Fiscal Years Years Ended June 30								
	2022	2021	2020	2019	2018	2017	2016	2015*	2014*
Annual money-weighted rate of return - Net of investment expense	(7.27)%	28.31 %	(0.78)%	3.28 %	6.70 %	12.60 %	1.10 %	2.40 %	16.30 %

GASB Statement No. 67 was implemented on June 30, 2014 and does not require retroactive implementation. Data will be added as information is available until 10 years of such information is available.

*Fiscal years 2014 and 2015 do not include information related to the Hybrid Plan. The Hybrid Plan was effective July 1, 2014, and for the first year (fiscal year 2015), it did not invest in anything other than cash and cash equivalents.

General Retirement System of the City of Detroit

Required Supplemental Information Schedule of Pension Contributions Legacy Plan

Last Ten Fiscal Years Years Ended June 30									
	2022*	2021*	2020*	2019*	2018*	2017*	2016*	2015*	
Actuarially determined contribution	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 72,643,307
Contributions in relation to the actuarially determined contribution	-	-	-	-	-	-	-	-	25,126,131
Contribution Deficiency	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (47,517,176)
Covered Payroll	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 238,669,871
Contributions as a Percentage of Covered Payroll	- %	- %	- %	- %	- %	- %	- %	- %	10.53 %

*The contributions starting with fiscal year 2015 were determined by the provisions of the POA; the contributions were not actuarially determined and, therefore, not subject to disclosure within this schedule in accordance with GASB Statement No. 67.

General Retirement System of the City of Detroit

Required Supplemental Information Schedule of Changes in the City's Net Pension (Asset) Liability and Related Ratios Hybrid Plan

	Last Eight Fiscal Years							
	2022	2021	2020	2019	2018	2017	2016	2015
Total Pension Liability								
Service cost	\$ 27,040,658	\$ 25,208,118	\$ 22,532,002	\$ 20,171,596	\$ 17,056,732	\$ 18,417,036	\$ 18,302,706	\$ 19,318,576
Interest	14,050,863	12,218,430	10,270,622	7,531,400	5,438,061	4,084,390	2,495,896	695,469
Differences between expected and actual experience	(18,137,902)	(10,183,406)	(7,464,424)	7,556,858	4,546,865	(4,667,487)	(1,263,760)	(1,202,108)
Changes in assumptions	(22,668,570)	14,453,739	6,518,200	-	(5,758,189)	2,780,462	2,111,451	-
Voluntary employee contributions	5,691,594	5,183,291	5,723,982	5,804,274	5,302,650	5,043,347	5,213,744	5,775,885
Benefit payments, including refunds	(7,395,729)	(5,118,404)	(3,629,833)	(3,539,384)	(2,390,592)	(2,134,809)	(2,287,214)	-
Net Change in Total Pension Liability	(1,419,086)	41,761,768	33,950,549	37,524,744	24,195,527	23,522,939	24,572,823	24,587,822
Total Pension Liability - Beginning of year	210,116,172	168,354,404	134,403,855	96,879,111	72,683,584	49,160,645	24,587,822	-
Total Pension Liability - End of year	\$ 208,697,086	\$ 210,116,172	\$ 168,354,404	\$ 134,403,855	\$ 96,879,111	\$ 72,683,584	\$ 49,160,645	\$ 24,587,822
Plan Fiduciary Net Position								
Contributions - Employer	\$ 15,689,188	\$ 11,690,984	\$ 12,515,861	\$ 12,205,699	\$ 14,673,644	\$ 9,484,992	\$ 9,048,831	\$ 8,811,369
Mandatory employee contributions	10,418,809	9,333,975	10,205,770	9,765,911	8,837,967	7,752,058	7,345,515	6,970,544
Net investment (loss) income	(13,857,941)	41,527,492	(2,216,167)	3,270,862	8,445,590	9,109,732	(76,608)	20,690
Administrative expenses	(1,894,415)	(1,316,430)	(1,540,433)	(1,942,064)	(2,171,693)	(2,648,385)	(3,094,197)	(1,481,590)
Voluntary employee contributions	5,691,594	5,183,291	5,723,982	5,804,274	5,302,650	5,043,347	5,213,744	5,786,488
Benefit payments, including refunds of mandatory contributions	(4,058,032)	(2,743,760)	(2,048,198)	(1,920,550)	(1,308,550)	(1,021,847)	(1,031,060)	(10,603)
Refunds based on voluntary contributions	(3,337,697)	(2,374,644)	(1,581,635)	(1,618,834)	(1,082,042)	(1,112,962)	(1,256,154)	-
Other	40,981	32,244	1,237,613	9,066,288	12,436	61,834	6,586	-
Net Change in Plan Fiduciary Net Position	8,692,487	61,333,152	22,296,793	34,631,586	32,710,002	26,668,769	16,156,657	20,096,898
Plan Fiduciary Net Position - Beginning of year	213,893,857	152,560,705	130,263,912	95,632,326	62,922,324	36,253,555	20,096,898	-
Plan Fiduciary Net Position - End of year	\$ 222,586,344	\$ 213,893,857	\$ 152,560,705	\$ 130,263,912	\$ 95,632,326	\$ 62,922,324	\$ 36,253,555	\$ 20,096,898
City's Net Pension (Asset) Liability - Ending	\$ (13,889,258)	\$ (3,777,685)	\$ 15,793,699	\$ 4,139,943	\$ 1,246,785	\$ 9,761,260	\$ 12,907,090	\$ 4,490,924
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	106.66 %	101.80 %	90.62 %	96.92 %	98.71 %	86.57 %	73.75 %	81.74 %
Covered Payroll	\$ 260,683,104	\$ 233,681,019	\$ 245,732,111	\$ 224,726,503	\$ 246,173,916	\$ 199,307,987	\$ 185,147,364	\$ 180,069,852
City's Net Pension (Asset) Liability as a Percentage of Covered Payroll	(5.33)%	(1.62)%	6.43 %	1.84 %	0.51 %	4.90 %	6.97 %	2.49 %

General Retirement System of the City of Detroit

Required Supplemental Information Schedule of Changes in the City's Net OPEB Liability and Related Ratios Open Death Benefit Plan

	Last Six Fiscal Years					
	2022	2021	2020	2019	2018	2017
Total OPEB Liability						
Service cost	\$ 154,693	\$ 129,692	\$ 142,198	\$ 129,558	\$ 114,919	\$ 103,457
Interest	331,758	311,172	281,348	255,501	223,231	215,053
Differences between expected and actual experience	33,174	2,304	215,945	197,652	325,148	-
Changes in assumptions	117,486	806,689	-	-	-	-
Benefit payments, including refunds	(186,198)	(213,821)	(205,148)	(234,422)	(184,826)	(230,000)
Net Change in Total OPEB Liability	450,913	1,036,036	434,343	348,289	478,472	88,510
Total OPEB Liability - Beginning of year	5,521,109	4,485,073	4,050,730	3,702,441	3,223,969	3,135,459
Total OPEB Liability - End of year	\$ 5,972,022	\$ 5,521,109	\$ 4,485,073	\$ 4,050,730	\$ 3,702,441	\$ 3,223,969
Plan Fiduciary Net Position						
Contributions - Employer	\$ 106,510	\$ 114,790	\$ 113,842	\$ 92,990	\$ 107,627	\$ 88,709
Contributions - Employee	85,236	96,996	86,147	73,457	96,337	80,151
Net investment (loss) income	(671,339)	1,128,321	11,617	246,685	296,957	315,310
Administrative expenses	(6,584)	(18,094)	(55,108)	(61,160)	(32,001)	(61,755)
Benefit payments, including refunds	(186,198)	(213,821)	(205,148)	(234,422)	(184,826)	(230,000)
Other	-	-	-	(221,948)	(221,948)	-
Net Change in Plan Fiduciary Net Position	(672,375)	1,108,192	(48,650)	(104,398)	62,146	192,415
Plan Fiduciary Net Position - Beginning of year	5,132,891	4,024,699	4,073,349	3,955,799	3,893,653	3,701,238
Plan Fiduciary Net Position - End of year	\$ 4,460,516	\$ 5,132,891	\$ 4,024,699	\$ 3,851,401	\$ 3,955,799	\$ 3,893,653
City's Net OPEB Liability (Asset) - Ending	\$ 1,511,506	\$ 388,218	\$ 460,374	\$ 199,329	\$ (253,358)	\$ (669,684)
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	74.69 %	92.97 %	89.74 %	95.08 %	106.84 %	120.77 %

Contributions to the OPEB plan are not based on a measure of pay; therefore, no covered payroll is presented.

GASB Statement No. 74 was implemented on June 30, 2017 and does not require retroactive implementation. Data will be added as information is available until 10 years of such information is available.

General Retirement System of the City of Detroit

Required Supplemental Information Schedule of OPEB Contributions Open Death Benefit Plan

	Last Six Fiscal Years Years Ended June 30					
	2022	2021	2020	2019	2018	2017
Actuarially determined contribution	\$ 106,510	\$ 114,790	\$ 113,842	\$ 92,990	\$ 93,797	\$ 104,659
Contributions in relation to the actuarially determined contribution	106,510	114,790	113,842	92,990	107,627	88,709
Contribution Excess (Deficiency)	\$ -	\$ -	\$ -	\$ -	\$ 13,830	\$ (15,950)

GASB Statement No. 74 was implemented for the fiscal year ended June 30, 2017 and does not require retrospective implementation. Data will be added as information is available until 10 years of such information is reported.

Notes to Schedule of Contributions

Actuarial valuation information relative to the determination of contributions:

Valuation date Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which the contributions are reported.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Level dollar entry age normal
Amortization method	Level dollar, closed
Remaining amortization period	29 years, board policy
Asset valuation method	3-year smoothed market, no corridor
Inflation	N/A
Investment rate of return	7 percent, net of OPEB plan expenses, including price inflation at 2.50 percent
Retirement age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	General, EMS, and DDOT - 100 percent of the RP-2014 Blue Collar Annuitant Table set forward one year for males and females Police and Fire -100 percent of the RP-2014 Blue Collar Annuitant Table with no set forward
Other information	There were no benefit changes during the year.

General Retirement System of the City of Detroit

Required Supplemental Information Schedule of OPEB Investment Returns Open and Closed Death Benefit Plans

	Last Six Fiscal Years					
	Years Ended June 30					
	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
Annual money-weighted rate of return, net of investment expense	(14.46)%	24.52 %	0.30 %	2.97 %	5.93 %	7.23 %

GASB Statement No. 74 was implemented for the fiscal year ended June 30, 2017 and does not require retrospective implementation. Data will be added as information is available until 10 years of such information is reported.

General Retirement System of the City of Detroit

Required Supplemental Information Schedule of Changes in the City's Net OPEB Liability and Related Ratios Closed Death Benefit Plan

	Last Six Fiscal Years					
	2022	2021	2020	2019	2018	2017
Total OPEB Liability -						
(Decrease) increase in total OPEB liability due to availability of assets	\$ (4,209,561)	\$ 4,496,393	\$ (944,616)	\$ 12,295	\$ 38,822	\$ (15,035)
Total OPEB Liability - Beginning of year	<u>24,966,569</u>	<u>20,470,176</u>	<u>21,414,792</u>	<u>21,402,497</u>	<u>21,363,675</u>	<u>21,378,710</u>
Total OPEB Liability - End of year	<u>\$ 20,757,008</u>	<u>\$ 24,966,569</u>	<u>\$ 20,470,176</u>	<u>\$ 21,414,792</u>	<u>\$ 21,402,497</u>	<u>\$ 21,363,675</u>
Plan Fiduciary Net Position						
Retiree contribution	\$ 9,390	\$ 19,867	\$ 12,925	\$ 9,080	\$ 9,528	\$ -
Net investment (loss) income	(3,277,720)	5,538,571	63,605	1,295,090	1,416,686	1,996,352
Administrative expenses	(32,147)	(18,096)	-	-	-	-
Benefit payments, including refunds	(909,084)	(1,043,949)	(1,074,935)	(1,230,715)	(1,355,391)	(1,949,612)
Other	-	-	53,789	(61,160)	(32,001)	(61,775)
Net Change in Plan Fiduciary Net Position	(4,209,561)	4,496,393	(944,616)	12,295	38,822	(15,035)
Plan Fiduciary Net Position - Beginning of year	<u>24,966,569</u>	<u>20,470,176</u>	<u>21,414,792</u>	<u>21,402,497</u>	<u>21,363,675</u>	<u>21,378,710</u>
Plan Fiduciary Net Position - End of year	<u>\$ 20,757,008</u>	<u>\$ 24,966,569</u>	<u>\$ 20,470,176</u>	<u>\$ 21,414,792</u>	<u>\$ 21,402,497</u>	<u>\$ 21,363,675</u>
City's Net OPEB Liability - Ending	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %

GASB Statement No. 74 was implemented for the fiscal year ended June 30, 2017 and does not require retrospective implementation. Data will be added as information is available until 10 years of such information is reported.

As the plan will provide future benefits only to the extent that plan assets are available to pay them, the total OPEB liability is equal to the plan's ending net position.

Contributions to the OPEB plan are not based on a measure of pay nor is there applicable payroll; therefore, no covered payroll is presented.

General Retirement System of the City of Detroit

Notes to Required Supplemental Information Schedules

June 30, 2022

Pension Information

Benefit Changes

Legacy Plan

In 2014, the pension plan was frozen. No new employees are allowed to participate in the plan. All benefits for actives were frozen as of June 30, 2014 based on service and average final compensation accrued as of that date.

In 2015, benefits were reduced by 4.5 percent, and the cost of living adjustments were eliminated.

Changes in Assumptions

Legacy Plan

In 2014, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 5.88 percent to 7.2 percent and updating the mortality tables from RP-2000 Combined Table to RP-2014 Blue Collar Mortality Table, and adjustments for longevity and unused sick leave were eliminated.

Legacy and Hybrid Plan

In 2015, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.2 to 7.61 percent.

In 2016, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.61 to 7.23 percent.

In 2017, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.23 to 6.91 percent.

In 2018, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 6.91 to 7.38 percent.

In 2020, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.38 to 7.06 percent.

In 2021, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.06 to 6.50 percent.

In 2022, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 6.50 to 6.75 percent and updating the mortality tables from the RP-2014 Blue Collar Annuitant Table to the Pub-2010 General Employee table, as well as updates to wage inflation, withdrawal, and disability rates.

OPEB Information

Changes in Assumptions

In 2021, the discount rate changed from 7.00 to 5.99 percent.

In 2022, the discount rate changed from 5.99 to 5.50 percent and updating the mortality tables from the RP-2014 Blue Collar Annuitant Table to the PubG-2010(B) Below-Median General Retiree table for members in the general retirement system and to the PubS-2010 Safety Retiree table for members in the police and fire retirement system, as well as updates to the withdrawal and disability rates.

Other Supplemental Information

Combined Plan for the General Retirement System of the City of Detroit

Statement of Changes in Fiduciary Net Position by Division - Legacy Defined Benefit Plan

For the Year Ended June 30, 2022

	DWSD Subdivisions		General Retirement System - Divisions				Total - General Retirement System (all Divisions)
	GLWA	DWSD-R	DWSD - Division Total (all DWSD Subdivisions)	General Division	DOT	Library	
Beginning Net Position - July 1, 2021	446,947,615	188,824,247	635,771,862	956,924,896	136,380,233	89,572,307	1,818,649,298
Additions:							
Investment income (loss):							
Interest, dividends, and other income	9,370,637	3,958,861	13,329,498	19,404,483	2,437,982	1,761,939	36,933,902
Net decrease in fair value of investments	(33,166,626)	(14,012,074)	(47,178,700)	(68,657,466)	(8,664,985)	(6,229,798)	(130,730,949)
Net unrealized loss on collateralized securities	(32,617)	(13,780)	(46,397)	(67,518)	(8,521)	(6,127)	(128,563)
Investment related expenses	(2,248,916)	(950,111)	(3,199,027)	(4,655,429)	(587,543)	(422,421)	(8,864,420)
Net investment income	(26,077,522)	(11,017,104)	(37,094,626)	(53,975,930)	(6,823,067)	(4,896,407)	(102,790,030)
Contributions:							
Employer contributions:							
Originating from DWSD:							
Regular pension contribution	30,158,700	12,741,300	42,900,000	-	-	-	42,900,000
Contribution for administrative expenses	1,757,500	742,500	2,500,000	-	-	-	2,500,000
DWSD transfer to General Division for administrative expenses	(1,757,500)	(742,500)	(2,500,000)	2,500,000	-	-	-
Total contributions originating from DWSD	30,158,700	12,741,300	42,900,000	2,500,000	-	-	45,400,000
Contributions from other divisions	-	-	-	-	-	2,500,000	2,500,000
Total employer contributions	30,158,700	12,741,300	42,900,000	2,500,000	-	2,500,000	47,900,000
Foundation for Detroit's Future	-	-	-	265,012	109,988	-	375,000
Total contributions	30,158,700	12,741,300	42,900,000	2,765,012	109,988	2,500,000	48,275,000
ASF recoupment interest	1,143,661	483,168	1,626,829	2,980,845	1,045,293	122,536	5,775,503
Other income	75,956	32,089	108,045	133,251	4,083	6,905	252,284
Total additions - net	5,300,795	2,239,453	7,540,248	(48,096,822)	(5,663,703)	(2,266,966)	(48,487,243)
Deductions:							
Member refunds and withdrawals	2,280,297	963,369	3,243,666	5,749,975	4,514,011	288,702	13,796,354
Retirees' pension and annuity benefits	42,793,934	18,079,372	60,873,306	123,652,198	31,726,347	6,504,744	222,756,595
General and administrative expenses	624,491	263,832	888,323	1,337,048	190,555	125,154	2,541,080
ASF Recoupment Write-off	201,945	85,317	287,262	756,740	68,081	109,648	1,221,731
Transfer of general and administrative expenses to General Division	(624,491)	(263,832)	(888,323)	888,323	-	-	-
Total deductions	45,276,176	19,128,058	64,404,234	132,384,284	36,498,994	7,028,248	240,315,760
Net Decrease in Net Position	(39,975,381)	(16,888,605)	(56,863,986)	(180,481,106)	(42,162,697)	(9,295,214)	(288,803,003)
End of Year Net Position Restricted for Pensions - June 30, 2022	406,972,234	171,935,642	578,907,876	776,443,790	94,217,536	80,277,093	1,529,846,295

Combined Plan for the General Retirement System of the City of Detroit

Schedule of DWSD/GLWA Contributions Toward Administrative Expenses as Compared to Actual
DWSD/GLWA Allocable Administrative Expenses

For the Year Ended June 30, 2022

	DWSD Division Total	
	GLWA	DWSD-R
Amount Paid in Excess of Administrative Expenses		
Otherwise Allocable - June 30, 2021	\$ 6,934,650	\$ 2,929,720
DWSD/GLWA contribution for administrative expenses in accordance with plan of adjustment and bankruptcy order	1,757,500	742,500
Administrative expenses otherwise allocable to DWSD/GLWA	<u>(624,491)</u>	<u>(263,832)</u>
Cumulative Amount Paid in Excess of Administrative Expenses		
Otherwise Allocable - June 30, 2022	<u>\$ 8,067,659</u>	<u>\$ 3,408,388</u>

Combined Plan for the General Retirement System of the City of Detroit

Notes to Other Supplemental Information

June 30, 2022

Allocation Between Divisions

The Combined Plan's allocation methodology to allocate fiscal year 2022 activity between the four main divisions (General Division, DOT, DWSD, and Library) is dependent upon each revenue or expense type. Below is a description of the allocation methodology used by the Combined Plan. Where applicable, the allocation methodology outlined in the pension reporting agreement was utilized.

Investment Income - Investment income (including income from securities lending activity) and investment expenses were allocated to the divisions, with the exception of the allocation between DWSD-R and GLWA, based on the net position of each division compared to total net position (excluding the Annuity Savings Fund) as of fiscal year ended June 30, 2021. The investment income and expenses allocated were after adjusting for interest credited to the Annuity Savings Fund.

Administrative Expenses - In accordance with Section 2.3 of the pension reporting agreement, DWSD-R and GLWA's collective allocable share of administrative expenses of approximately \$888,000 has been allocated to the general division. Correspondingly, the expenses transferred to the general division are offset by a \$2.5 million contribution made by DWSD-R and GLWA, collectively, for administrative expenses, which was credited to the general division. This will occur until 2023, at which point the City and GLWA will mutually determine and resolve whether any aggregate over- or underpayment will impact the obligation of DWSD-R and GLWA to make payments to GRS under the pension reporting agreement.

Contributions - In fiscal year 2022, the Plan received contributions from the divisions and the Foundation for Detroit's Future. The employer contributions were allocated between the divisions according to which division the contribution was received from, with the exception of DWSD-R and GLWA's collective payments of \$45,400,00, which were allocated as outlined in the POA and/or the pension reporting agreement (see below). Of the total payment of \$45,400,000, \$2,500,000 reflects DWSD-R and GLWA's agreed-upon share of administrative expenses which, per the pension reporting agreement, is to be transferred to the credit of the general division. The payment from the Foundation was allocated based on a common understanding from the bankruptcy proceedings, which was ultimately determined by the City of Detroit and agreed to by the other divisions. The Foundation proceeds were allocated solely to the general division and DOT in proportion to their respective net pension liability as determined by the City's actuary as of June 30, 2022.

ASF Recoupment - Revenue from the ASF recoupment was allocated between the divisions, other than between DWSD-R and GLWA, according to the division under which the individual's ASF earnings were originally accumulated and paid out.

Member Refunds, Withdrawals, Retirees' Pension, and Annuity Benefits - These deductions were allocated, other than the allocation between DWSD-R and GLWA, based on the original division from which benefits were being provided and withdrawals were being made.

Allocation between DWSD-R and GLWA - Once the above activity was allocated to the divisions, the DWSD division was further subdivided between DWSD-R and GLWA in accordance with the pension reporting agreement, which stipulated such allocation would be dictated to the Plan by DWSD-R and GLWA. Per those instructions, the Plan allocated the DWSD activity between GLWA (70.3 percent) and DWSD-R (29.7 percent).

The General Retirement System of the City of Detroit

GASB Statement Nos. 67 and 68 Accounting and Financial
Reporting for Pension Plans of Component II
June 30, 2022





October 31, 2022

Board of Trustees
The General Retirement System of the City of Detroit

Dear Board Members:

This report provides information required for the General Retirement System of the City of Detroit in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans" and Statement No. 68 "Employer Reporting for Pension Plans." These calculations have been made on a basis that is consistent with our understanding of this Statement. This information is subject to a review by the System's Auditor. Please let us know if the System's Auditor recommends any changes. This report covers the General Retirement System Plan known as Component II (also known as the Legacy Plan). Since Component I is a separate plan, it is detailed in a separate report.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement Nos. 67 and 68. The calculation of the plan's liability for this report is not applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. In particular, this is not a funding report and nothing in this report should be construed as a funding recommendation. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The Appendix of this report also provides some of the information necessary to complete the reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form 5572). This information is not required to be included in your financial statements. The calculations in the Appendix are based on assumptions that satisfy the Uniform Assumptions criteria published by the Michigan Treasury for Fiscal Year 2022 reporting requirements.

This report is based upon information, furnished to us by System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This report is based on the valuation date of June 30, 2021. The total pension liability was rolled-forward from the valuation date to the plan year ending June 30, 2022 using generally accepted actuarial principles. The asset information as of June 30, 2022 was provided by the System. This information was checked for internal consistency, but it was not audited by Gabriel, Roeder, Smith & Company. A description of the adjustments made to the data is incorporated in this report (either directly or by reference). GRS is not responsible for the accuracy of the data provided by the Retirement System. This report is based upon estimates of frozen accrued benefits. Future measurements based on final calculation of benefit amounts will differ.

Board of Trustees
The General Retirement System of the City of Detroit
October 31, 2022
Page 2

At the direction of the System and approval of the System's Auditor, the long-term expected return on assets used to determine the discount rate was changed to 6.75% as of June 30, 2022, from 6.50% as of June 30, 2021. We have reviewed this assumption based on the System's asset allocation and have determined it does not significantly conflict with what, in our professional judgement, would be reasonable for purposes of the measurement.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the System on the measurement date for purposes of GASB Statement Nos. 67 and 68 reporting. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

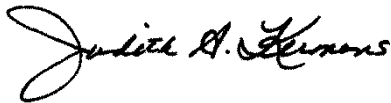
The signing individuals are independent of the plan sponsor.

Jamal Adora, Judith A. Kermans, and James R. Sparks are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,
Gabriel, Roeder, Smith & Company



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JA/JAK/JA:rmn



Table of Contents

Page

Section A Executive Summary

Executive Summary	1
Discussion	2

Section B Financial Statements

Statement of Fiduciary Net Position	7
Statement of Changes in Fiduciary Net Position	8
Statement of Pension Expense under GASB Statement No. 68	9
Statement of Outflows and Inflows Arising from Current Reporting Period	10
Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods	11
Schedule of Proportionate Employer Share	20

Section C Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Current Period	22
Schedule of Changes in Net Pension Liability and Related Ratios Multiyear	23
Schedule of Net Pension Liability Multiyear	24
Schedule of Contributions Multiyear	25
Notes to Schedule of Contributions	26
Schedule of Investment Returns	26

Section D Notes to Financial Statements

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption	27
Summary of Population Statistics and Additional Note	28

Section E Summary of Benefits

Section F Actuarial Cost Method and Actuarial Assumptions

Summary of Assumptions and Methods	32
Miscellaneous and Technical Assumptions	37

Section G Calculation of the Single Discount Rate

Calculation of the Single Discount Rate at End of Year	38
Projection of Contributions	40
Projection of Plan Fiduciary Net Position	41
Present Values of Projected Benefits	43
Projection of Plan Net Position and Benefit Payments	45

Section H Glossary of Terms

Appendix Michigan Public Act 202



SECTION A

EXECUTIVE SUMMARY

Executive Summary as of June 30, 2022

Actuarial Valuation Date	June 30, 2021
Measurement Date of the Net Pension Liability	June 30, 2022
Employer's Fiscal Year Ending Date (GASB No. 68 Reporting Date)	June 30, 2023

Membership

Number of	
- Retirees and Beneficiaries	11,173
- Inactive, Nonretired Members	2,645
- Active Members	2,185
- Total	16,003
Covered Payroll	\$ 102,653,636

Net Pension Liability

Total Pension Liability	\$ 2,441,710,745
Plan Fiduciary Net Position	1,529,846,295
Net Pension Liability	\$ 911,864,450
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	62.65%
Net Pension Liability as a Percentage of Covered Payroll	888.29%

Development of the Single Discount Rate

Single Discount Rate	6.75%
Long-Term Expected Rate of Investment Return	6.75%
Long-Term Municipal Bond Rate*	3.69%
Last year ending June 30 in the 2023 to 2122 projection period for which projected benefit payments are fully funded	2122

Total Pension Expense	\$ (116,831,901)
------------------------------	-------------------------

Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ -	\$ -
Changes in assumptions	-	-
Net difference between projected and actual earnings on pension plan investments	245,698,920	180,482,111
Total	\$ 245,698,920	\$ 180,482,111

*Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2022. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax-exempt securities.

Discussion

Changes Compared to Funding Valuation

For purposes of determining the Total Pension Liability (TPL) as of June 30, 2022, we note the following differences from the assumptions used in the June 30, 2021 funding valuation:

- The funding valuation includes a liability for excess Annuity Savings Fund (ASF) earnings that are expected to be transferred to Component I after the valuation date. In accordance with the Plan's Auditor's prior instructions, excess Annuity Savings Fund (ASF) earnings that are expected to be transferred to Component I after the valuation date are not reflected in the TPL and will be reflected in the assets, once it occurs. Based on the return for the 2020 and 2021 fiscal year, the June 30, 2021 funding valuation included \$20,431,312 in liabilities to account for this activity.

All other actuarial assumptions were the same as those used in the June 30, 2021 actuarial valuation (the funding valuation).

Changes Compared to Prior Year's GASB Report

The changes in actuarial assumptions compared to the June 30, 2021 GASB No. 68 reporting was:

- The long-term expected rate of investment return and single discount rate went from 6.50% to 6.75%.
- Other economic and demographic assumptions were updated in conjunction with the 2015-2020 Experience study.

This change decreased the TPL by \$181 million resulting in a new deferred inflow for recognition in the pension expense.

Data Approximations and Assumptions

A description of the data approximations and assumptions used in completing this report are included in the June 30, 2021 funding valuation report.

Discussion

Development of Employer Proportionate Shares

As instructed, we have developed the proportionate employer shares as follows:

- General, DOT, DWSD, and Library have contribution rates assessed on separate relationships and are, therefore, accounted for separately under Paragraph 49 of GASB Statement No. 68.
- The component units in the General Division were 1) General City; 2) Parking; and 3) Airport.
- Proportionate shares in the General Division were determined by prorating based on the Total Pension Liability.

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the General Retirement System of the City of Detroit subsequent to the measurement date of June 30, 2022.

Discussion

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the certain changes in the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *statement of changes in fiduciary net position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans to include certain additional information. The list of disclosure items should include:

- A description of benefits provided by the plan;
- The type of employees and number of members covered by the pension plan;
- A description of the plan's funding policy, which includes member and employer contribution requirements;
- The pension plan's investment policies;
- The pension plan's fiduciary net position and the net pension liability;
- The net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- Significant assumptions and methods used to calculate the total pension liability;
- Inputs to the discount rates; and
- Certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- The composition of the pension plan's Board and the authority under which benefit terms may be amended;
- A description of how fair value is determined;
- Information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- Annual money-weighted rate of return.

Discussion

Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- Sources of changes in the net pension liability;
- Information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- A comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2021, rolled forward to the plan year end of June 30, 2022.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.75%; the municipal bond rate is 3.69% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 6.75%.

The expected rate of return was provided by the Retirement System and approved by the System's auditor.

Discussion

Limitation of Assets as a Percent of Total Pension Liability Measurements

This report includes a measure of the plan fiduciary net position as a percent of total pension liability (62.65% as of June 30, 2022). Unless otherwise indicated, with regard to any such measurements presented in this report:

- (1) This measurement is not intended to be a funded ratio or a measure of funded progress.
- (2) This measurement is inappropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations.
- (3) The measurement is inappropriate for assessing the need for or amount of future employer contributions.

Limitations of Project Scope

Actuarial Standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entities to make required contributions when due. Such an evaluation was not within the scope of this project and is not within our area of expertise. Consequently, we have not made such an evaluation.

ASF Recoupments

The reported June 30, 2022 assets included a receivable, computed by the System's auditor, that accounts for future ASF recoupments. We understand this amount was originally determined as of June 30, 2015 and updated to June 30, 2022 in accordance with GAAP.

SECTION B

FINANCIAL STATEMENTS

This information is subject to the System's Auditor's review. Please let us know if the System's Auditor recommends any changes.

Statement of Fiduciary Net Position as of June 30, 2022

Assets

Cash and Cash Equivalents	\$ 103,349,973
Receivables	102,485,447
Investments at Fair Value	1,326,599,796
Cash and Investments held as collateral for securities lending	56,629,288
Capital Assets - Net	<u>3,803,811</u>
Total Assets	<u><u>\$ 1,592,868,315</u></u>

Liabilities

Accounts Payable	<u>\$ 63,022,020</u>
Total Liabilities	<u><u>\$ 63,022,020</u></u>

Net Position Restricted for Pensions	<u><u>\$ 1,529,846,295</u></u>
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ASF Reserve	\$ 91,394,995
Other Reserves	<u>1,438,451,300</u>
Plan Fiduciary Net Position	<u><u>\$ 1,529,846,295</u></u>

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2022

Additions

Contributions	
Employer	\$ 47,900,000
Employee	-
Foundation Contribution	375,000
Total Contributions	<u>\$ 48,275,000</u>
Investment Income	
Investment Income	\$ (102,790,030)
Net Investment Income	<u>\$ (102,790,030)</u>
Other Income (Including ASF Interest)^	<u>\$ 6,027,787</u>
Total Additions	<u><u>\$ (48,487,243)</u></u>

Deductions

Benefit Payments, including Refunds of Employee Contributions	\$ 236,552,949
Pension Plan Administrative Expense	2,541,080
Other (including ASF write-offs and transfers to Comp I)	<u>1,221,731</u>
Total Deductions	<u>\$ 240,315,760</u>
 Net Increase in Net Position	 <u>\$ (288,803,003)</u>

Net Position Restricted for Pensions

Beginning of Year	<u>\$ 1,818,649,298</u>
End of Year	<u><u>\$ 1,529,846,295</u></u>

^ Following discussions with the auditor, we understand that for purposes of determining the Pension Expense for GASB Statement No. 68, ASF Interest should be treated as Other Changes in Plan Fiduciary Net Position and recognized immediately.

Statement of Pension Expense Under GASB Statement No. 68

Fiscal Year Ended June 30, 2022*

A. Expense	General	DOT	DWSD	Library	Total
1. Service Cost	\$ -	\$ -	\$ -	\$ -	-
2. Interest on the Total Pension Liability	90,815,782	26,191,783	45,271,791	5,799,838	168,079,194
3. Current-Period Benefit Changes	-	-	-	-	-
4. Employee Contributions (made negative for addition here)	-	-	-	-	-
5. Projected Earnings on Plan Investments (made negative for addition here)	(58,088,700)	(7,716,177)	(40,682,667)	(5,679,239)	(112,166,783)
6. Pension Plan Administrative Expense	2,225,371	190,555	-	125,154	2,541,080
7. Other Changes in Plan Fiduciary Net Position	(2,357,356)	(981,295)	(1,447,612)	(19,793)	(4,806,056)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	(107,662,997)	(33,578,636)	(40,930,213)	(11,753,887)	(193,925,733)
9. Recognition of Outflow (Inflow) of Resources due to Assets	11,943,344	1,957,118	8,250,720	1,295,215	23,446,397
10. Total Pension Expense	\$ (63,124,556)	\$ (13,936,652)	\$ (29,537,981)	\$ (10,232,712)	\$ (116,831,901)

**Totals may not add due to rounding.*

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2022*

A. Outflows (Inflows) of Resources due to Liabilities

	General	DOT	DWSD	Library	Total
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (3,515,413)	\$ (5,362,585)	\$ (173,860)	\$ (3,516,351)	\$ (12,568,209)
2. Assumption Changes (gains) or losses	\$ (104,147,584)	\$ (28,216,051)	\$ (40,756,353)	\$ (8,237,536)	\$ (181,357,524)
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	1.0000	1.0000	1.0000	1.0000	1.0000
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	\$ (3,515,413)	\$ (5,362,585)	\$ (173,860)	\$ (3,516,351)	\$ (12,568,209)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ (104,147,584)	\$ (28,216,051)	\$ (40,756,353)	\$ (8,237,536)	\$ (181,357,524)
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ (107,662,997)	\$ (33,578,636)	\$ (40,930,213)	\$ (11,753,887)	\$ (193,925,733)
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	\$ -	\$ -	\$ -	\$ -	\$ -
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ -	\$ -	\$ -	\$ -	\$ -
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ -	\$ -	\$ -	\$ -	\$ -

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 112,064,628	\$ 14,539,245	\$ 77,777,294	\$ 10,575,646	\$ 214,956,813
2. Recognition period for Assets {in years}	5.0000	5.0000	5.0000	5.0000	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$ 22,412,926	\$ 2,907,849	\$ 15,555,459	\$ 2,115,129	\$ 42,991,363
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 89,651,702	\$ 11,631,396	\$ 62,221,835	\$ 8,460,517	\$ 171,965,450

*Totals may not add due to rounding.



Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30 General

A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ -	\$ 107,662,997	\$ (107,662,997)
2. Due to Assets	47,840,377	35,897,033	11,943,344
3. Total	\$ 47,840,377	\$ 143,560,030	\$ (95,719,653)

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 3,515,413	\$ (3,515,413)
2. Assumption Changes	-	104,147,584	(104,147,584)
3. Net Difference between projected and actual earnings on pension plan investments	47,840,377	35,897,033	11,943,344
4. Total	\$ 47,840,377	\$ 143,560,030	\$ (95,719,653)

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ -	\$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	130,513,442	98,235,374	32,278,068
4. Total	\$ 130,513,442	\$ 98,235,374	\$ 32,278,068

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows of Resources General Total
2023	\$ 15,095,251
2024	5,102,093
2025	(10,332,200)
2026	22,412,924
2027	-
Thereafter	-
Total	\$ 32,278,068

Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2022

General

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2022	\$ (3,515,413)	1.0000	\$ (3,515,413)	-	0.0000
Total			\$ (3,515,413)	\$ -	
Deferred Outflow (Inflow) due to Assumption Changes					
2022	\$ (104,147,584)	1.0000	\$ (104,147,584)	-	0.0000
Total			\$ (104,147,584)	\$ -	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2018	\$ (15,759,553)	5.0000	\$ (3,151,909)	\$ -	0.0000
2019	49,965,808	5.0000	9,993,162	9,993,160	1.0000
2020	77,171,447	5.0000	15,434,289	30,868,580	2.0000
2021	(163,725,622)	5.0000	(32,745,124)	(98,235,374)	3.0000
2022	112,064,628	5.0000	22,412,926	89,651,702	4.0000
Total			\$ 11,943,344	\$ 32,278,068	

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30 DOT

A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ -	\$ 33,578,636	\$ (33,578,636)
2. Due to Assets	6,972,283	5,015,165	1,957,118
3. Total	\$ 6,972,283	\$ 38,593,801	\$ (31,621,518)

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 5,362,585	\$ (5,362,585)
2. Assumption Changes	-	28,216,051	(28,216,051)
3. Net Difference between projected and actual earnings on pension plan investments	6,972,283	5,015,165	1,957,118
4. Total	\$ 6,972,283	\$ 38,593,801	\$ (31,621,518)

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ -	\$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	18,084,014	13,796,199	4,287,815
4. Total	\$ 18,084,014	\$ 13,796,199	\$ 4,287,815

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows of Resources
2023	\$ 2,373,552
2024	697,298
2025	(1,690,884)
2026	2,907,849
2027	-
Thereafter	-
Total	\$ 4,287,815

Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2022

DOT

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2022	\$ (5,362,585)	1.0000	\$ (5,362,585)	-	0.0000
Total			\$ (5,362,585)	\$ -	
Deferred Outflow (Inflow) due to Assumption Changes					
2022	\$ (28,216,051)	1.0000	\$ (28,216,051)	-	0.0000
Total			\$ (28,216,051)	\$ -	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2018	\$ (2,082,160)	5.0000	\$ (416,432)	\$ -	0.0000
2019	8,381,262	5.0000	1,676,252	1,676,254	1.0000
2020	11,940,910	5.0000	2,388,182	4,776,364	2.0000
2021	(22,993,665)	5.0000	(4,598,733)	(13,796,199)	3.0000
2022	14,539,245	5.0000	2,907,849	11,631,396	4.0000
Total			\$ 1,957,118	\$ 4,287,815	

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30 DWSD

A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ -	\$ 40,930,213	\$ (40,930,213)
2. Due to Assets	29,814,380	21,563,660	8,250,720
3. Total	\$ 29,814,380	\$ 62,493,873	\$ (32,679,493)

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 173,860	\$ (173,860)
2. Assumption Changes	-	40,756,353	(40,756,353)
3. Net Difference between projected and actual earnings on pension plan investments	29,814,380	21,563,660	8,250,720
4. Total	\$ 29,814,380	\$ 62,493,873	\$ (32,679,493)

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ -	\$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	85,370,067	60,383,921	24,986,146
4. Total	\$ 85,370,067	\$ 60,383,921	\$ 24,986,146

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows of Resources
2023	\$ 9,686,409
2024	4,316,795
2025	(4,572,516)
2026	15,555,458
2027	-
Thereafter	-
Total	\$ 24,986,146

Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2022

DWSD

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2022	\$ (173,860)	1.0000	\$ (173,860)	-	0.0000
Total			\$ (173,860)	\$ -	
Deferred Outflow (Inflow) due to Assumption Changes					
2022	\$ (40,756,353)	1.0000	\$ (40,756,353)	-	0.0000
Total			\$ (40,756,353)	\$ -	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2018	\$ (7,178,439)	5.0000	\$ (1,435,687)	\$ -	0.0000
2019	26,848,067	5.0000	5,369,613	5,369,615	1.0000
2020	44,446,541	5.0000	8,889,308	17,778,617	2.0000
2021	(100,639,867)	5.0000	(20,127,973)	(60,383,921)	3.0000
2022	77,777,294	5.0000	15,555,459	62,221,835	4.0000
Total			\$ 8,250,720	\$ 24,986,146	

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30 Library

A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ -	\$ 11,753,887	\$ (11,753,887)
2. Due to Assets	4,138,863	2,843,648	1,295,215
3. Total	\$ 4,138,863	\$ 14,597,535	\$ (10,458,672)

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 3,516,351	\$ (3,516,351)
2. Assumption Changes	-	8,237,536	(8,237,536)
3. Net Difference between projected and actual earnings on pension plan investments	4,138,863	2,843,648	1,295,215
4. Total	\$ 4,138,863	\$ 14,597,535	\$ (10,458,672)

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ -	\$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	11,731,397	8,066,617	3,664,780
4. Total	\$ 11,731,397	\$ 8,066,617	\$ 3,664,780

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows of Resources
2023	\$ 1,449,992
2024	673,400
2025	(573,742)
2026	2,115,130
2027	-
Thereafter	-
Total	\$ 3,664,780

Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2022

Library

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2022	\$ (3,516,351)	1.0000	\$ (3,516,351)	-	0.0000
Total			\$ (3,516,351)	\$ -	
Deferred Outflow (Inflow) due to Assumption Changes					
2022	\$ (8,237,536)	1.0000	\$ (8,237,536)	-	0.0000
Total			\$ (8,237,536)	\$ -	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2018	\$ (773,879)	5.0000	\$ (154,775)	\$ -	0.0000
2019	3,882,957	5.0000	776,591	776,593	1.0000
2020	6,235,716	5.0000	1,247,143	2,494,287	2.0000
2021	(13,444,363)	5.0000	(2,688,873)	(8,066,617)	3.0000
2022	10,575,646	5.0000	2,115,129	8,460,517	4.0000
Total			\$ 1,295,215	\$ 3,664,780	

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30 Total

A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ -	\$ 193,925,733	\$ (193,925,733)
2. Due to Assets	88,765,903	65,319,506	23,446,397
3. Total	\$ 88,765,903	\$ 259,245,239	\$ (170,479,336)

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 12,568,209	\$ (12,568,209)
2. Assumption Changes	-	181,357,524	(181,357,524)
3. Net Difference between projected and actual earnings on pension plan investments	88,765,903	65,319,506	23,446,397
4. Total	\$ 88,765,903	\$ 259,245,239	\$ (170,479,336)

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ -	\$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	245,698,920	180,482,111	65,216,809
4. Total	\$ 245,698,920	\$ 180,482,111	\$ 65,216,809

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows of Resources
2023	\$ 28,605,204
2024	10,789,586
2025	(17,169,342)
2026	42,991,361
2027	-
Thereafter	-
Total	\$ 65,216,809

Schedule of Proportionate Employer Share for Year Ended June 30, 2022 General Subgroup*

Deferred Outflows of Resources								
TPL	Employer	Prop. Share	Net Pension Liability	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Outflows of Resources
\$ 1,293,909,900	General City	98.35%	\$ 530,277,431	\$ -	\$ 128,359,970	\$ -	\$ -	\$ 128,359,970
19,076,455	Parking	1.45%	7,818,020	-	1,892,445	-	-	1,892,445
2,631,235	Airport	0.20%	1,078,348	-	261,027	-	-	261,027
\$ 1,315,617,590	Total for All Employers	100.00%	\$ 539,173,799	\$ -	\$ 130,513,442	\$ -	\$ -	\$ 130,513,442

Deferred Inflows of Resources						Pension Expense		
Employer	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Inflows of Resources	Prop. Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Employer Pension Expense
General City	\$ -	\$ 96,614,490	\$ -	\$ -	\$ 96,614,490	\$ (62,083,001)	\$ 333,623	\$ (61,749,378)
Parking	-	1,424,413	-	-	1,424,413	(915,306)	(328,623)	(1,243,929)
Airport	-	196,471	-	-	196,471	(126,249)	(5,000)	(131,249)
Total for All Employers	\$ -	\$ 98,235,374	\$ -	\$ -	\$ 98,235,374	\$ (63,124,556)	\$ -	\$ (63,124,556)

* Totals may not add due to rounding.



Schedule of Proportionate Employer Share for Year Ended June 30, 2022 General Subgroup*

Employer	Employer Allocation Percentage	Schedule of Deferred Inflows and Outflows						
		2023	2024	2025	2026	2027	Thereafter	Total
General City	98.35%	\$ 14,846,179	\$ 5,017,909	\$ (10,161,719)	\$ 22,043,111	\$ -	\$ -	\$ 31,745,480
Parking	1.45%	218,881	73,980	(149,817)	324,987	-	-	468,031
Airport	0.20%	30,191	10,204	(20,664)	44,826	-	-	64,557
TOTAL	100.00%	\$ 15,095,251	\$ 5,102,093	\$ (10,332,200)	\$ 22,412,924	\$ -	\$ -	\$ 32,278,068

* Totals may not add due to rounding.

Determination of Employer Contribution Allocation for Year Ended June 30, 2022

Employer	General City	Parking	Airport	General Total	DOT	DWSD	Library	Total
Contributions Before General Breakdown				\$ 2,765,012	\$ 109,988	\$ 42,900,000	\$ 2,500,000	\$ 48,275,000
General Employer Allocation Percent	100.00%	0.00%	0.00%	100.00%	N/A	N/A	N/A	N/A
Times General Total	\$ 2,765,012	\$ 2,765,012	\$ 2,765,012	2,765,012	N/A	N/A	N/A	N/A
Contribution Allocation Dollar	\$ 2,765,012	\$ -	\$ -	\$ 2,765,012	\$ 109,988	\$ 42,900,000	\$ 2,500,000	\$ 48,275,000

We understand that the General contributions should be split between the General component units (General City, Parking, and Airport) according to the above schedule. Please let us know if a different allocation should be used.



SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios Current Period

Fiscal Year Ended June 30, 2022*

A. Total Pension Liability	General	DOT	DWSD	Library	Total
1. Service Cost	\$ -	\$ -	\$ -	\$ -	\$ -
2. Interest on the Total Pension Liability	90,815,782	26,191,783	45,271,791	5,799,838	168,079,194
3. Changes of benefit terms	-	-	-	-	-
4. Difference between expected and actual experience of the Total Pension Liability	(3,515,413)	(5,362,585)	(173,860)	(3,516,351)	(12,568,209)
5. Changes of assumptions	(104,147,584)	(28,216,051)	(40,756,353)	(8,237,536)	(181,357,524)
6. Benefit payments, including refunds of employee contributions	(129,402,174)	(36,240,358)	(64,116,971)	(6,793,446)	(236,552,949)
7. Net change in Total Pension Liability	\$ (146,249,389)	\$ (43,627,211)	\$ (59,775,393)	\$ (12,747,495)	\$ (262,399,488)
8. Total Pension Liability – Beginning	1,461,866,979	421,070,684	728,547,577	92,624,993	2,704,110,233
9. Total Pension Liability – Ending	\$ 1,315,617,590	\$ 377,443,473	\$ 668,772,184	\$ 79,877,498	\$ 2,441,710,745
B. Plan Fiduciary Net Position					
1. Contributions – employer	\$ 2,765,012	\$ 109,988	\$ 42,900,000	\$ 2,500,000	\$ 48,275,000
2. Contributions – employee	-	-	-	-	-
3. Net investment income	(53,975,928)	(6,823,068)	(37,094,627)	(4,896,407)	(102,790,030)
4. Benefit payments, including refunds of employee contributions	(129,402,174)	(36,240,358)	(64,116,971)	(6,793,446)	(236,552,949)
5. Pension Plan Administrative Expense	(2,225,371)	(190,555)	-	(125,154)	(2,541,080)
6. Other	2,357,356	981,295	1,447,612	19,793	4,806,056
7. Net change in Plan Fiduciary Net Position	\$ (180,481,105)	\$ (42,162,698)	\$ (56,863,986)	\$ (9,295,214)	\$ (288,803,003)
8. Plan Fiduciary Net Position – Beginning	956,924,896	136,380,233	635,771,862	89,572,307	1,818,649,298
9. Plan Fiduciary Net Position – Ending	\$ 776,443,791	\$ 94,217,535	\$ 578,907,876	\$ 80,277,093	\$ 1,529,846,295
C. Net Pension Liability	\$ 539,173,799	\$ 283,225,938	\$ 89,864,308	\$ (399,595)	\$ 911,864,450
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability	59.02%	24.96%	86.56%	100.50%	62.65%
E. Covered-employee payroll	\$ 68,028,797	\$ 13,547,705	\$ 12,777,868	\$ 8,299,266	\$ 102,653,636
F. Net Pension Liability as a percentage of covered-employee payroll	792.57%	2090.58%	703.28%	-4.81%	888.29%

*Totals may not add due to rounding.

A Special Funding Situation may occur if a non-city entity has a legal obligation to contribute directly to the Retirement System. The Net Pension Liability shown here has not been adjusted for any potential special funding situation.



Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Ultimately 10 Fiscal Years will be Displayed

Fiscal year ending June 30,	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability									
Service Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32,736,019
Interest on the Total Pension Liability	168,079,194	182,140,105	192,888,245	195,489,643	192,359,745	201,919,236	214,011,164	263,007,329	242,611,073
Benefit Changes	-	-	-	-	-	-	-	(731,824,895)	(113,311,571)
Difference between Expected and Actual Experience	(12,568,209)	(59,232,849)	(55,836,749)	13,596,900	34,154,327	(27,508,380)	(43,719,112)	24,644,530	-
Assumption Changes	(181,357,524)	119,876,694	67,677,535	-	(110,274,515)	76,925,957	90,034,927	(101,559,893)	(271,190,194)
Benefit Payments	(222,756,595)	(225,790,173)	(230,537,598)	(235,153,732)	(239,301,938)	(242,938,006)	(242,470,451)	(253,217,949)	(253,683,194)
Refunds*	(13,796,354)	(11,333,604)	(9,344,054)	(13,636,283)	(14,140,692)	(24,311,533)	(49,811,728)	(44,321,041)	(144,050,613)
Net Change in Total Pension Liability	(262,399,488)	5,660,173	(35,152,621)	(39,703,472)	(137,203,073)	(15,912,726)	(31,955,200)	(843,271,919)	(506,888,480)
Total Pension Liability - Beginning	2,704,110,233	2,698,450,060	2,733,602,681	2,773,306,153	2,910,509,226	2,926,421,952	2,958,377,152	3,801,649,071	4,308,537,551
Total Pension Liability - Ending (a)	\$ 2,441,710,745	\$ 2,704,110,233	\$ 2,698,450,060	\$ 2,733,602,681	\$ 2,773,306,153	\$ 2,910,509,226	\$ 2,926,421,952	\$ 2,958,377,152	\$ 3,801,649,071
Plan Fiduciary Net Position									
Employer Contributions	\$ 48,275,000	\$ 48,275,000	\$ 47,900,000	\$ 67,900,000	\$ 68,275,000	\$ 91,238,402	\$ 104,792,657	\$ 189,282,095	\$ 25,126,131
Employee Contributions	-	-	-	-	-	-	-	609,073	10,241,761
Pension Plan Net Investment Income	(102,790,030)	406,977,917	(14,002,111)	47,170,007	155,423,193	206,896,567	(7,865,094)	93,054,978	289,789,607
Benefit Payments	(222,756,595)	(225,790,173)	(230,537,598)	(235,153,732)	(239,301,938)	(242,938,006)	(242,470,451)	(253,217,949)	(253,683,194)
Refunds*	(13,796,354)	(11,333,604)	(9,344,054)	(13,636,283)	(14,140,692)	(24,311,533)	(49,811,728)	(44,321,041)	(144,050,613)
Pension Plan Administrative Expense	(2,541,080)	(1,987,193)	(2,351,273)	(3,023,943)	(3,313,418)	(6,021,837)	(3,742,618)	(7,556,822)	(11,237,767)
Other	4,806,056	6,405,362	5,530,198	(4,972,864)	6,952,522	8,324,075	1,360,330	138,219,998	-
Net Change in Plan Fiduciary Net Position	(288,803,003)	222,547,309	(202,804,838)	(141,716,815)	(26,105,333)	33,187,668	(197,736,904)	116,070,332	(83,814,075)
Plan Fiduciary Net Position - Beginning	1,818,649,298	1,596,101,989	1,798,906,827	1,940,623,642	1,966,728,975	1,933,541,307	2,131,278,211	2,015,207,879	2,099,021,954
Plan Fiduciary Net Position - Ending (b)	\$ 1,529,846,295	\$ 1,818,649,298	\$ 1,596,101,989	\$ 1,798,906,827	\$ 1,940,623,642	\$ 1,966,728,975	\$ 1,933,541,307	\$ 2,131,278,211	\$ 2,015,207,879
Net Pension Liability - Ending (a) - (b)	\$ 911,864,450	\$ 885,460,935	\$ 1,102,348,071	\$ 934,695,854	\$ 832,682,511	\$ 943,780,251	\$ 992,880,645	\$ 827,098,941	\$ 1,786,441,192
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	62.65 %	67.25 %	59.15 %	65.81 %	69.98 %	67.57 %	66.07 %	72.04 %	53.01 %
Covered-Employee Payroll	\$ 102,653,636	\$ 111,124,304	\$ 142,215,060	\$ 149,373,313	\$ 141,454,717	\$ 143,882,722	\$ 200,722,197	\$ 203,507,079	\$ 213,291,083
Net Pension Liability as a Percentage of Covered-Employee Payroll	888.29 %	796.82 %	775.13 %	625.74 %	588.66 %	655.94 %	494.65 %	406.42 %	837.56 %
Notes to Schedule:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* For FY 2017, includes approximately \$2.9 million of adjusted loan balances that were treated as refunds of ASF contributions.

A Special Funding Situation may occur if a non-city entity has a legal obligation to contribute directly to the Retirement System. The Net Pension Liability shown here has not been adjusted for any potential funding situation. Our understanding is that the City makes all the employer contributions into the fund, even though the City may receive monies from other entities as a result of the POA.



Schedules of Required Supplementary Information

Schedule of the Net Pension Liability Multiyear

Ultimately 10 Fiscal Years will be Displayed

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll*	Net Pension Liability as a % of Covered Payroll
2014	\$ 3,801,649,071	\$ 2,015,207,879	\$ 1,786,441,192	53.01%	\$ 213,291,083	837.56%
2015	2,958,377,152	2,131,278,211	827,098,941	72.04%	203,507,079	406.42%
2016	2,926,421,952	1,933,541,307	992,880,645	66.07%	200,722,197	494.65%
2017	2,910,509,226	1,966,728,975	943,780,251	67.57%	143,882,722	655.94%
2018	2,773,306,153	1,940,623,642	832,682,511	69.98%	141,454,717	588.66%
2019	2,733,602,681	1,798,906,827	934,695,854	65.81%	149,373,313	625.74%
2020	2,698,450,060	1,596,101,989	1,102,348,071	59.15%	142,215,060	775.13%
2021	2,704,110,233	1,818,649,298	885,460,935	67.25%	111,124,304	796.82%
2022	2,441,710,745	1,529,846,295	911,864,450	62.65%	102,653,636	888.29%

* Covered payroll shown is the reported payroll on the actuarial valuation date (census date). Actual covered payroll paid during the year was unavailable.

Schedule of Contributions Multiyear

Ultimately 10 Fiscal Years will be Displayed

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2014	\$80,627,791	\$ 25,126,131	\$55,501,660	\$213,291,083	11.78%
2015	N/A	189,282,095	N/A	203,507,079	93.01%
2016	N/A	104,792,657	N/A	200,722,197	52.21%
2017	N/A	91,238,402	N/A	143,882,722	63.41%
2018	N/A	68,275,000	N/A	141,454,717	48.27%
2019	N/A	68,275,000	N/A	149,373,313	45.71%
2020	N/A	48,275,000	N/A	142,215,060	33.95%
2021	N/A	48,275,000	N/A	111,124,304	43.44%
2022	N/A	48,275,000	N/A	102,653,636	47.03%

* Covered payroll shown is the reported payroll from the actuarial valuation date (census date). Actual covered payroll paid during the year was unavailable.

Notes to Schedule of Contributions

Contribution Requirement: Required contributions to the Plan through FY 2023 are provided in the POA. Certain agreements (as allowed for in the POA) have resulted in some of the contributions being accelerated. The schedule below details our understanding of the remaining contributions required by the POA.

Contribution Source								
Fiscal Year	For DWSD		For Other Liabilities					Total
	DWSD	Transfers	UTGO	State	DIA	Other	Transfers from	
							DWSD	
2023	45.4	(2.5)	-	-	0.4	2.5	2.5	48.3

We have assumed the contributions outlined above as called for in the POA (with adjustments) will not change. An estimate of the probability of those payments being made was outside the scope of this project, not required by Actuarial Standards, and was not made.

Beginning with Fiscal Year 2024, employer contributions will be actuarially determined.

Schedule of Investment Returns

This information should be provided by the plan's investment consultant.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Single Discount Rate

A Single Discount Rate of 6.75%, net of investment expenses, was used to measure the total pension liability as of June 30, 2022. This Single Discount Rate was based on the expected rate of return on pension plan investments of 6.75% as directed by the System and approved by the System's Auditor. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions ceased as of June 30, 2014, and that employer contributions will be made at rates equal to those set by the final Plan of Adjustment through June 30, 2023 and contributions consistent with PERSIA and the intention to fully fund the System by 2053 as determined in the bankruptcy (POA). Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 6.75%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher.

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	1% Decrease	Current Single Discount Rate Assumption	1% Increase
	5.75%	6.75%	7.75%
Total Pension Liability (TPL)	\$2,646,221,674	\$2,441,710,745	\$2,265,473,614
Net Position Restricted for Pensions	1,529,846,295	1,529,846,295	1,529,846,295
Net Pension Liability (NPL)	\$1,116,375,379	\$ 911,864,450	\$ 735,627,319

Users of this report should be aware that, in the actuary's judgement, a discount rate of 7.75% would not be a reasonable assumption for funding purposes.

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	11,173
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2,645
Active Plan Members	<u>2,185</u>
Total Plan Members	16,003

Additional information regarding the plan population may be found in the June 30, 2021 actuarial valuation of the System.

Additional Note

Potential future asset transfers from this Plan to Component I for payment of Transition Costs were not included in this calculation.

SECTION E

SUMMARY OF BENEFITS

Summary of Benefit Provisions Evaluated

Component II Frozen Benefits

All Component II benefits are frozen as of June 30, 2014 based on service and average final compensation accrued as of that date and the provisions of the Detroit General Retirement System as it existed on June 30, 2014. Frozen benefits are further reduced by 4.5% and all future Cost-of-Living Adjustments ("COLAs") were eliminated. Benefits resulting from the Annuity Savings Fund and benefits paid from the Annuity Reserve Fund were subject to a separate reduction described as a "Claw-back." Details of the claw-back provision are complicated and can be found in the Eighth Amended Plan of Adjustment. The benefits evaluated in this report are the frozen reduced benefits after the claw-back. Component II benefits are payable after separation from service, upon meeting the eligibility conditions of the plan as it existed on June 30, 2014, regardless of whether the individual is eligible to receive a Component I benefit at that time.

Our understanding of the June 30, 2014 plan provisions is provided below for completeness. The material below does not have legal standing and is not intended to cover all potential situations that could occur. If there are discrepancies between the description below, and appropriate legal documents, the latter necessarily govern.

Age and Service Pension

Eligibility - Any age (minimum age 55 for non-EMS members hired after 1995) with 30 years of service (25 for EMS members), or age 60 with 10 years of service, or age 65 with 8 years of service.

Annual Amount - EMS Members: Sum of a) a basic pension of \$12 for each of the first 10 years of service, plus b) a pension equal to 2.0% of AFC multiplied by years of service. Maximum benefit is 90% of AFC.

Other Members: Sum of a) a basic pension of \$12 for each of the first 10 years of service, plus b) a pension equal to the first 10 years of service multiplied by 1.6% of AFC, plus 1.8% of AFC for each year of service greater than 10 years up to 20 years, plus 2.0% of AFC for each year of service greater than 20 years up to 25 years, plus 2.2% of AFC for each year of service greater than 25 years. Future benefit accruals for certain active members (depending on bargaining unit) were reduced to 1.5% of final average compensation per year of service.

Type of Average Final Compensation (AFC) - Highest 3 consecutive years out of the last 10. Pension benefits will not be diminished if compensation is reduced because of a fiscal emergency. Effective July 1, 1999, in computing the AFC, a member shall have the option of adding the value of 25% of unused accrued sick leave to the earnings used in computing the AFC. Longevity is added to AFC in accordance with the following schedule: \$150 after 5 years, \$300 after 10 years, \$450 after 15 years, \$600 after 20 years, and \$750 after 25 years.

Early Retirement

Eligibility - Any age with 25 or more years of service (min. age 55 for members hired after 1995).

Annual Amount - Same as regular retirement but actuarially reduced.



Summary of Benefit Provisions Evaluated (Continued)

Deferred Retirement (Vested Benefit)

Eligibility - Hired prior to 7-1-80: Age 40 with 8 years of service. Hired on or after 7-1-80: Any age with 10 years of service.

Benefit Commencement - **APTE hired prior to July 1, 1988:** Benefit begins at the age the member would have become eligible for regular retirement if service had continued. **SAAA, Non-Union and lawyers hired prior to June 30, 1986:** Benefit begins at the age the member would have become eligible for regular retirement. **Others:** Benefits based on service rendered by June 30, 1986 begin at the age the member would have become eligible for regular retirement. Benefits based on service rendered after July 1, 1986 begin at age 62.

Annual Amount - Same as regular retirement but based on average final compensation and service at the time of termination.

Duty Disability Retirement

Eligibility - Service related disability before eligibility for service retirement prior to July 1, 2014. No service requirement.

Annual Amount - An annuity which is the actuarial equivalent of the accumulated contributions at date of disability plus a pension of two-thirds of average final compensation at time of disability. The maximum annual pension is \$5,700 (\$9,000 for EMS). At the earliest of when the member would have accrued 30 years of service credit (25 for EMS) or age 60, the annuity is recomputed assuming contributions would have continued at a salary level equal to final compensation. The pension is recomputed with additional service credit granted from the date of disability to age 60 (or 30 years of service credit) or June 30, 2014, whichever is earlier. Benefits payable prior to conversion/re-computation, if any, were assumed to be paid outside the trust.

Non-Duty Disability Retirement

Eligibility - Disability from any cause before age 60 with 10 or more years of service prior to July 1, 2014.

Annual Amount - Computed in the same manner as a regular retirement benefit. Maximum annual pension to age 60 is \$6,000. Benefit is recomputed at age 60 with no maximum. Benefits payable prior to age 60, if any, were assumed to be paid from outside the trust.

Duty Death Before Retirement

Eligibility - Death from service related causes. No age or service requirements.

Annual Amount - One-third of final compensation as of June 30, 2014 to the surviving spouse for life or until remarriage, plus an equal share of 1/4 of final compensation to each unmarried child under age 18. If there is no eligible spouse, eligible children each receive 1/4 of final compensation; if there are more than 2 such children, each child shares an equal part of 1/2 of final compensation. Maximum total amount for spouse and children is \$9,000 annually. If there is no eligible spouse or children, dependent parents each receive 1/6 of deceased's final compensation, to a total maximum of \$600 annually.



Summary of Benefit Provisions Evaluated (Concluded)

Non-Duty Death Before Retirement

Eligibility - Death-in-service at any age with 15 years of service; or after age 60 with 10 years of service; or after age 65 with 8 years of service.

Annual Amount - To Surviving Spouse: Computed as a regular retirement benefit but reduced in accordance with a 100% joint and survivor election for members with 20 or more years of service. For members with 15 years of service but less than 20, benefit is reduced in accordance with a 50% joint and survivor election. To Dependent Children if no Surviving Spouse: \$9,000 payable to age 19 of the youngest child or for life if child is physically or mentally impaired for members with 20 or more years of service (\$6,000 if less than 20 years of service).

Post-Retirement Cost-of-Living Adjustments

Benefit is increased annually by 2.25% of the **original** pension amount at retirement. Post-retirement cost-of-living increases were eliminated on future accruals for certain active members (depending on bargaining unit).

Member Contributions

Members had the option of choosing one of four contribution amounts: (1) 0%; (2) 3.0% of compensation up to the Social Security wage base, plus 5.0% of compensation in excess of the Social Security wage base; (3) 5.0% of total compensation; or (4) 7.0% of total compensation. Member contributions can be paid as a lump sum or annuitized at retirement to provide an annuity in addition to the pension (which is not affected by the level of member contributions).

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Summary of Assumptions and Methods Used for the GASB Actuarial Valuations Adopted by Board of Trustees

All assumptions are estimates of future experience except as noted. The rationale for the assumptions is based on experience studies where noted.

Economic Assumptions

The investment return rate is 6.75% per year, compounded annually (net after investment expenses) as of June 30, 2022. This assumption was provided by the Retirement System.

Price inflation is not directly used in the valuation. For purposes of assessing the reasonability of the investment return assumptions, we assumed price inflation of 2.50% per year.

Future **administrative expenses** are assumed to be 1.01% of benefit payments and refunds.

Non-Economic Assumptions

For healthy post-retirement mortality, the PubG-2010(B) Below-Median General Retiree table was used for mortality assumptions going forward, decreased by 3% for males and increased by 26% for females.

For disabled post-retirement mortality, the PubNS-2010 Non-Safety Disabled Retiree mortality table was used, increased 4% for males and decreased 2% for females.

For pre-retirement mortality rates, the PubG-2010(B) Below-Median General Employee mortality table was used for both males and females.

The tables are projected to be fully generational, based on the 2-dimensional, sex distinct mortality improvement scale MP-2021 (which was intended to be used with the Pub-2010). 75% of all deaths-in-service are assumed to be non-duty related. This table was first used as of June 30, 2021. The rationale for the mortality assumption is based on the 2015-2020 Experience Study

The probabilities of retirement for members eligible to retire are shown on the following pages. These probabilities were revised for the June 30, 2021 valuation. The rationale is based on the 2015-2020 Experience Study.

The probabilities of separation from service (including *death-in-service* and *disability*) are shown for sample ages on the following pages. These probabilities were revised for the June 30, 2021 valuation. The rationale is based on the 2015-2020 Experience Study.

Single Life Retirement Values

Based on PubG-2010(B)
97% of Male Rates/126% of Female Rates
Using Projection Scale MP-2021

Sample Attained Ages in 2021	Future Life Expectancy (years)	
	Men	Women
45	37.47	39.95
50	32.54	34.89
55	28.16	30.31
60	23.94	25.80
65	19.86	21.37
70	15.90	17.05
75	12.26	13.04
80	9.07	9.51

Probabilities of Age/Service Retirement for Members Eligible to Retire

Retirement Ages	Percent of Eligible Active Members Retiring within Next Year with Unreduced Benefits		
	EMS	D.O.T.	Others
62	40%	20%	20%
63	40%	20%	20%
64	40%	20%	20%
65	40%	20%	20%
66	40%	20%	20%
67	40%	30%	20%
68	40%	30%	20%
69	40%	30%	20%
70	100%	100%	20%
71			20%
72			20%
73			20%
74			20%
75			20%
76			20%
77			20%
78			20%
79			20%
80			100%
Ref	851	3304	3305

All members are assumed to retire while eligible for Component I (Hybrid) retirement only. The rationale is based on the 2015-2020 Experience Study.

Probabilities of Early Retirement for Members Eligible for Early Retirement

Retirement Ages	Percent of Eligible Active Members Retiring within Next Year with Reduced Benefits
55	6.5%
56	6.5%
57	6.5%
58	7.5%
59	8.5%
60	9.5%
61	9.5%
62	9.5%
Ref	3303

All members are assumed to retire while eligible for Component I (Hybrid) retirement only. The rationale is based on the 2015-2020 Experience Study.

Sample Rates of Separation from Active Employment Before Retirement

Sample Ages	Years of Service	% of Active Members	
		Withdrawal	
		EMS	Other
ALL	0	16.00%	28.00%
	1	15.00%	19.00%
	2	15.00%	15.00%
	3	11.00%	14.00%
	4	11.00%	14.00%
25	5 & Over	10.05%	13.00%
30		8.85%	11.91%
35		7.80%	9.25%
40		6.60%	7.19%
45		5.10%	5.91%
50		3.60%	5.00%
55		3.00%	5.00%
60		3.00%	5.00%
Ref		1405 1608	1406 1609

Sample Ages	% of Active Members Becoming Disabled within Next Year			
	D.O.T.		Others	
	Ordinary	Duty	Ordinary	Duty
25	0.16%	0.24%	0.03%	0.03%
30	0.19%	0.28%	0.04%	0.04%
35	0.26%	0.39%	0.05%	0.05%
40	0.37%	0.56%	0.08%	0.08%
45	0.56%	0.84%	0.12%	0.12%
50	0.70%	1.05%	0.15%	0.15%
55	0.82%	1.23%	0.17%	0.17%
60	0.94%	1.41%	0.20%	0.20%
Ref	1238 x 1.20	1238 x 1.80	1238 x 0.25	1238 x 0.25

Rationale for assumption is based upon a 2015-2020 Experience Study.

Miscellaneous and Technical Assumptions

Benefit Service	Exact Fractional service is used to determine the amount of benefit payable.
Decrement Operation	Disability and mortality decrements do not operate during the first five years of service. Disability and withdrawal do not operate during retirement eligibility.
Decrement Timing	Decrements of all types are assumed to occur mid-year.
Eligibility Testing	Eligibility for benefits is determined based upon the age nearest birthday and rounded service on the date the decrement is assumed to occur.
Forfeitures	None.
Incidence of Contributions	Contributions are assumed to be received at the end of the year.
Marriage Assumption	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Normal Form of Benefit	Straight life is the normal form of benefit. The Board adopted assumptions for Actuarial Equivalence to be an 80%/20% unisex blend of RP-2014 mortality (Male/Female) with Blue Collar Adjustment, set ahead one year for males and females, projected 11 years with MP-2014, an interest rate of 6.75%, and no COLA for optional forms of payment and early retirement reduction. Assumptions for annuitizing member contributions are the same except for using a 60%/40% unisex blend and a 5.25% assumed rate of interest. Prior to the use of these factors, actuarial equivalent factors were based on 7.5% interest and the 1984 Group Annuity Mortality table.
Service Credit Accruals	Service accruals stop as of June 30, 2014 for measurement of Component II liabilities. However, future service in Component I may be used to satisfy benefit eligibility requirement in Component II. Members who became duty disabled prior to June 30, 2014 are assumed to get projected service from date of disability to conversion date. Member who become disabled after June 30, 2014 are assumed to get their frozen accrued benefit as of June 30, 2014 at date of conversion.
Administrative Expenses	Administrative expenses are assumed to be 1.01% of benefit payments and are to be included in the employer contribution.
Sick Leave	Sick leave banks as of June 30, 2014 were included in the 2014 data file provided by the System.
Member Contributions	Member contributions to this Component II plan are assumed to have ceased with the bankruptcy.
Pop-Up Benefits	For current retirees with a pop-up benefit, the value of the pop-up was estimated by valuing a non-pop-up option and increasing the associated liabilities by 2%.

Rationale for assumptions is based upon a 2015-2020 Experience Study, modified as necessary for changes in data or administration.



SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate at End of Year

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.75%; the municipal bond rate is 3.69%; and the resulting SDR is 6.75% as of June 30, 2022.

The tables in this section provide background for the development of the SDR.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities). For purposes of determining the discount rate as of June 30, 2022, the employer contributions for the 10-year period ending June 30, 2023 were set by the 8th Amended Plan of Adjustment (POA), as adjusted by subsequent agreements. Subsequent employer contributions were determined by a closed 30-year level principle amortization of any unfunded actuarial accrued liability (as required by State law) using 6.75% interest, net of investment expenses, consistent with the 100% funded target by 2053 in the POA.

Rates of Return: Note that these projections are specifically used to determine the SDR and should not be interpreted as a funding recommendation. The 6.75% rate of return was before administrative expenses. Therefore, the projections assumed that any administrative expenses incurred by the plan will directly increase employer contributions beginning with FY 2024. The rate is net of investment expenses.

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

Unfunded Actuarial Accrued Liabilities. Actual employer contributions through June 30, 2023 are set by the POA. The amortization period and method after 2023 has not yet been established by the Board.

Calculation of the Single Discount Rate at End of Year

The **Present Values of Projected Benefit Payments** table shows the development of the SDR. It breaks down the benefit payments into present values for funded and unfunded portions (if any) and shows the equivalent total at the SDR. For purposes of determining the discount rate as of June 30, 2022, the benefit payments reflect the plan provisions in force as of June 30, 2022.

Single Discount Rate Development Projection of Contributions End of Year

Fiscal Year Ending June 30,	Projected Contributions from Current Employees	Projected Service Cost	Administrative Expense Contributions	Projected UAL Contributions	Projected Total Contributions
2023	\$ -	\$ -	\$ 2,289,925	\$ 45,985,075	\$ 48,275,000
2024	-	-	2,253,923	90,362,022	92,615,945
2025	-	-	2,219,890	88,345,680	90,565,570
2026	-	-	2,186,208	86,329,337	88,515,545
2027	-	-	2,148,258	84,312,994	86,461,252
2028	-	-	2,106,228	82,296,652	84,402,880
2029	-	-	2,060,385	80,280,309	82,340,694
2030	-	-	2,014,090	78,263,966	80,278,056
2031	-	-	1,964,185	76,247,624	78,211,809
2032	-	-	1,911,413	74,231,281	76,142,694
2033	-	-	1,855,007	72,214,938	74,069,945
2034	-	-	1,794,212	70,198,596	71,992,808
2035	-	-	1,728,307	68,182,253	69,910,560
2036	-	-	1,659,384	66,165,910	67,825,294
2037	-	-	1,587,476	64,149,568	65,737,044
2038	-	-	1,514,280	62,133,225	63,647,505
2039	-	-	1,438,228	60,116,883	61,555,111
2040	-	-	1,360,568	58,100,540	59,461,108
2041	-	-	1,282,027	56,084,197	57,366,224
2042	-	-	1,203,122	54,067,855	55,270,977
2043	-	-	1,124,714	52,051,512	53,176,226
2044	-	-	1,046,973	50,035,169	51,082,142
2045	-	-	970,136	48,018,827	48,988,963
2046	-	-	895,113	46,002,484	46,897,597
2047	-	-	822,224	43,986,141	44,808,365
2048	-	-	752,030	41,969,799	42,721,829
2049	-	-	684,888	39,953,456	40,638,344
2050	-	-	621,004	37,937,113	38,558,117
2051	-	-	560,649	35,920,771	36,481,420
2052	-	-	503,972	33,904,428	34,408,400
2053	-	-	451,081	31,888,086	32,339,167
2054	-	-	402,040	-	402,040
2055	-	-	356,792	-	356,792
2056	-	-	315,305	-	315,305
2057	-	-	277,487	-	277,487
2058	-	-	243,213	-	243,213
2059	-	-	212,327	-	212,327
2060	-	-	184,647	-	184,647
2061	-	-	159,969	-	159,969
2062	-	-	138,085	-	138,085
2063	-	-	118,773	-	118,773
2064	-	-	101,812	-	101,812
2065	-	-	86,983	-	86,983
2066	-	-	74,075	-	74,075
2067	-	-	62,883	-	62,883
2068	-	-	53,219	-	53,219
2069	-	-	44,904	-	44,904
2070	-	-	37,774	-	37,774
2071	-	-	31,682	-	31,682
2072	-	-	26,495	-	26,495

Employer contributions as shown may differ substantially from those determined by a funding valuation.



Single Discount Rate Development

Projection of Plan Fiduciary Net Position

End of Year

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected ASF Refund	Projected Administrative Expenses	Projected Investment Earnings at 6.75% (5.25% for ASF)	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)
2023	\$ 1,529,846,295	\$ 48,275,000	\$ 226,725,269	\$ 11,677,579	\$ 2,289,925	\$ 95,590,706	\$ 1,433,019,228
2024	1,433,019,228	92,615,945	223,160,696	11,677,579	2,253,923	90,754,215	1,379,297,189
2025	1,379,297,189	90,565,570	219,791,078	11,677,579	2,219,890	87,286,290	1,323,460,501
2026	1,323,460,501	88,515,545	216,456,200	11,677,579	2,186,208	83,680,425	1,265,336,484
2027	1,265,336,484	86,461,252	212,698,835	11,677,579	2,148,258	79,940,457	1,205,213,521
2028	1,205,213,521	84,402,880	208,537,461	11,677,579	2,106,228	76,085,567	1,143,380,699
2029	1,143,380,699	82,340,694	203,998,549	11,677,579	2,060,385	72,134,736	1,080,119,615
2030	1,080,119,615	80,278,056	199,414,877	11,677,579	2,014,090	68,096,288	1,015,387,412
2031	1,015,387,412	78,211,809	194,473,778	11,677,579	1,964,185	63,978,093	949,461,771
2032	949,461,771	76,142,694	189,248,848	11,677,579	1,911,413	59,796,856	882,563,482
2033	882,563,482	74,069,945	183,664,093	-	1,855,007	55,873,044	826,987,371
2034	826,987,371	71,992,808	177,644,724	-	1,794,212	52,254,553	771,795,794
2035	771,795,794	69,910,560	171,119,522	-	1,728,307	48,678,810	717,537,335
2036	717,537,335	67,825,294	164,295,429	-	1,659,384	45,175,976	664,583,793
2037	664,583,793	65,737,044	157,175,820	-	1,587,476	41,771,035	613,328,576
2038	613,328,576	63,647,505	149,928,681	-	1,514,280	38,484,965	564,018,085
2039	564,018,085	61,555,111	142,398,809	-	1,438,228	35,339,550	517,075,708
2040	517,075,708	59,461,108	134,709,748	-	1,360,568	32,359,268	472,825,767
2041	472,825,767	57,366,224	126,933,393	-	1,282,027	29,563,623	431,540,194
2042	431,540,194	55,270,977	119,121,023	-	1,203,122	26,969,268	393,456,295
2043	393,456,295	53,176,226	111,357,814	-	1,124,714	24,589,395	358,739,387
2044	358,739,387	51,082,142	103,660,714	-	1,046,973	22,434,599	327,548,441
2045	327,548,441	48,988,963	96,053,049	-	970,136	20,514,836	300,029,054
2046	300,029,054	46,897,597	88,625,053	-	895,113	18,836,938	276,243,423
2047	276,243,423	44,808,365	81,408,328	-	822,224	17,404,055	256,225,291
2048	256,225,291	42,721,829	74,458,374	-	752,030	16,216,622	239,953,338
2049	239,953,338	40,638,344	67,810,714	-	684,888	15,272,020	227,368,100
2050	227,368,100	38,558,117	61,485,573	-	621,004	14,565,563	218,385,203
2051	218,385,203	36,481,420	55,509,773	-	560,649	14,090,668	212,886,869
2052	212,886,869	34,408,400	49,898,230	-	503,972	13,838,887	210,731,954
2053	210,731,954	32,339,167	44,661,438	-	451,081	13,800,345	211,758,947
2054	211,758,947	402,040	39,805,948	-	402,040	12,972,215	184,925,214
2055	184,925,214	356,792	35,325,971	-	356,792	11,309,668	160,908,911
2056	160,908,911	315,305	31,218,304	-	315,305	9,824,938	139,515,544
2057	139,515,544	277,487	27,473,963	-	277,487	8,505,193	120,546,775
2058	120,546,775	243,213	24,080,537	-	243,213	7,337,460	103,803,698
2059	103,803,698	212,327	21,022,522	-	212,327	6,308,825	89,090,001
2060	89,090,001	184,647	18,281,858	-	184,647	5,406,637	76,214,779
2061	76,214,779	159,969	15,838,557	-	159,969	4,618,675	64,994,897
2062	64,994,897	138,085	13,671,788	-	138,085	3,933,267	55,256,376
2063	55,256,376	118,773	11,759,709	-	118,773	3,339,396	46,836,062
2064	46,836,062	101,812	10,080,395	-	101,812	2,826,776	39,582,443
2065	39,582,443	86,983	8,612,209	-	86,983	2,385,899	33,356,132
2066	33,356,132	74,075	7,334,115	-	74,075	2,008,054	28,030,072
2067	28,030,072	62,883	6,226,077	-	62,883	1,685,331	23,489,326
2068	23,489,326	53,219	5,269,210	-	53,219	1,410,597	19,630,713
2069	19,630,713	44,904	4,445,903	-	44,904	1,177,474	16,362,284
2070	16,362,284	37,774	3,740,009	-	37,774	980,290	13,602,565
2071	13,602,565	31,682	3,136,856	-	31,682	814,033	11,279,742
2072	11,279,742	26,495	2,623,227	-	26,495	674,294	9,330,809

Employer contributions as shown may differ substantially from those determined by a funding valuation.



Single Discount Rate Development Projection of Plan Fiduciary Net Position End of Year (Concluded)

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected ASF Refund	Projected Administrative Expenses	Projected Investment Earnings at 6.75% (5.25% for ASF)	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)
2073	\$ 9,330,809	\$ 22,092	\$ 2,187,330	\$ -	\$ 22,092	\$ 557,213	\$ 7,700,692
2074	7,700,692	18,368	1,818,661	-	18,368	459,419	6,341,451
2075	6,341,451	15,230	1,507,899	-	15,230	377,987	5,211,539
2076	5,211,539	12,593	1,246,843	-	12,593	310,385	4,275,081
2077	4,275,081	10,386	1,028,281	-	10,386	254,430	3,501,230
2078	3,501,230	8,544	845,909	-	8,544	208,250	2,863,571
2079	2,863,571	7,012	694,244	-	7,012	170,243	2,339,570
2080	2,339,570	5,742	568,538	-	5,742	139,046	1,910,077
2081	1,910,077	4,693	464,690	-	4,693	113,503	1,558,891
2082	1,558,891	3,830	379,174	-	3,830	92,637	1,272,354
2083	1,272,354	3,121	308,983	-	3,121	75,626	1,038,997
2084	1,038,997	2,541	251,547	-	2,541	61,781	849,231
2085	849,231	2,067	204,693	-	2,067	50,528	695,066
2086	695,066	1,682	166,582	-	1,682	41,387	569,871
2087	569,871	1,370	135,659	-	1,370	33,963	468,175
2088	468,175	1,117	110,614	-	1,117	27,930	385,490
2089	385,490	913	90,356	-	913	23,021	318,155
2090	318,155	747	73,978	-	747	19,019	263,196
2091	263,196	613	60,740	-	613	15,749	218,206
2092	218,206	505	50,041	-	505	13,068	181,233
2093	181,233	418	41,389	-	418	10,859	150,703
2094	150,703	347	34,377	-	347	9,031	125,358
2095	125,358	290	28,666	-	290	7,510	104,202
2096	104,202	242	23,989	-	242	6,237	86,450
2097	86,450	203	20,128	-	203	5,167	71,489
2098	71,489	171	16,910	-	171	4,264	58,843
2099	58,843	143	14,206	-	143	3,500	48,138
2100	48,138	120	11,910	-	120	2,854	39,082
2101	39,082	100	9,942	-	100	2,308	31,448
2102	31,448	83	8,248	-	83	1,849	25,049
2103	25,049	69	6,787	-	69	1,466	19,728
2104	19,728	56	5,531	-	56	1,148	15,345
2105	15,345	45	4,461	-	45	888	11,772
2106	11,772	36	3,555	-	36	677	8,894
2107	8,894	28	2,795	-	28	508	6,607
2108	6,607	22	2,163	-	22	374	4,818
2109	4,818	17	1,645	-	17	271	3,444
2110	3,444	12	1,227	-	12	192	2,409
2111	2,409	9	895	-	9	133	1,646
2112	1,646	6	638	-	6	90	1,098
2113	1,098	4	444	-	4	59	713
2114	713	3	301	-	3	38	450
2115	450	2	199	-	2	24	276
2116	276	1	127	-	1	14	163
2117	163	1	79	-	1	8	92
2118	92	-	48	-	-	5	49
2119	49	-	28	-	-	2	24
2120	24	-	16	-	-	1	9
2121	9	-	9	-	-	0	0
2122	0	-	-	-	-	0	0

Employer contributions as shown may differ substantially from those determined by a funding valuation.

Single Discount Rate Development

Present Values of Projected Benefits

End of Year (Excluding ASF)

Fiscal Year	Projected				Present Value of	Present Value of	Present Value of
Ending June 30,	Beginning Plan Net	Projected Benefit	Funded Portion of	Unfunded Portion	Funded Benefit	Unfunded Benefit	Benefit
	Position	Payments	Benefit Payments	of Benefit Payments	Payments using Expected Return Rate (v)	Payments using Municipal Bond Rate (vf)	Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^a ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=(c)/(1+sdr) ^a ((a)-.5)
2023	\$ 1,438,451,300	\$ 226,725,269	\$ 226,725,269	\$ -	\$ 219,440,096	\$ -	\$ 219,440,096
2024	1,348,806,190	223,160,696	223,160,696	-	202,332,609	-	202,332,609
2025	1,302,643,162	219,791,078	219,791,078	-	186,676,801	-	186,676,801
2026	1,254,762,332	216,456,200	216,456,200	-	172,219,545	-	172,219,545
2027	1,205,011,856	212,698,835	212,698,835	-	158,529,334	-	158,529,334
2028	1,153,702,045	208,537,461	208,537,461	-	145,599,781	-	145,599,781
2029	1,101,145,065	203,998,549	203,998,549	-	133,424,577	-	133,424,577
2030	1,047,646,806	199,414,877	199,414,877	-	122,179,524	-	122,179,524
2031	993,189,975	194,473,778	194,473,778	-	111,617,950	-	111,617,950
2032	938,079,164	189,248,848	189,248,848	-	101,750,921	-	101,750,921
2033	882,563,482	183,664,093	183,664,093	-	92,504,206	-	92,504,206
2034	826,987,371	177,644,724	177,644,724	-	83,814,981	-	83,814,981
2035	771,795,794	171,119,522	171,119,522	-	75,631,204	-	75,631,204
2036	717,537,335	164,295,429	164,295,429	-	68,023,512	-	68,023,512
2037	664,583,793	157,175,820	157,175,820	-	60,960,907	-	60,960,907
2038	613,328,576	149,928,681	149,928,681	-	54,473,154	-	54,473,154
2039	564,018,085	142,398,809	142,398,809	-	48,465,899	-	48,465,899
2040	517,075,708	134,709,748	134,709,748	-	42,949,792	-	42,949,792
2041	472,825,767	126,933,393	126,933,393	-	37,911,419	-	37,911,419
2042	431,540,194	119,121,023	119,121,023	-	33,328,417	-	33,328,417
2043	393,456,295	111,357,814	111,357,814	-	29,186,303	-	29,186,303
2044	358,739,387	103,660,714	103,660,714	-	25,450,991	-	25,450,991
2045	327,548,441	96,053,049	96,053,049	-	22,091,936	-	22,091,936
2046	300,029,054	88,625,053	88,625,053	-	19,094,630	-	19,094,630
2047	276,243,423	81,408,328	81,408,328	-	16,430,686	-	16,430,686
2048	256,225,291	74,458,374	74,458,374	-	14,077,726	-	14,077,726
2049	239,953,338	67,810,714	67,810,714	-	12,010,177	-	12,010,177
2050	227,368,100	61,485,573	61,485,573	-	10,201,321	-	10,201,321
2051	218,385,203	55,509,773	55,509,773	-	8,627,496	-	8,627,496
2052	212,886,869	49,898,230	49,898,230	-	7,264,949	-	7,264,949
2053	210,731,954	44,661,438	44,661,438	-	6,091,332	-	6,091,332
2054	211,758,947	39,805,948	39,805,948	-	5,085,804	-	5,085,804
2055	184,925,214	35,325,971	35,325,971	-	4,228,028	-	4,228,028
2056	160,908,911	31,218,304	31,218,304	-	3,500,138	-	3,500,138
2057	139,515,544	27,473,963	27,473,963	-	2,885,555	-	2,885,555
2058	120,546,775	24,080,537	24,080,537	-	2,369,225	-	2,369,225
2059	103,803,698	21,022,522	21,022,522	-	1,937,569	-	1,937,569
2060	89,090,001	18,281,858	18,281,858	-	1,578,428	-	1,578,428
2061	76,214,779	15,838,557	15,838,557	-	1,281,009	-	1,281,009
2062	64,994,897	13,671,788	13,671,788	-	1,035,843	-	1,035,843
2063	55,256,376	11,759,709	11,759,709	-	834,636	-	834,636
2064	46,836,062	10,080,395	10,080,395	-	670,209	-	670,209
2065	39,582,443	8,612,209	8,612,209	-	536,389	-	536,389
2066	33,356,132	7,334,115	7,334,115	-	427,902	-	427,902
2067	28,030,072	6,226,077	6,226,077	-	340,286	-	340,286
2068	23,489,326	5,269,210	5,269,210	-	269,778	-	269,778
2069	19,630,713	4,445,903	4,445,903	-	213,233	-	213,233
2070	16,362,284	3,740,009	3,740,009	-	168,034	-	168,034
2071	13,602,565	3,136,856	3,136,856	-	132,024	-	132,024
2072	11,279,742	2,623,227	2,623,227	-	103,425	-	103,425

Single Discount Rate Development

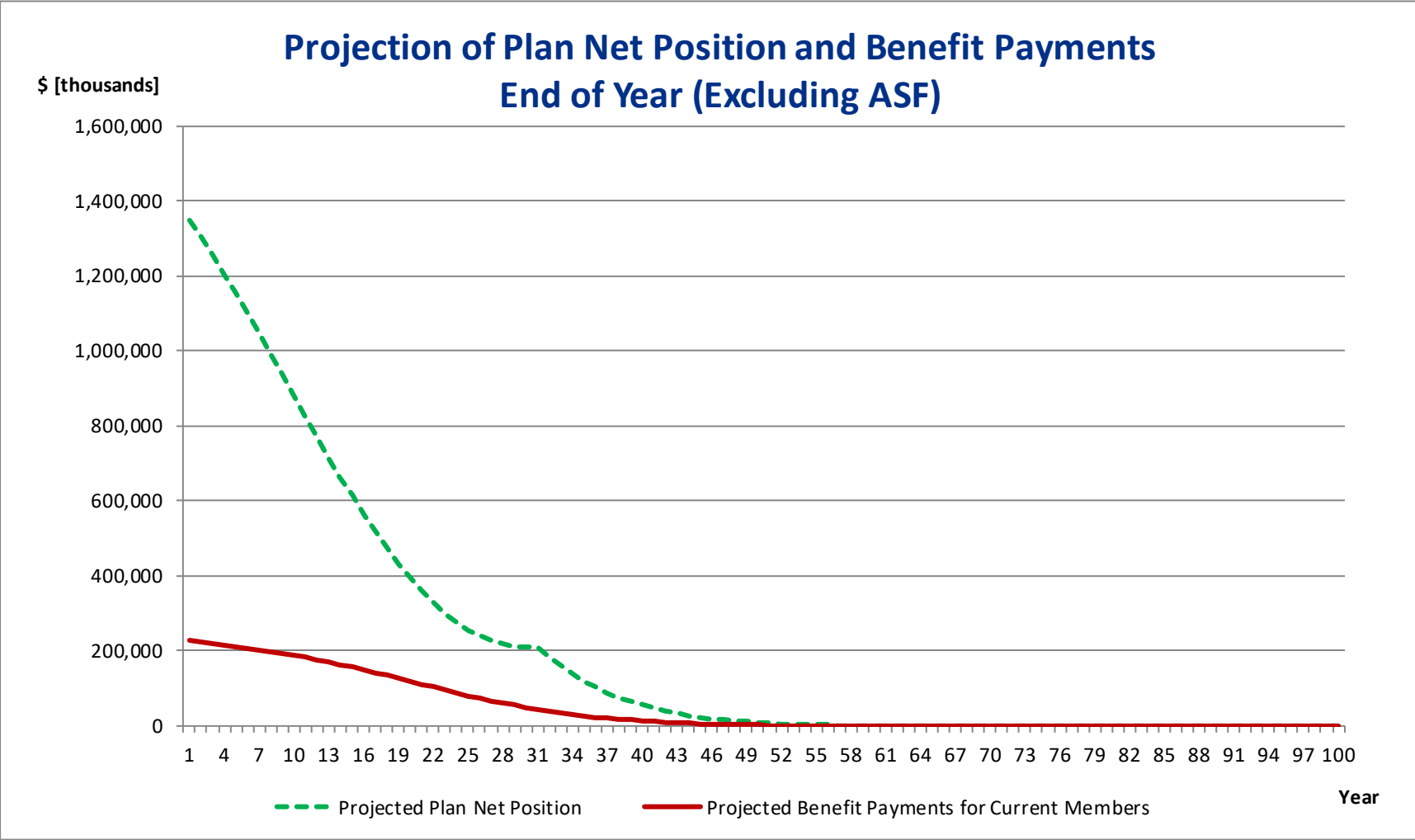
Present Values of Projected Benefits

End of Year

(Excluding ASF) (Concluded)

Fiscal Year	Projected				Unfunded Portion	Present Value of	Present Value of	Present Value of
Ending	Beginning Plan Net	Projected Benefit	Funded Portion of	of Benefit	Funded Benefit	Payments using	Payments using	Benefit
June 30,	Position	Payments	Benefit Payments	Payments	Expected Return	Municipal Bond	Single Discount	
					Rate (v)	Rate (vf)	Rate (sdr)	
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^a ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=(c)/((1+sdr) ^a ((a)-.5)	
2073	\$ 9,330,809	\$ 2,187,330	\$ 2,187,330	\$ -	\$ 80,786	\$ -	\$ 80,786	
2074	7,700,692	1,818,661	1,818,661	-	62,922	-	62,922	
2075	6,341,451	1,507,899	1,507,899	-	48,872	-	48,872	
2076	5,211,539	1,246,843	1,246,843	-	37,856	-	37,856	
2077	4,275,081	1,028,281	1,028,281	-	29,246	-	29,246	
2078	3,501,230	845,909	845,909	-	22,538	-	22,538	
2079	2,863,571	694,244	694,244	-	17,327	-	17,327	
2080	2,339,570	568,538	568,538	-	13,292	-	13,292	
2081	1,910,077	464,690	464,690	-	10,178	-	10,178	
2082	1,558,891	379,174	379,174	-	7,779	-	7,779	
2083	1,272,354	308,983	308,983	-	5,939	-	5,939	
2084	1,038,997	251,547	251,547	-	4,529	-	4,529	
2085	849,231	204,693	204,693	-	3,452	-	3,452	
2086	695,066	166,582	166,582	-	2,632	-	2,632	
2087	569,871	135,659	135,659	-	2,008	-	2,008	
2088	468,175	110,614	110,614	-	1,534	-	1,534	
2089	385,490	90,356	90,356	-	1,174	-	1,174	
2090	318,155	73,978	73,978	-	900	-	900	
2091	263,196	60,740	60,740	-	692	-	692	
2092	218,206	50,041	50,041	-	534	-	534	
2093	181,233	41,389	41,389	-	414	-	414	
2094	150,703	34,377	34,377	-	322	-	322	
2095	125,358	28,666	28,666	-	252	-	252	
2096	104,202	23,989	23,989	-	197	-	197	
2097	86,450	20,128	20,128	-	155	-	155	
2098	71,489	16,910	16,910	-	122	-	122	
2099	58,843	14,206	14,206	-	96	-	96	
2100	48,138	11,910	11,910	-	75	-	75	
2101	39,082	9,942	9,942	-	59	-	59	
2102	31,448	8,248	8,248	-	46	-	46	
2103	25,049	6,787	6,787	-	35	-	35	
2104	19,728	5,531	5,531	-	27	-	27	
2105	15,345	4,461	4,461	-	20	-	20	
2106	11,772	3,555	3,555	-	15	-	15	
2107	8,894	2,795	2,795	-	11	-	11	
2108	6,607	2,163	2,163	-	8	-	8	
2109	4,818	1,645	1,645	-	6	-	6	
2110	3,444	1,227	1,227	-	4	-	4	
2111	2,409	895	895	-	3	-	3	
2112	1,646	638	638	-	2	-	2	
2113	1,098	444	444	-	1	-	1	
2114	713	301	301	-	1	-	1	
2115	450	199	199	-	0	-	0	
2116	276	127	127	-	0	-	0	
2117	163	79	79	-	0	-	0	
2118	92	48	48	-	0	-	0	
2119	49	28	28	-	0	-	0	
2120	24	16	16	-	0	-	0	
2121	9	9	9	-	0	-	0	
2122	0	-	-	-	-	-	-	
Totals					\$ 2,350,315,750	\$ -	\$ 2,350,315,750	





SECTION H

GLOSSARY OF TERMS

Glossary of Terms

<i>Actuarial Accrued Liability (AAL)</i>	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
<i>Actuarial Assumptions</i>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<i>Accrued Service</i>	Service credited under the system which was rendered before the date of the actuarial valuation.
<i>Actuarial Equivalent</i>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<i>Actuarial Cost Method</i>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<i>Actuarial Gain (Loss)</i>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<i>Actuarial Present Value (APV)</i>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<i>Actuarial Valuation</i>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
<i>Actuarial Valuation Date</i>	The date as of which an actuarial valuation is performed.
<i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i>	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically, the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

Glossary of Terms

AFC	Average Final Compensation.
Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Amortization Method	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
APTE	Association of Professional and Technical Employees.
ASF	Annuity Savings Fund.
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered-Employee Payroll	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
Deferred Inflows and Outflows	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
DIA	Detroit Institute of Art.
Discount Rate	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none"> 1. The benefit payments to be made while the pension plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

<i>D.O.T.</i>	Department of Transportation.
<i>DWSD</i>	Detroit Water and Sewerage Department.
<i>EMS</i>	Emergency Medical Service.
<i>Entry Age Actuarial Cost Method (EAN)</i>	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit age(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<i>GLWA</i>	Great Lakes Water Authority.
<i>Fiduciary Net Position</i>	The fiduciary net position is the value of the assets of the trust.
<i>Long-Term Expected Rate of Return</i>	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
<i>Money-Weighted Rate of Return</i>	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<i>Multiple-Employer Defined Benefit Pension Plan</i>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<i>Municipal Bond Rate</i>	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
<i>Net Pension Liability (NPL)</i>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.

Glossary of Terms

<i>Non-Employer Contribution Entities</i>	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members are not considered non-employer contribution entities.
<i>Normal Cost</i>	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method. Also known as service cost.
<i>POA</i>	The 8th Amended Plan for the Adjustment of the Debt of the City of Detroit.
<i>SAAA</i>	Senior Accountants, Analysts, and Appraisers Association.
<i>UTGO</i>	Unlimited Tax General Obligation.

APPENDIX

MICHIGAN PUBLIC ACT 202

State Reporting Assumptions for Fiscal Year 2022

Calculations as of June 30, 2021

The Protecting Local Government Retirement and Benefits Act, Public Act 202 of 2017, was put into law effective December 20, 2017. One outcome of the law is the requirement for the local unit of government to provide select reporting disclosures to the State. Sec. 5(1) of the Act provides the State treasurer with the authority to annually establish uniform actuarial assumptions for purposes of developing the requisite disclosures. Below you will find information which may be used to assist the local unit of government with required reporting.

Uniform Assumptions, as applicable to the measurement and the required disclosures under uniform assumptions, are denoted below. Additional discussion of PA 202 and uniform assumptions may be found on the State website in the *Public Act 202: Selection of the Uniform Assumptions for Fiscal Year 2022* memo dated December 17, 2021.

	PA 202	Assumptions used for GASB	Uniform Assumptions used for Fiscal Year 2022
Investment Rate of Return Discount Rate	Maximum of 6.85%^	6.50%	6.50%^
Salary Increase	Minimum of 3.00% or based on experience study within last 5 years	N/A	N/A
Mortality	Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2020 or based on experience study within last 5 years	Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2021 based on the 2015-2020 Experience Study	Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2021 based on the 2015-2020 Experience Study
Amortization of the Unfunded Accrued Actuarial Liability: Period	Maximum Period of 17 Years	N/A	17
Method	Closed Plans: Level Dollar Open Plans: Level Percent of Payroll or Level Dollar	Other	Level Dollar

^ A blended rate calculated using GASB Statement No. 68 methodology. For periods in which projected plan assets are sufficient to make projected benefit payments – maximum of 6.85%; for periods in which projected plan assets are NOT sufficient to make projected benefit payments – 2.16%.

The calculations for PA 202 use a June 30, 2021 valuation date and a June 30, 2021 measurement date. With the exception of the assumptions and methods listed above, all other assumptions and methods are the same as those listed in the June 30, 2022 GASB report which has a valuation date of June 30, 2021. The 6.50% Investment Rate of Return was provided to us to be used for calculations performed for GASB reporting purposes with a measurement date of June 30, 2021, the same measurement date as the PA 202 calculations.



State Reporting for Fiscal Year 2022

Calculations as of June 30, 2021

The following information has been prepared to provide some of the information necessary to complete the pension reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form 5572). The local unit of government is required to complete/develop all of the remaining reporting requirements necessary for Form 5572. Additional resources are available on the State website.

Line	Descriptive Information	
18	Actuarial Assumptions	
19	Actuarial assumed Rate of Investment Return	6.75%
20	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Other
21	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any	N/A
22	Is each division within the system closed to new employees? ~	yes
23	Uniform Assumptions[^]	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions ⁺	\$ 1,818,649,298
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$ 2,572,779,419
26	Funded ratio using uniform assumptions	70.7%
27	Actuarially Determined Contribution (ADC) using uniform assumptions	\$ 76,909,246
28	All systems combined ADC/Governmental fund revenues	Auto*

[^] Information on lines 24-28 is based on the Uniform Assumptions used, listed on the prior page, as of the most recent valuation date, June 30, 2021.

⁺ The actuarial value of assets is equal to the market value of assets as of the June 30, 2021.

^{*} Automatically calculated by State of Michigan Form 5572.

[~] This Component II plan is closed to new employees. The Component I plan is open to new employees and its PA 202 information is in the Component I GASB Statement No. 68 report.



October 31, 2022

Mr. David Cetlinski, Executive Director
The General Retirement System of the City of Detroit
One Detroit Center
500 Woodward Avenue, Suite 3000
Detroit, Michigan 48226

Dear Mr. Cetlinski:

Please find enclosed 30 copies of the GASB Statement Nos. 67 and 68 report of the General Retirement System of the City of Detroit Component II.

Sincerely,
Gabriel, Roeder, Smith & Company

A handwritten signature in black ink, appearing to read "Jamal Adora".

Jamal Adora, ASA, EA, MAAA

JA:rmn
Enclosures

cc: Gail Oxendine
Kelly Tapper
Judith A. Kermans, GRS
James R. Sparks, GRS

The General Retirement System of the City of Detroit

Annual Actuarial Valuation of Component II
June 30, 2022

DRAFT





January 5, 2023

Board of Trustees
The General Retirement System of the City of Detroit

Dear Board Members:

This report provides key results from the **Annual Actuarial Valuation** of the annuity and pension liabilities of the General Retirement System of the City of Detroit – Component II benefits. The date of the valuation was **June 30, 2022**.

In very general terms, Component II provides benefits for service rendered prior to July 1, 2014. The results provided herein relate solely to the Component II benefits. Benefits provided under Component I are the subject of a separate report.

The purpose of the valuation is to measure the funding progress and to calculate the fiscal year 2024 Actuarially Determined Employer Contribution (ADEC) of Component II. Fiscal year 2024 is the first year (post-bankruptcy) the employer will be required to make actuarially determined employer contributions in accordance with the plan document. **The Board has not yet adopted a Funding Policy. As requested, and in order to help the Board and Investment Committee understand how the amortization period and method in the draft policy might affect the computed employer contribution rate, we have included three sample Fiscal Year 2024 employer contribution calculations based on three different amortizations of the Unfunded Actuarial Accrued Liability (UAAL).** We favor a policy that uses a level dollar amortization method and a period of no more than 20 years.

The results of the valuation are not applicable for other purposes. In particular, the information provided in this report is not suitable for financial reporting in connection with GASB Statement No. 67. Such information is provided in a separate report. Information regarding potential benefit restoration as allowed for in the POA will also be provided in a separate report, at the Board's request.

The contribution amounts in this report include contribution amounts from sample funding policies. Users of this report should be aware that contributing these amounts does not guarantee benefit security.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

This valuation was based upon records maintained and furnished by the Retirement System staff concerning active members, retirees and beneficiaries, and financial accounts as of the valuation date. Data was checked for year-to-year consistency, but was not audited by the actuary. We are not responsible for the completeness or accuracy of the data. Certain necessary data was not available in time to be considered in this report and, therefore, it was necessary for us to use approximations. Please see related discussion in the Comments section as well as the Data section of this report.

The assumptions used in the valuations concerning future experience are summarized in Section D of this report. Other than the prescribed assumed rate of return, this report reflects the actuarial assumptions as adopted by the Board and the Investment Committee based on the July 1, 2015 to June 30, 2020 experience study. The assumed rate of investment return was set to 6.75% in the POA and is, therefore, a "prescribed assumption set by another party" as discussed in Actuarial Standard of Practice No. 4. We have reviewed this assumption based on the System's asset allocation and have determined it does not significantly conflict with what, in our professional judgement, would be reasonable for purposes of the measurement being taken. In our judgement, all of the other actuarial assumptions used for the valuation are also reasonable for purposes of the measurement being taken.

This report has been prepared by actuaries who have substantial experience valuing public sector retirement systems. To the best of our knowledge, this report is complete and accurate and was made in accordance with standards of practice promulgated by the Actuarial Standards Board.

Jamal Adora, Judith A. Kermans, and James R. Sparks, are Members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The actuaries signing the report are independent of the plan sponsor.

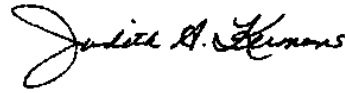


This report does not evaluate the plan sponsor's ability or willingness to make contributions to the Retirement System. Given the funded level of this plan, plan sponsor contributions are critical if further benefit reductions are to be avoided. Please note that the employer contributions set forth in the POA have (as contemplated by the POA at its outset) defunded the Plan since Bankruptcy and are expected to continue to defund the Plan through June 30, 2023, even if all assumptions are met.

Respectfully submitted,
Gabriel, Roeder, Smith & Company



Jamal Adora, ASA, EA, MAAA



Judith A. Kermans, EA, FCA, MAAA



James R. Sparks ASA, FCA, MAAA

JA/JAK/JRS:ah

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Table of Contents

		<u>Page</u>
Section A	Valuation Results	
	Executive Summary	1
	Liability by Division.....	2
	Valuation Results	3-11
	Comments	12-19
	Risks Measured	20-23
Section B	Fund Assets	
	Statement of Plan Assets	24
	Market Value of Assets	25
	Allocation of Assets Used for Valuation.....	26
	Funding Value of Assets	27
Section C	Participant Data	
	Reconciliation of Raw Data	28
	Reconciliation of Year-to-Year Data.....	29
	Data Approximations and Assumptions	30-31
	Summary of Member Data	32-35
	Retiree and Beneficiary Data Included in Valuation	36-37
Section D	Methods and Assumptions	38-46
Section E	Plan Provisions	47-49
Section F	Glossary	50-53
Section G	Draft Funding Policy	54-59

SECTION A

VALUATION RESULTS

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Executive Summary

(\$ in Millions)

Valuation Date	June 30, 2022	June 30, 2021
Contributions for Fiscal Year Ending	June 30, 2024	June 30, 2023
Employer Contributions		
Actuarially Determined Employer Contribution*:	TBD^	N/A
POA Mandated:	N/A \$	48.3
Membership		
Number of:		
Active Members	1,850	2,185
Retirees and Beneficiaries	10,918	11,173
Inactive, Nonretired Members	2,633	2,645
Total	15,401	16,003
Assets		
Funding Value of Assets (FVA)	\$ 1,671.6	\$ 1,818.6
Market Value of Assets (MVA)	\$ 1,529.8	\$ 1,818.6
Return on Funding Value (net of all expenses)	2.58 %	N/A
Return on Market Value (net of all expenses)	(5.77)%	27.84 %
Actuarial Information (FVA)		
Actuarial Accrued Liability (AAL)	\$ 2,438.6	N/A
Unfunded Actuarial Accrued Liability: (AAL) - (FVA)	767.0	N/A
Funded Ratio: (FVA) / (AAL)	68.55 %	N/A
Actuarial Information (MVA)		
Actuarial Accrued Liability (AAL)	\$ 2,438.6	\$ 2,542.6
Unfunded Actuarial Accrued Liability: (AAL) - (MVA)	908.8	724.0
Funded Ratio: (MVA) / (AAL)	62.73 %	71.53 %

*Total employer contributions, including amounts paid by the employer but funded from other sources as required by POA, if any.

^To Be Determined for Final version of Valuation Report.

Fiscal year 2024 is the first year (post-bankruptcy) the employer will be required to make actuarially determined employer contributions in accordance with the plan document. **The Board has not yet adopted a Funding Policy. As requested, and in order to help the Board and Investment Committee understand how the amortization period and method in the draft policy might affect the computed employer contribution rate, we have included three sample Fiscal Year 2024 employer contribution calculations based on three different amortizations of the Unfunded Actuarial Accrued Liability (UAAL).**

Liability by Division

(\$ Thousands)

Accrued Pension Liabilities

	General	D.O.T.	DWSD	Library	Totals
Retirees and beneficiaries	\$ 997,086	\$ 280,212	\$ 529,523	\$ 49,383	\$ 1,856,204
Inactive members future deferred pensions	112,120	29,617	65,672	5,169	212,578
Active members	106,168	38,098	23,342	15,823	183,431
Total accrued pension liabilities	\$ 1,215,374	\$ 347,927	\$ 618,537	\$ 70,375	\$ 2,252,213
Pension fund balance#	748,392	76,824	575,448	74,904	1,475,568
Unfunded accrued pension liabilities	\$ 466,982	\$ 271,103	\$ 43,089	\$ (4,529)	\$ 776,645

Accrued Annuity Liabilities

Retirees and beneficiaries#	\$ 52,291	\$ 9,860	\$ 29,835	\$ 3,007	\$ 94,993
Members annuities & future refunds	49,966	19,127	14,937	7,365	91,395
Total accrued annuity liabilities	\$ 102,257	\$ 28,987	\$ 44,772	\$ 10,372	\$ 186,388
Annuity fund balances	28,051	17,394	3,460	5,373	54,278
Unfunded accrued annuity liabilities#	\$ 74,206	\$ 11,593	\$ 41,312	\$ 4,999	\$ 132,110

Totals

Actuarial Accrued Liabilities	\$ 1,317,631	\$ 376,914	\$ 663,309	\$ 80,747	\$ 2,438,601
Market Value of Assets	776,443	94,218	578,908	80,277	1,529,846
Unfunded Actuarial Accrued Liabilities	\$ 541,188	\$ 282,696	\$ 84,401	\$ 470	\$ 908,755
Funded Ratio	58.9%	25.0%	87.3%	99.4%	62.7%

Totals may be off slightly due to rounding.

The pension fund balance includes a receivable of approximately \$95.7 million for future claw-back payments.
Liabilities are shown gross, before the annuity savings claw-back.



Valuation Results

Required contributions to the Plan through FY 2023 are provided in the POA. The schedule below details our understanding of the remaining contributions required by the POA.

Contribution Source (\$ Millions)								
Fiscal Year	For DWSD Liabilities		For Other Liabilities					Total
	DWSD Transfers		UTGO	State	DIA	Other	Transfers from DWSD	
2023	\$ 45.4	\$ (2.5)	\$ -	\$ -	\$ 0.4	\$ 2.5	\$ 2.5	\$ 48.3

We have assumed the contributions outlined above as called for in the POA (with adjustments) will not change. An estimate of the probability of those payments being made was outside the scope of this project, not required by Actuarial Standards, and, therefore, was not made.

In order to develop divisional valuation results in accordance with POA provisions, we allocated the above contributions to the various divisions as instructed by the Retirement System staff. This was done by allocating DWSD transfer amounts to the General City division and remaining DWSD contributions to the DWSD division; allocating \$2.5 million per year to the Library; and allocating remaining contributions to DOT and General in proportion to their unfunded liabilities as of June 30, 2022.

The chart below shows this allocation.

	(\$ Thousands)					
	General	D.O.T.	Gen. + D.O.T. Subtotal	Library	DWSD	Totals
Unfunded Liabilities (6/30/2022)	\$ 541,187	\$ 282,695	\$ 823,882	\$ 471	\$ 84,400	\$ 908,753
% of Subtotal	65.7%	34.3%	100.0%	N/A	N/A	
 FY 2023 Contributions	 \$ 237	 \$ 138	 \$ 375	 \$ 2,500	 \$ 45,400	 \$ 48,275
Transfers	2,500	-	2,500	-	(2,500)	-
FY 2023 UAAL Contributions	\$ 2,737	\$ 138	\$ 2,875	\$ 2,500	\$ 42,900	\$ 48,275

A different allocation procedure would produce different results.

Valuation Results (Continued)

Sample Actuarially Determined Employer Contributions (ADEC)

	(\$ Millions)				
	General City	D.O.T.	DWSD	Library	System Total
Actuarial Accrued Liability	\$ 1,317.6	\$ 376.9	\$ 663.3	\$ 80.7	\$ 2,438.6
Funding Value of Assets (FVA)	848.4	102.9	632.6	87.7	1,671.6
UAAL ¹ as of June 30, 2022	\$ 469.2	\$ 274.0	\$ 30.7	\$ (7.0)	\$ 767.0
Anticipated POA Contribution (EOY)	(2.7)	(0.1)	(42.9)	(2.5)	(48.3)
Anticipated Expenses ²	2.0	0.4	-	0.1	2.4
Interest at 6.75%	31.7	18.5	2.1	(0.5)	51.9
Projected UAAL as of June 30, 2023	\$ 500.2	\$ 292.7	\$ (10.1)	\$ (9.9)	\$ 773.0

Estimated Employer Contributions for FY 2024³

Sample: 20-Year Level Dollar

UAAL Contribution	\$ 46.3	\$ 27.1	\$ (0.9)	\$ (0.9)	\$ 71.6
\$0 Minimum UAAL Contribution	46.3	27.1	-	-	73.4
Administrative Expense Contribution ⁴	1.4	0.4	0.7	0.1	2.5
Total Contribution	\$ 47.7	\$ 27.5	\$ 0.7	\$ 0.1	\$ 75.9

Sample: 30-Year Level Principal (POA)

UAAL Contribution	\$ 50.4	\$ 29.5	\$ (1.0)	\$ (1.0)	\$ 77.9
\$0 Minimum UAAL Contribution	50.4	29.5	-	-	79.9
Administrative Expense Contribution ⁴	1.4	0.4	0.7	0.1	2.5
Total Contribution	\$ 51.8	\$ 29.9	\$ 0.7	\$ 0.1	\$ 82.4

Sample: 30-Year Level Dollar⁵

UAAL Contribution	\$ 39.3	\$ 23.0	\$ (0.8)	\$ (0.8)	\$ 60.7
\$0 Minimum UAAL Contribution	39.3	23.0	-	-	62.3
Administrative Expense Contribution ⁴	1.4	0.4	0.7	0.1	2.5
Total Contribution	\$ 40.7	\$ 23.4	\$ 0.7	\$ 0.1	\$ 64.8

Totals may not add due to rounding.

¹ Unfunded Actuarial Accrued Liability in accordance with the draft Funding Policy including the use of the Funding Value of Assets (FVA) shown in Section G.

² Administrative expenses for DWSD are paid by General City through 2023.

³ Total employer contributions, including amounts paid by the employer but funded from other sources as required by POA, if any. Employer contributions are assumed to be made at the end of the fiscal year.

⁴ FY 2024 and later administrative expenses were allocated (see Section D of the report) and anticipated to be paid by the individual units.

⁵ **The use of a 30-year level dollar amortization significantly increases the risk of the Plan becoming insolvent (running out of money) compared to the use of a 20-year level dollar or 30-year level principal amortization. This scenario is included at Retirement System's request. Contributions based on the amortization method and period are significantly less than the contributions based on the amortization method and period contemplated in the POA (30-year level principal).**

Valuation Results (Continued)

Actuarially Determined Employer Contributions (ADEC) (Continued)

Fiscal year 2024 is the first year (post-bankruptcy) the employer will be required to make actuarially determined employer contributions in accordance with the plan document. **The Board has not yet adopted a Funding Policy. As requested, and in order to help the Board and Investment Committee understand how the amortization period and method in the draft policy might affect the computed employer contribution rate, we have included three sample Fiscal Year 2024 employer contribution calculations based on three different amortizations of the Unfunded Actuarial Accrued Liability (UAAL).**

We understand the Employer has set aside some money to contribute to the Pension Plans at some point in the future. This valuation does not reflect any of those assets since they are not being held within the Retirement System trust.

Since the FY 2023 POA contribution is significantly less than the actuarially determined amount would have been, the funding ratio is expected to continue to decline between now and June 30, 2023. In fact, the anticipated POA contribution for FY 2023 is less than the interest that will accrue on the UAAL and about one-quarter of the annual benefit payments.

It may become difficult to manage the significant amount of cash needed to pay retirement benefits in this plan under a 30-year level dollar amortization method. **The use of a 30-year level dollar amortization significantly increases the risk of the Plan becoming insolvent (running out of money) compared to the use of a 20-year level dollar or 30-year level principal amortization.**

The charts that follow show projections of the funded status and employer contributions under a 20-year level dollar, 30-year level principal, and 30-year level dollar policy starting in FY 2024 using both the Funding Value of Assets (FVA) and the Market Value of Assets (MVA). For purposes of these projections, we have assumed the objective would be for each group (General City, DOT, DWSD, and Library) to separately fund their UAAL. **These projections assume that if any division's assets deplete, no extra contributions will be assessed. Separately assessing extra contributions by divisions may result in a different projected total employer contribution than those shown here.** We have also assumed that each group would have a \$0 minimum UAAL contribution. We will continue to work with the Board and Investment Committee to develop a funding policy. For the projections in this report, we note the following:

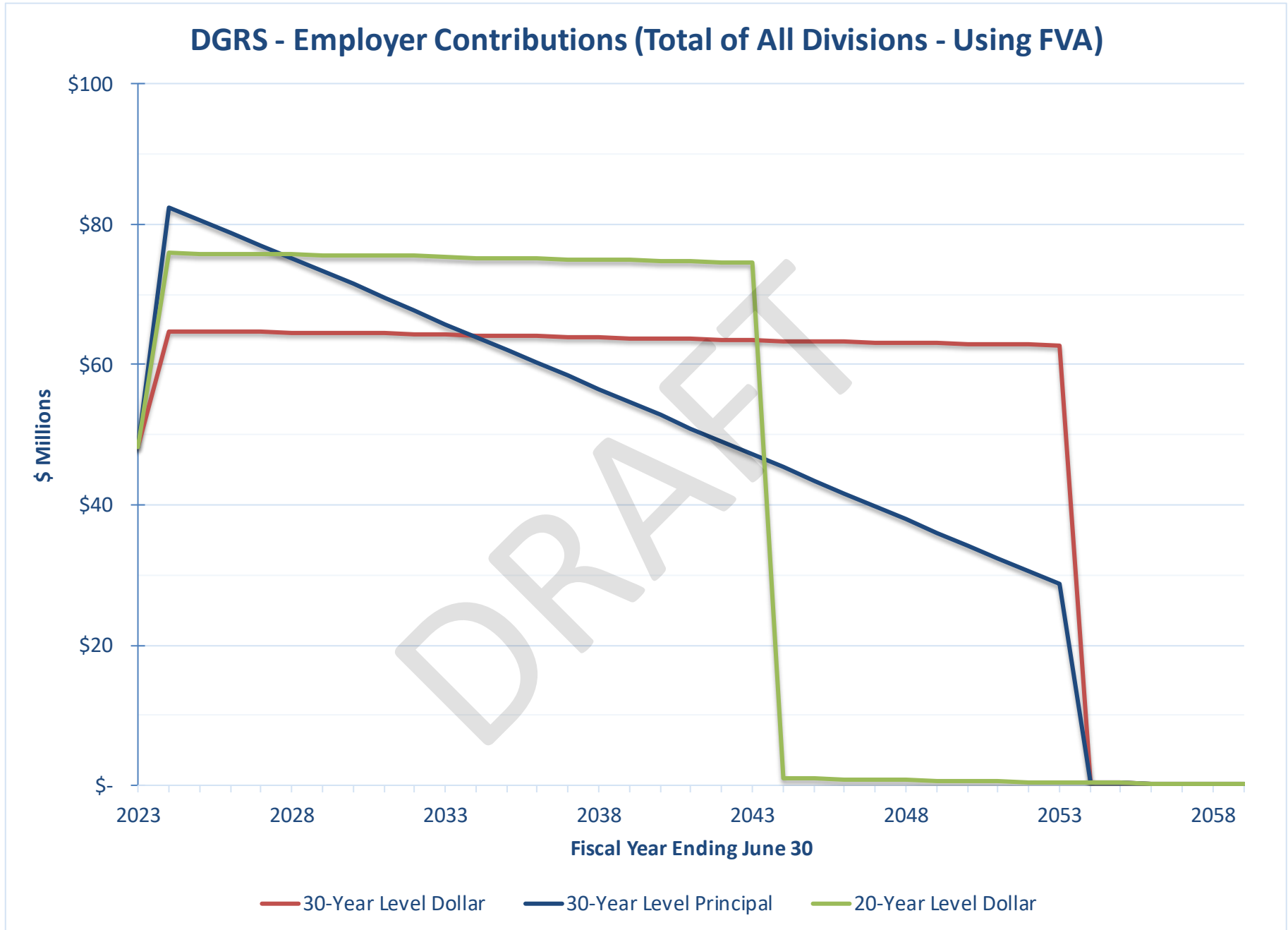
- Under the FVA projections, the DWSD and Library groups are projected to be more than 100% funded on June 30, 2023.
- Starting in FY 2024 the only contributions for divisions that are more than 100% funded is for administrative expenses (in accordance with the draft funding policy included in the appendix).
- For divisions that are projected to be over 100% funded on June 30, 2023, the funded ratio is projected to continue growing.
- Under the FVA projections, the funded ratio for DOT is projected to be 20% funded on June 30, 2023. We note the following implication of the low DOT funded status.
 - Under the 30-Year Level Principal method, the funded status for DOT is projected to fall below 15% on June 30, 2040.
 - Under the 30-Year Level Dollar method, the assets allocated for DOT are projected to be depleted by June 30, 2032. At that point, we have assumed that DOT would not be responsible for making additional contributions equal to the benefit payments, and would therefore have a negative asset balance for a period of time.

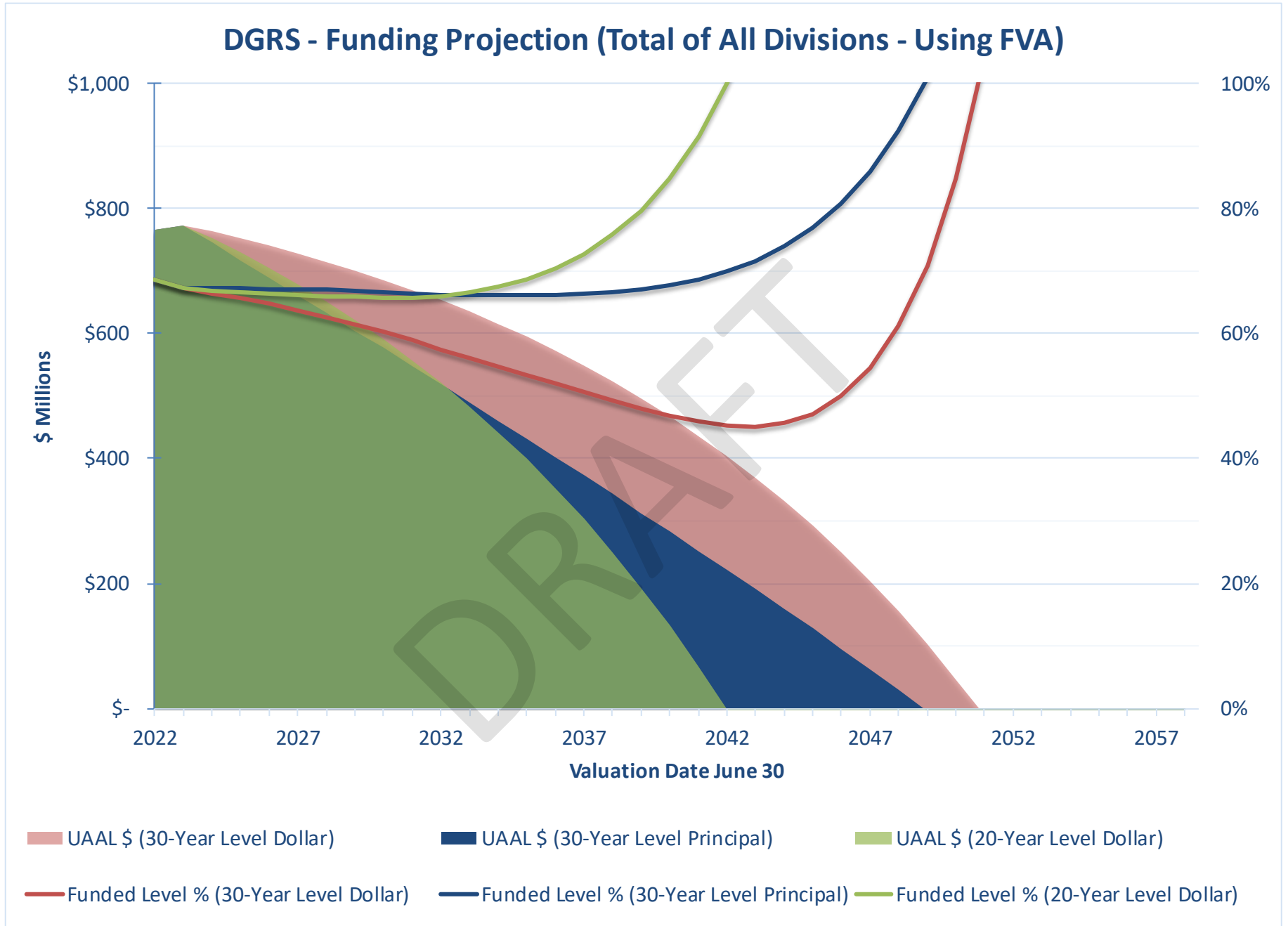
Valuation Results (Continued)

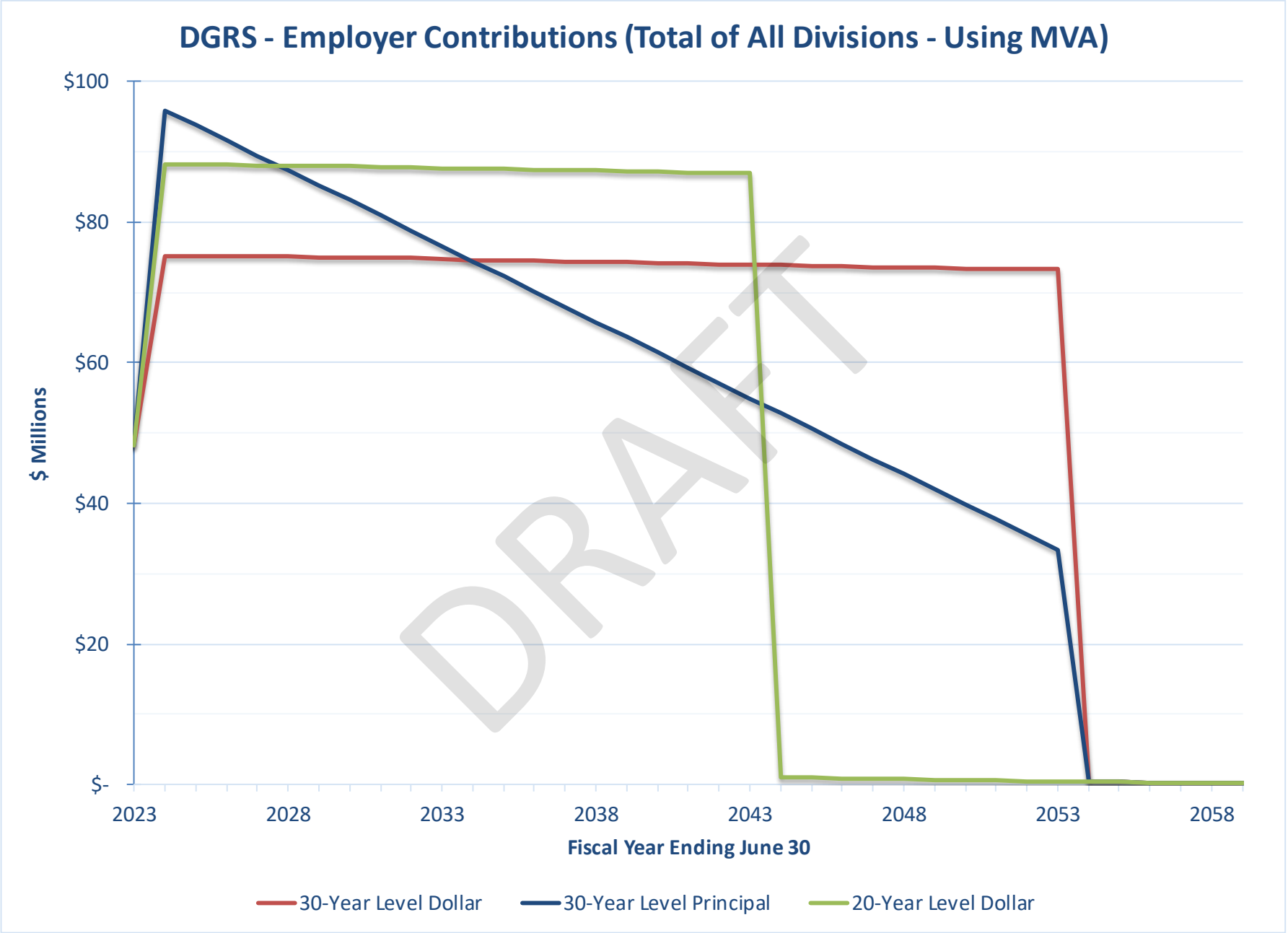
Actuarially Determined Employer Contributions (ADEC) (Concluded)

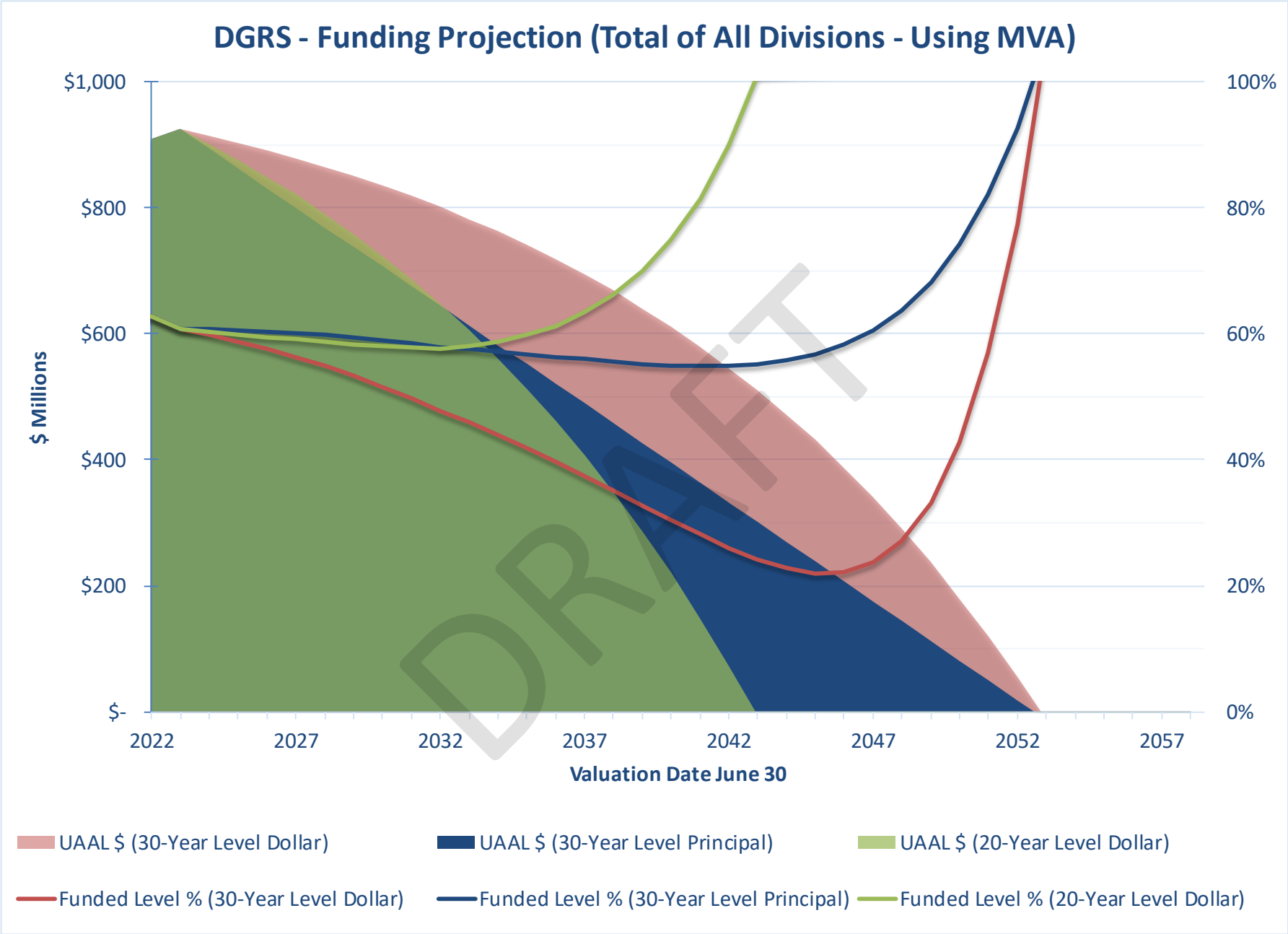
- Under the FVA projections, the projected UAAL contributions for DWSD decrease to \$0 beginning in FY 2024 in this valuation (there is a small contribution requirement for administrative expenses). At any point in the future, plan experience may result in an unfunded actuarial accrued liability for DWSD. In addition, under a different assumption set (such as a lower assumed rate of return), the DWSD may have an unfunded actuarial accrued liability. We understand that the City, System and GLWA have a Memorandum of Understanding dated December 1, 2015 for assessing contributions, if any, to GLWA. This report does not reflect that agreement.

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Valuation Results (Concluded)

Present Value	June 30, 2022	June 30, 2021
Accrued Pension Liabilities (Employer Financed)		
Retirees and beneficiaries	\$ 1,856,204,265	\$ 1,915,878,072
Inactive members future deferred pensions	212,577,507	214,790,496
Active members	183,430,716	209,090,483
Total accrued pensions	\$ 2,252,212,488	\$ 2,339,759,051
Pension fund balances	1,475,568,437	1,741,300,968
Unfunded accrued pension liabilities	\$ 776,644,051	\$ 598,458,083
Accrued Annuity Liabilities (Member Financed)		
Retirees and beneficiaries		
Future annuities	\$ 94,991,973	\$ 98,087,136
Member annuities & future refunds	91,394,995	104,783,035
Total accrued annuity liabilities	\$ 186,386,968	\$ 202,870,171
Annuity fund balances	54,277,858	77,348,330
Unfunded accrued annuity liabilities*	\$ 132,109,110	\$ 125,521,841
Totals		
Actuarial Accrued Liabilities (AAL)	\$ 2,438,599,456	\$ 2,542,629,222
Market Value of Assets (MVA)	1,529,846,295	1,818,649,298
Unfunded Actuarial Accrued Liabilities (UAAL)	\$ 908,753,161	\$ 723,979,924
POA Funded Status	62.7%	71.5%

* Liabilities are gross before accounting for ASF claw-back. Assets currently include a receivable of approximately \$95.7 million related to the ASF claw-back. We believe the receivable is included in the pension fund balances.

Historical Results (\$ Millions)							
	2020	2019	2018	2017	2016	2015	2014
Total AAL	\$ 2,716.5	\$ 2,866.1	\$ 2,929.1	\$ 2,995.8	\$ 3,032.3	\$ 3,139.1	\$ 3,222.4
MVA	1,596.1	1,798.9	1,940.6	1,966.7	1,933.5	2,131.3	2,015.2
UAAL	\$ 1,120.4	\$ 1,067.2	\$ 988.4	\$ 1,029.1	\$ 1,098.8	\$ 1,007.8	\$ 1,207.1
POA Funded Status	58.8%	62.8%	66.3%	65.6%	63.8%	67.9%	62.5%



Comments

Component II History

The City of Detroit filed for bankruptcy on July 18, 2013. A final Plan of Adjustment ("POA") was confirmed on November 7, 2014 and the official exit from bankruptcy was on December 10, 2014. In connection with the POA, very significant changes were made to the benefits that the General Retirement System provides and to the contributions that it will receive. In particular, the benefits provided by the Retirement System were divided into two separate plans, referred to as "Component I" and "Component II." The benefits provided in each component were effective July 1, 2014 and are described in detail in the Emergency Manager Order No. 44, dated December 8, 2014.

Experience

Experience was less favorable than assumed during the year ending June 30, 2022. The chart below shows the estimated loss by division.

Development of Actuarial Gain or Loss

(\$ Millions)

	General City	D.O.T.	DWSD	Library	System Total
(1) UAAL as of June 30, 2021 (BOY)	\$ 416.4	\$ 257.2	\$ 56.3	\$ (5.9)	\$ 724.0
(2) Actual POA Contribution (EOY)	2.8	0.1	42.9	2.5	48.3
(3) Administrative Expenses	2.2	0.2	-	0.1	2.5
(4) Interest at 6.75%	28.2	17.4	3.8	(0.4)	49.0
(5) Benefit Changes	-	-	-	-	-
(6) Assumption Changes	-	-	-	-	-
(7) Projected UAAL* as of June 30, 2022	\$ 444.0	\$ 274.7	\$ 17.2	\$ (8.7)	\$ 727.2
(8) Actual UAAL* as of June 30, 2022	541.2	282.7	84.4	0.5	908.8
Gain or Loss (MVA): (7) - (8)	\$ (97.2)	\$ (8.0)	\$ (67.2)	\$ (9.1)	\$ (181.6)
Gain or Loss from Excess Interest Transfers (Inc. FY 2021)	\$ 0.5	\$ 0.4	\$ 0.2	\$ -	\$ 1.2
Gain or Loss from Liabilities	14.0	5.4	9.0	1.6	30.0
Gain or Loss from Investments (MVA)	(111.8)	(13.8)	(76.4)	(10.7)	(212.7)
Total Gain or Loss (MVA)	\$ (97.2)	\$ (8.0)	\$ (67.2)	\$ (9.1)	\$ (181.6)
MVA to FVA Adjustment	72.0	8.7	53.7	7.4	141.8
Total Gain or Loss (FVA)	\$ (25.2)	\$ 0.7	\$ (13.5)	\$ (1.7)	\$ (39.8)

* Unfunded actuarial accrued liability.

Comments

Experience (Continued)

Source of Actuarial Gain or Loss

Type of Risk Area	Gain (Loss) in Period	
	Totals (\$ in Millions)	Percent of AAL [^]
Data Improvements	\$ 6.0	0.2 %
ASF Transfers	\$ -	0.0 %
Excess Interest Transfers (Inc. FY 2021)	\$ 1.2	0.0 %
Risks Related to Experience		
Economic Risk Areas:		
Investment Return (MVA)*	\$ (212.7)	(8.4)%
Demographic Risk Areas:		
Full and Reduced Service Retirements	(1.3)	(0.1)%
Death Benefits	0.1	0.0 %
Disability Benefits	-	0.0 %
Other Terminations	5.4	0.2 %
Post-Retirement Mortality	19.7	0.8 %
Total Gain or Loss Related to Experience	\$ (188.8)	(7.4)%
Total Gain or Loss During Period (MVA)	\$ (181.6)	(7.1)%
Total Gain or Loss During Period (FVA)	\$ (39.8)	(1.6)%

[^] Beginning of year Actuarial Accrued Liabilities were \$2,542.6 million.

* The loss in investment return on a FVA basis was \$70.9 million.

Demographic Experience

	Number Count		A/E%
	Actual	Expected	
	A	E	
Retirement (including early)	130	106	122%
Disability	0	8	0%
Vested Terminations	161	71	228%
Other Terminations (including pre-retirement death)	90	24	382%
Post-Retirement Death	642	480	134%

Expected counts are based on the assumptions used in the prior valuation.

In the last couple of years, we have seen higher terminations than expected. We have not yet determined if this is a long-term trend. Furthermore, we continue to see active members added to the Legacy data. We have assumed these were either data corrections or re-hires. We have observed this every year since 2014. The change this year is included in the "Data Improvements" source of gains/losses shown above. This year, 46 members were added as active members to this plan. This resulted in an increase in accrued liabilities (a loss) of approximately \$0.6 million, after accounting for members that were known to come from the deferred and retiree rolls.



Comments (Continued)

Experience (Concluded)

The chart below reconciles our estimate from the June 30, 2021 valuation to our calculation from this valuation (June 30, 2022).

The June 30, 2022 loss, primarily due to investments losses, created upward pressure on the FY 2024 employer contribution.

Reconciliation of June 30, 2024 UAAL Contributions – 30-Year Level Principal

	(\$ Millions)				
	General City	D.O.T.	DWSD	Library	System Total*
Estimated FY 2024 UAAL Contribution from 2021 Valuation	\$ 47.7	\$ 29.6	\$ (2.5)	\$ (1.2)	\$ 73.6
Gain or Loss from Investments (MVA basis)	12.0	1.5	8.2	1.2	22.9
Gain or Loss from Excess Interest Transfers (Inc. FY 2021)	(0.1)	-	-	-	(0.1)
Gain or Loss from Liabilities	(1.5)	(0.6)	(1.0)	(0.2)	(3.2)
FY 2024 UAAL Contribution Using MVA	\$ 58.2	\$ 30.5	\$ 4.8	\$ (0.2)	\$ 93.2
MVA to FVA Adjustment	(7.7)	(0.9)	(5.8)	(0.8)	(15.3)
Adjustment for \$0 minimum	-	-	1.0	1.0	2.0
FY 2024 UAAL Contribution Using FVA	\$ 50.4	\$ 29.5	\$ -	\$ -	\$ 79.9

* Totals may not add due to rounding.

Reconciliation of June 30, 2024 UAAL Contributions – 30-Year Level Dollar

	(\$ Millions)				
	General City	D.O.T.	DWSD	Library	System Total*
Estimated FY 2024 UAAL Contribution from 2021 Valuation	\$ 37.2	\$ 23.1	\$ (1.9)	\$ (0.9)	\$ 57.4
Gain or Loss from Investments (MVA basis)	9.4	1.2	6.4	0.9	17.8
Gain or Loss from Excess Interest Transfers (Inc. FY 2021)	-	-	-	-	(0.1)
Gain or Loss from Liabilities	(1.2)	(0.5)	(0.8)	(0.1)	(2.5)
FY 2024 UAAL Contribution Using MVA	\$ 45.3	\$ 23.7	\$ 3.7	\$ (0.2)	\$ 72.6
MVA to FVA Adjustment	(6.0)	(0.7)	(4.5)	(0.6)	(11.9)
Adjustment for \$0 minimum	-	-	0.8	0.8	1.6
FY 2024 UAAL Contribution Using FVA	\$ 39.3	\$ 23.0	\$ -	\$ -	\$ 62.3

* Totals may not add due to rounding.



Comments (Continued)

Actuarial Assumptions

We understand that the Board may continue to explore changes in the assumed rate of return. However, per legal counsel, we also understand that for the annual actuarial valuation the 6.75% assumed rate of return cannot be changed until the June 30, 2024 valuation, including for purposes of calculating the actuarially determined contribution. We anticipate the next comprehensive review of experience to cover the period from July 1, 2020 to June 30, 2025.

Service Credit on Workshare

We understand that the bankruptcy court has granted a change to the Component I (Hybrid) Plan to allow members in workshare to get credit for that time. Since the Legacy (Component II) plan benefits are frozen as of June 30, 2014, the change only effects the vesting/eligibility service in the Legacy (Component II) plan. This may allow some of the members valued to retire a few months earlier. While we do not have final data to evaluate the impact of this change, based on our analysis dated May 13, 2022, we believe the impact on the Component II (Legacy) plan is not material (less than 0.01% of total liabilities).

Reasonable Actuarially Determined Employer Contribution

Upcoming actuarial standards will require that an actuary calculate and disclose a reasonable actuarially determined contribution. We have not assessed whether any of the sample contribution amounts in this report fulfill the requirement of a reasonable actuarially determined contribution.

Annuity Reserve Fund (ARF)

Typically, we would compare the Annuity Reserve Fund (ARF) to the ARF liabilities and recommend a transfer if liabilities exceed assets. However, the annuity claw-back receivable created by the Bankruptcy (which relates to the ARF and the ASF) makes this analysis much more complicated. If the System would like us to perform this calculation, we will need additional information not routinely provided for the valuation. Please let us know if this is needed.

In general, assets were reviewed for reasonableness. During that review, we discovered that the ARF does not appear to have been credited with any interest. As a result, we recommend that all the reserve amounts be reviewed.

Annuity Savings Fund (ASF) Claw-Back Data

For the June 30, 2015 valuation, the System's auditors determined a receivable in accordance with GAAP accounting that was included in the reported June 30, 2015 assets. The reported assets for the June 30, 2022 status valuation also included a receivable for the remaining claw-back payments. We have assumed this information, received by the System's auditors, was reasonable. This assumption complies with the Actuarial Standards of Practice.

Comments (Continued)

Annuity Savings Fund (ASF) Interest Credits

The ASF fund is credited with the lesser of 5.25% interest and the total fund earnings. We understand that any earnings in excess of 5.25% (that otherwise would have been credited to the ASF fund if not for the 5.25% cap) will be transferred to Component I assets, to the extent needed, for funding of transition liability. Since ASF liabilities are equal to ASF balances, we did not model any such future excess earnings as part of this valuation. However, since the fund earned 28% during FY 2021, we expect that there will be a transfer of excess ASF interest in FY 2023 related to last year's performance. Approximately \$20.6 million was added to the liabilities in this report to account for anticipated excess earnings expected to occur as a result of return on assets in the 2021 fiscal year. No additional liabilities were included in this report to account for anticipated excess earnings expected to occur as a result of return on assets. We have discussed the potential for additional liability with the Plan's accountants and have been instructed that the excess earnings should not be included as a liability in the GASB Statement Nos. 67 and 68 reports.

We understand that the System has adopted a procedure for computing the ASF interest credits lagging the actual experience of the assets. We have not reviewed or audited this procedure. If the Retirement System can provide the methodology for determining the transfer, we may be able to reflect the Retirement System's methodology.

As of June 30, 2021, it appears that Component I may be fully funded under a 0.0% assumed Variable Pension Improvement Factor (VPIF). There does not currently exist a policy that allocates that unfunded amount between Transition Costs and non-Transition Costs. Since future excess interest transfers are affected by whether or not the Transition Costs are fully funded, we recommend that the Board adopt a method of allocating any unfunded amounts (after exclusion of the Rate Stabilization Fund (RSF)) between Transition Costs and other liabilities. If the Board wishes, we can work with legal counsel and suggest a few methods for consideration and discuss the advantages and disadvantages with the Board. For purposes of this valuation we have assumed the Component I Transition Cost is fully funded as of June 30, 2021. For Component II, this assumption only affects ASF Return Excess transfers calculated starting with the June 30, 2022 valuation.

Comments (Continued)

Estimated Excess Interest Transfers

Fiscal Year	FY 2 Years Prior to Transfer					Investment		Estimated		Resulting	Assets to be
	Transfer is	ASF Balance	Assumed ASF	ASF Balance	Estimated	Return Excess	ASF Return	Component I	Funded	Percent	Transferred
Expected	BOY	Payment	EOY	Year	Return	Percent	Excess	Transition Cost	Status	Transfer	Out (BOY)
(A)	(B)	(C)	(D)	(E)	(F)	(G) = (F) - 5.25%	(H) = (G) x (B)	(I)		(J)	(K) = (H) x (J)
2023	\$ 91,394,995	\$ 11,677,579	\$ 84,213,037	2021	27.84%	22.59%	\$ 20,646,129	<100%		100%	\$20,646,129
2024	84,213,037	11,677,579	76,654,027	2022	-5.77%	0.00%	\$ -	>=100%		50%	\$ -

We understand this calculation will be performed by staff and may be different than shown above. The estimates above are used to approximate the effect on UAAL.

Section E-16(c) of the Combined General Plan is shown below:

In any Plan Year during the period beginning on or after July 1, 2014 and ending June 30, 2023 in which the annual rate of return credited to the accounts of members investing in the Annuity Savings Fund as provided in paragraph (b) is less than the actual rate of return net of expenses of the Retirement System's invested assets for the second Plan Year immediately preceding the Plan Year in which the annual rate of return is credited ("ASF Return Excess"), an amount equal to the value of the ASF Return Excess shall be transferred to the Pension Accumulation Fund maintained under Component I of the Combined Plan and shall be used to fund the Transition Cost relating to Component I. The Transition Cost is a measure of the liability that Component I of the Retirement System has at its inception; due to the fact that at its inception, members in Component I of the Retirement System receive vesting and eligibility credit under Component I for service that was earned prior to July 1, 2014 and is otherwise credited to members under Component II of the Retirement System. Transition Cost is calculated by the Plan Actuary. In the event there is an ASF return excess for a Plan Year following the Plan Year in which such transfers have fully funded the Transition Costs relating to Component I, fifty percent (50%) of such ASF Return Excess shall be transferred to the Pension Accumulation Fund maintained under Component II and the remaining fifty percent (50%) of such ASF Return Excess shall be transferred to Component I and credited to the Rate Stabilization Fund maintained under Component I. "Transition Cost" shall be determined by the Plan Actuary.

Comments (Continued)

Option Factors

The Board adopted option factors for the Plan in 2018 but they have not been implemented. We have not been provided with a specific effective date for the new factors. However, we understand the intent is to implement the new factors with the new data system. For the sake of simplicity, we have assumed the new factors apply to all retirements after the valuation date. We will continue to work with the System in the calculation of optional forms of payment. In particular, the Board may want to consider updating the assumptions used in optional forms of payment in order to recognize recent changes to the assumptions used in the annual actuarial valuations.

DWSD Members

For the June 30, 2017 valuation we received a separate file indicating the June 30, 2014 DWSD status of members. Any members that were indicated as being DWSD division members on that file were valued under the DWSD for this valuation, regardless of the division reported on this year's valuation data.

New Data System

We understand that the Retirement System is in the process of moving to a new data system and that future valuation data will be provided from that system beginning with the 2023 valuation. We also understand that data may have gone through additional cleaning/auditing as it has been entered into the new system. We anticipate that data will be more precise for valuation purposes once the new system is providing that data. Please note that changes in data may impact future valuation results and generate gains or losses.

Restoration

This valuation assumes no future restoration of Component II benefits (consistent with the expectation of the POA). Any future restoration will be reflected beginning in the next valuation after being granted.

DWSD (Water/Sewer) Contributions

The DWSD contributions and liabilities determined in this report do not consider the separation of DWSD-R and GLWA from the DWSD. For the illustrative employer contributions in this report, we have assumed that contributions would be assessed to the City based on the total unfunded liability for DWSD and without regard to any contribution agreement with GLWA. Our understanding is that the split of DWSD liabilities between DWSD-R and GLWA will be determined by the System's staff under previously established procedures.

We recommend that the proposed administrative expense contribution for DWSD be reviewed in the context of the 2015 agreement between the City, the Retirement System, and the Great Lakes Water Authority. We further recommend that the Retirement System inform us of how the administrative expense contribution for DWSD should be treated.

Comments (Concluded)

Divisional Results

Divisional results are shown on page 2. One result that stands out is the funded status (market value basis) of the DOT division at 25%. This is much lower than the other divisions. We expect that all of the assets in the Retirement System back all of the liabilities in the Retirement System. Therefore, if this division runs out of money before all of its benefits are paid, the Retirement System will pay DOT benefits from other divisional assets. In that case, the total Retirement System funded status is a better measure than individual division funded ratios. However, the manner in which divisional contributions have historically been determined treats each division as a standalone plan for the purpose of determining the actuarially determined employer contribution. Assuming the Board continues this method for Fiscal Year 2024 (the first year actuarially determined employer contributions are assessed to the employer), this low funded status for the DOT (relative to the other divisions) could result in a higher DOT employer contribution (relative to the other divisions). The Board may also want to consider a more aggressive funding policy for the DOT division if they want to avoid using other divisional assets to pay DOT benefits. Please let us know if the Board would like us to do any special projects related to this situation, such as divisional cash flow projections or divisional funding policy suggestions.

Funded Status of the Plan

The Retirement System was defunded because the POA mandated contributions were significantly less than what the actuarially computed contribution would have been for the 10-year period after the POA was established. We would be happy to assist the Board in determining what the funded status would be if actuarially determined contributions had been made in the 10-year period after the POA was established.

Future Results

In order to minimize the risk of insolvency, it is important that an adequate funding policy be adopted and that employer contributions in an amount greater than or equal to the actuarially determined amount (in accordance with that adequate policy) are received.

Conclusion

It is likely that the funded status will decline and the unfunded actuarial accrued liability will increase between now and June 30, 2023. On a market value basis, the funded status is projected to decline to approximately 61% as of June 30, 2023 if the market rate of return equals 6.75% and all other assumptions are met.

Recommendation

We recommend that every potential action be taken to generate contributions to the Retirement System above those provided in the POA in FY 2023. Benefit payments to retirees in the Plan were almost \$236 million compared to the FY 2022 contribution of \$48.3 million.

We additionally recommend that the Board and Investment Committee adopt a funding policy that adequately funds the plan.



Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. **Investment Risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability Mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. **Contribution Risk** – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **Other Demographic Risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

Plan Risk Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	2022	2021
Ratio of the Market Value of Assets to total payroll*	5.4	6.8
Ratio of Actuarial Accrued Liability to payroll*	8.6	9.5
Ratio of Actives to Retirees and Beneficiaries	0.1	0.2
Ratio of net cash flow to Market Value of Assets	-12.5%	-10.4%
Duration of the Actuarial Accrued Liability	8.1	8.2

* Payroll for this purpose is Component I payroll of \$284.4 million for 2022 and \$267.0 million for 2021.

POA Funding Ratio

The **POA Funded Ratio** is an expected return-based measurement of the pension obligations. It is based upon the POA mandated 6.75% interest rate assumption (assumption prescribed by another party). It determines an amount that will be sufficient to provide benefits if the portfolio earns the expected 6.75% return on assets and all other assumptions are met. This measure is appropriate for assessing the need for or amount of future contributions if all assumptions are met. This measure is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation, in other words, of transferring the obligation to a third party in a market value type transaction.

Funded Ratio - POA

	Defined Benefit	ASF	Total
A Actuarial Accrued Liability (AAL)	\$ 2,347,204,461	\$ 91,394,995	\$ 2,438,599,456
B Market Value of Assets	1,438,451,300	91,394,995	1,529,846,295
C Unfunded Actuarial Accrued Liability (A-B)	\$ 908,753,161	\$ -	\$ 908,753,161
D Funded Ratio (B/A)	61.3%	100.0%	62.7%

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

Solvency Liability

The Solvency Liability is a market-based measurement of the pension obligations. It represents the amount the plan would need to invest in low risk securities to provide the benefits with greater certainty. For this purpose, the solvency liability is computed at 3.69% as of June 30, 2022, based on the long-term municipal bond rate ("20-Year Municipal GO AA Index" rate from the Fidelity Index as of June 30, 2022). No adjustment has been made for the credit quality of the plan sponsor. This measure may not be appropriate for assessing the need for or amount of future contributions. This measure may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation.

Funded Ratio – Solvency

	Defined Benefit	ASF	Total
A Market-Based Liability (MBL)	\$ 3,093,133,537	\$ 91,394,995	\$ 3,184,528,532
B Market Value of Assets	1,438,451,300	91,394,995	1,529,846,295
C Unfunded Market-Based Liability (A-B)	\$ 1,654,682,237	\$ -	\$ 1,654,682,237
D Funded Ratio (B/A)	46.5%	100.0%	48.0%

The difference between the two measures (POA and Solvency) is one illustration of the savings the sponsor anticipates by taking on the risk in a diversified portfolio.

Description of Plan Risk Measures

Ratio of Market Value of Assets to Payroll

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

Ratio of Actuarial Accrued Liability to Payroll

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

Description of Plan Risk Measures (Concluded)

Ratio of Actives to Retirees and Beneficiaries

A young plan with many active members and few retirees will have a high ratio of actives to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

Ratio of Net Cash Flow to Market Value of Assets

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make benefits payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

Duration of Actuarial Accrued Liability

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, a duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

Additional Risk Assessment

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, and stress tests. The draft Funding Policy included in Section G of this report includes additional possible risk metrics. We can include those at the Board's request.

SECTION B

FUND ASSETS

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Statement of Plan Assets (Reported Assets at Market Value)

Market Value - June 30, 2022	
Cash and Cash Equivalents	\$ 103,349,973
Investments at Fair Value	1,326,599,796
Receivables	102,485,447
Cash and Investments held as collateral for securities lending	56,629,288
Capital Assets - Net	3,803,811
Accounts Payable	(63,022,020)
Total Current Assets	<u>\$ 1,529,846,295</u>

DRAFT

Market Value of Assets

Reserve Accounts

Funds	Fund Balances	
	June 30, 2022	June 30, 2021
Annuity Savings	\$ 91,394,995	\$ 104,783,035
Annuity Reserve	(37,117,137)	(27,434,705)
Pension Accumulation	(227,582,083)	(65,451,896)
Pension Reserve	1,703,150,520	1,806,752,864
Total Fund Balances	\$ 1,529,846,295	\$ 1,818,649,298

Revenues and Expenditures

	Pension Funds	Annuity Funds	Total Funds
Balance, July 1, 2021	\$ 1,741,300,969	\$ 77,348,329	\$ 1,818,649,298
Prior valuation audit adjustment	-	-	-
Market Value July 1, 2021	\$ 1,741,300,969	\$ 77,348,329	\$ 1,818,649,298
Revenues			
Employer Contributions	\$ 47,900,000	\$ -	\$ 47,900,000
Employee Contributions	-	-	-
Foundation Contributions	375,000	-	375,000
ASF Recoupment Interest	5,775,503	-	5,775,503
Investment Income (Net of Investment Expenses)	(102,743,787)	(46,243)	(102,790,030)
Other Income	(548,957)	801,241	252,284
Total	\$ (49,242,241)	\$ 754,998	\$ (48,487,243)
Expenditures			
Benefit Payments	\$ 212,727,480	\$ 10,029,115	\$ 222,756,595
Refund of Member Contributions	-	13,796,354	13,796,354
ASF Recoupment Write Off	1,221,731	-	1,221,731
Transfer to Component I (Transition Cost)	-	-	-
Administrative Expenses	2,541,080	-	2,541,080
Total	\$ 216,490,291	\$ 23,825,469	\$ 240,315,760
Market Value June 30, 2022	\$ 1,475,568,437	\$ 54,277,858	\$ 1,529,846,295
Market Value Rate of Return (Net of all expenses)	(6.04)%	1.15%	(5.77)%
Net Cash Flow as Percent of Assets	(9.59)%	(30.80)%	(10.49)%

Rates of return are dollar-weighted estimates assuming contributions occur at the end of the year and remaining items are mid-year cash flows. "ASF Recoupment Interest" and "Other" items are treated as investment cash flows.

Note that interest credits to the ASF (and other reserves) are determined by Plan provisions and Board policy (including any timing issues) as calculated by the Retirement System's staff.



Allocation of Assets Used for Valuation by Reserve Account and Division

	June 30, 2021	Adjustments	Contributions	Benefit Payments	Admin. Expenses	Investment and Other	June 30, 2022
Annuity Savings Fund							
General	\$ 56,834,178	\$ -	\$ -	\$ (5,749,975)	\$ -	\$ (1,117,864)	\$ 49,966,339
D.O.T.	22,783,374	-	-	(4,514,011)	-	857,441	19,126,804
DWSD	17,265,043	-	-	(3,243,666)	-	915,457	14,936,834
Library	7,900,440	-	-	(288,702)	-	(246,720)	7,365,018
Totals	\$ 104,783,035	\$ -	\$ -	\$ (13,796,354)	\$ -	\$ 408,314	\$ 91,394,995
Annuity Reserve Fund							
General	\$ (16,474,842)	\$ -	\$ -	\$ (5,617,918)	\$ -	\$ 177,869	\$ (21,914,891)
D.O.T.	(900,758)	-	-	(915,409)	-	83,268	(1,732,899)
DWSD	(8,418,985)	-	-	(3,128,228)	-	70,238	(11,476,975)
Library	(1,640,120)	-	-	(367,561)	-	15,309	(1,992,372)
Totals	\$ (27,434,705)	\$ -	\$ -	\$ (10,029,116)	\$ -	\$ 346,684	\$ (37,117,137)
Pension Accumulation Fund							
General	\$ (61,621,095)	\$ (53,445,345)	\$ 2,765,012	\$ -	\$ (2,225,371)	\$ (50,678,577)	\$ (165,205,376)
D.O.T.	(147,084,079)	(23,547,304)	109,988	-	(190,555)	(6,782,480)	(177,494,430)
DWSD	108,276,995	(30,458,190)	42,900,000	-	-	(36,632,710)	84,086,095
Library	34,976,283	(1,674,296)	2,500,000	-	(125,154)	(4,645,205)	31,031,628
Totals	\$ (65,451,896)	\$ (109,125,135)	\$ 48,275,000	\$ -	\$ (2,541,080)	\$ (98,738,972)	\$ (227,582,083)
Pension Reserve Fund							
General	\$ 978,186,655	\$ 53,445,345	\$ -	\$ (118,034,281)	\$ -	\$ -	\$ 913,597,719
D.O.T.	261,581,696	23,547,304	-	(30,810,938)	-	-	254,318,062
DWSD	518,648,809	30,458,190	-	(57,745,077)	-	-	491,361,922
Library	48,335,704	1,674,296	-	(6,137,183)	-	-	43,872,817
Totals	\$ 1,806,752,864	\$ 109,125,135	\$ -	\$ (212,727,479)	\$ -	\$ -	\$ 1,703,150,520
Retirement System Totals	\$ 1,818,649,298	\$ -	\$ 48,275,000	\$ (236,552,949)	\$ (2,541,080)	\$ (97,983,974)	\$ 1,529,846,295



Funding Value of Assets

	2021	2022	2023	2024
A. Funding Value Beginning of Year	\$ 1,596,101,989	\$ 1,818,649,298		
B. Market Value End of Year	1,818,649,298	1,529,846,295		
C. Market Value Beginning of Year	1,596,101,989	1,818,649,298		
D. Contributions During Year:				
D1. City Contributions (End of Year)	48,275,000	48,275,000		
D2. Member Contributions	0	0		
D3. Total	48,275,000	48,275,000		
E. Disbursements:				
E1. Benefits Paid During Year	225,790,173	222,756,595		
E2. Refunds	11,333,604	13,796,354		
E3. Transfers	0	0		
E4. Administrative Expenses*	N/A	2,541,080		
E5. Total	237,123,777	239,094,029		
F. Investment Income:				
F1. Average Funding Value	1,477,540,101	1,699,102,284		
F2. Assumed Rate	6.75%	6.75%		
F3. Amount for Immediate Recognition: F1 X F2		114,689,404		
F4. Market Total: B - C - D3 + E5	411,396,086	(97,983,974)		
F5. Amount for Phased-In Recognition: F4-F3		(212,673,378)		
G. Phased-In Recognition of Investment Income:				
G1. Current Year: F5/3		(70,891,126)		
G2. 1st Prior Year		0	\$ (70,891,126)	
G3. 2nd Prior Year		0	0	\$ (70,891,126)
G4. Total Recognized Investment Gain		(70,891,126)	(70,891,126)	(70,891,126)
H. Total Interest Distributed - Current Year: F3 + G4	411,396,086	43,798,278		
I. Funding Value End of Year:				
I1. Preliminary Funding Value End of Year: A + D - E + H		1,671,628,547		
I2. Upper Corridor Limit 115% x B		1,759,323,239		
I3. Lower Corridor Limit 85% x B		1,300,369,351		
I4. Funding Value End of Year	\$ 1,818,649,298	\$ 1,671,628,547		
J. Difference Between Market & Funding Value: B - I4	1,818,649,298	(141,782,252)		
K. Recognized Rate of Return: H / F1	27.84%	2.58%		
L. Market Rate of Return: F4 / (F1 + C - A)	27.84%	(5.77)%		
M. Ratio of Funding Value to Market Value: I4 / B	100.00%	109.27%		

*Prior to the 2022 fiscal year, the investment return was net of administrative expenses.

The Funding Value of Assets recognizes assumed investment income (line F3) fully each year. Differences between actual and assumed investment income (line F5) are phased-in over a closed 3-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than market value. The Funding Value of Assets is unbiased with respect to Market Value. At any time, it may be either greater or less than Market Value.

SECTION C

PARTICIPANT DATA

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Reconciliation of Raw Data

Active Members

A) Count reported in Legacy file	2,019
B) In Legacy file but not in Hybrid file	(33)
C) Hired after plan closed	(89)
D) Non-active Status	(24)
E) Agency "88"	(17)
F) Non-eligible class code & bargaining unit	-
G) No hire date in Hybrid file	-
H) Zero salary in Hybrid file	(6)
I) Number of records to value	<u>1,850</u>

Inactive Vested Members

A) Number of records reported on data file	2,605
B) In Legacy active file but not otherwise in database and not in Hybrid active file	-
C) Valued as inactive in prior year and would not have otherwise been valued in Legacy this year	115
D) Valued as a vested active member in prior year but not in this year's active file and would not have otherwise been valued in Legacy this year	69
E) Deceased	-
F) Less than 8 years of vesting service	(156)
G) Number of records to value	<u>2,633</u>

Retired Members and Beneficiaries

A) Number of records reported on data file	45,922
B) Number of records in P/F plan	(17,152)
C) Records not currently in receipt of benefits based on reported status codes	(17,254)
D) Component I (Hybrid) Records	(598)
E) Number of records valued	<u>10,918</u>

Notes:

Active Row B: Are records that appeared in the Legacy active file but did not appear in the Hybrid active file. It was assumed that these members were no longer active in the General plan.

Active Row D: The Active data file contains a field titled "Stat." Active members were only valued if the record for this field had a value of "1."

Active Row E: Agency "88" is the 36th District Court. We understand that members in that agency are not eligible to receive benefits.

Active Row F: We have received a separate list of Class Codes and Bargaining Units that are not eligible to receive benefits.

Inactive Vested Row B: See the note for Row B of the active member reconciliation.

Inactive Vested Row C: Only includes records that appear in the raw database last year.

Retired Row C: The Retired Life file has a field named "STATUS." We understand that if this field is not blank or equal to zero, the member is no longer receiving a benefit and should not be valued.

Reconciliation of Year-to-Year Data as of June 30, 2022

	Active	Term. Vested	Retirees		Totals
	Count	Count	Count	Annual Benefits	Count
2021	2,185	2,645	11,173	\$ 212,713,879	16,003
Change in Pay/Pensions	N/A	N/A	N/A	(1,016,844)	
Rehired (Not Vested)	22				22
Rehired (Vested)	24	(23)	(1)	(744)	-
New Beneficiary			104	1,418,916	104
Retired	(130)	(114)	275	4,418,868	31
Non-Duty Disabled			-	-	-
Duty Disabled			-	-	-
Assumed Death/Removals		(65)	(642)	(10,542,048)	(707)
Vested Term	(161)	161			-
Non-Vested Terminated	(90)				(90)
Data Adjustment	-	29	9	151,752	38
2022	1,850	2,633	10,918	\$ 207,143,779	15,401

Notable Data Changes:

31 new Retirees came from nowhere. We believe many of these are a result of new EDRO's.

65 Terminated Vested members were valued last year but will not be valued this year. We have assumed these members refunded and forfeited their defined benefit.

The data adjustments relate to records where we could not specifically identify the activity during the year. This could be the result of duplicate Social Security numbers or corrected Social Security numbers.

Data Approximations and Assumptions

As part of our review of the data received from the System, we discussed questionable or missing data with System staff and developed approximations and assumptions in order to perform the valuation. We provided System staff with a letter dated December 23, 2022 with additional information regarding data reconciliation, processing instructions, and assumptions regarding unresolved issues. Note, that letter disclosed our remaining data processing procedures and assumptions and details our reconciliation and final valuation data.

The purpose of this section in this report is to summarize any unresolved concerns about questionable data that are relevant and could have a significant effect on the valuation as disclosed in that letter. This summary also discusses any significant steps we have taken to improve the data due to identifying questionable data values or relationships, significant judgments, or assumptions we have applied to the data.

Active

For active members, frozen AFC amounts and frozen service as of June 30, 2014 was reported. For purposes of this valuation, we matched the June 30, 2022 actives to the active data reported for the June 30, 2014 valuation to check against AFC as of June 30, 2014. In cases where the frozen AFC as reported in the 2022 data file was less than 75% of the AFC as reported on the 2014 data file, the AFC as reported on the 2014 data file was used. This boundary was determined after an analysis of the raw AFC data showed that the AFC for several members was unreasonably low. In cases where AFC was reported in to be \$0 in both the current data file and the 2014 data file, the current salary was used in place of the AFC.

Deferred Vested

Data provided for deferred vested members was incomplete. As part of the processing of deferred member data, in cases where AFC was incomplete, we used \$30,000 to estimate the AFC. Component II benefit service is not directly provided on the file. The Component II (Legacy) file includes total vesting service and the Component I (Hybrid) file includes Component I benefit service. Since Component II benefit service was frozen as of June 30, 2014 for members that terminated after June 30, 2014, Component II (Legacy) benefit service was determined by subtracting service in the Component I (Hybrid) inactive file from total vesting service in the corresponding Component II (Legacy) inactive file. Members with vesting service of less than 8 years were assumed to be non-vested and were not valued. We estimated the commencement date with the following rules:

- Age 55 if 30 or more years of service and hired before July 1986;
- Age 60 if less than 30 years of service, but more than 10 years of service and hired before 1986; and
- Age 62 for all others.

The entire amount of the deferred benefit was assumed to commence at the same time regardless of the date of hire.

Data Approximations and Assumptions

Retired and Beneficiary

It is our understanding that the current pension amount provided in the retiree data includes the 4.5% reduction as mandated in the POA. However, for members that retired prior to July 1, 2015, the other pension amounts provided in the data (original pension amount, equated pension amount, and prior year's pension amount) did not reflect the 4.5% reduction and, as such, were reduced by 4.5% when valuing any related liability. Other adjustments/assumptions include:

- In cases where the benefit is identified to be a joint and survivor benefit and a beneficiary is not listed in the data, it was assumed that male spouses were 3 years older than females;
- Benefits for dependent children are assumed to cease at age 21; and
- For non-converted disabled members, converted benefits are:
 - assumed to commence at age 60; and
 - estimated, based on reported service and projected service from the date of disability to age 60.

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Summary of Member Data June 30, 2022

Active Members

	General	D.O.T.	DWSD	Library	Totals [^]
Number	1,134	305	252	159	1,850
% Change in active members	(14.5)%	(17.1)%	(14.0)%	(19.3)%	(15.3)%
Average reported 2014 AFC [^]	\$48,587	\$56,276	\$45,909	\$43,645	\$49,065
Average benefit service	14.3	15.4	14.7	16.9	14.7
Average age	54.6	55.4	55.1	56.5	55.0
Average eligibility service	21.2	22.5	21.9	23.3	21.7

[^] In cases where the 2014 AFC reported on the current file was less than 75% of the 2014 AFC as reported in 2014, the 2014 AFC as reported in 2014 was used.

Retired Members and Survivor Beneficiaries

	General	D.O.T.	DWSD	Library	Totals
Number	6,350	1,589	2,656	323	10,918
Annual benefits (\$ millions) #	\$ 120.3	\$ 30.6	\$ 59.6	\$ 6.5	\$ 217.0
Average benefits #	\$18,952	\$19,279	\$22,434	\$20,048	\$19,879
% Change in reported average benefit	0.0 %	(0.5)%	(0.7)%	(2.5)%	(0.3)%

Includes annuities. Does not include reductions resulting from the annuity claw-backs.

Inactive Vested Members

	General	D.O.T.	DWSD	Library	Totals
Number	1,427	359	749	98	2,633
Average AFC	\$39,726	\$44,727	\$49,297	\$33,527	\$42,900
Average years of service	15.2	14.6	15.0	13.0	15.0
Annual benefits (\$ millions)	\$ 14.0	\$ 3.8	\$ 9.0	\$ 0.7	\$ 27.5
Average benefits	\$9,818	\$10,553	\$12,059	\$ 7,249	\$10,460
% Change in average years of service	(0.4)%	(3.5)%	(1.1)%	(4.0)%	(1.2)%
% Change in average AFC	(0.4)%	(1.2)%	0.1 %	0.8 %	(0.6)%



Active Members as of June 30, 2022 by Attained Age and Years of Service Retirement System Totals

Attained Age	Years of Service to Valuation Date							Total No.
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	
Under 20	0							0
20-24	0	0						0
25-29	0	0	0					0
30-34	0	26	6	0				32
35-39	2	19	23	9	1			54
40-44	2	18	27	42	32	1		122
45-49	5	45	33	49	70	30	0	232
50-54	4	19	41	63	133	91	30	381
55-59	6	25	28	66	143	121	84	473
60-64	1	27	26	40	77	66	132	369
65-69	0	13	15	11	21	21	50	131
70-74	0	5	5	7	9	5	8	39
75-79	0	0	2	2	6	2	5	17
Totals	20	197	206	289	492	337	309	1,850

Group Averages:

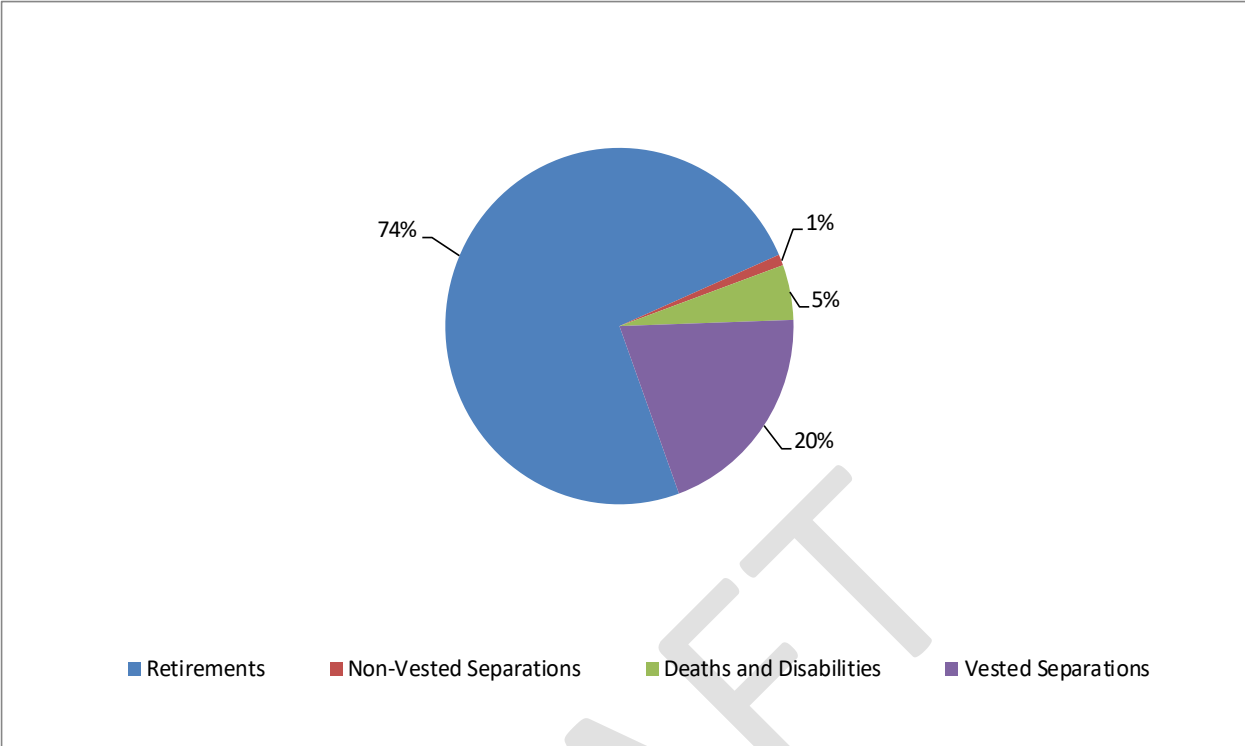
Age: 55.0 years

Benefit Service: 14.7 years

Eligibility Service: 21.7 years

Service shown in this schedule is Legacy Benefit service plus Hybrid Benefit service.

Expected Terminations from Active Employment for Current Active Members



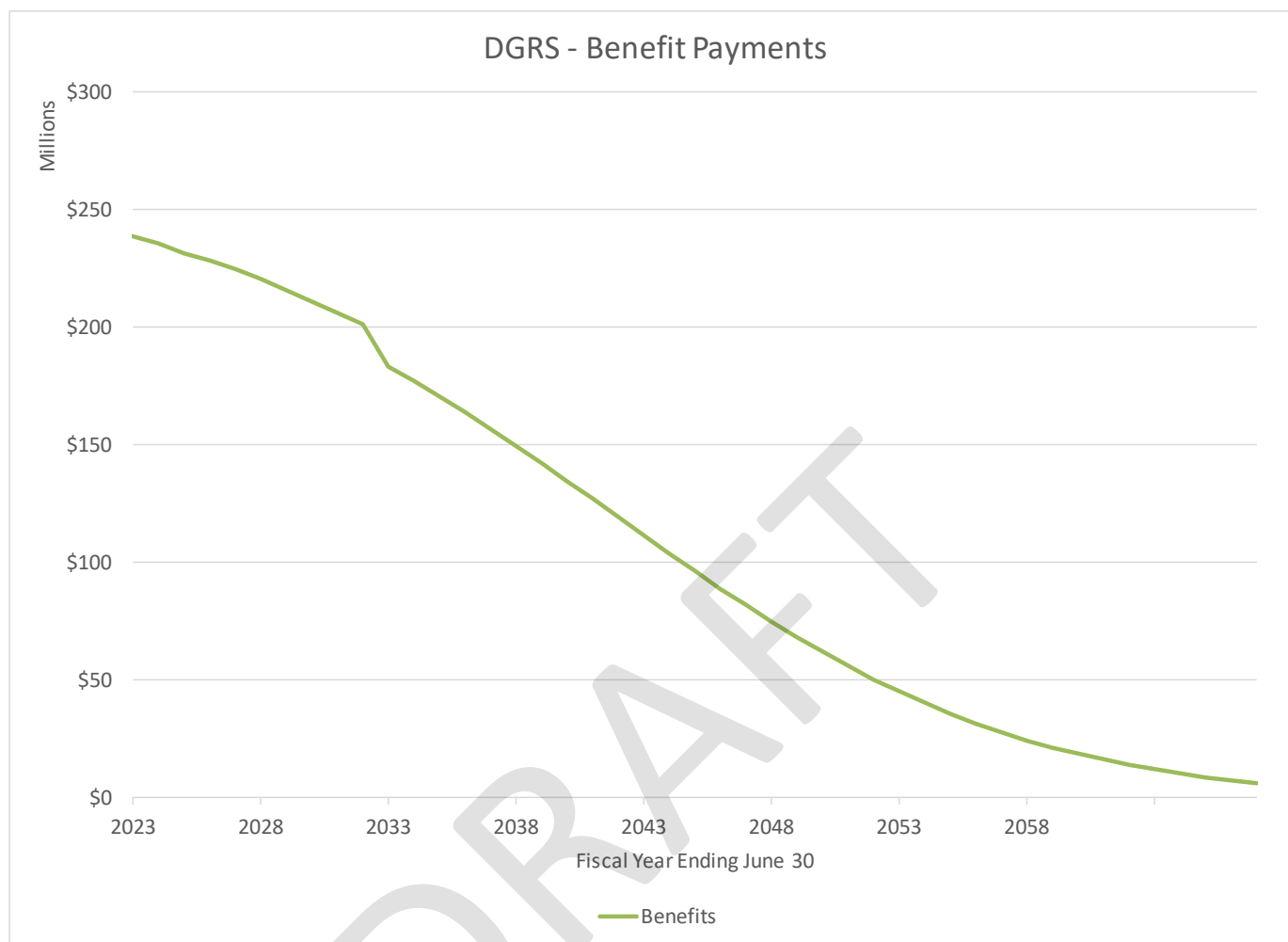
The chart shows the expected future development of the present population in simplified terms. The Retirement System presently covers 1,850 active members. Eventually, 28 people are expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. 1,730 people are expected to receive monthly retirement benefits either by retiring directly from active service, or by retiring from vested deferred status. 92 people are expected to become disabled or die in service. Vested Separations may include members eligible to retire in this Component II (Legacy) plan but not yet eligible to retire in the Component I (Hybrid) plan. A detailed discussion on how members eligible to retire in Component II (Legacy) but not eligible to retire in Component I (Hybrid) are treated is included in Section D of this report.

Actual versus expected retirements for the 2022 fiscal year is shown below:

Year Ended June 30,	Expected	Actual
2022	106	130

Expected Benefit Payments

Shown below is a graph of projected benefit payments remaining in the Retirement System.



The graph above shows the projection of future expected benefit payments. As shown on the prior pages, contributions are expected to be significantly less than benefit payments for many years. The assets in the plan are not sufficient to cover current retiree liabilities and the ratio of assets (Market Value) to retiree benefit payroll is six and a half years. In a closed/frozen mature plan such as this one, it may become difficult to manage the significant amount of cash needed to pay retirement benefits if the amortization period is extended beyond 20 years.

Retirees and Beneficiaries as of June 30, 2022

Tabulated by Attained Ages

Retirement System Totals

Attained Ages	Age & Years of Service#		Disability		Death-in-Service		Totals	
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances
Under 20*	52	\$ 762,672	0	\$ 0	0	\$ 0	52	\$ 762,672
20-24	9	98,724					9	98,724
25-29	6	67,356					6	67,356
30-34	15	137,592	0	0			15	137,592
35-39	14	90,480	0	0	1	27,732	15	118,212
40-44	18	126,036	2	14,076	1	6,000	21	146,112
45-49	35	314,652	13	90,480	3	23,088	51	428,220
50-54	119	1,890,228	29	241,752	8	94,776	156	2,226,756
55-59	410	8,676,696	76	828,516	15	230,736	501	9,735,948
60-64	1,283	26,221,459	151	2,451,156	34	478,608	1,468	29,151,223
65-69	2,053	40,564,824	225	3,062,532	35	490,452	2,313	44,117,808
70-74	2,071	44,631,840	154	2,247,864	43	889,920	2,268	47,769,624
75-79	1,558	33,630,012	104	1,284,492	32	577,392	1,694	35,491,896
80-84	918	16,546,116	42	484,500	26	353,148	986	17,383,764
85-89	626	9,845,268	22	229,464	17	216,300	665	10,291,032
90-94	403	5,838,168	6	42,672	23	182,292	432	6,063,132
95 and Over	235	2,836,812	10	86,232	21	230,664	266	3,153,708
Totals	9,825	\$192,278,935	834	\$11,063,736	259	\$3,801,108	10,918	\$207,143,779

* May include records with defective birth dates.

Includes survivor beneficiaries of deceased retirees.

Retirees and Beneficiaries as of June 30, 2022

Tabulated by Year of Retirement

Year of Retirement	No.	Annual Allowances	
		Total	Average
1950 & before	3	\$ 71,172	\$23,724
1951-1955	4	67,200	16,800
1956-1960	0	0	0
1961-1965	4	16,188	4,047
1966-1970	13	70,236	5,403
1971-1975	49	363,144	7,411
1976-1980	127	1,100,232	8,663
1981-1985	279	3,249,108	11,646
1986-1990	485	6,052,920	12,480
1991-1995	947	13,839,540	14,614
1996-2000	1,234	22,013,892	17,839
2001-2005	1,750	39,163,075	22,379
2006-2010	1,963	43,804,332	22,315
2011-2015	2,358	48,562,044	20,595
2016	394	8,017,560	20,349
2017	249	4,016,280	16,130
2018	236	3,542,736	15,012
2019	226	3,376,548	14,940
2020	222	3,692,304	16,632
2021	265	4,287,228	16,178
2022	110	1,838,040	16,709
Totals	10,918	\$207,143,779	\$18,973

SECTION D

METHODS AND ASSUMPTIONS

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Summary of Assumptions and Methods Used for Actuarial Valuations Adopted by the Board of Trustees

All assumptions are estimates of future experience except as noted. The rationale for the assumptions is based on experience studies where noted.

Economic Assumptions

The investment return rate used in making the valuation was 6.75% per year, compounded annually (net after investment expenses). This assumption is prescribed by the Eighth Amended Plan for the Adjustment of Debts of the City of Detroit (POA).

Price inflation is not directly used in the valuation. For purposes of assessing the reasonability of the investment return assumptions, we assumed price inflation of 2.50% per year.

Future **administrative expenses** are assumed to be 1.01% of benefit payments and refunds.

Non-Economic Assumptions

For healthy post-retirement mortality, the PubG-2010(B) Below-Median General Retiree table was used for mortality assumptions going forward, decreased by 3% for males and increased by 26% for females.

For disabled post-retirement mortality, PubNS-2010 Non-Safety Disabled Retiree mortality table was used, increased 4% for males and decreased 2% for females.

For pre-retirement mortality rates, the PubG-2010(B) Below-Median General Employee mortality table was used for both males and females.

The tables are projected to be fully generational, based on the 2-dimensional, sex distinct mortality improvement scale MP-2021 (which was intended to be used with the Pub-2010). 75% of all deaths-in-service are assumed to be non-duty related. This table was first used as of June 30, 2021. The rationale for the mortality assumption is based on the 2015-2020 Mortality Experience Study issued February 4, 2022.

The probabilities of retirement for members eligible to retire are shown on the following pages. These probabilities were revised for the June 30, 2021 valuation. The rationale is based on the 2015-2020 Experience Study.

The probabilities of separation from service (including *death-in-service* and *disability*) are shown for sample ages on the following pages. These probabilities were revised for the June 30, 2021 valuation. The rationale is based on the 2015-2020 Experience Study.

Summary of Assumptions and Methods Used for Actuarial Valuations Adopted by the Board of Trustees (Concluded)

Funding Methods

The unit credit cost method was used in determining age & service pension liabilities, vesting liabilities, and casualty pension liabilities. Under this method, there is no normal cost since benefits are frozen and there are no future accruals and actuarial accrued liability is the present value of each individual's accrued benefit.

Unfunded Actuarial Accrued Liabilities. Actual employer contributions through June 30, 2023 are set by the POA. The amortization period and method after 2023 has not yet been established by the Board.

Employer contribution dollars were assumed to be paid at the end of the employer fiscal year.

Present assets are set equal to the Market Value.

The data about persons now covered and about present assets was furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary.

Single Life Retirement Values

Based on PubG-2010(B)
 97% of Male Rates/126% of Female Rates
 Using Projection Scale MP-2021

Sample Attained Ages in 2022	Future Life Expectancy (Years)	
	Men	Women
45	37.56	40.04
50	32.64	34.98
55	28.26	30.39
60	24.02	25.88
65	19.92	21.43
70	15.95	17.10
75	12.31	13.09
80	9.11	9.55

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Probabilities of Age/Service Retirement for Members Eligible to Retire

Retirement Ages	Percent of Eligible Active Members Retiring within Next Year with Unreduced Benefits		
	EMS	D.O.T.	Others
62	40%	20%	20%
63	40%	20%	20%
64	40%	20%	20%
65	40%	20%	20%
66	40%	20%	20%
67	40%	30%	20%
68	40%	30%	20%
69	40%	30%	20%
70	100%	100%	20%
71			20%
72			20%
73			20%
74			20%
75			20%
76			20%
77			20%
78			20%
79			20%
80			100%
Ref	851	3304	3305

All members are assumed to retire while eligible for Component I (Hybrid) retirement only. The rationale is based on the 2015-2020 Experience Study.

Probabilities of Early Retirement for Members Eligible for Early Retirement

Retirement Ages	Percent of Eligible Active Members Retiring within Next Year with Reduced Benefits
55	6.5%
56	6.5%
57	6.5%
58	7.5%
59	8.5%
60	9.5%
61	9.5%
62	9.5%
Ref	3303

All members are assumed to retire while eligible for Component I (Hybrid) retirement only. The rationale is based on the 2015-2020 Experience Study.

Sample Rates of Separation from Active Employment Before Retirement

Sample Ages	Years of Service	% of Active Members	
		Separating within Next Year	
		Withdrawal	
		EMS	Other
ALL	0	16.00%	28.00%
	1	15.00%	19.00%
	2	15.00%	15.00%
	3	11.00%	14.00%
	4	11.00%	14.00%
25	5 & Over	10.05%	13.00%
30		8.85%	11.91%
35		7.80%	9.25%
40		6.60%	7.19%
45		5.10%	5.91%
50		3.60%	5.00%
55		3.00%	5.00%
60		3.00%	5.00%
		Ref	1405
		1608	1609

Sample Ages	% of Active Members Becoming Disabled within Next Year								
	D.O.T.				Others				
	Ordinary		Duty		Ordinary		Duty		
25	0.16%		0.24%		0.03%		0.03%		
30	0.19%		0.28%		0.04%		0.04%		
35	0.26%		0.39%		0.05%		0.05%		
40	0.37%		0.56%		0.08%		0.08%		
45	0.56%		0.84%		0.12%		0.12%		
50	0.70%		1.05%		0.15%		0.15%		
55	0.82%		1.23%		0.17%		0.17%		
60	0.94%		1.41%		0.20%		0.20%		
Ref	1238	x	1.20	1238	x	1.80	1238	x	0.25
							1238	x	0.25

The rationale is based on the 2015-2020 Experience Study.

Miscellaneous and Technical Assumptions

Administrative Expenses	Administrative expenses are assumed to be 1.01% of benefit payments and are to be included in the employer contribution.
Annuity Savings Fund (ASF) Interest Credits	For purposes of calculating future refunds of member contributions, the ASF is assumed to earn 5.25% interest in all future years.
Annuity Savings Fund Excess Interest	<p>The Component I (Hybrid) Transition Cost is funded by Component II (Legacy) ASF returns in excess of 5.25%. ASF return excess ceases in 2023 and the POA mandates the use of a 6.75% return assumption until 2023. The current assumption is:</p> <ul style="list-style-type: none"> For purposes of determining valuation assets and liabilities, only considering transfers related to prior investment experience. <p>For purposes of determining the Section 9.5 funded status in Component I (Hybrid), projecting the amount of future transfers.</p>
Average Final Compensation (AFC)	<p>Frozen AFC is reported in the data provided for the annual valuation. Longevity payments are included directly in the reported frozen AFC but Sick Leave is not. Eligibility for inclusion of Sick Leave is based upon the members Bargaining Unit. If eligible, we take the AFC provided to us, use the 75% of 2014 AFC check, and then add on an estimate for sick leave. The sick leave is estimated with the following formula:</p> $[\text{Annual pay reported in 2014 valuation}] \times [\text{Capped Sick Leave Bank hours reported in 2014 valuation} / [8 \text{ hours/work day}] / [260 \text{ work days/year}] / [3\text{-years in average period}] \times [25\% \text{ added to AFC}]$ <p>Where [Capped Sick Leave Bank hours reported in 2014 valuation] is the smaller of:</p> $[\text{Sick Leave Bank hours reported in 2014 valuation}] \text{ OR } [\text{Frozen Service}] \times [8 \text{ hours/work day}] \times [25 \text{ days/year of service}]$ <p>We annually test the reported AFC against a sample set of retirees to determine if any additional adjustments should be made to the liability. No additional adjustment was made for this report.</p>
Benefit Service	Exact Fractional service is used to determine the amount of benefit payable.
Data Adjustments	Assumptions regarding incomplete or missing data are reviewed annually with the System and adjusted as directed by the System.
Decrement Operation	Disability and mortality decrements do not operate during the first five years of service. Disability and withdrawal do not operate during retirement eligibility.
Decrement Relativity	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.

Miscellaneous and Technical Assumptions

Decrement Timing	Decrements of all types are assumed to occur mid-year.
Deferred Vested Benefit Commencement Age	Members are assumed to commence benefits at the age in which they are first eligible for unreduced benefits.
Disability Change Age	For active members that become duty disabled, the Component II (Legacy) plan is assumed to only be responsible for the frozen benefit which becomes payable starting at the earliest of when the member would have accrued 30 years of service credit (25 for EMS) or age 60.
Eligibility Testing	Eligibility for benefits is determined based upon the age nearest birthday and rounded service on the date the decrement is assumed to occur.
Forfeiture Assumption	It is assumed that 0% of members will elect to forfeit their benefit.
Incidence of Contributions	Employer contributions are assumed to be received on the last day of the fiscal year.
Marriage Assumption	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Member Contributions	Member contributions to this Component II plan are assumed to have ceased with the bankruptcy.
New Entrant Assumption	No assumption is made for experience related to members rehiring/reentering active service.
Normal Form of Benefit	Straight life is the normal form of benefit. The Board adopted assumptions for Actuarial Equivalence to be an 80%/20% unisex blend of RP-2014 mortality (Male/Female) with Blue Collar Adjustment, set ahead one year for males and females, projected 11 years with MP-2014, an interest rate of 6.75%, and no COLA for optional forms of payment and early retirement reduction. Assumptions for annuitizing member contributions are the same except for using a 60%/40% unisex blend and a 5.25% assumed rate of interest. Prior to the use of these factors, actuarial equivalent factors were based on 7.5% interest and the 1984 Group Annuity Mortality table.
Pop-Up Benefits	For current retirees with a pop-up benefit, the value of the pop-up was estimated by valuing a non-pop-up option and increasing the associated liabilities by 2%.

Miscellaneous and Technical Assumptions

Service Credit Accruals Service accruals for calculating benefits end as of June 30, 2014 for Component II (Legacy) and begin as of June 30, 2014 for Component I (Hybrid). However, service in Component I (Hybrid) and Component II (Legacy) may be used to satisfy benefit eligibility requirements in both plans.

The rationale is based on the 2015-2020 Experience Study, modified as necessary for changes in data or administration.

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SECTION E

PLAN PROVISIONS

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Summary of Benefit Provisions Evaluated

Component II Frozen Benefits

All Component II benefits are frozen as of June 30, 2014 based on service and average final compensation accrued as of that date and the provisions of the Detroit General Retirement System as it existed on June 30, 2014. Frozen benefits are further reduced by 4.5% and all future cost-of-living adjustments (“COLAs”) were eliminated. Benefits resulting from the Annuity Savings Fund and benefits paid from the Annuity Reserve Fund were subject to a separate reduction described as a “Claw-back.” Details of the claw-back provision are complicated and can be found in the Eighth Amended Plan of Adjustment. The benefits evaluated in this report are the frozen reduced benefits after adjusting the assets for the claw-back. Component II benefits are payable after separation from service, upon meeting the eligibility conditions of the plan as it existed on June 30, 2014, regardless of whether the individual is eligible to receive a Component I benefit at that time.

Our understanding of the June 30, 2014 plan provisions is provided below for completeness. The material below does not have legal standing and is not intended to cover all potential situations that could occur. If there are discrepancies between the description below and appropriate legal documents, the latter necessarily govern.

Age and Service Pension

Eligibility - Any age (minimum age 55 for non-EMS members hired after 1995) with 30 years of service (25 for EMS members), or age 60 with 10 years of service, or age 65 with 8 years of service.

Annual Amount - EMS Members: Sum of a) a basic pension of \$12 for each of the first 10 years of service, plus b) a pension equal to 2.0% of AFC multiplied by years of service. Maximum benefit is 90% of AFC.

Other Members: Sum of a) a basic pension of \$12 for each of the first 10 years of service, plus b) a pension equal to the first 10 years of service multiplied by 1.6% of AFC, plus 1.8% of AFC for each year of service greater than 10 years up to 20 years, plus 2.0% of AFC for each year of service greater than 20 years up to 25 years, plus 2.2% of AFC for each year of service greater than 25 years. Future benefit accruals for certain active members (depending on bargaining unit) were reduced to 1.5% of final average compensation per year of service.

Type of Average Final Compensation (AFC) - Highest 3 consecutive years out of the last 10. Pension benefits will not be diminished if compensation is reduced because of a fiscal emergency. Effective July 1, 1999, in computing the AFC, a member shall have the option of adding the value of 25% of unused accrued sick leave to the earnings used in computing the AFC. Longevity is added to AFC in accordance with the following schedule: \$150 after 5 years, \$300 after 10 years, \$450 after 15 years, \$600 after 20 years, and \$750 after 25 years.

Early Retirement

Eligibility - Any age with 25 or more years of service (min. age 55 for members hired after 1995).

Annual Amount - Same as regular retirement but actuarially reduced.



Summary of Benefit Provisions Evaluated (Continued)

Deferred Retirement (Vested Benefit)

Eligibility - Hired prior to 7-1-80: Age 40 with 8 years of service. Hired on or after 7-1-80: Any age with 10 years of service.

Benefit Commencement - **APTE hired prior to July 1, 1988:** Benefit begins at the age the member would have become eligible for regular retirement if service had continued. **SAAA, Non-Union and lawyers hired prior to June 30, 1986:** Benefit begins at the age the member would have become eligible for regular retirement. **Others:** Benefits based on service rendered by June 30, 1986 begin at the age the member would have become eligible for regular retirement. Benefits based on service rendered after July 1, 1986 begin at age 62.

Annual Amount - Same as regular retirement but based on average final compensation and service at the time of termination.

Duty Disability Retirement

Eligibility - Service related disability before eligibility for service retirement prior to and July 1, 2014. No service requirement.

Annual Amount - An annuity which is the actuarial equivalent of the accumulated contributions at date of disability plus a pension of two-thirds of average final compensation at time of disability. The maximum annual pension is \$5,700 (\$9,000 for EMS). At the earliest of when the member would have accrued 30 years of service credit (25 for EMS) or age 60, the annuity is recomputed assuming contributions would have continued at a salary level equal to final compensation. The pension is recomputed with additional service credit granted from the date of disability to age 60 (or 30 years of service credit) or June 30, 2014, whichever is earlier. **Benefits payable prior to conversion/re-computation, if any, were assumed to be paid outside the trust.**

Non-Duty Disability Retirement

Eligibility - Disability from any cause before age 60 with 10 or more years of service prior to July 1, 2014.

Annual Amount - Computed in the same manner as a regular retirement benefit. Maximum annual pension to age 60 is \$6,000. Benefit is recomputed at age 60 with no maximum. **Benefits payable prior to age 60, if any, were assumed to be paid from outside the trust.**

Duty Death Before Retirement

Eligibility - Death from service related causes. No age or service requirements.

Annual Amount - One-third of final compensation as of June 30, 2014 to the surviving spouse for life or until remarriage, plus an equal share of 1/4 of final compensation to each unmarried child under age 18. If there is no eligible spouse, eligible children each receive 1/4 of final compensation; if there are more than 2 such children, each child shares an equal part of 1/2 of final compensation. Maximum total amount for spouse and children is \$9,000 annually. If there is no eligible spouse or children, dependent parents each receive 1/6 of deceased's final compensation, to a total maximum of \$600 annually.



Summary of Benefit Provisions Evaluated (Concluded)

Non-Duty Death Before Retirement

Eligibility - Death-in-service at any age with 15 years of service; or after age 60 with 10 years of service; or after age 65 with 8 years of service.

Annual Amount - To Surviving Spouse: Computed as a regular retirement benefit but reduced in accordance with a 100% joint and survivor election for members with 20 or more years of service. For members with 15 years of service but less than 20, benefit is reduced in accordance with a 50% joint and survivor election. To Dependent Children if no Surviving Spouse: \$9,000 payable to age 19 of the youngest child or for life if child is physically or mentally impaired for members with 20 or more years of service (\$6,000 if less than 20 years of service).

Post-Retirement Cost-of-Living Adjustments

Benefit is increased annually by 2.25% of the **original** pension amount at retirement. Post-retirement cost-of-living increases were eliminated on future accruals for certain active members (depending on bargaining unit).

Member Contributions

Members have the option of choosing one of four contribution amounts: (1) 0%; (2) 3.0% of compensation up to the Social Security wage base, plus 5.0% of compensation in excess of the Social Security wage base; (3) 5.0% of total compensation; or (4) 7.0% of total compensation. Member contributions can be paid as a lump sum or annuitized at retirement to provide an annuity in addition to the pension (which is not affected by the level of member contributions).

SECTION F

GLOSSARY

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Glossary

<i>Accrued Service</i>	The service credited under the plan which was rendered before the date of the actuarial valuation.
<i>Actuarial Accrued Liability (AAL)</i>	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
<i>Actuarial Assumptions</i>	Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.
<i>Actuarial Cost Method</i>	A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of future Normal Costs and the Actuarial Accrued Liability.
<i>Actuarially Determined Employer Contribution</i>	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's actuarial funding policy.
<i>Actuarial Equivalent</i>	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
<i>Actuarial Present Value (APV)</i>	The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.
<i>Actuarial Present Value of Future Benefits (APVFB)</i>	The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
<i>Actuarial Valuation</i>	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Funding Value of Assets, and related Actuarial Present Values for a plan.

Glossary

AFC	Average Final Compensation.
Amortization Method	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.
Amortization Payment	That portion of the plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Amortization Period	The period used in calculating the Amortization Payment.
ARF	Average Reserve Fund.
ASF	Annuity Savings Fund of the Component II (Legacy) Plan.
Closed Amortization Period	A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc.
COLA	Cost-of-Living Adjustment.
Contribution Budgeting Liability	An expected return-based measure of pension obligation.
DIA	Detroit Institute of Arts
D.O.T	Department of Transportation.
Duration	An approximate measure of sensitivity to changes in interest rates.
DWSD	<i>Detroit Water and Sewerage Department.</i>
Employer Normal Cost	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.

Glossary

<i>E.M.S.</i>	Emergency Medical Service.
<i>Equivalent Single Amortization Period</i>	For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.
<i>Experience Gain/Loss</i>	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.
<i>Funded Ratio</i>	The ratio of the Funding Value of Assets to the Actuarial Accrued Liability.
<i>Funding Value of Assets (FVA)</i>	The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially determined employer contribution (ADEC).
<i>FY</i>	Fiscal Year.
<i>GASB</i>	Governmental Accounting Standards Board.
<i>GASB Statement No. 67 and GASB Statement No. 28</i>	These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. GASB Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while GASB Statement No. 67 sets the rules for the systems themselves.
<i>GLWA</i>	Great Lakes Water Authority
<i>MVA</i>	Market Value Assets.
<i>Normal Cost</i>	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.

Glossary

<i>Open Amortization Period</i>	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.
<i>PAF</i>	Pension Accumulation Fund.
<i>POA</i>	The 8th Amended Plan for the Adjustment of the Debt of the City of Detroit.
<i>Reserve Account</i>	An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.
<i>RSF</i>	Rate Stabilization Fund
<i>Solvency Liability</i>	A market-based measurement of the pension obligations.
<i>Transition Cost</i>	Initial unfunded liability as described in Section E-16 of the Plan document.
<i>Unfunded Actuarial Accrued Liability</i>	The difference between the Actuarial Accrued Liability and Funding Value of Assets.
<i>Valuation Date</i>	The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.
<i>VPIF</i>	Variable Pension Improvement Factor. Discussed in Section 6.2 of the Plan Document.

SECTION G

DRAFT FUNDING POLICY

Note: This Funding Policy has not been adopted by the Board or approved by the Investment Committee. It is included in this report to illustrate our understanding of prior discussions that we've had with the Board and Investment Committee. The red text, in particular, is intended to call attention to items that we believe needs further consideration from the Board and Investment Committee.

General Retirement System of the City of Detroit Actuarial Funding Policy

Introduction

The purpose of this Actuarial Funding Policy is to record the funding objectives and policy set by the Board of Trustees (Board) for the General Retirement System of the City of Detroit (the System). The Board establishes this Actuarial Funding Policy to help ensure the systematic funding of future benefit payments for members of the Plan.

In 2014, the Plan for the System was written and approved by the bankruptcy court as part of the City's Plan of Adjustment (POA). At that time, the original retirement plan was split into two retirement plans: Component I (Hybrid) and Component II (Legacy). In accordance with the POA, employer contributions and certain assumptions cannot be changed until fiscal year 2024. This Policy is intended to establish a funding policy for the period beginning in fiscal year 2024, when employer contributions must be determined on an actuarial basis. Nothing in this Policy is intended to prevent the Board from altering the Policy prior to fiscal year 2024 as conditions change or additional information becomes available to the Board.

This Policy shall be regularly reviewed by the Board.

Funding Objectives

1. Provide benefit security to members of the System:
 - A. For purposes of this policy, benefit security means having adequate liquidity to pay benefits when due.
2. Establish an appropriate employer contribution based on the following objectives:
 - A. Fully funding the Legacy plan liability in 20 years from June 30, 2023;
 - B. Fully funding the Hybrid plan liability in 15 years from June 30, 2023; and
 - C. Managing employer contribution volatility.
3. Provide a reasonable margin for adverse experience to help offset risks.
4. Measure and monitor funding status, post-2024 contribution estimates and risks.
 - A. Perform annual valuations; and
 - B. Include post-2024 actuarial determined employer contributions (based on this Policy) in annual actuarial valuations performed for fiscal years before 2024.

Elements of Actuarial Funding Policy

The Plans will have annual actuarial valuations each June 30. Employer contributions will be determined for the fiscal year ending two years after the valuation date. For example, the actuarially determined employer contribution for the fiscal year ending June 30, 2024 will be determined by the June 30, 2022 annual actuarial valuation.

Annual actuarial valuations may or may not also serve other purposes such as for Legacy plan restoration, Hybrid plan Section 9.5 fiscal responsibility calculations, and/or Annuity Savings Fund excess interest transfers between components. Unless otherwise stated, those purposes are not subject to this Policy.

For funding purposes, annual actuarial valuations will include the following elements of the Actuarial Funding Policy:

1. Actuarial Cost Method

- A. Hybrid Plan: The Entry Age actuarial cost method shall be used in determining the Actuarial Accrued Liability (AAL) and Normal Cost with the entry age based on the date of hire. Since this component was created in July 2014 and granted eligibility and vesting service prior to July 2014 (for members hired before that date), this plan had an unfunded actuarial accrued liability on the plan effective date, known as the transition liability.
- B. Legacy Plan: The Unit Credit Normal actuarial cost method shall be used in determining Actuarial Accrued Liability (AAL) and Normal Cost. Since this component is closed and accrued benefits are frozen as of June 30, 2014, this method results in no normal costs and an AAL that equals the Present Value of Accrued Benefits (PVAB) of each member.

2. Asset Smoothing Method

- A. For determining (or estimating) employer contributions on or after fiscal year 2024, the Funding Value of Assets will be based on a method that employs smoothing of market gains and losses over a closed period. The smoothing period for recognize market gains and losses (above or below the assumed rate of return) will be a 3-year period.
- B. The Funding Value of Assets shall not diverge from the Market Value of Assets by more than 15%.
- C. The annual valuation will calculate results on both the smoothed value of assets and the (non-smoothed) Market Value of Assets beginning with the June 30, 2022 valuation (the Funding Value of Assets will initially be set to the Market Value of Assets as of June 30, 2021 with smoothing beginning prospectively). The post-2024 contribution estimate will always be based on the smoothed value of assets. Other results (UAAL, Funded Status, etc.) will be based on the Market Value of Assets prior to 2024 and the smoothed value of assets starting in 2024.

3. Amortization Method

A. Hybrid

- a) A Level Percent of Payroll amortization method shall be used to systematically eliminate (pay off) the Unfunded Actuarial Accrued Liability (UAAL) over a closed 15-year period from the later of July 1, 2023 or the applicable fiscal year after the funded status falls below 100%.
- b) If the funded status for a division is above 100%, the contribution requirements for the division's UAAL will be \$0 (thereby creating a minimum employer contribution of employer normal cost).
- c) Layered amortizations will be considered by the Board for contributions after fiscal year 2024.

Considerations for layering could include:

- (i) Length of initial period remaining;
 - (ii) Source of liability being amortized (i.e., new liabilities related to benefit changes and assumptions changes may be amortized over specific periods);
 - (iii) Magnitude of base that could be added in the current year;
 - (iv) The change in contribution levels from the prior year (i.e., if a previous base is falling off and the current base is going in the opposite direction, it might be better to roll it into an existing base in order to levelized contributions).
- d) Funding for any division that is at risk of depleting division assets may be accelerated. Divisions shall not be permitted to have a funded status below 0%.

B. Legacy

- a) The Level Dollar amortization method shall be used to systematically eliminate (pay off) the Unfunded Actuarial Accrued Liability (UAAL) over a closed period of no more than 20 years from July 1, 2023.
- b) If the funded status for a division is above 100%, the contribution requirements for the division's UAAL will be \$0 (thereby creating a minimum employer contribution of administrative expenses).
- c) Layered amortizations will be considered by the Board for contributions after fiscal year 2024.

Considerations for layering could include:

- (i) Length of initial period remaining;
 - (ii) Source of liability being amortized (i.e., new liabilities related to benefit changes and assumptions changes may be amortized over specific periods);
 - (iii) Magnitude of base that could be added in the current year;
 - (iv) The change in contribution levels from the prior year (i.e., if a previous base is falling off and the current base is going in the opposite direction, it might be better to roll it into an existing base in order to levelized contributions).
- d) Funding for any division that is at risk of depleting division assets may be accelerated. Divisions shall not be permitted to have a funded status below 0%.

4. Funding Target and Cash Flow Projections

- A. The targeted funded ratio shall be 100%.
- B. The Legacy annual actuarial valuation shall include projections of estimated employer contributions, expected benefit payments and estimated funded status to the later of fiscal year 2054 or 30 years after the applicable employer contribution fiscal year.
- C. Section 9.5 of the plan details the actions to be taken if the 5-year projected funded status falls below 100% (Hybrid, only).

5. Risk Management

A. Assumption Changes

- a) The actuarial assumptions to be used shall be those last adopted by the Board based on the most recent experience study and upon the advice and recommendation of the actuary. In accordance with the City Ordinance, the actuary shall conduct an experience study at least every five years. The results of the study shall be the basis for the actuarial assumption changes recommended to the Board;
- b) The actuarial assumptions may be updated at any time, as advised by the actuary, if significant plan design changes or other significant events occur that would dictate such a change; and
- c) Even though the investment rate of return may not be changed for determining employer contributions until after June 30, 2023, the Board may elect to show valuation results under an alternative reasonable assumed rate of investment return prior to 2023.

B. Risk Measures

- a) Risk measures will be included in the annual actuarial valuations. Below is a list of potential measures to be included. The measures may be changed over time as deemed appropriate.
 - (i) Classic measures
 - Funded ratio (assets / liability) on both a market value and funding value (if funding value is not equal to market).
 - UAAL amortization period (years required to pay down the UAAL based on current funding rates).
 - Portfolio rate of return for the year on both the market value and funding value of assets.
 - 5-year and 10-year geometric average portfolio rate of return on both the market value and funding value of assets (developed prospectively).
 - 5-year and 10-year standard deviation of return on both the market value and funding value of assets (developed prospectively).
 - (ii) Duration of the Actuarial Accrued Liability
 - Measures the sensitivity of the liability to a 1% change in assumed rate of return. A decrease in this measure indicates a decrease in assumed rate sensitivity and vice versa.
 - (iii) Total UAAL / Covered Payroll
 - Measures the risk associated with contribution rates relative to the impact on the ability to fund the UAAL. A decrease in this measure indicates a decrease in UAAL contribution risk and vice versa.
 - Consideration will be given to using total payroll or revenue source, if available.

(iv) Total Assets / Covered Payroll

- Measures the risk associated with the potential impact of asset experience on contributions. A decrease in this measure indicates a decrease in asset risk and vice versa.
- Consideration will be given to using total payroll or revenue source, if available.

(v) Total AAL / Covered Payroll

- Measures the risk associated with the potential impact of liability experience on contributions. A decrease in this measure indicates a decrease in experience risk and vice versa. This also provides a long-term measure of the asset risk where the System has a target funded ratio of 100%.
- Consideration will be given to using total payroll or revenue source, if available.

(vi) Non-Investment Cash Flow / Beginning of year assets

- Measures depletion risk, sensitivity to annual investment gains and losses risk and the maturity of the plan. For a mature open plan, this may converge to the negative of the real rate of return assumption (investment return less wage inflation). A less negative number (or a positive number) indicates a less mature plan and/or a plan that is at lower risk of fund depletion and less sensitive to annual gains and losses. A more negative number indicates a more mature plan and/or a plan that is more at risk of fund depletion and more sensitive to annual gains and losses. For a super-mature closed plan such as the Legacy plan, this may become more negative over time as liquidity needs increase.

(vii) Market Value of Assets / Benefit Payments

- Measure depletion risk. A low value estimates the number of years to depletion disregarding future contributions and investment return.

(viii) Solvency Liability

- Measures the estimated cost of accrued benefits as a result of minimizing investment risk in the portfolio.

b) Risk Control: The Board shall carefully monitor the risk measures above and shall consider steps to mitigate risk, particularly as the Legacy funded ratio increases. Examples of risk mitigating techniques include, but are not limited to:

- (i) Reviewing investment risk in accordance with the Board's Investment Policy;
- (ii) Adding provisions for adverse deviation in the actuarial assumptions;
- (iii) Increasing employer contributions (through a change in methods, assumptions, or amortization period); and
- (iv) Other.

Glossary

1. **Actuarial Accrued Liability (AAL):** The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as “accrued liability” or “past service liability.”
2. **Actuarial Assumptions:** Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
3. **Actuarial Cost Method:** A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future plan benefits” between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”
4. **Actuarial Gain (Loss):** A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used. For example, if during a given year the assets earn more than the investment return assumption, the amount of earnings above the assumption will cause an unexpected reduction in UAAL, or “actuarial gain” as of the next valuation. These include contribution gains and losses that result from actual contributions made being greater or less than the level determined under the policy.
5. **Actuary:** A person who is trained in the applications of probability and compound interest to problems in business and finance that involve payment of money in the future, contingent upon the occurrence of future events. Most actuaries in the United States are Members of the American Academy of Actuaries (MAAA). The Society of Actuaries is an international research, education and membership organization for actuaries in the life and health insurance, employee benefits, and pension fields. It administers a series of examinations leading initially to Associateship and the designation ASA and ultimately to Fellowship with the designation FSA.
6. **Amortization:** Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.
7. **Experience Study:** An actuarial investigation of demographic and economic experiences of the system during the period studied. The investigation was made for the purpose of updating the actuarial assumptions used in valuing the actuarial liabilities.
8. **Funding Value of Assets:** The value of current plan assets recognized for valuation purposes. Generally based on a phased-in recognition of all or a portion of market related investment return. Sometimes referred to as Actuarial Value of Assets or Smoothed value of Assets.
9. **Market Value of Assets:** The fair value of plan assets as reported in the plan’s audited financial statements.
10. **Normal Cost (NC):** The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as “current service cost.” Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.
11. **Unfunded Actuarial Accrued Liability (UAAL):** The positive difference, if any, between the actuarial accrued liability and valuation assets. Sometimes referred to as “unfunded accrued liability.”
12. **Unit Credit Normal Actuarial Cost Method:** A funding method that calculates the Normal Cost as the present value of the change in accrued benefits for active members.



Financial Services Audit Committee Communication

Date: June 26, 2023

To: Great Lakes Water Authority Audit Committee

From: Nicolette N. Bateson, CPA, Chief Financial Officer & Treasurer

Re: Update: Economic Outlook Task Force

Background: In July 2021, the administration for the Great Lakes Water Authority (GLWA) began conversations with vendors, analysts, supply chain experts, and others to better understand the potential impact of global and economic conditions on GLWA's capital and operating budgets. In September 2021, Public Sector Consultants was engaged to work with the GLWA Procurement team, the GLWA Capital Improvement Planning team, and other stakeholders to conduct an economic analysis and identify impacts on the annual capital improvement plan. This effort is known as the Economic Outlook Task Force (EOTF). An outcome of that effort is to identify and facilitate cost- and risk-control strategies with other large utilities in the region.

Much of the EOTF's work occurred during calendar year 2022. In November 2022, the EOTF's work resulted in a Phase I report presented to the GLWA Board of Directors. The forecast scenarios presented in that report informed the budget, capital planning, and long-term financial forecast that was under development as well as laid out some management strategies to protect the utility during this era of escalating costs.

Analysis: Since the Phase 1 report, we presented the first quarterly update in March. The second quarterly report is attached. Representatives of Public Sector Consultants will be in attendance at the Audit Committee to review the report.

Proposed Action: Receive and file this report.

Economic Outlook Task Force Update

GLWA Board of Directors: Audit Committee

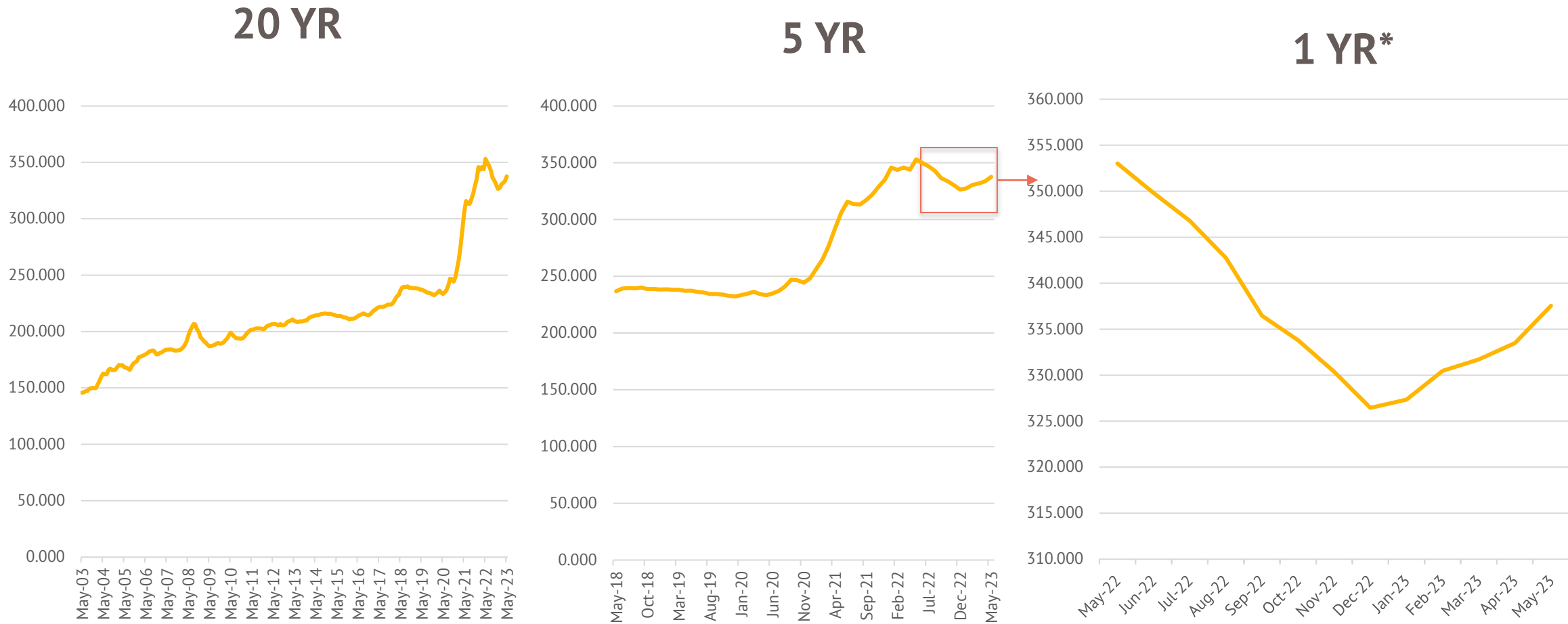
June 23, 2023

Public Sector Consultants

Executive Summary

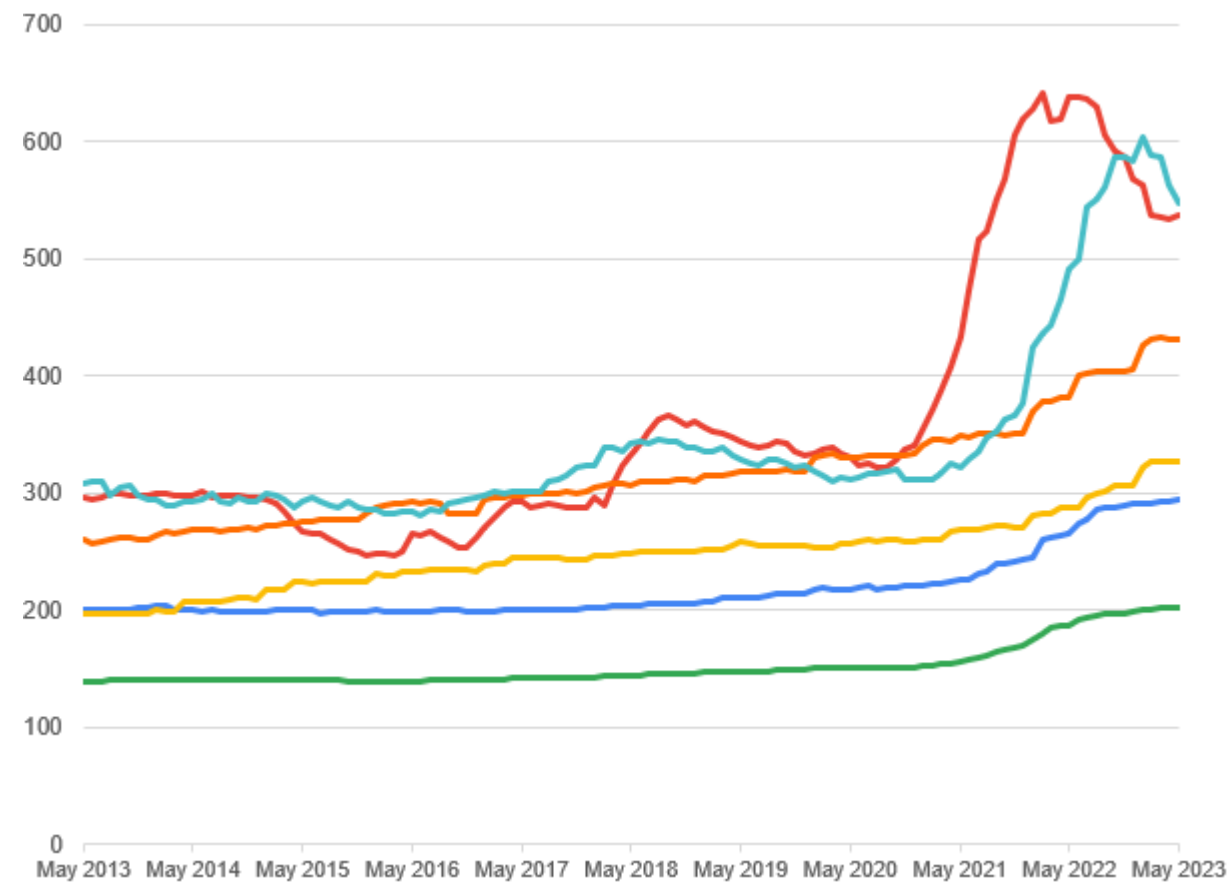
- Overall economic picture appears more stable and slightly more positive than Q4
 - Construction industry executives “are most confident in the water, sewer, and waste market” – ENR Q1 Report
 - Large onshoring and other “transformational” projects have execs confident in infrastructure construction
- Inflation forecast has not changed significantly since our spring update
 - **Nov. 2022:** Forecast projected 2023 year-over-year inflation projection was 6.7% and U.S. actual was 6.5%
 - **Mar. 2023:** Forecast projects 2024 12-month inflation at 4.1%
 - **Jun. 2023:** Forecast projects 2024 12-month inflation at 4.2% with updated data (6-month rate at 4.0% for all items)
 - Recent national data has showed slowing inflation without a major spike in unemployment
 - Supply chain disruptions, consumer product and oil price increases have slowed (or even declined)
 - Economy is still at risk for a recession and inflation remains well above the 2% target
- Material prices are up from last spring, but not at the rate seen during the spike in 2020-2021
 - Price increases for core GLWA materials appear to have slowed but rising faster than overall inflation and remain high

Construction Materials: Producer Price Index



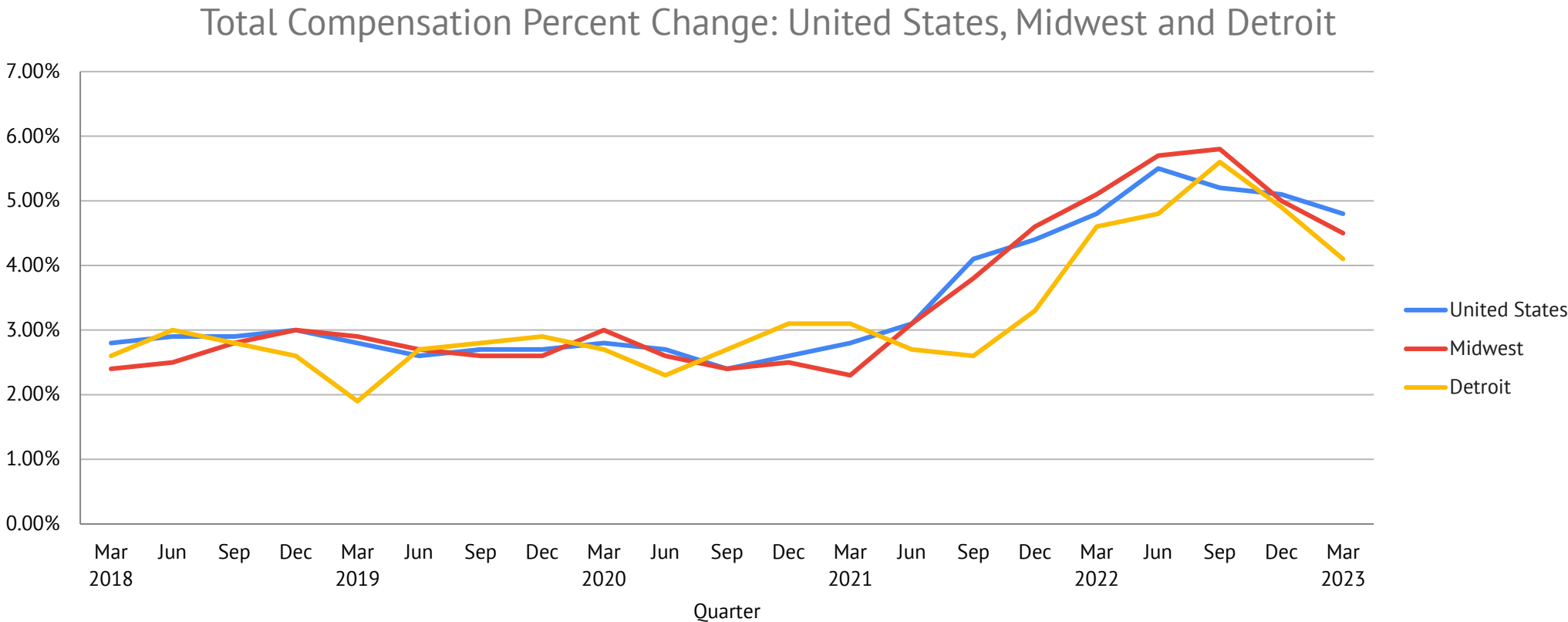
Source: Bureau of Labor Statistics, Producer Price Index
*Note the different vertical axis for 1YR

Priority Materials: Producer Prices



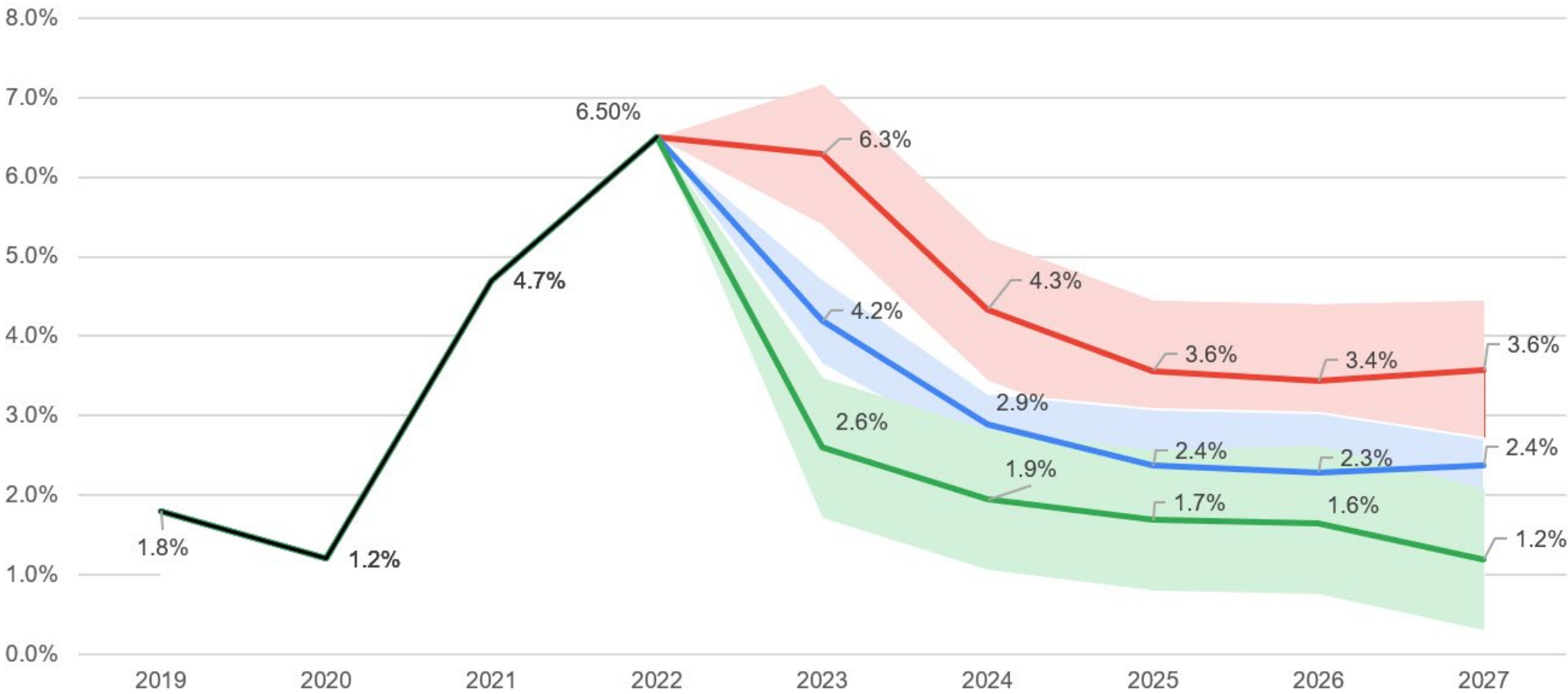
Percent Change	10YR	5YR	1YR
Iron and Steel Pipes and Tubes	81%	62%	-16%
Chlorine	78%	60%	12%
Aggregates	66%	41%	13%
Cement	66%	31%	14%
Electrical Switch Gear/Board	46%	44%	11%
Elect Equipment	45%	40%	8%

Wages: Total Compensation



Source: Employment Cost Index, Bureau of Labor Statistics (BLS)

Southeast Michigan Inflation Forecast (Update)



Welcome to the June edition of *The Procurement Pipeline*, a monthly newsletter designed to provide updates on doing business with the Great Lakes Water Authority (GLWA).

Procurement Tip of the Month: What to Expect During an Oral Interview Meeting

After all the submitted proposals have been scored during the solicitation evaluation process, the GLWA Evaluation Team may conclude that an Oral Interview meeting is required to determine the most responsive and responsible Vendor. The purpose of an Oral Interview meeting is for Vendors to provide clarification on the written proposal submitted for a project.

Oral Interview meetings include the GLWA Buyer, Evaluation Team members, and the Potential Vendor team. During the meeting, Vendors may expect the following.

- ✓ An interactive discussion between the Evaluation Team and the potential Vendor;
- ✓ A means for the Evaluation Team to ask questions and obtain additional details on the Vendor's written proposal; and
- ✓ An opportunity for the potential Vendor to explain the methods referred to in their written proposal and to clarify any unusual or significant responses.

Oral Interview meetings are typically used for Request for Proposal (RFP) solicitations, where a Qualification Based Selection (QBS) method is used. This means that vendors are selected for award based on their qualifications and competence in relation to the scope and needs of a particular project, rather than based on price alone.

If an Oral Interview is required, the GLWA Buyer will establish a meeting time and date with Vendors. GLWA's final award recommendation will encompass both evaluation of the written proposal as well as the Oral Interview.

Please note that Oral Interview meetings are not an opportunity to submit new information, discuss other proposals, or discuss GLWA projects in development. If you have any additional questions

about Oral Interview meetings, please contact the GLWA Buyer of Record for the specific solicitation.

Procurement Process Update: Submitting Renewal Certificates of Insurance (COIs)

The [March 2023 Procurement Pipeline](#) featured an article on fulfilling GLWA's standard insurance requirements, including how renewal Certificates of Insurance (COIs) must be submitted on an annual basis until all work on a contract is completed.

To provide improvements in GLWA's processing and tracking of Vendor COIs, vendors must now submit their renewal COIs directly to COI@GLWater.org. Note that this process update is only for renewal COIs. COIs for new contracts or Purchase Orders (POs) must still be submitted to the GLWA Buyer of Record.

Virtual Vendor Introduction Meetings

If you are interested in learning more about doing business with GLWA, contact us at GLWAVendorOutreach@glwater.org to schedule a virtual vendor introduction meeting. Topics include information on submitting a competitive bid or proposal to any GLWA solicitation.

Keeping up with GLWA

Our Chief Executive Officer (CEO) Monthly Report provides a wealth of information and news about important initiatives within GLWA's service territory that impact GLWA, its member partners, and the public. To read the May 2023 Monthly Report, please [click here](#).

What's Coming Down the Pipe?

Current Solicitations: Register in GLWA's [Bonfire Procurement Portal](#) for new solicitations and contract award information.

Upcoming Procurements: *Next Three to Nine Months*—See newsletter page 2.

Visit GLWA online!

To see the GLWA Vendor homepage, please visit www.glwater.org or contact us via email at procurement@glwater.org.

Upcoming Solicitations June 2023

Category	CIP #	Description/Project Title	Budget Estimate
Water System (next four to nine months)			
N/A			
Wastewater Systems (next four to nine months)			
Construction	211005.2	WRRF Pump Station 2 VFD Replacements	\$12,000,000
Construction	211007	Pump Station No. 2 Bar Racks Replacement and Grit Collection System Improvements	\$96,000,000
Water System (next three months)			
N/A			
Wastewater (next three months)			
Construction	260209	Emergency and Urgent Sewer Repair II	\$12,400,000
Construction	232002	Freud & Connor Creek Pump Station Improvements	\$125,000,000
Design-Bid-Build	261001	WRRF Rehabilitation of Secondary Clarifiers	\$6,000,000
Information Technology (next three months)			
Professional Services	N/A	800MHz Radio Assessment and Solution Implementation	\$3,500,000
Projects moved to Procurement Team (Preparing for solicitation on Bonfire)			
Professional Services	O&M	CSO Facility Accusonic Meter Maintenance	\$3,000,000
Professional Services	O&M	Grounds Maintenance Services	\$4,600,000
Professional Services	O&M	Overhead Door Preventative Maintenance and Repairs	\$892,000
Professional Services	O&M	Snow Removal and De-icing Services	\$2,158,106
Construction	170802	Reservoir Rehabilitation Construction Services Phase II at Waterworks Park, Northeast, and Booster Stations.	\$35,972,000

Vendors should continue to monitor [Bonfire](#) for solicitation updates.

Acronyms		
WRRF: Water Resource Recovery Facility	CSO: Combined Sewer Overflow	WTP: Water Treatment Plant